EXPLORING SCHOOL NURSE WORKLOAD THROUGH THE LIVED

EXPERIENCES OF SCHOOL NURSES CARING FOR STUDENTS

KINDERGARTEN THROUGH FIFTH GRADE

A DISSERTATION IN
Nursing

Presented to the faculty of the University
of Missouri Kansas City in partial fulfillment of
the Requirements for the degree

DOCTOR OF PHILOSOPHY

by
PATRICIA ELEANOR ENDSLEY

B.S.N., Saint Anselm College, Manchester New Hampshire, 1985
M.S.N., State University of New York, Stonybrook, 2003

Kansas City, Missouri
2020

EXPLORING SCHOOL NURSE WORKLOAD THROUGH THE LIVED

EXPERIENCES OF SCHOOL NURSES CARING FOR STUDENTS

KINDERGARTEN TO GRADE FIVE

Patricia Eleanor Endsley, Candidate for the Doctor of Philosophy Degree

University of Missouri-Kansas City, 2020

ABSTRACT

School nurses support the needs of healthy students, those with chronic diseases, all from diverse racial and ethnic groups. Current nurse-to-student ratios, or caseloads, do not fully capture the extent of their work. The aim of this transcendental phenomenological study is to acquire self-reported perspectives from urban kindergarten through fifth-grade school nurses through individual, semi-structured interviews as to what their workload entails. Participants were purposively recruited from urban elementary schools in a northeastern state. The transcripts were analyzed and coded using NVivo (2020) software and cross-checked manually. The primary and secondary themes were identified using an iterative transcript review process based on Moustakas' phenomenological inquiry method. The six primary workload themes identified included (a) administration, (b) education, (c) prioritization, (d) diverse populations, (e) job satisfaction, and (g) daily clinical work. This study provided an in-depth understanding of

some of the most important, but often overlooked aspects of school nurse workload. The impact of these themes relative to elementary students' safety and care during the school day are important considerations for investigation in other regions of the United States. The results of this study will add some necessary qualitative data to understand how practicing school nurses view workload and the impact of their workload on student care. This study will also add to the body of the general nursing workload research.

APPROVAL PAGE

The faculty listed below, appointed by the Dean of the School of Nursing and Health Studies, have examined a dissertation titled "Exploring School Nurse Workload Through the Lived Experiences of School Nurses Caring for Students Kindergarten through Fifth-Grade" presented by Patricia Eleanor Endsley, candidate for the Doctor of Philosophy degree, and certify that in their opinion it is worthy of acceptance.

Supervisory Committee

Anita Skarbek, PhD, RN, Committee Chair
School of Nursing and Health Studies
University of Missouri -Kansas City

Joseph Lightner, PhD, MPH
School of Nursing and Health Studies
University of Missouri -Kansas City

Erin Maughan, PhD, RN
Research Director
National Association of School Nurses

Carol Schmer, PhD, RN
School of Nursing and Health Studies
University of Missouri -Kansas City

Kelly Strout, PhD, RN
School of Nursing
University of Maine

CONTENTS

TABLES

ACKNOWLEDGEMENTS

CHAPTER 1

INTRODUCTION

In the United States, an elementary student (kindergarten to fifth grade) averaged

800-1100 hours in school during the 2018 academic year (National Center for Educational

Statistics (NCES, 2019b). Since 1965, legislation has progressively been enacted to entitle all

children to a free, appropriate, public education (FAPE). This education right includes

students with disabilities and chronic conditions (Every Student Succeeds Act [ESSA], 2015;

United States Department of Education, 2010). Registered, professional, school nurses (to be

referred to as school nurses) plan and oversee care of well and medically fragile students

during the school and implement strategies to enhance the health and wellness of the school

community (National Association of School Nurses [NASN], 2020). Student support for

trauma and absentee intervention are also within the purview of the school nurse (ESSA,

2015; NASN, 2020). The quality and safety of nursing care in school has yet to be defined

and more qualitative information from school nurses is necessary to gain insight into their

workload. What do school nurses say about safe student care and their workload?

The essence of healthcare quality and safety for inpatient settings has been explicated

over the past two decades through organizations such as the National Academy of Medicine

(National Academy of Medicine [NAM], 2021) (former Institute of Medicine), and the

Agency for Healthcare Research and Quality (Agency for Healthcare Research and Quality

[AHRQ], 2019a). These organizations seek to define quality, and identify contributory

factors associated with safe, optimum health outcomes. Despite these efforts, high inpatient

nursing workload has been implicated with suboptimal safety standards and adverse patient

outcomes (Faisy et al., 2016; Ross et al., 2019). The AHRQ recognizes that the correlation

between nursing workload and safety, are not unique to the inpatient setting or adult population (AHRQ, 2019a; AHRQ, 2019b).

The AHRQ (2019a) has extended its quality and safety initiatives to be inclusive of ambulatory care settings, such as community health centers and schools. This extension expands the former Institute of Medicine quality care objectives through adopted specific quality measures for children, such as the Child and Adolescent Health Measurement Initiative (CAHMI) (Johns Hopkins Bloomberg School of Public Health, 2014). Similarly, organizations such as the American Academy of Pediatrics (American Academy of Pediatrics [AAP], 2016), Centers for Disease Control (Centers for Disease Control and Prevention [CDC], 2018a), National Association of School Nurses (NASN, 2020), and the World Health Organization (World Health Organization [WHO], 2019a) collectively strive to set standards for safe care in the school setting to maximize students' academic experiences. In their position statement, *The Role of the 21ˢᵗ Century School Nurse,* the National Association of School Nurses (NASN, 2017b) outlines how school nurses and other specialized instructional professional support personnel (SISP) (counselors, therapists, psychologists, social workers, librarians, and others), facilitate health and education on a daily basis for over 50.4 million K-12 students (National Center for Education Statistics, 2016) through standards of practice, care coordination, quality improvement, leadership, and public health initiatives (Maughan et al., 2015). Unfortunately, the public is largely unaware that medical, dental, counseling and nursing services are provided in K-12 school settings. Due to this knowledge deficit, school health is referred to as "the hidden healthcare system" (Lear, 2007, p.409).

These services, and other public health programs, are primarily coordinated by school nurses (NASN, 2016b).

Background

Due to the specialized role and skill set inherent in school nursing, what constitutes a safe, quality school nurse workload has yet to be formally defined (Combe et al., 2015; Endsley, 2017; NASN, 2020). As reported, school nurse responsibilities include care of acute and chronically ill students, evaluation of population health standards, environmental safety, and social determinants of need in their communities (NASN, 2015; NASN 2017b). In fact, the Healthy People 2020 *Community Health Initiative*, identified the school environment as essential to the provision of community-based education targeted at disease prevention, health promotion, and enhancing quality of life (United States Office of Disease Prevention and Health Promotion [U.S. ODPHP], 2018), and as such, has expanded its focus to encompass improved health education in school settings. For instance, community-based institutions, such as schools, seek to improve health outcomes of their community by encompassing a collective body to reduce factors that contribute to poor health outcomes, while promoting modalities that enhance health promotion and disease prevention (U.S. ODPHP, 2018).

In response to the demand for improved health outcomes of children and adolescents, resources are available to facilitate clarification of school nurse practice. Resource allocation is exemplified by the *Bright Futures* initiative of the AAP (2017), which provides care practitioners with evidence-based health promotion guidelines targeted at children from infancy. Furthermore, the AAP recognizes that jointly, school nurses and public health

nurses, establish positive health behavior through safe care delivery and consistent health education (AAP, 2017). On a global level, the WHO affirms, through their *Global School Health Initiative,* that school nursing services are integral in decreasing student morbidity and mortality rates (Fritsch & Heckert, 2007; WHO, 2019a).

Recognizing that 25% of schools lacked nursing services, the Nurses for Under-Resourced Schools or NURSE Act was introduced to the United States Senate in 2014 and 2016 (S. 2297, 2014; S. 2572, 2016), and to both the Senate and the House of Representatives in 2018 and 2019 (H.R. 5251, 2018; H.R. 2606, 2019; S.2532, 2018; S.1362, 2019). If passed, this legislation will offer demonstration grants to Title I schools without nurses (H.R. 2606, 2019; Largent, 2019; S.1362, 2019) with the intent to add school nurses to these public elementary and secondary schools. Thus, it is essential that the impact of enacted laws and proposed legislation be considered when examining the impact on school nurse workload (NASN, 2020).

Theoretical Underpinning and Qualitative Research Approach

Open Systems Theory

Open Systems Theory (OST) contends that from a biological stance, a living being, (or organization/system) is comprised of open, interacting parts that work in unison with the environment. The constituent parts gain new properties as they evolve and adjust through continuous feedback from the outside environment (Clark, 2014; Von Bertalanffy, 1968). Open Systems Theory is applicable to the school setting, as the school nurse does not work in isolation, but as a health provider immersed in a system of education, healthcare, and community at large. Advantages of examining nursing workload from an open systems

framework include understanding: (a) systems are capable of self-correction via a feedback loop mechanism, (b) organizational equifinality is achievable through modification of design, goals, and processes, and (c) differing organizational characteristics and environmental influences are acknowledged to achieve a steady state (Panchal, n.d.; Von Bertalanffy, 1968). Thus, it is important to understand not only the specific components of school nurse workload, but also acknowledge the external factors (inputs) that influence work. As examples, these factors could emerge from the school organization (administrative support) or characteristics associated with the community served (social determinants of health).

Descriptive Phenomenology: A Qualitative Approach

Rooted in philosophy, classic phenomenology seeks to explore the meaning behind human's lived experiences from their perspectives regarding a phenomenon (Patton, 2015). In practice, phenomenology strives to understand the true essence of one's reflections and experiences by extracting meanings and themes from participant responses that are obtained through open-ended interviews and stories (Giorgi et al., 2017; Moerer-Urdahl & Creswell, 2004; Moustakas, 1994; Patton, 2015). German philosopher Edmund Husserl introduced modern phenomenology in 1901, as a framework to examine qualitative data without preconceived theories or data. Advocating a purely descriptive approach, Husserl sought to generate unbiased objectivity when exploring lived human experiences that were incapable of being captured through the scientific method of research. Husserl's maintains that it is essential for the researcher to remain objective *bracketing*, setting aside past experiences or preconceived ideas about the phenomenon under study (Creswell & Creswell, 2018; Giorgi et al., 2017; Mapp, 2008; Moustakas, 1994).

Moustakas

Moustakas' transcendental phenomenology approach was chosen as the method for exploring and providing a textural description of school nurse workload from the lived experiences and perceptions of school nurses. Moustakas (1994), affirmed Husserl's belief that the researcher should maintain (to the extent possible) a measure of epoche (suspension), by setting aside all preconceived judgment and bias. If epoche is successfully attained, the researcher will explore the phenomenon anew through unique participant perspectives (Moerer-Urdahl & Creswell, 2004). Moustakas was influenced not only by the phenomenological philosophy of Husserl, but also by different schools of qualitative inquiry. One of Moustakas' unique features is the emphasis on presenting a description from the participant's point of view, regarding the phenomenon under study, focusing less on interpreting the participant statements. Because the researcher is an objective bystander, Moustakas' (1994) adapted an approach of presenting the results in a purely descriptive form, distinguishing the results from other qualitative methods (void of interpretation). In the book *Phenomenological Research Methods* (1994), Moustakas describes several commonalities among other qualitative methods such as Ethnography, Grounded Research Theory, Empirical Phenomenology (the participant returns to the experience, rather than describes it), Heuristics, and Hermeneutics. The commonalities include:

- Recognizing that quantitative methods are not appropriate for all human research.
- Viewing the experience in its entirety.
- Focusing on meaning and essence rather than measures.
- Interviewing for first-person stories.

- Considering the interviews as the data for human science research.

- Developing questions of importance to the researcher.

Transcendental phenomenology has been advocated as an effective method to explore abstract concepts in nursing (Davidsen, 2013; Flood, 2010; Mapp, 2008; Zahavi & Martiny, 2019). Moustakas also prescribed a systematic approach to data collection and analysis that will be detailed in Chapter Three.

Problem Statement

The role of the school nurse is complex and multi-faceted (Combe et al., 2015; NASN 2015; NASN, 2016b). The problem is that although nurse-to-patient workload in acute care settings has been studied, there remains a dearth of information as to what the school nurse workload entails. Exploring factors that impact school nurses is an essential first step to drive future quantitative studies that examine appropriate school nurse workload metrics.

Significance of the Study

This study was significant because there is scant qualitative data describing school nurse workload. Delivery of quality health care is a human right, no matter where the delivery is provided (American Nurses Association, 2016). School nurse perspectives are necessary in the future development of additional qualitative and quantitative methods capable of determining what establishes safe, quality school nurse workload on a national level. As such, this study benefits researchers, school nurses, administrators, teachers, students, and parents/guardians. This study also enhances the nursing body of knowledge.

Purpose of the Study

The purpose of this transcendental phenomenological study was to explore school nurse workload through the stories and perspectives of school nurses caring for students in kindergarten through fifth grade in urban school settings. The findings of this study will provide qualitative understanding of workload for school nurses in elementary school settings.

Research Question

The central research question was: *What are the perspectives and lived experiences of school nurses caring for students kindergarten to fifth grade regarding their workload?* From this research question I explored participant workload definition, similarities and/or differences in the descriptions and any additional information the participants wished to share. Probing questions were used as needed, to clarify information received.

Operational Definitions

The following are operational definitions of the pivotal constructs and concepts for this study.

School Nursing is defined as "a specialized practice of nursing, that protects and promotes student health, facilitates optimal development, and advances academic success" (NASN, 2015).

Caseload is a "method that designates staff based on a specific number of students" (American Speech-Language-Hearing Association [ASHA], n.d., p. 1).

Nursing workload is defined as "the amount of time and care that a nurse can devote (directly and indirectly) toward patients, workplace, and professional development" (Alghamdi, 2016, p. 455).

Safe school nursing care is defined as "the prevention of errors and adverse effects to students (patients) associated with health care during the school day" (WHO, 2019b, p. 1).

Social determinants of health are defined (WHO, 2021, p.1) as "the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas."

Assumptions

Certain assumptions are taken into consideration before the research process commences. The investigator assumes that the school nurses wish to discuss their lived experiences regarding workload. It is further assumed that the participant responses are straightforward and accurate.

Summary

School nurse workload is a complex issue for the RN, students, families, schools, and the community at large. The existing literature on nurse workload is sparse, and the need for qualitative research to understand this abstract, but important concept is clear. Student health issues and federal laws that drive K-12 educational structure and delivery are complex (NASN, 2020). Thus, more information is needed to determine the extent of student social, economic, and cultural determinants on school nurse workload. Chapter Two will provide a

review of literature including the role of the school nurse, factors impacting school nurse

workload, and discussion involving advanced practice nurse and physician workload.

CHAPTER 2

REVIEW OF THE LITERATURE

In 2015, the profession of school nursing (NASN 2015) emulated other disciplines such as medicine (Raffoul et al., 2016), special education (National Education Association [NEA], n.d.), and social services (Whitmore, 2017) by advocating a workload practice model. Similarly, in a joint statement, the American Associations of Physical, Occupational, and Speech-Language-Hearing Therapies (2014) promote their practices using a workload model to enhance student outcomes and promote clinician recruitment and retention. As with school nursing (NASN 2020), these professions all strive to accurately capture social determinants along with the administrative, economic, cultural, and geographic variables of their work. Since the concept of workload was introduced to school nursing in 2015, there is a scarcity of literature examining workload variables within the profession (Combe et al., 2015; NASN, 2015). This section aims to examine workload as a general concept and situate it within the realm of open system learning organizations. The context of workload in related nursing, medical, therapeutic, and education disciplines will be discussed in addition to student factors that impact school nurse work. Although my research is not focused on outcomes, several outcomes studies have been cited here for workload historical context, or for workload perspective across professional disciplines. It is crucial to understand seminal workload and staffing research in the nursing, healthcare, and education realms.

Role of the School Nurse

School nurses have practiced under the domain of public health since Lillian Wald convinced the New York City Health Department to hire the first school nurse in 1902

(Wald, 1915). Through student assessment and family education, school nurse, Lina Rogers, improved the attendance of vulnerable children in New York City by promoting hygienic measures that decreased illness and subsequent absenteeism. Impressed by Roger's intervention-based results, the New York City school leaders made her "Superintendent of School Nurses" and 12 additional school nurses were hired (Vessey & McGowan, 2006, p. 256; Wald, 1915). Care coordination continued, as nurses from the Henry Street Settlement, visited families at home and reinforced hygiene education (Filiaci, 2017; Rogers, 1908/2002; Vessey & McGowan, 2006).

School nursing remains grounded in population health through promotion of health equity, education, and disease prevention. Modern school nurses are leaders who champion policies and protocols to promote student health and wellness. Individual students with chronic conditions such as allergies, diabetes, asthma, epilepsy, and sickle cell disease are managed by school nurses who serve as liaisons between the school, family, and medical providers (Englelke et al., 2008; Engelke et al., 2014; NASN, 2017b). Two integrative reviews (Maughan, 2003; Yoder, 2019) revealed that school nurses still influence positive student attendance and education outcomes through case management, infection control and physical assessment. Additionally, quality improvement, emergency preparedness, staff education, delegation and supervision are school nurse responsibilities that promote student safety and wellness (NASN, 2017b). School nurses also partner with other health providers in school-based health centers to coordinate care and assist with establishment of medical homes (CDC, 2018a) Recognizing the critical role of school health, the American Academy

of Pediatrics supports the school nurse workload model, as well as a school nurse position in every school (AAP, 2016).

Workload Concept

The precise definition and theoretical foundation of *workload* has been the subject of debate*;* however, most sources describe workload as the presumptive association between a worker (or work group) and the demands of their labor (Jex, 1998; Kuschel, 2015; Oplatka, 2017). Space and aeronautical scientists pioneered research combining workload, safety, human capability, and performance factors (Sgobba, et al, 2017). Extended space missions require system work designs compatible with human capabilities. Error rates have been noted with excessively low, as well as high workloads (Casner & Gore, 2010; Sgobba et al., 2017). NASA research data revealed, low workload surveillance duties yielded high workload measures due to the increased situational awareness required. The *ideal* workload should be considered as a range of mental and physical activity, rather than a steady state. Thus, periods of high workload have been proven effective in the development of multitasking skills (Sgobba et al., 2017). Three years of research resulted in the NASA Task Load Index tool (TLX) (Hart, 2006). The assumption behind TLX is that workload is *operator focused,* and subjective measurements may sometimes be the only way to capture constructs such as, mental workload and frustration level (Hart & Staveland, 1988). The TLX scale incorporates six rating categories beyond the task level: "mental demand, physical demand, temporal demand, performance, effort, and frustration level" (Hart & Staveland, 1988, p. 169). The *Nursing TLX* (Gregg, 1994),), based on NASA's tool, has been studied to examine potential application to the measurement of mental workload in intensive care nursing using secondary

data analysis (Hoonakker et al., 2011), factor analysis (Tubbs-Cooley et al., 2018), and cross-sectional study (Mohammadi et al., 2015). *Human factors* workload analysis (Carayon & Alvarado, 2007; Carayon & Gurses, 2005; Neill, 2011) expand the Nursing TLX to include variables at the job, nursing unit, patient, and situation levels. The NASA and human factors data illustrate how workload, in all nursing specialties, must include subjective variables beyond patient acuity, unit census, and hours worked. Alghamdi (2016, p. 455), proposes this comprehensive definition of nursing workload. "Nursing workload is the amount of time and care that a nurse can devote (directly and indirectly) towards patients, workplace, and professional development."

Empirical Studies of Workload on Nursing and Education

Endsley (2017), conducted a scoping review of the general nursing workload (empirical and non-empirical) literature to explore potential parallels to school nursing workload. Scoping reviews are appropriate in this context to assess existing literature, identify gaps, and frame subsequent systematic reviews (Munn et al., 2018). Five themes emerged from acute care, public health, and mental health nursing workload literature. Identified themes included: (a) the role of assistive staff, (b) patient indicators, (c) environmental factors, (d) missed nursing care, and (e) nurse satisfaction. General nursing workload research continues to be updated. A search in Google Scholar for the same search terms *nurse, workload, outcomes* yielded 10,700 results. Other data bases searched included CINAHL, PsychINFO, ERIC, and PubMed. The same themes are noted throughout the titles, and school nursing now has a small presence in the literature. A comprehensive view of workload across nursing specialties include concepts such as *Human Factors* models

14

(Carayon et al. 2018; Carayon & Alvarado, 2007; Carayon & Gurse, 2005; Holden et al., 2011; Neill, 2011), the inclusion of nursing activities scales (Carmona et al., 2013), and unregulated staff (Duffield et al., 2014). The literature reflects five characteristics of workload that include: (a) nursing time; (b) nursing competency; (c) direct care intensity; (d) physical, cognitive, and emotional endeavors; and (e) the ability to adapt to unexpected change and complexity of care (Alghamdi, 2016).

Acute Care Nursing Research

Although seminal workload research measured outcomes, it is important to review these studies for historical context and perspective on modern nursing workload research. Aiken, Clarke, and Sloane (2002) demonstrated the association between patient mortality and a minimum nurse to patient ratio in response to the California nursing shortage, and subsequent nurse-to-patient minimum staffing ratios in the late 1990s. Outcome measures included: (a) failure to rescue, (b) nurse job satisfaction, and (c) nurse burn-out (Aiken, Clarke, & Sloane, 2002). In a later cross-national study, Aiken, Clarke, Sloane, Sochaski, and Silber (2002) determined that even optimal nurse staffing levels cannot provide quality patient care in suboptimal work conditions.

Despite slow implementation of human factors engineering practices, in all sectors of healthcare, continued examination is necessary to understand patient safety practices (Carayon et al., 2018; Carayon & Gurse, 2005; Holden et al., 2011). For example, nurse interruptions and medication errors are critical areas that have been studied (Duffield et al., 2011), along with missed nursing care (Ball et al., 2013). Further research highlighted the influence of unlicensed staff on professional nurse workload and was inconclusive, as

15

unlicensed assistive personnel may be an asset, or an addition to nurse workload, depending on the circumstances (Duffield et al., 2014).

To create an acute care pediatric staffing guideline beyond unit census, nurse-to-patient ratio, and acuity, Kohr et al. (2012), applied the American Association of Critical care Nurses' (AACN) Synergy Model in one large urban hospital's pediatric and neonatal intensive care units. Charge nurses considered patient indicators (or variables) when making assignments, guided by the Synergy Model dimensions of "*stability, complexity, predictability, resiliency, vulnerability, patient/family participation,* and *resource availability*" (p. 422). The Synergy Model, applied patient and family characteristics with nursing interventions, nurse competence, and available resources to guide safe nurse-to-patient assignments leading to positive clinical outcomes. Similar models might be applied to communities to assess characteristics that impact public health and school nurse workload.

School Nursing Workload: Chronic Health Conditions and Trauma/ACEs

Although there are many variables that impact school nurse workload, two of the most prevalent factors cited in the school nursing literature included care of students with chronic conditions, and/or experience of trauma or adverse childhood experiences (ACEs) past or present.

Chronic Health Conditions Overview

School nurses care for student populations with increasing acuity and complex physical and mental health needs. Federal legislation entitling all children to a public education (ESSA, 2015) plus an increase in student chronic health conditions has increased school nurse workload (NASN 2016, 2020). The care of these students during the school day

16

requires individual nursing care plans along with general safety and emergency plans. School

nurses are also responsible for educating students and school staff about the disease

processes, safety precautions, and emergency interventions. For example, in 2018, 210,000

children and adolescents under age 20 had type one or type two diabetes (American Diabetes

Association, 2020), and asthma prevalence in children under 18 is 8.6% (CDC, 2014). The

obesity rate for children, 6 to 11 years is 18.4% (BMI ≥30kg/m2). For youth 12 to 19 years,

the obesity rate increases to 20.6% (CDC, 2017). Research illustrates that socioeconomic

factors and family member substance abuse also correlate with poor academic performance

and/or absenteeism (Chang & Romero, 2008; Gottfried, 2015; Schroeder et al, 2018). Twenty

percent of school age children in the United States live in poverty (NCES, 2019) and have

limited access to safe playgrounds and healthy food choices (CDC, 2018b). Chronic health

conditions and social determinants of health impact student school attendance in the primary

grades (United States Department of Education, 2015). Chronic illness is a major factor for

student absence; therefore, the impact on student attendance and outcomes is a school

nursing research interest (NASN 2016). Case management of chronic conditions is another

crucial component of school nurse workload.

Case Management

  School nurse workload includes the case management of students with chronic

conditions, as well as the development of health and hygiene programs for the general

student body. School nurses also partner with primary medical providers to improve the

attendance of student with chronic health conditions (Jacobsen et al., 2016). Asthma case

management is one example of how school nurse work (in conjunction with primary care

17

providers) has been cited to positively influence student attendance. This positive impact is demonstrated by improved asthma management (Engelke et al., 2014; Rodriguez et al., 2013; Telljohann et al., 2004) and decreased school dismissals for illness or injury (Pennington & Delaney, 2008; Wang et al., 2014; Weissmuller et al., 2007; Wyman, 2005). The first school nurse staffing model to incorporate student outcomes is described by Daughtry and Engelke, (2018). This workload model from North Carolina was modified to incorporate 80 % of acuity rating to social determinants of health, such as free and reduced meals, along with English as a Second Language (ESL) determinants. Outcomes that are measured include increase of students with medical homes, increase of student case management, and medications and procedures provided consistently (Daughtry & Engelke, 2018). An example of mental health case management is reflected in the social work literature with the Strengths Model for Youth Case Management (SM-Y 2020) study (Schuetz, N., et al, 2020). This community mental health model clearly illustrated the impact of case management on provider workload.

Hygiene and Infection Control

Hygiene and infection control education is another vital component of school nurse workload that has been cited in the literature. School nurse hand hygiene research from the late 1990s and early 2000s (Kimel, 1996; Morton & Schultz, 2004; Ramos et al., 2011) revealed how classroom education, availability of hand sanitizing gel, and supply inspections enhanced infection control and student attendance. These seminal school nurse hygiene studies are still referenced on major medical and public health websites (American Public Health Association, 2006; Johns Hopkins All Children's Hospital, 2021). Interventions such

as these may explain why student dismissal rates may be three times as high when there is no

school nurse presence (Baisch et al., 2011; Pennington & Delaney, 2008; Wang et al., 2014).

Adverse Childhood Experiences (ACES) and Trauma

School nurses are often the point of contact for referral to social and mental health

services related to trauma and adverse childhood events (ACEs), but if workload time does

not allow for thorough assessments, signs of these conditions can be overlooked. As an

unintended consequence, these students may be at risk for poor physical health, mental

health, and academic outcomes. Adverse childhood experiences (ACEs) are defined as "all

types of abuse, neglect, and other potentially traumatic experiences that occur to people

under the age of 18" (CDC, 2019, p. 1). Early identification of students who have

experienced one or more ACE is critical, due to high risk of "chronic health conditions, risky

health behavior, low life potential, and early death"(CDC, 2019a, p. 1). Trauma occurs "when

a child feels intensely threatened by an event he or she is involved in or witnesses and

complex trauma is exposure to multiple traumatic events" (National Child Traumatic Stress

Network [NCTSN], n.d., p. 1). Trauma may include: (a) bullying, (b) community violence,

(c) disasters, (d) domestic violence (e) medical trauma, (f) physical abuse, (g) sexual abuse,

and (h) terrorism (NCTSN, n.d.). Approximately 46% of children in the United States have

experienced at least one ACE, with economic hardship reported as the most common. The

other most reported traumas are divorce or parent separation, family member substance

abuse, neighborhood violence, and mental illness (Sacks et al., 2014). Adverse childhood

experiences have been linked to school absenteeism, behavior concerns, and low academic

test scores (Blodgett & Lanigan, 2018; Stempel et al., 2017). Refugee students are at risk for

19

multiple ACEs such as: exposure to war, torture, abuse, and loss of family members (NCTSN, n.d.). All of these factors impact a student's access to services and education.

Case management, mental health referrals, and infection control measures are just a few examples of current issues that impact school nurse workload. The transition from caseload to workload is an example of Meleis' process of *concept clarification* needed for the school nursing specialty (McEwen & Wills, 2014). The NASN (2015), has gathered enough evidence to recommend a change from a caseload model to a workload model which includes a multifactorial approach to determining school nurse staffing. Although there is data that support the positive influence that registered professional school nurses have on attendance (Guttu et al.,2004), and cost savings (Wang et al., 2014), more research is needed to support these claims.

Education Workload

School nurses work closely in the school building with other specialized instructional support personnel (SISP) such as occupational therapists, physical therapists, speech-language therapists, as well as social workers, guidance counselors, and librarians. The Every Student Succeeds Act (ESSA 2015; NEA, 2018) formally included school nurses within the SISP definition. The SISP provides needed services to support mainstream and special needs students. Specialized support personnel partner with teachers in and out of the classroom, and coordinate with other SISPs to develop individualized education plans (IEP) to support student success (NEA, 2018). Autism Spectrum Disorder (ASD) is an example of multifaceted developmental disability with various levels of severity and need of intervention. A student with ASD may require support from multiple SISPs to provide

support communication, behavior, physical development, activities of daily living, and cognition in the least restrictive environment (CDC, 2019; McCollow et al., 2013).

Physical, occupational, and speech-language therapy associations now recommend a workload approach (APTA, AOTA, ASHA; 2014). The American Speech-Language - Hearing Association (ASHA, n.d.) contends that speech-language therapy (SLP) caseloads may range from 31-64 students. These caseload numbers do not take into consideration the level of student disability, documentation, Medicaid billing, or curriculum development. As a result, direct student services may become less individualized due to time constraints. The SLP also considers supervision, staff training, professional development, and parent/teacher communication as workload components. Unrealistic workload demands may impact student outcomes, SLP retention, mediation hearings, and opportunities for collaboration with other SISP (ASHA, n.d.).

Teachers and school administrators are also concerned with workload. There is evidence that novice special educators are at risk emotional exhaustion and high turnover with unrealistic workloads (Bettini et al., 2017). Qualitative data from elementary principals reveal difficulties with work-life balance, often because they do not have an assistant administrator (Oplatka, 2017). Despite these workload challenges, education staff state they do not procrastinate tasks of an urgent nature; but time management, and appropriate delegation may promote enhanced workload management (Comert & Donmes, 2019). Thus, workload is an area that needs to better articulate work that is actually done and not work that is observable.

Primary Care Workload: Physicians and Advanced Practice Nurses

Principles of Primary Care

Exploration of acute care nursing workload reveals themes consistent across several nursing care environments. Given the autonomous nature of school nursing practice, an analysis of advanced practice nurse workload, or caseload, may provide some insight into the care that reflects the needs of a broad spectrum of clients. The *Shared Principles of Primary Care* is founded on Starfield's (1992), *Four Pillars of Primary Care.* These pillars include first contact care, continuity over time, comprehensiveness, and coordination (Bodenheimer et al., 2014; Gupta & Bodenheimer, 2016; Patient Centered Primary Care Collaborative [PCPCC], 2020). Although the Four Pillars and Principles provide the vision, there are no specific metrics on the number of clinicians or amount of workload per clinician to result in quality patient outcomes (Bodenheimer et al., 2014). The Shared Principles strive for high quality care which is (a) person and family centered, (b) continuous throughout all stages of life, (c) comprehensive and equitable, and (d) cognizant of social determinants. Quality primary care is also team-based and collaborative, coordinated and integrated, accessible, as well as high value (PCPCC, 2020; Bodenheimer et al., 2014).

Physician Panels

One element of primary care physician workload is the number of patients assigned to their *panel*. Panel size is defined as "the number of unique patients for whom a care team is responsible" (Institute for Healthcare Improvement [IHI], 2015). The recommended panel size of 2500 patients per physician and is not based on any specific data (Gupta & Bodenheimer, 2016; Murray et al. 2007; Raffoul et al. 2016). This number of patients

substantially limits the physician's ability to render the appropriate care in a reasonable amount of time, to yield the most optimal health outcomes and continuity of care (Gupta & Bodenheimer, 2016; Murray et al. 2007; Raffoul et al. 2016). Considering that the physician addresses an average of three issues per health encounter, they would need almost 22 hours per day to give the whole patient panel adequate care (Beasley, et al., 2004; Raffoul et al., 2016). Reducing panel size may yield, improved patient care and satisfaction, but the increasing number of patients insured under the Affordable Care Act (Patient Protection and Affordable Care Act, 2010) may have a more difficult time finding a primary care physician (Raffoul, 2016).

Advanced Practice Nurses

Advanced practice nurses (ARNP) were introduced to primary care to enhance patient care through health promotion, care coordination, collaboration, education, and counseling (Grant et al., 2017). A scoping literature review by Martin-Misener et al. (2016), reveals that ARNPs have their own panels that can range from 500-1,000 patients and that there is no evidence indicating how large a panel should be. Factors such as age, gender, health conditions, location (rural or urban), as well as organization attributes should be factored into panel size. In the context of workload research, although there are formulas developed by the United States Veterans Administration, and the Association of Ontario Health Centres in Canada, more research is needed to find the ideal ARNP panel size (Martin-Misener et al., 2016). Starfield (1992), explained the impact of poverty and low parent education for the care of children. Patient vulnerability also impacts the case load of ARNPs in other settings, such as extended care. For example, there is no exact panel size for ARNPs caring for the

elderly in extended care facilities. Extenuating factors such as: (a) drive time between

facilities, (b) amount of time spent on indirect care activities, (c) clinician efficiency, (d)

facility efficiency, and (e) clinician need for second opinions or consultations, must also be

considered (Buppert, 2005, p.1). From a legal standpoint, Buppert, a nurse attorney (2005),

recommends the ARNP assess the safety of the number of clients seen in a day, with

practitioner emotional and physical effort, and employer satisfaction.

It is evident from the multifaceted roles of physicians, ARNPs, and acute care nurses

across disciplines that workload definition and measurement need to encompass a broader

range of variables beyond panel sizes, nurse-patient ratios, or patient acuity. Similarly,

school nurses encounter influences from the school building, family or community that

influence their workload. The following section examines how general systems theory

explains how general systems operate on an individual or organizational level. The systemic

balance influences the desired outcomes of the individual or organization.

General Systems Theory

The concept of *systems* has long been rooted in the sciences and business vernacular.

Gibson, Ivancevich, and Konopaske (2012, p. 21), provide the following definition: "A

system is a grouping of elements that individually establish relationships with each other and

that interact with their environment both as individuals and as a collective." *General Systems

Theory* (GST) was first conceptualized in 1968, by Von Bertalanffy, when he examined

biological systems as distinct units comprised of integral constituent elements. Von

Bertalanffy theorized that systems were either closed systems (self-contained environments),

or open systems that are influenced by external environmental factors. Von Bertalanffy

further asserted that the general systems approach is applicable across disciplines (Hammond, 2010). It is of note that the major nursing theorists (Roy, Johnson, Neuman, King, Orem, and Rogers) applied elements of GST into their theory frameworks (Current Nursing, 2020).

Katz and Kahn (1978) expanded upon Bertanlaffy's systems theory work and affirmed that systems or organizations also convert energy from the environment into a *throughput* or end-product that transfers back to the environment and allows the organization to reorganize and adjust to change. Once it was determined that open systems could be applied in organizational contexts, management and production models were developed based on this framework (Sullivan, 2009). Managers and marketers became interested in learning how their organizations interacted with the environment to maintain viability and relevance (Mele et al., 2010). Negandi (1973), reported on open systems theory (OST) approach to multicultural management that combined environmental (economy, politics, social conditions) factors with industry in developing countries. Swedberg (2016), asserts that visualization is a critical component of systems theory. Advantages of examining nursing workload via OST framework are that; (a) systems are capable of self-correction via a feedback loop mechanism, when internal issues arise; (b) organizational equifinality is achievable through modification of organizational design, goals, and processes; and (c) differing organizational characteristics and environmental influences are acknowledged to achieve a steady state (Panchal, n.d.).

Senge (1990) and Senge et al. (2014), moved systems thinking to a new level in 1990 with *The Fifth Discipline* publication. Essentially, businesses must evolve as learning

organizations to survive and stay relevant. In 1994, this theory revolutionized organizational

thinking in China, as well as the United States education system (Senge et al., 2014).

Elements of the *Fifth Discipline* include building a shared vision, systems thinking, mental

models, team learning and personal mastery. All components are cyclic and essential for

success. For example, mental models applied to the iceberg tool (Goodman, 2002) assist with

understanding attitudes, structures, and patterns of behavior that interfere with student

success (Senge et al., 2014; Zeeman, 2017).

Nursing is ever evolving with examples of unique solutions to old problems (such as

workload and staffing) using general systems theory on a nursing unit or within the

organization. As mentioned, the Synergy Model for adult inpatients was revised with input

from staff and charge nurses to adapt pediatric nursing workload to meet the needs of the unit

census. Factors or *inputs* such as stability, vulnerability, and resources are assessed at the

beginning of each shift to not only address patient/family acuity, but to also pair them with

the most appropriate staff nurse. (American Academy of Critical Care Nurses [AACN],

2015; Kohr et al., 2012). Large health systems are encouraged to assess staffing and

scheduling practices to choose centralized or decentralized models to improve patient

outcomes (Bowie & Baker, 2019). Finally, a Texas school district, in a pilot partnership with

NASN, requested an audit to identify best evidence-based practices for their students' needs.

Results revealed the need for root cause analysis, collection of key data points, and practice

format consistency. The process was an opportunity for growth and learning for all parties as

root-cause analyses align with system theory to identify issues with external variables that

affect workload. (Cross et al., 2019).

Summary and Literature Gaps

It is apparent from this literature review that further school nurse workload research is warranted. A 2017 doctoral dissertation explored lived experiences of school nurses newly transitioning from acute care practice (Campbell, 2017), but there is scant qualitative research, and no phenomenological studies to ascertain school nurse perspectives on workload. Another significant literature gap is the lack of school nurse workload variables factored into the research. Many of the studies were conducted prior to the incorporation of workload in the school nurse literature, and nurse-to-student ratio does not encompass the full scope of the school nurse's workload and is not evidence-based (NASN, 2015). It is imperative to understand unique population characteristics when formulating school nurse assignments. As diverse population needs are identified and clarified, it is essential to ensure that workload determination tools have the flexibility to provide for safe nursing care for students based on the specific social determinants and health needs of the school district's population. Literature reviews for phenomenological studies must be comprehensive enough to scope the background yet brief enough to avoid researcher bias. Thus, the literature review may be continued in Chapter Five to investigate new ideas and themes discovered during the interview process (Bloomberg & Volpe, 2016; Terrell, 2016).

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

This chapter defines the design and methodology of this transcendental

phenomenological school nurse workload study. Lived experiences of school nurses caring

for students in kindergarten to fifth grade, in a northeastern state, were collected through

online audio recorded interviews. This chapter will describe how analysis of the qualitative

data utilizing NVivo software, was accomplished.

Methodology

The University of Missouri, Kansas City Institutional Review Board (IRB) approval

was obtained prior to commencing this research project. The IRB was provided with the

proposal, interview questions (Appendix B), informed consent document (Appendix F), and

permission forms (Appendices C, D, and G). I obtained supervisor and superintendent

approval to assure no conflict of interest exists for the employer (Appendix G). Participant

superintendent permission was also requested before commencement of the respective

interview (Appendix D).

Design

A transcendental, phenomenological approach based on Moustakas' (1994)

adaptation of the Husserl framework, was used for the study. This approach was selected

since it allowed exploration of the phenomenon of school nurse workload from the

perspectives of school nurses in the field. Semi-structured interviews were used to collect

data through an open-ended question format that conformed to Rubin and Rubin (2005)

responsive interview model. This approach enhanced comprehensive structural and textual

descriptions (Moustakas, 1994) of school nurse workload practices. Additional probing

questions were presented when needed, for clarification purposes (Brinkman & Kvale, 2018;

Flood, 2010; Rubin & Rubin, 2005). A listing of all interview questions was provided to each

study participant one week prior to the actual interview. The format was uniform for each

interview, and probing questions were interjected, depending on the direction of each

participant's conversational exchange with the researcher (Rubin & Rubin, 2005).

Participants were encouraged to express themselves freely as seemingly inconsequential

remarks during the interview, may later become significant data analysis findings (Basu,

2015).

Transcendental phenomenology was appropriate for this study, as this approach

required me, to set aside all presuppositions, biases, judgment, and personal beliefs, and

solely reflect on each participant's perspective (Basu, 2015; Creswell & Creswell, 2018;

Moustakas, 1994). This approach was consistent with the purpose of the study and aligned

with the central research question in order to provide a textural, multilayered description of

workload from the perspectives and lived experiences of school nurses.

Role of the Researcher

Since I had personal experience practicing as a school nurse, attainment of *epoche*

was critical for unbiased data collection and analysis. Strategies employed included self-

reflection, meditation, and internal discourse. Although some past experiences may prevent

complete *epoche*, personal awareness of these issues enhance appreciation of new

perspectives (Moustakas, 1994). Creswell (2018) further explains   the importance for the

researcher to engage in *reflexivity,* consciously acknowledging any preconceptions or

29

assumptions regarding the phenomenon under study, to enhance identification of past

experiences that could bias the research process. Journaling and annotating emotions during

interviews were also strategies employed to reach epoche. Hatch (2002, p. 88), recommends

journaling "as an extension of bracketing" during data collection and analysis, to self-assess

for bias. A third strategy employed, entailed discussion of journal impressions with the

committee chair (Basu, 2015; DeFelice & Janesick, 2015). The combined strategies assisted

in the reflexivity and bracketing processes, and thus, decreased the likelihood of my

projecting influence during data analysis and dissemination of the findings. Prior to targeted

participant interviews, test questions were administered to volunteer participants. Testing was

done to ascertain if any adjustments were needed for questions or protocol and conformed to

Colton and Colvert's (2007) instrument and design model. Systematic pretesting highlighted

potential misunderstandings, process gaps, time constraints, as well as provided practice for

the interviewer (Hurst et al., 2015).

Participant Selection

Quantitative researchers conduct power analysis to determine adequate sample size.

Qualitative researchers must consider their study purpose, specific to the research design

(Creswell, 2014; Creswell & Creswell, 2018; Patton, 2015). Creswell and Creswell (2018)

present two approach considerations when deciding appropriate sample size. The first

approach is to examine other phenomenological studies for sample size. Their review of

phenomenological studies revealed most had three to ten participants. The second

consideration is *saturation*, the point where data collection uncovers no new information.

Acknowledging the considerations, school nurse participants were recruited from the eight

largest urban school districts in the targeted state. It was anticipated that selection of school nurses from five urban school districts would yield three to ten participants and align with Creswell and Creswell's (2018) qualitative sample size recommendation. Since this study's focus was on urban school nurses, it was essential to recruit the appropriate participants for this interview research. Other inclusion criteria included (a.) the ability to read and speak English, (b.) licensure as a registered nurse in the selected state, (c.) certification as a school nurse through the state's department of education, and (d.) employment as an elementary school nurse in the state serving students kindergarten through fifth grade.

The five participants that responded to the recruitment letters were from two adjacent counties, so the scope of the study was unique to that area. The recruitment process began in April of 2020, one month into the COVID-19 pandemic closing of schools, and transition to remote learning. This resulted in more school nurse meetings, professional development, and virtual student visits. Many potential participants stated they could not be available for interviews due to their increased responsibilities.

Qualitative research experts recommend individuals who will add quality to the study with experience in the subject matter and varied in background and philosophy typically serve as credible participants (Brinkman & Kvale, 2018; Patton, 2015; Rubin & Rubin, 2005). Careful *purposive sampling* via recruitment email *(*Appendix E) was used to avoid errors and misleading results from convenience sampling.

In summary, eight urban school district superintendents (statewide) were contacted for research permission. Six superintendents granted permission to contact the school nurses for research participation. Two superintendents did not respond after two follow up contacts.

31

Of the six districts with superintendent permission, five school nurses responded that they would be willing to participate in the interviews. The study included five urban school nurses representing three different school districts in two adjoining counties.

Setting

Audio recorded interviews were held virtually via ZOOM Pro based on the convenience of each participant. After initial introductions and directions were completed, the video feature of ZOOM Pro was turned off per protocol set forth by the Institutional Review Board to protect participant privacy. Although audio interviews prohibited visual observation of the school nurse in their setting during the interview, it adequately served the purpose of conducting interviews with participants who are located a distance from the investigator. Brinkman and Kayle (2018), importantly point out that it was essential for participants to feel comfortable being recorded whether interviews take place in person or virtually, and that participants clearly articulate their understanding of the consent process. All the participants stated that they were familiar and comfortable with the ZOOM form

<center>**Procedure**</center>

Informed Consent and Data Collection

A letter of introduction, with study explanation (Appendix D) was e-mailed to each superintendent. If permission was granted, the signed document or official email was returned to the researcher. After obtaining superintendent written approval, a recruitment invitation was emailed to the district elementary school nurses, with a request to e-mail the investigator back within seven days, if interested in participating in the study. All interested participants were then e-mailed the demographic form (Appendix A), interview questions

(Appendix B), ZOOM Pro instructions (linked on initial letter), and UMKC informed consent

(Appendix F) one week prior to scheduled interview. Participants were assigned anonymous

numbers and any identifying material was kept in a locked, secure file in the investigator's

office. Any audio material was kept on the researcher's secured personal computer with

double password protection. The participants were compensated with a $25.00 Amazon gift

card for their time and effort. Participants were reminded that they were being recorded even

with prior verbal consent (Rubin & Rubin, 2005). Specific ethical considerations will be

described in each section.

Documents

Demographic Form

A demographic data form (Appendix A) collected participant data such as age,

gender, and location. No identifying information was listed on the form and anonymous

participant numbers linked them to their corresponding data. Ethical considerations included

ensuring anonymity of the participant, and clearly defining any potential confidentiality

breeches of the demographic data even if unintentional or required by law (Rubin & Rubin,

2005). The informed consent was reviewed with each participant prior to interview, and

verbal consent was obtained per the IRB's recommendation. All participants were treated

with respect, and the researcher refrained from any judgmental demeanor. The participant

was not coerced into any topic of discussion that caused physical or emotional discomfort

(Rubin & Rubin, 2005). Participants were reminded of their right to refuse to answer any

question and to stop the interview if they experienced any discomfort or did not want to

continue with the interview. Participants were advised of the investigator taking written field notes during the interview in order to capture impressions and themes (Patton, 2015).

Interview Questions

Data were collected using Rubin and Rubin's (2005) responsive interview (RI) model. According to this model, questions were developed that were (a.) open-ended and pretested with volunteer test participants (school nurses) prior to collecting participant data. (Appendix B), (b.) structural to the interview, and expansive enough to encourage examination of the overall research inquiry, and (c.) inclusive of follow-up questions and probes that guided the conversation and highlighted specific points that the participant might overlook. The interview questions were tested prior to the implementation of the study to determine if the questions appropriately addressed the central question and research sub-questions, which were designed to elicit a comprehensive and textural description of the phenomena from each participant. The interviews lasted for approximately one hour, or until the participant had nothing more to say. The five participants were interviewed in the late spring and early summer of 2020. The school nurses were asked to answer the questions from the context prior to the COVID-19 pandemic, as the impact on workload during the pandemic might differ.

The responsive interview method is different from a typical conversation in that the interview is developed with the intention of gathering data for analysis with recording and taking field notes. The interview seeks depth and clarity on the topic and does not drift. The RI also recommends establishing rapport with introductions, offering empathy when indicated, and starting with easier questions to make the participant more comfortable (Rubin

and Rubin, 2005). Other recommendations I followed that were consistent with RI included (a.) prolonged engagement (one-hour interviews) which promoted a broad understanding through guided conversation and rapport, and (b.) persistent observation of voice cues and inflections which increased my awareness of the participant's perspective (Terrell, 2016).

<div align="center">**Data Analysis Plan**</div>

Demographics

The researcher utilized an adapted demographic form (Appendix A) created by Jameson, Endsley and Anderson (2018) to analyze descriptive statistics of the demographic information collected. Demographic forms were destroyed in a confidential manner once data was entered.

Data Organization, Synthesis, and Analysis

A modified version of Moustakas' (1994) guidelines was used to guide analysis for this research. The steps included (a.) interview transcription, (b.) horizontalization, (c.) reduction and elimination, (d.) organization invariant constituents into clusters and themes, (e.) develop individual textural, structural, descriptions, and (f.) develop composite textural and structural descriptions representing the group.

Interview Transcription

The interviews were transcribed using NVivo (2020) transcription service. To ensure a complete understanding of the data and correct any transcription errors, I listened to each interview several times during the text editing process. Next, the verbatim transcripts were uploaded into NVivo software (2020) for manual coding and analysis. I listened to the interviews a second time while coding, to recollect the participant's intonation and emotion.

The interview text was reviewed a third time, after coding completion, to ensure no significant statements were omitted. During this iterative process, additional codes were discovered. Aspects of abstract concepts such as *quality care* were captured among the primary codes and subcodes.

Horizontalization

In a state of *epoche,* I began the phenomenological reduction process inherent in the horizontalization process by assigning each participant's statements equal value and identifying significant statements (Moustakas, 1994). Ideas and statements applicable to school nurse workload were sorted into *horizons* or broad categories.

Reduction and Elimination

During horizontalization I manually used priori and open coding to identify relevant texts. During this process, repetitive language, ideas, concepts, and exemplars were also identified. Moustakas' next steps for reduction were applied, as each statement was checked again for repetition, sufficient meaning, and essence (Eddles-Hirsch, 2015; Miles et al., 2019; Moustakas, 1994).

Clusters and Themes

Moustakas (1994) recommended working inductively to form the horizons (textural meanings), also referred to as invariant constituents or constituent parts of the phenomena into significant themes. NVivo (2020) software allowed me to organize and examine the invariant distribution among the individual participants. It was equally important to return to the interview transcript to keep the participant's ideas and meanings intact.

Textural and Structural Descriptions

Textural descriptions are collected using participant verbatim descriptions of their experiences and these descriptions give the *what* of the experience (Eddles-Hirsch, 2015; Moustakas, 1994). Structures were organized according to theme and composite textural and structural descriptions were developed.

Coding Process

Nvivo (2020) software transcription service was used to manage the text versions of the audio-recorded interview narratives. I manually organized and coded the transcripts using NVivo (2020) software. NVivo (2020) was used as a tool to organize coding and determine recurrent themes. Additional codes were formulated during the sorting process as additional themes emerged. Most qualitative scholars (Brinkman & Kvale, 2018; Miles et al., 2019; Patton, 2015; Rubin & Rubin, 2005) refer to qualitative data analysis as a cyclical process to build stories. Coded data was continually categorized, sorted, and ranked (Rubin & Rubin, 2005). I was able to formulate matrix tables to visualize the data (Miles et al., 2019). Ethical coding required the researcher present the data accurately with no bias or slant. The researcher initiated the quality work measures to avoid oversights and faulty conclusions (Miles et al, 2019). To ensure reliability, an additional nurse researcher reviewed the transcripts and coding for consistency among patterns and emerging themes. The nurse researcher was a committee member with a PhD and experienced in the qualitative coding process of theme identification. Additional bracketing safeguards included debriefing discussions and reflections.

Participants were sent data summaries and asked to check the content for accuracy. Another 30-minute follow-up interview was offered to each participant after seven days of receipt if they wished to review or had questions about the data per recommendation of Creswell and Creswell (2018). These practices are known as *member checking*. Member checking added accuracy, reliability, and rigor to the qualitative research (Creswell & Creswell, 2018; Miles et al., 2019; Patton, 2015). Ethical coding required the researcher present the data accurately with no bias or slant. The researcher initiated the quality work measures to avoid oversights and faulty conclusions (Miles et al, 2019).

Rigor

Study results were checked by an experienced PhD prepared registered nurse researcher along with triangulation comparisons with field notes, transcripts, and memos (Creswell & Creswell, 2018**;** Terrell, 2016;). In addition to triangulation and member checking, conformability was established with audits and careful note taking (Terrell, 2016). Rigor also included reflexivity on the part of the researcher. I considered personal past experiences in the subject, and how these might influence my world view on the topic (Creswell & Creswell, 2018). A homogenous sampling strategy was appropriate to describe the experiences of this select group of school nurses Due to my 16-year experience as a school nurse, bracketing was used to mitigate any unintentional bias and preconceived ideas. Bracketing strategies included journaling, self-reflection, and audit trails (Creswell & Creswell, 2018; Miles et al., 2019**;** Terrell, 2016).

Validity and Reliability

Creswell and Creswell (2018) recommend several strategies to promote valid and reliable qualitative research that were utilized in this study. Triangulation was assessed through examination of themes from participants, member checking, and code review with the experienced PhD researcher. Participant data summary review or member checking, ensured the accuracy of responses. I reflected on any biases and honestly discussed any contrary themes. Debriefing sessions with the committee chair was another method used to identify bias. Coding reliability was strengthened through manual coding and cross-checked through NVivo (2020), in addition to intercoder cross-checking (Creswell & Creswell, 2018).

Chapter Four provides a presentation of the findings.

CHAPTER 4

RESULTS

The purpose of the transcendental phenomenological study was to explore and

describe *the perspectives and lived experiences of school nurses caring for students*

kindergarten to fifth grade regarding their workload. This chapter presents the findings of

the study by addressing the central research question and probing sub-questions through an

iterative interview process. Through data reduction and analysis, patterns and themes

emerged that link back to the research questions.

Demographics

Five school nurses who met the inclusion criteria described in Chapter Three

participated in the study. No participants were turned away if they met the inclusion criteria.

As a result of COVID-19 participant recruitment challenges, the study's territorial scope was

narrowed to focus on participants from three urban school districts in two counties. Four of

the school nurses worked in this county, and the fifth school nurse worked in a district one

hour north in an adjacent county. All participants were Caucasian, married, females, between

the ages of 41 and 65. All participants held a bachelor's degree in nursing and school nurse

certification from the state's department of education, which is required to practice as a

school nurse in this region of the country. One participant's bachelor's degree was not in

nursing. Three of the school nurses held national school nurse certification. All participants

had at least 10 years of general nursing experience, but school nurse experience specifically

ranged from two to 25 years. One nurse planned to retire at the end of the school year. All

participants were employed in school settings with large numbers of African refugees. All

but one school had over 40 percent of students participating in the free and reduced school lunch program. The school populations ranged from 250 to 450 students per school. Only one nurse stated she was assigned to cover more than one school building. Two of the school nurses held supervisory roles in addition to their student care responsibilities.

Data Analysis

Data Coding

Structural Elements

A modified version of Moustakas' (1994) guidelines for phenomenological reduction was followed for my analysis. NVIVO (2020) software allowed me to examine the invariant distribution among the individual participants. As a result, six final themes emerged: (a) administration, (b) education, (c) prioritization, (d) diverse populations, (e) job satisfaction, and (f) daily clinical work.). Table 1 describes the frequency of the structures referenced cumulatively within the five interviews. Further manual coding and data organization resulted in the structural descriptors (sub-codes) that depict the components of the theme (Table 2).

Table 1.

Themes with Structural References

Theme	Participant Files N=5	Interview References
Administrative Duties	5	30
Education	5	35
Priorities	5	39
Diverse Populations	5	61
Job Satisfaction	5	84
Clinical Work	5	103

Table 2

Themes and Structural Elements

Themes	Structures
Administrative Duties	State reports, data tracking, nurse supervisor responsibilities.
Education	Professional development, education of students, parents, staff, nursing students.
Priorities	providing quality care, emergency/safety planning.
Diverse Populations	Changing populations/Refugees: medical homes, food, clothing, transportation, trauma, ACES, social determinants, homelessness. cultural norms, language barriers.
Job Satisfaction	Feeling connected, work unrecognized, delegation, make a difference.
Clinical Work	Clinical tasks, work unfinished, screenings, assessments, staff needs, panning care, student mental health needs, special needs students.

Textural Elements and Emerging Themes

Moustakas (1994), described the textural elements as the 'what*'* of the participants' experiences. It is particularly important to use the school nurses' own words to convey their voice and experience of the workload phenomenon. In this section a representative statement from each participant is presented under each theme. The textural descriptions are expressed in the school nurses' own words. In some examples, minor words or punctuation may have been changed to clarify the statement. From these textural descriptions emerged the

following themes. Under each theme are exemplar quotes which are representative of all the participants.

Administrative Duties.

As previously mentioned, two of the participants held formal nursing supervisor positions in addition to the student care responsibilities in their respective buildings. Supervisory responsibilities examples included staffing, completing nursing evaluations, and providing continuing education opportunities. All the school nurses had some administrative responsibilities such as state reports and data tracking. The composite textural essence of school nurse administrative work is the concept of having "two jobs". The nurses without formal supervisor roles had data collection, advocacy, and substitute nurse coverage responsibilities. The textural descriptions that follow are examples of the participants' administrative workload duties.

- *"So as the nurse coordinator, it is not unusual for me to be contacted by my colleagues or their principals if something comes up at a different school. I am responsible for this."*

- *"I think it's just that it sometimes seems like you have two jobs that you have to do in the same time period, the physical, and then the administrative end and the balancing begins."*

- *"I guess you could say where you have meetings and keeping up on the paperwork, vaccinations, following up on doctor's appointments, kind of office tasks, stuff like that. …So that the balance of fulfilling needs of the students and staff versus fulfilling your administrative needs, I guess you could say that it is sometimes in conflict."*

43

- *"There's others working with staff for other needs for students who have individual IEPs so that when school planning is done, the nurse lens is part of that planning."*

- *"When it comes time for a state report and your compiling data about immunizations or vision and hearing or, you know, you start to go through that stuff and then it is just constant."*

- *"Finding nurse substitutes is so different than getting a teacher's replacement. I kind of coordinated that to a certain degree. I mean, there's still a human resource role in it, of course, when people are absent, but I did spend lots of time hiring, interviewing, and placing substitutes."*

- *"Last year I found myself advocating for more nursing coverage in the district. I think what happened as a result of our providing data four times, the school board got the clue that the nurses in this area are very busy, often busy to the point where they don't get lunch and they're taking work home."*

- *"Recording health clinic visits, following up on contacting doctors, parents, and teachers."*

Education

Education included the training given to students, parents, and staff as well as nursing professional development and certification**.** The school nurses considered the value of the education and training they gave others on par with their own professional development. The composite textural description includes how these elements impact school nurse workload. The school nurses work incorporated staff training into their daily workload, but often accessed their own professional development outside of school hours. They stated that the

44

required non-nursing professional development (student assessment, literacy) is interesting, but not applicable to their responsibilities. The newer school nurses understood the value of examining the district education mission during orientation, but wished they had more nursing specific orientation. The following textural examples provide insight into their experiences with the education theme.

- *"I had the Epilepsy Foundation come and do a training with what they deem to be the training for unlicensed assistive personnel and there was no return demonstration, so no one got to practice, which to me is in our practice is a step in signing off that someone is competent. So, if we can't have a return demonstration on a task that doesn't require assessment, but it's a task that we still would not delegate."*
- *"I think one thing I mentioned, I went to the School Nurse Consultant trainings, and those were super helpful."*

- *"I supply all the teachers with band aids for paper cuts and things like that, and yet they still feel they must send every single student down. And so, kind of (in context of education reinforcement) educating the staff, I guess on what constitutes a nurse's visit versus what they can take care of on their own."*
- *"It turns into you know, instead of this great talk, you develop germs and how they enter the body or healthy choices that they can make or whatever."*
- *"I did the school nurse certification because it felt important to me to be connected to other school nurses, not only within the state but throughout the country."*

- *"Even though there are (non-nursing) professional development and opportunities, the work that we do is so specific that I don't always want to take up a group's time to ask the nursing question if it's a bunch of educators."*

- *"I talk with parents a little bit about immunizations at that point and make the offer to help with transportation if that is needed and just talk about the importance of getting their immunizations up to date."*

- *"So, in ways that are connecting them with healthcare as needed, helping with appointments, helping kids get glasses and education with parents about different needs their kids may have."*

- *"There's the balancing out of assessment, treatment, administration of meds, communicating health information to all those that need to know it, and emotional support given to parents, teachers, and administrators."*

- *"There's the training of the staff on blood borne pathogens and use of Epi-Pens."*

- *"It's about giving additional information that people might need about an illness process or a disease or medical follow-up."*

- *"And I also think the school nurse is a big information source about people, about diseases, about caring for one another."*

Priorities

The school nurses unanimously associated their ability to prioritize student needs with providing quality school nursing care. An identified area of conflict was assisting new families with appointments and transportation while still being present in the building to attend to other students. Prioritization included what was happening in the moment, as well

46

as predicting what could happen in the next hour, or day. The nurses stated they were constantly assessing the school environment to plan care and anticipate emergencies. The composite textural essence of priorities emerged from the open-ended question describing quality care in the school setting. The school nurses in these urban districts are assessing large numbers of students at a time, and often must call upon the teaching staff to assist them by attending to minor first aid incidents in the classroom. For example, one nurse felt torn when attending to a student with diabetes and another student presented with toileting or mental health needs. Despite describing their workload as busy, the nurses as a group were careful to ensure they performed all duties requiring nursing assessment or judgement. These duties were not assigned to unlicensed assistive personnel. In terms of setting standards and priorities for quality care during the school day, one nurse stated (referencing unlicensed assistive staff delegation): *There is a floor below which we will not venture when it comes to nursing in the school setting.*

- *"To me in the school setting, quality nursing is having the time and resources to meet the standard of practice in addressing whatever need you are meeting in that moment. You know, I have experienced some frustration over the years that it seems to be a setting where you know, there are lots of regulations that determine how schools operate."*

- *"When I've had three diabetics in the past that has been a tremendous amount of my time. It changes year to year, depending on what's on my caseload in terms of what my priorities are. I haven't always been in a position to prioritize our newcomer*

families and getting them into care because I needed to be in the building, keeping

those kids safe and healthy during the school day."

- *"I also think a part of the quality of care is being able to prioritize what may be*
  coming at you at one time, you know, we always have a lot of kids coming. And so,
  you know, being able to prioritize those that may need skilled care the most."

- *"I went to the principal and said, I'm not sure I can do this job. He said, why not?*
  And I said well it seems to me that all the staff, all the students, and all the parents
  are coming to me. So that would be about 900 people… I learned early on, it's best to
  just take it home and do it at home, because by the time the next day comes along and
  everything that goes along with it, you don't remember what happened the day
  before."

- *"That also helps with planning individual health plans and food allergy plans, and*
  asthma plans. All of those things are a very important part of workload."

- *"Sometimes things ramp up or you know, it's interesting because a lot of what*
  happens in the nurse's office, I think can reflect kind of the general climate of what's
  going on in the school and how teachers are feeling overwhelmed. But there have
  been times when I'm so busy. I'll send an email to staff that I'm really busy, I'm seeing
  50 or 60 kids and I really can't do any quality care with anyone in this situation."

Diverse Populations

The school nurses in this study work in school districts that enroll a high number of

refugee students. The three districts represented, report more than 40 languages or dialects

spoken by families in their schools. The language barriers intersect with other unique communication needs such as sign language for deaf students or parents. The nurses stated they enjoyed working with families from different cultures but negotiating the communication barriers for teaching was very time-consuming aspect of their family education workload. Most of the schools had teaching assistants (fluent in specific dialects) that could be summoned for interpretation assistance if they were not involved in other assigned duties. The districts also had interpreter phone lines to communicate with parents, but three of the five nurses were cognizant of the cost of this service to the school district and used it as a last resort. Other communication tools included *Google Translate* with students, and direct texting with parents. Translation issues outside of school hours were also of concern. One school nurse detected a medication error through interpretive services. In this example, parents misunderstood their student's hospital discharge medication instructions. They understood the ibuprofen to be taken every six hours and the antibiotic to be administered as needed. This error was detected and corrected in time to avoid another hospitalization for the student. Connecting refugee students and families to trauma related services was a large part of the workload with which the nurses wanted to spend more time. The availability of a translator in the school building enhanced referral to trauma services. The statements below are representative textural descriptions from the participants' work with diverse populations.

- *"We have a couple of parents who are signing parents in a different language. and that has posed a difficult barrier at times, but it's just trying to come up with creative ways to communicate some days."*

- *"Depending on the language, we have some cultural liaisons and interpreters at the school. I have someone who can speak French. Lingala. Portuguese, Spanish, sometimes Cambodian. I'll try to grab one of them and then we'll call the parent together. If it's a language that I don't have available, we have a language line that we call and just go through that."*

- *"Many of them have a history of trauma either in their home country or the journey of coming to this country."*

- *"Children may be born in one part of Africa, but because of the violence will flee to another part of Africa where the native language is different. So, parents may be Lingala speakers, and then because the children are born and raised in a refugee camp in a different area, and go to school, their native language may be Portuguese. So, parents, native language and children's native language aren't necessarily the same, which is part of the complication in communicating with families. You may need one interpreter for a child to a different interpreter for the parents."*

- *"The homeless shelter is in our neighborhood. There's a woman's recovery center in our neighborhood. A domestic violence shelter is in our neighborhood. We have a lot of families, you know, with stress and trauma."*

- *"We're probably 50 or 60 percent new newcomers. Families, you know, from other countries learning English."*

- *"Just coming down for a band aid can take 15-20 minutes in the nurse's office."* (Referring to the language barrier or an encounter with a student who has experienced trauma).

- *"When I first started, we had families who spoke Russian, Portuguese, and maybe a couple other languages. Now we have 40 plus languages and dialects from all over Africa."*

Job satisfaction

Job satisfaction was a frequent theme that emerged when the participants discussed their workload. Although they described workload as heavy on most days, the consensus was that the school nurses enjoyed their work and found satisfaction with providing nursing care to the students and assisting their families. Common sub- themes included statements about "loving my job." The school nurses recognized their importance to the school community, but also acknowledged that some of their workload is unrecognized. Job satisfaction also included having a lead nurse who understood the daily issues that nonclinical administrators might not. Connections with other school nurses in the district and across the state was important, as was maintaining their standard of practice.

- *"I don't even think of it as workload. I think of it as this: This role has a flow that is important to the school setting, in terms of health and student readiness to learn. That's the yardstick, that standard of practice yardstick."*
- *"You are one amongst many in a school and not many understand what you're doing whereas, they have more peers. I feel like sometimes a school nurse is sort of on the outskirts if that makes sense. They don't have a concept of what you're doing or what your obligations and responsibilities are."*

- *"Nursing at least runs the risk of complacent practice because we're often supervised by people who are not nurses. I've had the experience of having to say that we will not delegate tube feedings."*

- *"Mostly, I love this job. And there's not a lot that I feel like I would change. You know, sometimes it feels a little under resourced. I've been doing the role of coordinator for six years now, and the supply budget has been the same the whole time."*

- *"So, I don't have that drive to be as involved as I think sometimes staff want you to be. I also have other things in my life that I must be very involved with. I have to kind of create boundaries. ..I think administrators and teachers value nurses most for triaging, seeing those who are sick and injured. Granted, that is a big part of the job, but I think that there is a lot of behind the scenes work that we do in terms of planning for kids with chronic illness or underlying issues and that they often don't see that aspect of our job and therefore don't value it as much."*

- *"Workload (ideal)is having the right amount of time to complete the right number of tasks. When that imbalance happens is when sometimes the workload feels like it's overwhelming and things of that nature."*

Clinical Care

Clinical care was the most frequently mentioned aspect of school nurse workload among the participants. Care planning was a prominent sub-theme along with nursing assessment, mandated screenings, health maintenance, and mental health care were sub codes

that followed in frequency. The textural descriptions that follow are how the nurses expressed their experiences.

- *"The nurse is the go-to when you have a question and no one else has an answer. Go ask the nurse. I think it's a very broad-based roll, and out of that comes a very broad-based workload that has, you know, some elements that are very task specific, and some elements that are much broader and less tangible, but no less important. Whether it's the psychosocial and emotional well-being of a student, or the type of communication that we might need to have with a family in distress.* (Describing the vast array of clinical work)."

- *"I am an elementary school nurse in a school of under 250, and I have never had a day where there wasn't something going on that I needed to be doing. You know it's just it's a very busy job. My population is more two parent families with a stay-at-home mom. That said, we also have an autism and medically complex student program. And while it's not high numbers, it's intense conditions."*

- *"We are intervening in ways that help them to get to the high school with more skills, to deal with their anxieties and to be engaged at school and not seeking out the diversion of a nurse office."*

- *"Being able to go through your full assessment and evaluation would be a quality-of-care marker for me. I think we do know how to streamline it, but sometimes I'll call the student back if I have the feeling, I need to ask him a couple more questions."*

- *"I feel like we're seeing more and more kids with behavioral issues that may or may not be related to the drug epidemic."*

Feelings and Sentiments

One of the unique aspects of phenomenology is that the researcher can collect data to ascertain the sentiments and feelings of the participants about the phenomenon under investigation (Moustakas, 1994; Patton, 2015). I used field notes and observations such as participant voice inflections, tone, and speech patterns to assign a positive or negative sentiment to statements that indicated a feeling or emotion toward their workload. Overall, the "feeling" sentiments were positive. The statements below have some negative associations in that they were areas of concern for the participants indicating a workload increase or job satisfaction decrease.

- *"I feel like we're seeing more and more kids with behavioral issues that may or may not be related to the drug epidemic."* (Negative related to finding workload time for daily student support)
- *"You are one amongst many in a school and not many understand what you're doing, whereas, they have more peers. I feel like sometimes a school nurse is sort of on the outskirts if that makes sense. They don't have a concept of what you're doing or what your obligations and responsibilities are."* (Negative related to job satisfaction and workload that is unrecognized or unseen).
- *"Mostly, I love this job, and there's not a lot that I feel like I would change. You* know, *sometimes it feels a little under resourced. I've been doing the role of coordinator for six years now, and the supply budget has been the same the whole time."* (Positive in terms of enjoying her job, but negative sentiment related to available resources).

To be clear, none of the participants complained about their workload but presented their concerns in a factual manner. Most statements that could be assigned a negative sentiment were presented in the context of "wishing there was time to do more for the students" or with suggestions for change.

Composite Structural and Textural Descriptions

A composite structural description of school nurse workload can be derived from what the participants described as constituent elements inherent in the roles as school nurses. For example, language barriers were a prominent issue for the participants and directly influenced the time and care needed to address their students' health concerns. Other examples included education (students, staff, and parents), and emergency care planning. Administrative duties were included as barriers in terms of time to carry out school nursing priorities such as the emergency care plans. This point was evident as two study participants provided quotes that merged into a composite textural description of school nurse workload that was reflective of all five participant interviews. The reference to interwoven tapestry threads was from one participant, and the balance of work and time was from a second participant interview. "*School nurse workload is an intricate tapestry of interwoven threads. Each thread represents a different aspect of the work, creating a balance of the right amount of time to safely carry out the right amount of care*"

Conclusion

In summary, five school nurses were asked to discuss their lived experiences caring for children kindergarten to grade five in a phenomenological format using open ended

questions. Data saturation was achieved within the limited scope of the study. Six primary

themes were identified and further explored for structural and textural components. From

these elements, a more specific description of school nurse workload could be determined

within the limits of this study. Chapter Five will review and discuss the themes that were

found in the context of the literature, theory, and implications for nursing research.

CHAPTER 5

DISCUSSION

This transcendental phenomenological study, which was exploratory and descriptive

in nature, sought to acquire insight into the central research question: *What are the lived*

experiences of school nurses caring for students, kindergarten through fifth grade regarding

their workload? The role of the school nurse is complex and multi-faceted (Combe et al.,

2015; NASN 2015; NASN, 2016b). The problem is that although nurse-to-patient workload

in acute care settings has been studied, there remains a dearth of information as to what the

school nurse workload entails. Exploring factors that impact school nurses (such as diverse

refugee populations) is an essential first step to drive future quantitative studies that examine

appropriate school nurse workload metrics.

Discussion of Primary Themes

During the thematic analysis of five interviews, I identified six prevalent themes that

emerged from the participant interviews where they provided a description of their activities

and perceptions relative to their role as school nurses: Administrative duties, education, clinical

care, priorities, diverse populations, and job satisfaction.

Administrative Duties and Education

Administrative duties and education are discussed together as they are not applied to

direct student care but reported by the participants as nevertheless important, but time

consuming, and often left until the end of the workday. Administrative tasks such as data

collection, state immunization reports, and screening reports were reported as the "nonstop"

aspect of the workload. This also contributed to the theme of having "two jobs" that included student care and administrative work. Most of the participants stated that there was no uninterrupted time to complete these tasks.

While other nursing disciplines educate patients and families alike, school nurses train their unlicensed school colleagues to perform procedures and student care that do not require nursing judgement or assessment (Gordon & Barry, 2009). Staff education regarding routine and emergency student care was also viewed as important. The school nurses reported that they were vigilant to remain current in their specialty and national school nurse certification (NCSN) was one way to accomplish this. The participants often sought professional development outside of school hours.

Currently, student and family education are found in the school nurse workload literature, however, it may not be captured comprehensively by all sources. Some acute care models do recognize patient education and professional development as workload factors (Kohr et al., 2012). For example, in a workload concept analysis, professional development was deemed a workload component for nursing in general (Alghamdi, 2016), and the school nurses confirmed this in their stories. Administrative duties and education are considered aspects of cognitive workload (Holden et al., 2011). Documentation (screenings, immunization, clinical visits) was also mentioned in the interviews as time consuming. Although documentation was reported as cognitive workload (as opposed to physical work) in the acute care literature (Carayon & Alvarado, 2007; Neill, 2011), the intersection of cognitive workload with physical workload requires more examination in the school nursing specialty.

It is important to recognize these non-direct student care responsibilities as workload due to the time spent maintaining competence to provide safe care, as well as educating school staff, students, and families.

Clinical Care and Priorities

The participants explained how student assessment and clinical care impacted their workload on most days and emphasized the need to set priorities. The school nurses mentioned providing quality care to special needs students and planning emergency care for students with diabetes, asthma, and allergies were priorities and teacher/staff/administrative cooperation were key to helping them prioritize clinical care. These statements correlated with other examples, such as reminders to first aid trained teachers that basic care may be performed in the classroom (per staff training protocol), so the nurse is able to prioritize the emergent issues that present in the health office. As with primary care, student care at school is also team-based, collaborative, coordinated, integrated, accessible, as well as high value (PCPCC, 2020; Bodenheimer et al., 2014). Federal mandates over the past fifty years have increased access to education for students with chronic and special needs and the school nurses recognized the importance of nursing care and student access to an education (ESSA, 2015).

Diverse Populations

It is known that school nurses work with refugee populations, but there is minimal personal experience stories and description in the literature that addresses how diverse student populations are used to determine school nurse workload. The NASN (2020)

recommends that population characteristics such as vulnerability and social determinants are considered, when assessing school nurse workload, yet more stories from the field are needed to determine how these characteristics should be part of determining workload. The school nurses reflected on the physical, emotional, and social aspects involved with care of vulnerable populations such as refugees who have escaped violence and experienced trauma. They also addressed additional social needs of the families, as well as language barriers that impact workload, as well as safety. This point was apparent when one school nurse detected a serious medication error, and then intervened in time to avert a hospitalization. All the nurses reported students with special needs under their care, but language barriers added challenges to clinical care such as taking an accurate history and physical assessment. Two of the nurses reported that they wished they had more time to work one-on-one with the refugee families, but they needed to focus on the other general student care responsibilities. Cultural competence to support safe and nurturing school environments for multicultural populations is an integral component of school nursing practice (Carr & Knutson, 2015; Perron et al, 2017). School nurses aim to overcome cultural differences and language barriers to support students of all nationalities, genders, and cultures. All these interventions may add to the school nurse's workload. Maintaining cultural competence requires professional development to overcome language barriers, acquire knowledge about the cultural norms of the community. Time is needed to explain care and interventions to non-English speaking students and families. More data is needed to ascertain how diverse populations impact the workload of practicing school nurses. A workload model that better identifies factors and

variables associated with diverse populations is needed to provide school nursing care to a global population yet individualized to the community.

Job Satisfaction

Despite the workload challenges, a theme among the participants was how much they "loved the job." One nurse stated they did not even consider it workload. Despite the job satisfaction, the school nurses mentioned occasional complacency when nursing interventions were unrecognized by a non-nurse supervisor. The school nurses felt overwhelmed when they were expected to have the answer for everything and their work "behind the scenes" was not acknowledged. In the school nursing literature, job satisfaction was also an important concept among school nursing workload focus groups conducted by Jameson et al (2020). Job satisfaction was also an important theme across acute care nursing workload literature (Endsley, 2017) in terms of nurse retention. The participants responses inferred that recognition of the work performed (including work unseen) at annual evaluation could enhance their personal job satisfaction and retention. School nurse annual evaluations by a non-nursing professional may be unavoidable in some districts, but uniform evaluation standards or self-evaluation components may enhance nurse-supervisor dialogue and job satisfaction (Southall et al., 2017).

Implications for Nursing Practice and Research

Patient acuity and nurse-to-patient-ratio have been classic indicators of nursing workload (Aiken, Clarke, & Sloane, 2002). However, increased discussion in the literature, and the results of this discussion indicate that other factors must be part of determining

nursing workload. These factors include working with diverse populations, which brings challenges related to language and past traumatic experiences, as well as social needs. Many sources recommend cultural competence and empathy but do not accurately depict the time needed for a simple interaction with a non-English speaking student without dependable translation services (Whitman et al., 2010; Ali & Watson, 2018). Therefore, I recommend future studies be conducted that utilize multiple research approaches to further explore how school nurse clinical duties and the increasing complexity of diverse populations, both on a student and familial level, impact the school nurse workload. The research needs to also identify ways to weight the various factors, according to local demographics and needs, to develop objective, useful staffing tools. These studies need to consider student outcomes in addition to the amount of work and staffing needed to promote a safe environment for all students. Until there is definitive research, school nurses must report their data to key stakeholders in the school and the community. As the participants recounted, work unseen will go unrecognized unless it is presented to the appropriate audiences.

Sample Size

A purposive, small sample was appropriate for this phenomenological investigation that reached saturation (Patton, 2015). The intent of this study was to acquire information-rich data from a select group of school nurses, not the general school nurse population of the selected state. Purposeful, strategic sampling can reveal important information in the area or region of study (Patton, 2015). As such, data was collected from urban school nurses from a targeted Northeastern region of the United States (U.S.). The investigator proposes a future study that will examine school nurse workload that will include rural school nurses, and

broader region of the U.S. To counterbalance the small sample size, the inquiry was multilayered and textural (Creswell, 2014; Patton, 2015). Since this was a one-investigator study, member checking and triangulation procedures were employed, as articulated prior and are congruent with qualitative research approaches to contribute to the accuracy of the findings (Creswell, 2014; Patton, 2015).

Researcher Reflections

As a school nurse who has been serving students for 20 years, it was vital for me to engage in meaningful self-reflection regarding the findings of this study to develop future research directions for myself, as well as for investigators interested in furthering nursing workload science. Because the research design required an unbiased approach, it was crucial that I had conducted all procedures and analysis devoid of expectations. Additionally, I believe my personal school nurse career, focused primarily on adolescents, facilitated the state of epoche necessary to conduct this elementary school-based research. Post-study contemplation however, provided an opportunity for me to discover findings with elements of the expected, and the unexpected. Two examples illustrated this point.

First, it was not a surprise that the students' clinical care emerged as the primary theme for registered nurses employed in elementary schools. Surprisingly, however, I learned how school nurse workload could comprise similarities, and yet, present a unique experience for each nurse. All participants worked with refugee families, but the impact on their school nurse clinical workload varied as it related to availability of translation services and social service support. Also, surprisingly, I learned that many nursing interventions for this vulnerable population, were "unseen" (or unrecognized) by teachers or administrators, and

that the participants did not discuss this aspect of workload at their annual performance evaluations.

Secondly, I was not surprised that the participants described positive job satisfaction, with anecdotes of "making a difference" for students, despite the extensive workload. What did surprise me, was the amount of documentation and administrative tasks (such as immunization reports) that the participants completed at home (at the end of the workday). Although these were among the largest school districts in the state, it was surprising that the school nurses were not assigned regular assistants to complete clerical tasks.

Another unexpected lesson that I learned was the importance of theory in daily nursing practice, as well as research. A systems approach is necessary as nursing workload in all settings is multi-faceted and complex; therefore, a uniform approach might capture variables such as invisible work that could be missed. Since nursing workload (in all sectors) is in the infancy stage, research must be shared and examined for possible application across specialties. I gleaned from the literature review how other healthcare and education disciplines addressed workload problems similar to those of the nursing profession and concluded that valuable research must be shared across disciplines. The NASA TLX (Hart & Staveland, 1988) is an example from aeronautical and space science that factored mental workload, and the Synergy Model of Patient Care (AACN, 2015) (a contribution from critical care nursing), considered factors such as patient vulnerability as well as stability. These are examples of considerations that must be factored into safe school nursing workload, but further quantitative and qualitative research is necessary to ascertain their appropriate application. General Systems Theory (GST) facilitated my understanding the

context of school nurse workload in various communities. A student population could not be accurately assessed without first examining those school and community factors (*inputs)* that influence health, safety, and academic success (*outputs)* (Katz & Kahn, 1978). Senge describes in the *Fifth Discipline* publication, how organizations must evolve as learning organizations to stay relevant (Senge, 1990). Open Systems provides a systematic approach for school districts to evaluate community changes on an annual basis.

Conclusion

The scarcity of research involving school nurse workload for this nursing workforce sector, illustrates the need for future collaborative investigation. This transcendental phenomenological study elucidated lived experiences from currently employed school nurses. Open ended, non-leading questions allowed the participants to speak freely about the true nature of their workload and the challenges that impacted their work. The interviews contained rich textural descriptions of their perspectives and lived experiences. This study highlighted how the school nurses (a) attached meaning to their work, (b) told stories that captured their experiences, (c) understood the interaction between multiple systems, (d) identified unintended consequences, and (e) explained in their own words the context of their work and why their work matters to the community. Through their stories, the school nurses expressed how they found satisfaction in their work and enjoyed interacting with families from different cultures. They stressed the need for school and community resources to assist them in the provision of safe and culturally competent student care. School nursing remains grounded in population health through promotion of health equity, education, and disease prevention. Modern school nurses are leaders who champion policies and protocols to

65

promote student health and wellness. I believe that while more research is necessary to develop safe school nurse staffing guidelines, no formula or algorithm is comprehensive without school nurse data and community assessment, using a systems approach. The findings of this study underscore the critical importance of school nurses to promote students' health and safety as they achieve their educational goals.

References

Agency for Healthcare Research and Quality. (2019a). *AHRQ's quality and patient safety work*. https://www.ahrq.gov/patient-safety/about/index.html

Agency for Healthcare Research and Quality Measures. (2019b). *Pediatric quality measures program*. https://www.ahrq.gov/pqmp/measures/index.html

Agency for Healthcare Research and Quality. (2015). *Types of health care quality measures.* http://www.ahrq.gov/talkingquality/measures/types.html

Aiken, L., Clarke, S., & Sloane, D. (2002). Hospital staffing, organization, and quality of care: Cross-national findings. *Nursing Outlook*, *50*, 187-194. http://dx.doi.org/10.1067/mno.2002.126696

Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochaski, J., & Silber, J. H. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *JAMA*, *288*, 1987-1993. http://dx.doi.org/10.1001/jama.288.16.1987

Alghamdi, M. G. (2016). Nursing workload: A concept analysis. *Journal of Nursing Management*, *24*, 449-457. http://dx.doi.org/10.1111/jonm.12354

Allen, S. B. (2015). The nurse-patient assignment: Purposes and decision factors. *Journal of Nursing Administration*, *45*, 628-635. http://dx.doi.org/10.1097/NNA.0000000000000276

American Academy of Critical Care Nurses. (2015). *The AACN Synergy Model for Patient Care*. http://www.aacn.org/wd/certifications/content/synmodel.pcms?menu=certification#Basic

American Academy of Pediatrics. (2016). Role of the school nurse in providing school health

services. *Pediatrics*, *137*, 1-8. https://doi.org/https://doi.org/10.1542/peds.2016-0852

American Academy of Pediatrics. (2017). *Bright futures* (4th Edition.). American Academy

of Pediatrics. https://tinyurl.com/y2v6eyvf

American Diabetes Association. (2020). *Statistics about diabetes*.

https://www.diabetes.org/resources/statistics/statistics-about-diabetes

American Nurses Association. (2016). *The nurse's role in ethics and human rights:*

Protecting and promoting individual worth, dignity, and human rights in practice

settings. [Position Statement].

https://www.nursingworld.org/~4af078/globalassets/docs/ana/ethics/ethics-and-

human-rights-protecting-and-promoting-final-formatted-20161130.pdf

American Physical Therapy Association, American Occupational Therapy, Association,

American Speech-Language-Hearing Association). (2014). *Workload approach: A*

paradigm shift for positive impact on student outcomes. https://tinyurl.com/yxkrtoma

American Public Health Association. (2006). *Hand hygiene in Pre-K to 12 schools and*

childcare settings. https://tinyurl.com/y2jjtl28

American Speech-Language-Hearing Association. (n.d.). *Caseload and workload*.

https://tinyurl.com/yxlx684t

Attendance Works. (2018*). 10 Facts about school attendance*.

http://www.attendanceworks.org/facts-stats-school-attendance/

Attree, M. (1993). An analysis of the concept of "quality" as it relates to contemporary

nursing care. *International Journal of Nursing Study*, *30*, 355-369.

Ali, P. A., & Watson, R. (2018). Language barriers and their impact on provision of care to

    patients with limited English proficiency: Nurses' perspectives. *Journal of Clinical*

    Nursing, 27(5–6), e1152–e1160. https://doi.org/10.1111/jocn.14204

Baisch, M., Lundeen, S. P., & Murphy, M. K. (2011). Evidence based research on the value

    of school nurses in an urban school system. *Journal of School Health*, *81*(2), 74-80.

    http://dx.doi.org/10.1111/j.1746-1561.2010.00563.x

Ball, J. E., Murrells, T., Rafferty, A. M., Morrow, E., & Griffiths, P. (2013). "Care left

    undone" during nursing shifts: Associations with workload and perceived quality of

    care. *BMJ Quality & Safety*, *23*. http://dx.doi.org/10.1136/bmjqs-2012-001767

Basu, T. S. (2015). Phenomenology: Qualitative research-an odyssey of discovery. In R. K.

    Gupta & R. Awasathy (Eds.), *Qualitative research in management: Methods and*

    experiences (pp. 67-77). Sage. https://tinyurl.com/y5bvom83

Beasley, J., Hankey, T., Erickson, R., Strange, K., & Mundt, M. (2004). How many problems

    do family physicians manage at each encounter? A WReN study. *Annals of Family*

    Medicine, 2. https://www.ncbi.nlm.nih.gov/pubmed/15506571

Bettini, E., Jones, N., Brownell, M., Conroy, M., Park, Y., Leitte, W., Park, Y., Benedict, A.

    (2017,). Workload manageability among novice special and general educators:

    Relationships with emotional exhaustion and career intentions. *Remedial and Special*

    Education, *38*, 246-256. https://doi.org/10.1177/0741932517708327

Blodgett, C., & Lanigan, J. (2018). The association between adverse childhood experience

    (ACE) and school success in elementary school children. *School Psychology*

    Quarterly, *33*, 137-146. https://doi.org/http://dx.doi.org/10.1037/spq0000256

69

Bloomberg, L. D., & Volpe, M. (2016). *Completing your qualitative dissertation: A roadmap from beginning to end* (3rd ed). Sage.

Bodenheimer, T., Ghorob, A., Willard-Grace, R., & Grumbach, K. (2014). The 10 building blocks of high-performing primary care. *Annals of family medicine*, 12(2), 166–171 https://doi.org/10.1370/afm.1616

Bowie, D., Baker, K., (2019). Centralized vs decentralized staffing: Two case studies. *American Nurse Today.* https://www.myamericannurse.com/wp-content/uploads/2019/05/ant6-Staffing-521.pdf

Brinkman, S., & Kvale, S. (2018). *Doing interviews* (2nd ed.).Sage.

Bruner, C., Discher, A., & Chang, H. (2011). Chronic elementary absenteeism: a problem hidden in plain sight. *Child and Family Policy Center, Attendance Works:* https://www.edweek.org/media/chronicabsence-15chang.pdf

Buppert, C. (2005). *Average caseload for an NP in long-term care*. http://www.medscape.com/viewarticle/517357

Burhans, L. M. (2008). *What is good nursing care? The lived meaning of quality nursing care for practicing nurses* (Doctoral dissertation, East Carolina University). http://thescholarship.ecu.edu/handle/10342/1085

Burhans, L. M., & Alligood, M. R. (2010). Quality nursing care in the words of nurses. *Journal of Advanced Nursing*, *66*, 1689-1697. http://dx.doi.org/10.1111/j.1365-2648.2010.05344.x

Campbell, I. (2017). *Lived experiences of school nurses: transitioning from hospital to school worksite* (Doctoral dissertation, Walden University). https://tinyurl.com/y6ylwa9l

Carayon, P., & Alvarado, C. J. (2007). Workload and patient safety among critical care nurses. *Critical Care Nursing Clinics of North America*, *19*, 121. http://www.ncbi.nlm.nih.gov/pubmed/17512468

Carayon, P., & Gurses, A. (2005). A human- factors engineering conceptual framework of nursing workload and patient safety in intensive care units. *Intensive and Critical Care Nursing*, *21*, 284-301. http://dx.doi.org/10.1016/j.iccn.2004.12.003

Carayon, P., Wooldridge, A., Bat-Zion, H., Salwei, M., & Brenneyen, J. (2018). Challenges and opportunities for improving patient safety through human factors and systems engineering. *Health Affairs*, *37*, 1862-1869. https://doi.org/https://doi.org/10.1377/hlthaff.2018.0723

Carmona-Monge, F., Rodriuez, G. R., Herranz, C. Q., Gomez, S. G., & Marin-Morales, D. (2013). Evaluation of the nursing workload through the nine equivalents for nursing manpower use scale and the nursing activities score: A prospective correlation study. *Intensive & Critical Care Nursing*, *29*, 228-33. DOI: 10.1016/j.iccn.2013.03.003

Carr, B., & Knutson, S. (2015). Culturally competent school nurse practice. *NASN School Nurse, 30*(6), 336–342. https://doi.org/10.1177/1942602X15605169

Casner, S.M., & Gore, B. (2010). Measuring and evaluating workload: A primer.

    *Semantic Scholar.*NASA.gov.

    https://www.semanticscholar.org/paper/Workload%3A-Measurement-and-

    Management-Gore-Casner/b3bbf1639d098c4d5e75faf31520c9cfb833b763

Castro, E. M., Van Regenmortel, T. K., Vanhaecht, K., Sermeus, W., & Van Hecke, A.

    (2016). Patient empowerment, patient participation and patient-centeredness in

    hospital care: A concept analysis based on a literature review. *Patient Education and*

    Counseling, *99*, 1923-1939. http://dx.doi.org/10.1016/j.pec.2016.07.026

Centers for Disease Control and prevention. (2014). *Asthma-related missed school days*

    among children aged 5-17 years.

    http://www.cdc.gov/asthma/asthma_stats/default.htm

Centers for Disease Control and Prevention. (2017*). Prevalence of obesity among adults and*

    youth: United States, 2015–2016.

    https://www.cdc.gov/nchs/products/databriefs/db288.htm

Centers for Disease Control and Prevention. (2018a). *School health services.*

    https://www.cdc.gov/healthyschools/schoolhealthservices.htm

Centers for Disease Control. (2018b). *Social determinants of health: Know what affects*

    health. https://www.cdc.gov/socialdeterminants/index.htm

Centers for Disease Control. (2019a). *About adverse childhood experiences*.

    https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/aboutace.ht

    ml

72

Centers for Disease Control. (2019b). *What is autism spectrum disorder?*

https://www.cdc.gov/ncbddd/autism/facts.html

Chang, H., & Romero, M. (2008). Present, engaged, and accounted for: The critical

importance of addressing chronic absence in the early grades. *National Center for*

Children in Poverty. http://www.nccp.org/publications/pub_837.html

Clark, D. R. (2014). Ludwig von Bertalanffy-General System Theory 1950. *Don Clark*

History http://www.nwlink.com/~donclark/history_isd/bertalanffy.html

Cochrane, B., Hagins, M., Picciano, G., King, J., Marshall, D., Nelson, B., & Deao, C.

(2017). High reliability in healthcare: creating the culture and mindset for patient

safety. *Healthcare Management Forum*, *30*, 61-68.

http://dx.doi.org/10.1177/0840470416689314

Combe, L. G., Bachman, M., Dolatowski, R., Endsley, P. E., Hassey, K., Minchella, L., ...

Zeno, E. (2015). School nurse workload: Students are more than just numbers. *NASN*

School Nurse, *30*, 283-288.

Comert, M., & Domnes, B. (2019). A qualitative study on the perceptions of administrators

and teachers on procrastination behavior and workload of school administrators.

Journal of Education and Training Studies, *7*, 129-136.

https://doi.org/10.1016/j.drugalcdep.2016.02.022

Coyle, Y., & Battles, J. B. (1999). Using antecedents of medical care to develop quality of

care measures. *International Journal for Quality Healthcare*, *11*, 5-12.

https://www.ncbinlm.nih.gov/pubmed/10411284

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage. https://us.sagepub.com/en-us/nam/research-design/book255675

Cross, T., Maughan, E., & Mazyck, D. (2019). What does an optimal district standard for school nursing look like? *NASN School Nurse*, *34*, 2002-2004.

Current Nursing (2020). *Systems theory*:*Systems theory in nursing.* https://currentnursing.com/nursing_theory/systems_theory_in_nursing.html

Daughtry, D., & Engelke, M. K. (2018). Demonstrating the relationship between school nurse workload and student outcomes. *The Journal of School Nursing, 34*(3), 174–181. https://doi.org/10.1177/1059840517725790

Davidsen, A. S. (2013,). Phenomenological approaches in psychology and health sciences. *Qualitative Research in Psychology*, *10*, 318-339. http://dx.doi.org/https://doi.org/10.1080/14780887.2011.608466

DeFelice, D., & Janesick, V. (2015). Understanding the marriage of technology and phenomenological research: From design to analysis. *The Qualitative Report*, *20*, 1576-1593. https://nsuworks.nova.edu/cgi/viewcontent.cgi?article=2326&context=tqr

Donabedian, A. (1988). The quality of care. How can it be assessed? *Journal of the American Medical Association*, *260*, 1743-1748. https://doi.org/doi:10.1001/jama.1988.03410120089033

Donlin, M. (2014). *Topics in school safety* [Lecture notes]. Slide Player.

    http://slideplayer.com/slide/9374055/

Dowling, M. (2005). From Husserl to van Manen. A review of different phenomenological

    approaches. *International Journal of Nursing Studies*, *32*, 131-142.

    https://doi.org/10.1016/j.ijnurstu.2005.11.026

Duff, C. (2014). School nurses--new roles for better outcomes. *NASN School Nurse*, *29*, 216-

    218. http://dx.doi.org/10.1177/1942602X14545970

Duffield, C., Diers, D., O'Brien-Pallas, L., Aisbett, C., Roche, M., King, M., & Aisbett, K.

    (2011). Nursing staffing, nursing workload, the work environment and patient

    outcomes. *Applied Nursing Research*, *24*, 244-255.

    http://dx.doi.org/10.1016/j.apnr.2009.12.004

Duffield, C., Twigg, D. E., Pugh, J. D., Evans, G., Dimitrelis, S., & Roche, M. A. (2014).

    The Use of unregulated Staff: Time for regulation? *Policy, Politics, & Nursing

    Practice*, *15*(1-2), 42-48. http://dx.doi.org/10.1177/1527154414529337

Eddles-Hirsch, K. (2015). Phenomenology and educational research. *International Journal of

    Advanced Research*, *3*, 251-260. https://researchonline.nd.edu.au/edu_article/171

Endsley, P. E. (2017). School nurse workload. *The Journal of School Nursing*, *33*, 43-52.

    http://dx.doi.org/10.1177/1059840516681423

Engelke, M. K., Swanson, M., & Guttu, M. (2014). Process and outcomes of school nurse

    case management for students with asthma. *Journal of School Nursing*, *30*, 196-205.

    http://dx.doi.org/10.1177/1059840513507084

Englelke, M. K., Guttu, W. M., & Swanson, M. (2008). School nurse case management for

    children with chronic illness: health, academic, and quality of life outcomes. *Journal*

    of School Nursing, *24*, 205-214. https://doi.org/ 10.1177/1059840508319929

Every Student Succeeds, S.1177 Cong. Rec. § 1177 (2015).

    https://www.congress.gov/bill/114th-congress/senate-bill/1177

Faisy, C., Davagnar, C., Ladiray, D., Diradi-Prat, J., Esvan, M., Lenain, E., LeForestier, J.

    (2016). Nurse workload and inexperienced medical staff members are associated with

    seasonal peaks in severe adverse events in the adult medical intensive care unit: A

    seven-year prospective study. *International Journal of Nursing Study*, *62*, 60-70.

    https://doi.org/10.1016/j.ijnurstu.2016.07.013

Fauteux, N. (2010). Unlocking the potential of school nursing: Keeping children healthy, in

    school and ready to learn (Charting Nursing's Future No.14*). Robert Wood Johnson*

    Foundation:

    http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2010/rwjf64263

Filiaci, A. (2017). School nurses: Section three: New York City pays for school nurses.

    Lillian Wald http://www.lillianwald.com/?page_id=884

Flood, A. (2010). Understanding phenomenology: Anne Flood looks at the theory and

    methods involved in phenomenological research. *Nurse Researcher*, *17*(2), 7-15.

    https://doi.org/https://doi.org/10.7748/nr2010.01.17.2.7.c7457

Fritsch, K., & Heckert, K. (2007). Working together: Health promoting schools and school

    nurses. *Asian Nursing Research*, *1*, 147-152. http://dx.doi.org/10.1016/S1976-

    1317(08)60017-1

Gambol, P., & Gambol, M. (2002). Vulnerability in the Asian or Pacific Islander immigrant

     child. *Journal of School Nursing*, *18*, 314-321.

     https://doi.org/10.1177/10598405020180060301

Gellman, M. D., & Turner, J. R. (Eds.). (2013). Workload. *Encyclopedia of Behavioral*

     medicine. Springer. https://doi.org/10.1007/978-1-4419-1005-9_934

Gibson, J., Ivancevich, J., & Konopaske, R. (2012). *Organizations: Behavior, structure,*

     processes. https://www.mheducation.com/highered/product/organizations-behavior-

     structure-processes-gibson-ivancevich/M0078112664.html

Giorgi, A., Giorgi, B., & Morley, J. (2017). The descriptive phenomenological psychological

     method. In C. Willig & W. S. Rogers (Eds.), *The Sage handbook of qualitative*

     research in psychology (2nd ed., pp. 176-192). Sage.

     https://doi.org/http://dx.doi.org/10.4135/9781526405555

Goodman, M. (2002). The iceberg model. *Innovation Associates Organizational Learning*

     http://www.ascd.org/ASCD/pdf/journals/ed_lead/el200910_kohm_iceberg.pdf

Gordon, S., & Barry, C. (2009). Delegation guided by school nursing values: comprehensive

     knowledge, trust, and empowerment. *The Journal of School Nursing*, *25*, 352-360.

     https://doi.org/10.1177/1059840509337724

Gottfried, M. (2015). Chronic absence in the classroom context: Effects on achievement.

     Urban Education. http://www.attendanceworks.org/wordpress/wp-

     content/uploads/2015/10/gottfried_chronic_peers-2.pdf

Grant, J., Lines, L., Darbyshire, P., & Parry, Y. (2017). How do nurse practitioners work in primary healthcare settings? A scoping review. *International Journal of Nursing Studies*, *75*, 51-57. http://dx.doi.org/10.1016/j.ijnurstu.2017.06.011

Gregg, A. C. (1994). Relationship among subjective mental workload, experience, and education of cardiovascular critical care RNs. *Nursing Administration Quarterly*, *19*(1), 89-90. https://www.ncbi.nlm.nih.gov/pubmed/7777218

Gupta, R., & Bodenheimer, T. (2016). Creating the medical home for underserved patients. In T. E. King & M. B. Wheeler (Eds.), *Medical management of vulnerable and underserved patients: Principles, practice, and populations* (pp. 115-123). New York, NY: McGraw-Hill.

Guttu, M., Engelke, M., & Swanson, M. (2004). Does the school nurse-to-student ratio make a difference? *Journal of School Health, 74*(1), 6–9. https://doi.org/10.1111/j.1746-1561.2004.tb06593.x

Hammond, D. (2010). *The science of synthesis: Exploring the social implications of general systems theory*. University Press of Colorado.

Hart, S. G. (2006). Nasa-Task Load Index (NASA_TLX); 20 years later. *Proceedings of the Human Factors and Ergonomics Society annual meeting*, 904-908. https://journals.sagepub.com/doi/10.1177/154193120605000909

Hart, Sandra G., Staveland, Lowell, E. (1988) Development of NASA-TLX (Task Load Index): Results of empirical and theoretical research, *Advances in Psychology, 52,* 139-183. https://doi.org/10.1016/S0166-4115(08)62386-9.

Harteloh, P. (2003). The meaning of quality in health care: A conceptual analysis. *Health Care Analysis*, *11*, 259-267.

http://link.springer.com/10.1023/B:HCAN.0000005497.53458.ef

Hillis, R., Brenner, M., Larkin, P., Cawley, D., & Connolly, M. (2016). The role of care coordinator for children with complex care needs: A systematic review. *International Journal of Integrated Care*, *16,* 1-18. http://dx.doi.org/DOI:

http://dx.doi.org/10.5334/ijic.2250

Holden, R. J., Scanlon, M. C., Patel, N. R., Kaushal, R., Escoto, K. H., Brown, R. L., ... Karsh, B. (2011). A human factors framework and study of the effect of nursing workload on patient safety and employee quality of working life. *BMJ Quality and Safety*, (20), 15-24. http://dx.doi.org/doi:10.1136/bmjqs.2008.028381

Hoonakker, P., Carayon, P., Gurses, A. P., Brown, R., Khunlertkit, A., McGuire, K., & Walker, J. M. (2011). Measuring workload of ICU nurses with a questionnaire survey: The NASA Task Load Index (TLX). *IIE Transactions on Healthcare Systems Engineering, 1*(2), 131–143. https://doi.org/10.1080/19488300.2011.609524

Hurst, S., Arulogun, O. S., Owolabi, A. O., Akinyabi, R., Uvere, E., Warth, S., & Obiagele, B. (2015). Pretesting qualitative data collection procedures to facilitate methodological adherence and team building in Nigeria. *International Journal of Methods*, *14,* 53-64.

Institute for Healthcare Improvement. (2021). *Manage panel size and scope of the practice.* https://tinyurl.com/yxs3nzp3

Jacobsen, K., Meeder, L., & Voskuil, V. R. (2016). Chronic student absenteeism: The critical role of school nurses. *NASN School Nurse*, *31*(3), 178–185.

Jameson, B. E., Anderson, L. S., & Endsley, P. E. (2020). Identification of workload measurement indicators for school nursing practice: *Journal of School Nursing*. https://doi.org/https://doi.org/10.1177/1059840520946833

Jameson, B. E., Engelke, M. K., Anderson, L. S., Endsley, P. E., & Maughan, E. D. (2018). Factors related to school nurse workload. *Journal of School Nursing*, *34*, 211-221. https://doi.org/10.1177/1059840517718063

Jeffs, L., Beswick, S., Martin, K., Campbell, H., Rose, D., & Ferris, E. (2012). Quality nursing care and opportunities for improvement: Insights from patients and family Members. *Journal of Nursing Care Quality*, *28*, 76-84.

Jex, S. M. (1998). Stress and job performance: Theory, research, and implications for managerial practice. Thousand Oaks, CA: Sage.

Johns Hopkins All Children's Hospital (2021). *Tips from school nurses on keeping kids healthy.* https://tinyurl.com/y2qdtuo8

Johns Hopkins Bloomberg School of Public Health. (2014). The child and adolescent health measurement initiative. http://www.cahmi.org/Johns Hopkins Medicine. (2019).

Kann, L. (2015). Youth Risk Behavior Surveillance —United States, 2015. *MMWR. Surveillance Summaries*, *65*. http://dx.doi.org/10.15585/mmwr.ss6506a1

Karnick, P. M. (2016). Evidence based practice and nursing theory. *Nursing Science Quarterly*.*29*,283-284. http://journals.sagepub.com/doi/pdf/10.1177/0894318416661107

Katz, D., & Kahn, R. L. (1978). *The social psychology of organizations* (2nd ed.). Wiley and
  Sons.

Kimel, L. (1996). Handwashing education can decrease illness absenteeism. *Journal of School
  Nursing, 12*(2), 14–18.

Kohr, L. M., Hickey, M., & Curley, M. A. (2012). Building a nursing productivity measure
  based on the Synergy Model: First steps. *American Journal of Critical Care*, *21*, 420-
  431. https://doi.org/http//dx.doi.org/10.4037/ajcc2012859

Kuschel, K. (2015). Quantitative and qualitative work overload and its double effect on the
  work-family interface. *Serie Working Papers*, 27, 1-34.
  https://ideas.repec.org/p/dsr/wpaper/27.html

Largent, P. (2019). The NURSE Act. *NASN School Nurse*, *34*, 210.

Lear, J.G. (2007). Health at school: A hidden health care system emerges from the Shadows.
  Health Affairs.
  https://www.healthaffairs.org/doi/full/10.1377/hlthaff.26.2.409

Lineberry, M., & Ickes, M. (2014). The role and impact of nurses in American elementary
  schools. *The Journal of School Nursing*, *31*, 22-33.

Lubbe, J. C., & Roets, L. (2014). Nurses' scope of practice and the implication for quality
  nursing care. *Journal of Nursing Scholarship*, *46*, 58-64.
  http://dx.doi.org/10.1111/jnu.12058

Mapp, T. (2008). Understanding phenomenology: The lived experience. *British Journal of
  Midwifery*, *16*, 308-311. https://doi.org/10.12968/bjom.2008.16.5.29192

Martin-Misener, R., Kilpatrick, K., Donald, F., Bryant-Lukosius, J., Valaitis, R., & Lamb, A.
(2016). Nurse practitioner caseload in primary health care: Scoping review.
International Journal of Nursing Studies, *62*, 170-182.
http://dx.doi.org/https://doi.org/10.1016/j.ijnurstu.2016.07.019

Masters, K. (2015). *Nursing theories: A framework for professional practice* (2nd ed.).
http://www.jblearning.com/catalog/9781284048353/

Maughan, E. (2003). The impact of school nursing on school performance: a research
synthesis. *The Journal of School Nursing*, *19*, 163-171.
http://dx.doi.org/10.1177/10598405030190030701

Maughan, E., Bobo, N., Butler, S., Schantz, S., & Schoessler, S. (2015). Framework for 21st
century school nursing practice. *NASN School Nurse*, *30*, 45-53.
http://dx.doi.org/10.1177/1942602X15618644

McCollow, M., Davis, C., & Copeland, M. (2013). Creating success for students with autism
spectrum disorders and their teachers: Implementing district-based support teams.
Journal of Cases in Educational Leadership, *16*, 65-72
https://doi.org/10.1177/1555458913478426

McEwen, M., & Wills, E. M. (2014). *Theoretical basis for nursing* (4th ed.). Wolters Kluwer
Health, Lippincott Williams & Wilkins.

McNaughton, D. B., Cowell, J. M., & Fogg, L. (2013). Adaptation and feasibility of a
communication intervention for Mexican immigrant mothers and children in a school
setting. *Journal of School Nursing*, *30*, 103-113.
https://doi.org/10.1177/1059840513487217

Mele, C., Pels, J., & Polese, F. (2010). A brief review of systems theories and their

    managerial applications. *Service Science*, *2*, 126-135.

    http://pubsonline.informs.org/doi/pdf/10.1287/serv.2.1_2.126

Merriam, S. B. (Ed.). (2002). *Qualitative research in practice: Examples for*

    discussion and analysis (1 edition). Jossey-Bass.

Mertens, D. M. (2015). *Research and evaluation in education and psychology.*

    (5th ed) Sage. https://tinyurl.com/y9eoeamu

Meyer, R. M., & O'Brien-Pallas, L. (2010). Nursing services delivery theory: An open

    system approach. *Journal of Advanced Nursing*, *66*, 2828-2838.

    https://doi.org/http://dx.doi.org/10.1111/j.1365-2648.2010.05449.x

Miles, M. B., Huberman, A. M., & Saldana, J. (2019). *Qualitative data analysis: A methods*

    sourcebook (4th ed.). Sage.

Mitchell, P. H. (2008). Defining patient safety and quality care. In R. G. Hughes (Ed.),

    Patient safety and quality: An evidence-based handbook for nurses. NIH.gov

    http://www.ncbi.nlm.nih.gov/books/NBK2681/

Moerer-Urdahl, T., & Creswell, J. (2004). Using transcendental phenomenology to explore

    the "ripple effect" in a leadership mentoring program. *International Journal of*

    Qualitative Methods, *3*(2), 19-35. https://doi.org/10.1177/160940690400300202

Mohammadi, M., Mazloumi, A., Kazemi, Z., & Zeraati, H. (2015). Evaluation of mental

    workload among ICU ward's nurses. Health Promotion Perspectives, 5(4), 280–287.

    doi: 10.15171/hpp.2015.033

Morton, J. L., & Schultz, A. A. (2004). Healthy hands: Use of an alcohol gel as an adjunct to handwashing in elementary school children. *Journal of School Nursing*, 20, 161-167.

Moustakas, C. (1994). *Phenomenological research methods*. Sage http://dx.doi.org/http://dx.doi.org/10.4135/9781412995658

Munn, Z., Peters, M., Stern, C., Tufanaru, C., McArthur, A., & Aromataris, E. (2018). Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Medical Research Methodology*, *18*, 143. https://doi.org/10.1186/s12874-018-0611-x

Murray, M., Davies, M., & Boushon, B. (2007). Panel size: How many patients can one doctor manage? *Family Practice Management*, 14(4), 44. https://www.aafp.org/fpm/2007/0400/p44.html

National Academy of Medicine. (2021). *About the National Academy of Medicine* https://nam.edu/about-the-nam/

National Alliance of Specialized Instructional Support Personnel. (2019*). NASISP Members.* http://nasisp.org/our-members/

National Alliance of Specialized Instructional Support Personnel. (2019). *We are NASISP!* http://nasisp.org/aboutus2/

National Association of School Nurses. (2015). School nurse workload-Staffing for safe care. *NASN School Nurse*, *30*(5), 290-293. https://doi.org/10.1177/1942602X15594143

National Association of School Nurses. (2016a). *ESSA talking points for school nurses.* https://neusha.org/student/programs/attachments/ESSANASN.pdf

National Association of School Nurses. (2016b). *Framework for 21st century school nurse*

practice https://www.nasn.org/nasn/nasn-resources/professional-topics/framework

National Association of School Nurses. (2017a). *Definition of school nursing*.

https://www.nasn.org/nasn/about-nasn/about

National Association of School Nurses. (2017b). The role of the 21st century school nurse.

NASN School Nurse, *32*, 56-58. http://dx.doi.org/10.1177/1942602X16680171

National Association of School Nurses. (2018). *Research priorities.*

https://www.nasn.org/nasn/research/research-priorities

National Association of School Nurses. (2020). *School nurse workload*

https://www.nasn.org/advocacy/professional-practice-documents/position-

statements/ps-workload

National Center for Education Statistics. (2016). *Back to school statistics 2016.*

https://nces.ed.gov/fastfacts/display.asp?id=372

National Center for Education Statistics. (2019a*). Indicator 1: Population distribution.*

https://nces.ed.gov/programs/raceindicators/indicator_RAA.asp

National Center for Education Statistics. (2019b). *State education reforms*.

https://nces.ed.gov/programs/statereform/tab5_14.asp

National Child Traumatic Stress Network. (n.d.). *Trauma types.* https://www.nctsn.org/what-

is-child-trauma/trauma-types

National Education Association. (2018). *Specialized instructional support personnel.*

http://www.nea.org/home/sisp.html

National Education Association. (n.d.). *Special education workload analysis model*.

    https://www.nea.org/assets/docs/19178_NBI27_Backgrounder_v2.pdf

National Institutes of Health. (2016). *Guiding principles for ethical research.*

    https://www.nih.gov/health-information/nih-clinical-research-trials-you/guiding-

    principles-ethical-research

Negandi, A. (1973). Comparative management and open system theory. *Academy of*

    Management, 150-155. http://dx.doi.org/doi: 10.5465/AMBPP.1973.4981264

Neill, D. (2011). Nursing workload and the changing health care environment: A review of

    the literature. *Administrative Issues Journal*, *1*, 132-143.

    http://eric.ed.gov/?id=EJ1055056

NURSE Act, H.R. 2606, 116th Cong. (2019). https://www.congress.gov/bill/116th-

    congress/house-bill/2606

NURSE Act, H.R. 5251, 115th Cong. (2018). https://www.congress.gov/bill/115th-

    congress/house-bill/5251/all-info

NURSE Act, S. 1362, 116th Cong. (2019). https://www.congress.gov/bill/116th-

    congress/senate-bill/1362

NURSE Act, S. 2297, 113th Cong. (2014). https://www.congress.gov/bill/113th-

    congress/senate-bill/2297/text

NURSE Act, S. 2532, 115th Cong. (2018). https://www.congress.gov/bill/115th-

    congress/senate-bill/2532/text

NURSE Act, S. 2572, 114th Cong. (2016). https://www.congress.gov/bill/114th-

    congress/senate-bill/2572

Office of Disease Prevention and Health Promotion. (n.d.). *Schools.*

https://health.gov/healthypeople/objectives-and-data/browse-objectives/schools

Office of Disease Prevention and Health Promotion. (2019). *Social determinants of health.*

https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-

health

Oplatka, I. (2017). Principal workload. *Journal of Educational Administration; Armidale*, *55*,

252-268. https://doi.org/http://dx.doi.org.proxy.library.umkc.edu/10.1108/JEA-06-

2016-0071

Oxford/Lexico. (2019*). Workload*. https://www.lexico.com/en/definition/workload

Paley, J. J. (2001). Positivism and qualitative nursing research. *Scholarly inquiry for nursing*

practice, *15*, 371-387.

http://www.ingentaconnect.com/content/springer/rtnp/2001/00000015/00000004/art0

0008

Panchal, D. N. (n.d.). Social psychology of organizations: Book review. *Semantic Scholar.*

https://pdfs.semanticscholar.org/85f7/dadae6fc51905bd314871b7458cf0f5bade1.pdf

Patient Centered Primary Care Collaborative. (2020). *Defining the medical home.*

https://www.pcpcc.org/about/medical-home

Patient Protection and Affordable Care Act, 111-1 United States Department of Health and

Human Services § 111-1 (2010).

Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th Edition). Sage.

Pellegrini, D. W. (2007). School Non-attendance: Definitions, meanings, responses, interventions. *Educational Psychology in Practice*, *23*(1), 63-77. http://dx.doi.org/DOI: 10.1080/02667360601154691

Pennington, N., & Delaney, E. (2008). The number of students sent home by school nurses compared to unlicensed personnel. *The Journal of School Nursing*, *24*, 290-297. http://dx.doi.org/10.1177/1059840508322382

Pfeifer, G. M. (December 2011). Replacing school nurses with unlicensed personnel. *American Journal of Nursing*, *111*(12), 15. http://dx.doi.org/10.1097/01.NAJ.0000408168.81865.dc

Raffoul, M., Moore, M., Kamerow, D., & Bazemeore, A. (2016). A primary care panel size of 2500 is neither accurate nor reasonable. *Journal of the American Board of Family Medicine*, *29*, 496-499. https://doi.org/http://www.jabfm.org/content/29/4/496

Ramos, M., Schrader, R., Trujillo, R., & Blea, M. (2011). School nurse inspections improve hand washing supplies. *Journal of School Health*, *81*, 355-358. https://doi.org/ 10.1111/j.1746-1561.

Rodriguez, E., Rivera, D., Perlroth, D., Becker, E., Wang, N., & Landau, M. (2013). School nurses' role in asthma management, school absenteeism, and cost savings: a demonstration project. *Journal of School Health*, *83*, 842-850. http://dx.doi.org/doi: 10.1111/josh.12102.

Rogers, L. (2002). Some phases of school nursing. *Journal of School Nursing*. https://doi.org/https://doi.org/10.1177/10598405020180050401 Reprinted with permission from American Journal of Nursing, (2008), 8(12), 966–974.

Ross, C., Rogers, C., & King, C. (2019). Safety culture and an invisible nursing workload. *Collegian*, *26*, 1-7. https://doi.org/https://doi.org/10.1016/j.colegn.2018.02.002

Rubin, H. J., & Rubin, I. S. (2005). *Qualitative interviewing: The art of hearing data* (2nd ed.). Sage.

Sacks, V., Murphey, D., & Moore, K. (2014). *Adverse childhood experiences: National and state level prevalence* (28). https://www.childtrends.org/wp-content/uploads/2014/07/Brief-adverse-childhood-experiences_FINAL.pdf

Sawicki, M. (n.d.). Edmund Husserl (1859-1938). https://www.iep.utm.edu/husserl/

Schroeder, K., Malone, S. K., McCabe, E., & Lipman, T. (2018). Addressing the social determinants of health: A call to action for school nurses. *Journal of School Nursing*, *34*, 182-191. https://doi.org/DOI: 10.1177/1059840517750733

Schuetz, N., Mendenhall, A. N., & Grube, W. (2020). Strengths model for youth Case Management: Impact on the Provider and Agency. *Child and Adolescent Social Work Journal*. https://doi.org/10.1007/s10560-020-00668-2

Senge, P. (1990). *The fifth discipline* (1st ed.). Doubleday.

Senge, P., Schneider, F., & Wallace, D. (20*14*). Peter Senge on the 25th anniversary of the fifth discipline. *Reflections*, 14(3), 1-12.

Sgobba, T., Kanki, B., Clervoy, J. F., & Sandal, G. (Eds.). (2017). *Workload and fatigue*. *Space safety and human performance* (1st ed.). Elsevier. https://www.elsevier.com/books/space-safety-and-human-performance/kanki/978-0-08-101869-9

Southall, V. H., Wright, J. B., Campbell, T., Strunk, J. A., & Trotter, S. A. (2017). School

    nurse evaluation. *NASN School Nurse*, *32*, 87-90.

Starfield, B. (1992). Effects of poverty on health status. *Bulletin of the New York Academy of*

    Medicine, *68*(1), 17-24. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1809870/

Stempel, H., Cox-Martin, M., Dickinson, L., & Allison, M. (2017). Chronic school

    absenteeism and the role of adverse childhood experiences. *Academic Pediatrics*, *17*,

    837-843. https://doi.org/https://doi.org/10.1016/j.acap.2017.09.013

Sullivan, L., (2009) Open systems theory. *The SAGE Glossary of the Social and Behavioral*

    Sciences. Sage.

    https://sk.sagepub.com/reference/behavioralsciences/n1770.xml

Swedberg, R. (2016). Can you visualize theory? On the use of visual thinking in theory

    picture, theorizing diagrams, and visual sketches. *Sociological Theory*, *34*, 250-275.

    http://dx.doi.org/10.1177/0735275116664380

Telljohann, S. K., Dake, J. A., & Price, J. H. (2004). Effect of full-time versus part-time

    school nurses on attendance of elementary students with asthma. *Journal of School*

    Nurses, *20*, 331-334. http://dx.doi.org/10.1177/10598405040200060701

Terrell, S. R. (2016). *Writing a proposal for your dissertation*. Guilford Press.

The National Child Traumatic Stress Network. (n.d.). *About refugees.*

    https://www.nctsn.org/what-is-child-trauma/trauma-types/refugee-trauma/about-

    refugees

Tubbs-Cooley, H., Mara, C. A., Carle, A. C., & Gurses, A. P. (2018). The NASA Task Load

    Index as a measure of overall workload among neonatal, pediatric, and adult intensive

    care nurses. *Intensive and Critical Care Nursing*, *46*, 64-69.

    https://doi.org/https://doi.org/10.1016/j.iccn.2018.01.004

United States Department of Education. (2010). *Free Appropriate Public Education for*

    Students with Disabilities: Requirements under Section 504 of the Rehabilitation Act

    of 1973.Washington, D.C. https://www2.ed.gov/about/offices/list/ocr/docs/edlite-

    FAPE504.html

    https://www2.ed.gov/about/offices/list/ocr/docs/edlite-FAPE504.html

United States Department of Education. (2015a). Every student, every day: *A community*

    toolkit to address and eliminate chronic absenteeism.

    https://www2.ed.gov/about/inits/ed/chronicabsenteeism/toolkit.pdf

United States Department of Education. (2015b). *Every Student Succeeds Act.*

    https://www.ed.gov/essa

United States. Department of Health and Human Services. (2006). *Fact sheet: Your rights*

    under section 504 of the Rehabilitation Act.

    http://www.hhs.gov/ocr/civilrights/resources/factsheets/504.pdf

United States Office of Disease Prevention and Health Promotion. (2018). *Healthy people*

    2020: Education and community -based programs.

    https://www.healthypeople.gov/2020/topics-objectives/topic/educational-and-

    community-based-programs

Urdahl, T. M., & Creswell, J. (2004). Using transcendental phenomenology to explore the "ripple effect" in a leadership mentoring program. *International Journal of Qualitative Methods*, *3*(2), 19-35.

Vessey, J. A., & McGowan, K. A. (2006). A successful public health experiment: School nursing. *Pediatric Nursing*, *32*, 255-263. http://connection.ebscohost.com/c/articles/21110254/successful-public-health-experiment-school-nursing

Vessey, J. A., & McGowan, K. A. (2006). A successful public health experiment: School nursing. *Pediatric Nursing*, *32*, 255-263. http://connection.ebscohost.com/c/articles/21110254/successful-public-health-experiment-school-nursing

Von Bertalanffy, L. (1968). *General system theory: Foundations, development, applications*. George Braziller. https://www.amazon.com/General-System-Theory-Foundations-Applications. /dp/0807604534

Wald, L. (1915). *The house on Henry Street*. Google Books. https://www.google.com/books/edition/The_House_on_Henry_Street/An_aAAAAMAAJ?hl=en&gbpv=1&printsec=frontcover

Walker, L. O., & Avant, K. C. (2011). *Strategies for theory construction in nursing* (5th ed.). Pearson.

Wallace, A. (2017). *Pediatric nurses miss care due to poor work environments*. https://www.upi.com/Health_News/2017/06/13/Pediatric-nurses-miss-care-due-to-poor-work-environments/3031497382409/

Wang, L. Y., Vernon-Smiley, M., Gapinski, M., Desisto, M., Maughn, E., & Sheetz, A. (July 2014). Cost-benefit study of school nursing services. *JAMA Pediatrics*, *168*(7), 642-648. http://dx.doi.org/10.1001/jamapediatrics.2013.5441

Weissmuller, P. C., Grasska, M. A., Alexander, M., White, C. G., & Kramer, P. (2007). Elementary school nurse interventions: Attendance and health outcomes. *Journal of School Nursing*, *23*, 111-118.

Whitman, M. V., Davis, J. A., & Terry, A. J. (2010). Perceptions of school nurses on the challenges of service provision to ESL students. *Journal of community health,* 35(2), 208–213. https://doi.org/10.1007/s10900-009-9211-3

Whitmore, S. (2017). *Workload vs caseload: Changing the conversation.* https://schoolsocialwork.net/workload-versus-caseload-changing-conversation/

World Health Organization. (2019a). *Global school health initiative* https://www.who.int/school_youth_health/gshi/en/

World Health Organization. (2019b). *Patient safety*. http://www.euro.who.int/en/health-topics/Health-systems/patient-safety

World Health Organization. (2021). *Social determinants of health.* https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1

Wyman, L. (2005). Comparing the number of ill or injured students who are released early from school-by-school nursing and non-nursing personnel. *Journal of School Nursing*, *21*(6), 350-355.

Yarnell, K., Ostbye, T., Krause, K., Pollack, K., Gradison, M., & Michener, L. (2005). Is

    there time for management of patients with chronic diseases in primary care? *Annals*

    of Family Medicine, *3*, 209-214. http://dx.doi.org/10.1370/afm.310

Yoder, C.M. School nurses and student academic outcomes: An integrative review. *The*

    Journal of School Nursing. 2020; 36(1):49-60. doi:10.1177/1059840518824397

Zahavi, D., & Martiny, K. (2019). Phenomenology in nursing studies: New perspectives.

    International Journal of Nursing Studies, *93*, 155-162.

    https://doi.org/10.1016/j.ijnurstu.2019.01.014

Zeeman, A. (2017). *Senge's five disciplines for learning organizations*.

    https://www.toolshero.com/management/five-disciplines-learning-organizations/

Zirkel, P. A. (2009). History and expansion of section 504 student eligibility: Implications

    for school nurses. *The Journal of School Nursing, 25*, 256-260.

    http://dx.doi.org/10.1177/1059840509336930

Zirkel, P. A. (2014). Unlicensed administration of medication. The California Supreme Court

    decision. *NASN School Nurse*, *29*, 248-252.

    http://nas.sagepub.com/content/early/2014/06/26/1942602X14540412.abstract

APPENDIX A

DEMOGRAPHIC DATA FORM

Please circle the best response for each question.

Please skip any question that you do not wish to answer.

What is your age?	What is your gender?
• 21-30 • 31-40 • 41-50 • 51-60 • 61-65 • Other	• Female • Male • Other **What is your marital status?** • Single, never married • Married • Divorced, widowed, separated
What best describes your race/ethnicity? • African American • White • Hispanic • Asian • Native American • Other	**What is your highest level of educational preparation?** • Diploma in Nursing • Associate Degree in Nursing • Bachelor of Science in Nursing • Bachelor's Degree (Non-Nursing) • Master of Science in Nursing • Master's Degree (Non-Nursing) • Doctor of Nurse Practice Degree • Doctor of Philosophy Nursing Degree • Doctorate Degree (Non-Nursing)
Who do you report to? • RN Supervisor • Non-nurse supervisor	**What type of school are you employed by?** • Public school district • Alternative/charter/private/parochial/boarding • Tribal/Native American School
What percentage of	**How many students do you serve?**

students that you serve receive free or reduced lunch? • <10% • 10-19% • 20-29% • 30-39% • 40%+	• 125 or fewer • 126-250 • 251-500 • 501-750 • 751-1000 • 1001-2000
How many years have you worked as a school nurse? • 1-5 • 6-10 • 11-15 • 16-20 • 21-25 • 26-30 • 31-36+	**How many years have you been a registered nurse?** • 1-5 • 6-10 • 11-15 • 16-20 • 21-25 • 26-30 • 31-36+
How many buildings do you provide school nurse services in a usual workday? • 1 • 2 • 3 • 4	**How many buildings do you provide? school nurse services in a usual work week?** • 1 • 2 • 3 • 4
How many years have you worked in your current school? • 1-5 • 6-10 • 11-15 • 16-20 • 21-25 • 26-30 • 31-36+	**What is the model of practice in your district? (circle all that apply)?** • RN provides direct care in 1 building • RN provides direct care alone in >1 building • RN oversees LPN in >1 building • RN oversees aide/clerk in >1 building • RN with UAP cover in >1 building • Advanced Practice Nurse with RN

How is your position funded?	
• Regular Education Budget • Special education budget • Grant • Health department (local or state) • Hospital system • Unsure	

APPENDIX B

INTERVIEW QUESTIONS

1. How do you define workload?

2. Tell me about your school nurse workload.

3. Describe experiences that capture aspects of your workload

4. Describe what quality school nursing care means to you?

5. If you could change any characteristic(s) of your workload, describe what

   characteristics you would change and why?

6. Is there anything else you would like to share with me regarding school nurse

    workload?

APPENDIX C

PERMISSION LETTER

SETON HALL UNIVERSITY
1 8 5 6

April 4, 2019

Patricia Endsley MSN, RN, NCSN, School Nurse
Wells High School Nurse
200 Sanford Road
Wells, ME 04090

Dear Ms. Endsley,

I hereby confirm that I, Beth E. Jameson, am the primary investigator for the study,
Developing a Workload Instrument for School Nursing. Please find included a copy of the
IRB page as proof of my role and warrant that I have the right to authorize the distribution
and/or use of the attached documents.

I can confirm that I give consent for you to use the attached documents, Attachment 1:
Demographic Data Form, and Attachment 2: Focus Group Interview Guide in part or in
entirety for your dissertation research. I am happy to share these documents with you as
you continue valuable research on the school nurse work environment.

Sincerely,

Beth E. Jameson, PhD, MSN, RN, CSN-NJ
Assistant Professor
beth.jameson@shu.edu
off. 973.542.6887
cell. 908.723.5996

APPENDIX D

SUPERINTENDENT LETTER OF REQUEST

September 1, 2019
.
Dear Superintendent_____,

I am a PhD in Nursing student at the University of Missouri, Kansas City (UMKC), and a fulltime school nurse at Wells High School. My research dissertation study is titled *Exploration of Workload Through the Lived Experiences of School Nurses Caring for Students Kindergarten Through Grade Five*.   The aim of this study is to describe the perspectives and lived experiences of urban kindergarten through fifth grade school nurses regarding their nurse workload characteristics. I will perform structured interviews, using the following questions:

    1. How do you define workload?

    2. Tell me about your school nurse workload.

    3. Describe experiences that capture aspects of your workload

    4. Describe what quality school nursing care means to you?

    5. If you could change any characteristic(s) of your workload, describe what

      characteristics you would change and why?

    6. Is there anything else you would like to share with me regarding school nurse

      workload?

The school nurse has been selected based upon an extensive review of the literature, which identified there is little information regarding the workload characteristics of this nursing population. This study has been approved by the UMKC Institutional Review Board (IRB). Participation on the nurse's part is completely voluntary, and he/she will be compensated with a $10 gift card.

100

If I have your permission to proceed, please complete the below statement and sign and date in the spaces provided and return to me via email at pendsley@mail.umkc.edu or faxed to (207)-646-4842

Thank you very much for your consideration,

Sincerely,

Patricia Endsley MSN, RN

I give my permission for the nurses of school district _____ to participate in the above qualitative research study, if they so desire. I understand that I may contact the investigator at any time, should any questions or concerns arise.

_____   _____

Superintendent   Date

APPENDIX E

SCHOOL NURSE PARTICIPANT RECRUITMENT LETTER

Dear_____,

You are invited to participate in a qualitative school nurse workload research study that is being conducted by Patricia Endsley, MSN, RN who is a PhD student in the School of Nursing at the University of Missouri, Kansas City (UMKC).
The purpose of the study is to acquire a deeper understanding of the workload of school nurses by exploring their lived experiences through phenomenological interviews.

In order to participate in this study, you must be able to speak and read English; and, be currently employed, full or part-time as an urban school nurse caring for students kindergarten to grade five in Maine.
Your participation in this study will last for approximately 60 minutes. Study procedures are as follows:

- You will be asked to:

  - Complete a questionnaire that tells me a little about you (5 min);

  - A one-time in-person interview conducted either in-person or through Zoom virtual conferencing that will last approximately 60 minutes. The interview will be audio-recorded for transcription purposes.

    Zoom video download instructions may be found at
    https://www.youtube.com/watch?v=vFhAEoCF7jg

  - During the interview you will be asked about your experiences and workload as a school nurse. You can skip or refuse to answer any question and you may withdraw from participation in the interview at any time.

  - You will be offered a chance to review your condensed transcript with the investigator for accuracy

As a thank you for your participation in my PhD dissertation research study, you will receive a $10 gift card upon completion of the interview. Please know that your Superintendent has provided me permission to contact you for my study.

Please respond back to me via e-mail within seven days if you wish to participate. I appreciate your consideration.

Sincerely,

Patricia Endsley MSN, RN

INFORMED CONSENT

Study Title: *Exploration of Workload Through the Lived Experiences of School Nurses Caring for Students Kindergarten to Fifth Grade.*

Authorized Study Personnel

Principal Investigator: Patricia E Endsley   Office: (207) 641-6967, Cell (603)767-7877

Please read this consent form carefully and take your time making your decision. As the researcher discusses this consent form with you, please ask her to explain any words or information you do not clearly understand. Please talk with your family and friends before you decide to take part in this research study. The nature of the study, risks, inconveniences, discomforts, and other important information about the study are listed below.

PURPOSE:

The purpose of this study is to gain a deeper understanding of the workload of school nurses by exploring their lived experiences through phenomenological interviews. This information will be helpful for professional school nurse organizations and school districts to better understand the extent of school nurse work.

REQUIREMENTS TO PARTICIPATE:

You are being asked to be in this study because you are an urban school nurse in Maine caring for students kindergarten to fifth grade. You must also be over 21 and be able to read and write English.

HOW MANY PEOPLE WILL TAKE PART IN THIS STUDY?

Kindergarten to fifth grade nurses in two urban Maine school districts will be asked to participate. Participants will be interviewed until no further new information is acquired.

PROCEDURES: (WHAT IS INVOLVED IN THE STUDY AND HOW LONG WILL I BE IN THE STUDY?)

Your participation in this study will last for approximately 60 minutes.   Study procedures are as follows:

You will be asked to complete:

1. A questionnaire that tells the researcher a little about you (5 min).
2. A one-time in-person interview that will last 60 minutes. The interview will be audio-recorded for transcription purposes.

During the interview you will be asked about your experiences and workload as a school nurse. You can skip or refuse to answer any question and you may withdraw from participation in the interview at any time.

BENEFITS:

There are no direct benefits to you, however, this study will assist with a more in depth understanding about the workload of school nurses.

RISK:

There are no physical risks associated with this study. There is, however, the potential risk of loss of confidentiality. Every effort will be made to keep your information confidential; however, this cannot be guaranteed. Some of the questions we will ask you as part of this study may make you feel uncomfortable. You may refuse to answer any of the questions, and you may take a break at any time during the study. You may stop your participation in this study at any time.

COMPENSATION: You will receive a $25.00 gift card.

COST: There is no cost to you.

CONFIDENTIALITY:

The research records will not include any information that will allow us to identify you or your institution. The completed questionnaires will be kept in a locked file cabinet at: Wells High School, 200 Sanford Rd. Wells, Maine. The principal researcher, PhD

committee, coders and the Institutional Review Board at UMKC are the only parties that will be allowed to see the data, except as may be required by law.   The University of Missouri System, Authorization No. 00-018 requires research data to be retained for 7 years after the final report. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated. Research results will be made available upon request when the study is complete.

WITHDRAWAL:

Participation in this study is voluntary. You may withdraw from the study (quit) at any time without penalty. and you may refuse to answer any questions that you are not comfortable with. Participation in this study poses no conflict of interest since there is not a work related or student connection between you and the researcher.

RESEARCH QUESTIONS:

If you have any questions about the study, you may contact Patricia Endsley by telephone at 603-767-7877 or by email at: pendsley@mail.umkc.edu.

SUBJECT RIGHTS:

If you have any questions about your rights as a research participant, you may contact the UMKC IRB at (816) 235-5927 or via e-mail at: umkcirb@umkc.edu

The only persons who will have access to your research records are the study personnel, the Institutional Review Board (IRB), and any other person, agency, or sponsor as required by law. The information from this study may be published in scientific journals or presented at scientific meetings but the data will be reported as group or summarized data and your identity will be kept strictly confidential.

WHAT SHOULD YOU DO IF YOU HAVE A PROBLEM DURING THIS RESEARCH STUDY?

Your well-being is a main concern. If you have a problem as a direct result of being in this study, you should immediately contact the researcher listed.

WHAT ABOUT MY RIGHTS TO DECLINE PARTICIPATION OR WITHDRAW FROM THE STUDY?

You can choose to stop participating at any time without penalty or loss of any benefits to which you are entitled. You can decide not to be in this research study, or you can stop being in this research study ("withdraw') at any time before, during, or after the research begins for any reason. Deciding not to be in this research study or deciding to withdraw will not affect your relationship with the researcher or with the University of Missouri Kansas City.

WHOM DO I CALL IF I HAVE QUESTIONS OR PROBLEMS?

You may ask any questions concerning this research and have those questions answered before agreeing to participate in or during the study. For study related questions, please contact the researcher listed at the beginning of this form.

For questions about your rights as a research participant, or to discuss problems, concerns or suggestions related to your participation in the research, or to obtain information about research participant's rights, contact the UMKC Institutional Review Board (IRB) Office

Phone: (816) 235-5927

Email: umkcirb@umkc.edu

STATEMENT OF CONSENT

The purpose of this study, procedures to be followed, risks and benefits have been explained to me. I have been allowed to ask questions, and my questions have been answered to my satisfaction. I have been told whom to contact if I have questions, to discuss

problems, concerns, or suggestions related to the research, or to obtain information. I have

read or had read to me this consent form and agree to be in this study, with the understanding

that I may withdraw at any time

APPENDIX G

INVESTIGATOR LETTER OF PERMISSION

WELLS-OGUNQUIT COMMUNITY SCHOOL DISTRICT
1460 Post Road, Wells, Maine 04090
TEL (207) 646-8331 * FAX (207) 646-4236 * TDD (207) 646-7892 * www.k12wocsd.net

JAMES P. DALY	STACEY L. SCHATZABEL	EDWARD R. MC DONOUGH	MICHAEL RICHARDS	RICHARD F. (JAY) MOORE	PIERCE COLE
SUPERINTENDENT OF SCHOOLS	DIRECTOR OF INSTRUCTION AND SPECIAL SERVICES	DIRECTOR OF FINANCE/HUMAN RESOURCES	DIRECTOR OF TECHNOLOGY	DIRECTOR OF OPERATIONS	DIRECTOR OF ATHLETICS 6-12

April 23, 2019

University of Missouri
Committee and Institutional Review Board
5319 Rockhill Rd
Kansas City, MO 64110

Dear UMKC Institutional Review Board,

Pat Endsley has informed me of her University of Missouri, Kansas City dissertation proposal which involves gathering qualitative interview data from Maine school nurses. Pat assures me she will seek superintendent permission before conducting the interviews, follow prescribed informed consent guidelines, and maintain participant confidentiality. This research will be conducted outside of school hours and does not pose any conflict of interest for the Wells-Ogunquit School District.

Sincerely,

James P. Daly
Superintendent of Schools

APPENDIX H

THEME AND STRUCTURE ORGANIZATION

Name	Description
Administrative Work	
Data Tracking	
Nurse Supervision or Coordinator responsibilities	
State Reports	
Daily Clinical Work	
Assessment	
Catheterization	
Health maintenance	
Medications	
Mental health	
Behavior	
Substance abuse	
Planning Care	
Chronic Illness	
Asthma	
Diabetes	
Special Education	

Name	Description
DNR	
Screening	
Staff medical needs	
toileting	
Isolation	
Work Unfinished	
Documentation	
Immunization	
Time to complete tasks	
Diverse Populations	
Changing population	
Economy	
Social determinants	
Homelessness	
refugees	
Finding Medical Homes	
Food and clothing	
Transportation	
Trauma- ACES	

Name	Description
student turnover	
new students	
Communication issues	
Cultural norms	
Language barriers	
Education	
Nursing students	
parents	
Parent Education	
Professional development	
staff	
Training staff	
students	
Job satisfaction	
Advocacy	
Feeling connected	
nurse connection	
Perception of value	
Special needs	
staff connection	

Name	Description
student connection	
Love my job	
Overwhelmed	
Can't ever leave office	
Need of assistant	
Delegation	
Legal issues	
Unskilled tasks	
Multiple buildings	
Geographic Issues	
School Support	
Administration	
School nurses	
Support staff	
Teachers	
Work unrecognized	
Documentation	
Interruptions	
Priorities	

Name	Description
Quality Care	
Safety	
Emergency planning	

VITA

Patricia Eleanor Endsley was born March 6, 1963, in Dover New Hampshire. She was educated in the local Catholic schools and graduated from St. Thomas Aquinas High School in 1981. She graduated with a Bachelor of Science degree in Nursing in 1985 from St. Anselm College in Manchester, New Hampshire.

After working almost 20 years in women's health, primary care, and school nursing Ms. Endsley pursued a graduate degree at the State University of New York, Stony Brook. She graduated in 2003 with a Master's of Science degree in Nursing, Family Nurse Practitioner. In 2005 Ms. Endsley assumed a position as a school nurse at Wells High School in Wells, Maine. She began working toward her Ph.D. in Nursing at the University of Missouri-Kansas City. After completion of degree requirements, she plans to continue school nursing and public health research and education.

Ms. Endsley is the Immediate Past President (2018-2020) of the Maine Association of School Nurses, and a past Maine Board of Director for the National Association of School Nurses (2011-2015). She obtained her National School Nurse Certification (NCSN) in 2013 and is a member of Sigma Theta Tau and Phi Kappa Phi honor societies. Ms. Endsley was the 2016 Maine School Nurse of the Year and received the American Nurses Association (Maine Chapter) and Nursing leaders of Maine Public Health Leadership and Disease Prevention Education Award in January 2020.