

# QUALITY OF LIFE IN SCHOOL-AGE CHILDREN WITH OBESITY, THE EXPERIENCES OF SCHOOL NURSES, AND MORAL DISTRESS ASSOCIATED WITH CARE DELIVERY

by

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Childhood obesity is a multifaceted, complex problem that is associated with many other chronic health conditions. School nurses are well positioned to assess, intervene, and evaluate efforts to positively impact this population, however school nurse practice for obesity varies greatly. The purpose of this dissertation was to examine concepts related to the role of school nurse providing care to school age children with obesity using both quantitative and qualitative methods. Study 1 examined the self-reported physical and psychosocial quality of life of school age children with obesity and included descriptive comments from the school nurses providing their case management. The study found that the students with obesity had lower self-reported quality of life when compared to a healthy weight sample and comments from the school nurses reported the complex physical and psychosocial dynamics for students with obesity in the school setting. These findings supported that school-based interventions need to consider both physical psychological issues experienced by students to lead to successful outcomes. Study 2 investigated the experiences of school nurses providing care to students with overweight or obesity including perceived barriers and ways that school nurses successfully implement interventions with these students. The findings of this study suggest that limited time, heavy workload, limited resources, and supervisor pressure may prevent obesity interventions thus leading school nurses to use a “seize the moment” approach where they use any contact time with students to provide interventions and suggest that activities requiring small amounts of time

may be best suited for successful implementation by school nurses. Nurses in this study described experiences associated with moral distress, a concept that has not been previously studied in school nurses. Study 3 examined the level of moral distress that exists in school nurses and its relationship to common moral dilemmas and school nurse characteristics. School nurses were found to experience moral distress and it was strongly related to many of the moral dilemmas experienced by school nurses. This study provides an awareness of this issue for school nurses and includes policy implications for school nursing practice.



QUALITY OF LIFE IN SCHOOL-AGE CHILDREN WITH OBESITY, THE EXPERIENCES  
OF SCHOOL NURSES, AND MORAL DISTRESS ASSOCIATED WITH CARE DELIVERY

A Dissertation

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Shannon Baker Powell

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## DEDICATION

This dissertation is dedicated to my husband, Travis Powell, for his love, encouragement, and never ending support. To our son, Jonathan Baker Powell for giving me hugs, kisses, and the best title I could ever receive “mama”. To my mother, Dr. Frances S. Baker who set the example that it is absolutely possible to be a great wife and mother while fulfilling your dreams by pursuing doctoral education. To my father, R. Neil Baker, Sr. who did not get to see me reach this exciting phase of my life, for teaching me to value hard work, determination, and perseverance that has allowed me to succeed in my educational journey.

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Every good and perfect gift is from above, coming down from the Father of the heavenly lights, who does not change like shifting shadows. (James 1:17) In all your ways acknowledge Him,

and He shall direct your paths. (Proverbs 3:6)

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## CHAPTER 1: INTRODUCTION

This proposal is structured according to the guidelines for the manuscript option available to doctoral students at ECU College of Nursing. Chapter 1 provides an overview of the thematic concepts that organize the proposed research. These concepts are: childhood obesity, quality of life, school nursing practice, and moral distress. Next, three studies that are based on these concepts will be described. Three publication-ready manuscripts have been developed and constitute chapters 2 – 4. Chapter 5 is a synthesis of the studies with recommendations based on the findings.

Upon entering the PhD program in the fall semester of 2012, my research interests included childhood obesity and school nursing practice. The opportunity to analyze data that had been collected with a sample of school age children receiving case management by school nurses for obesity arose and is further described as manuscript 1. The analysis from this study provided evidence that the students in this sample had lower health related quality of life compared to normal weight children. In addition, qualitative comments provided by school nurses in the study gave insight into some of their experiences working with these students. Next, a qualitative study with North Carolina school nurses was completed to better understand their experiences providing care to school age children with overweight and obesity and is discussed as manuscript 2. The concept of moral distress was one of the themes found in this study and has since been identified as a gap in the literature. The third study discussed in this chapter was a study of school nurses' moral distress and is described in more detail as manuscript 3.

Childhood obesity is a multifaceted, complex issue recognized as a national problem. The incidence of overweight and obesity in the United States presents a serious problem with the rates tripling among children and adolescents over the past 3 decades. Recent statistics

categorize 16.9% of children and adolescents as obese; when combined with figures for overweight status, approximately one third of U. S. children are affected (Ogden, Carroll, Kit, & Flegal, 2012). Overweight children in North Carolina (NC) reflect national trends with 16.2% classified as overweight and another 15.5% considered obese (Centers for Disease Control and Prevention, 2012b). A study by Olshansky, et al. (2005) indicated that this generation may be the first in history in which parents outlive their children. This estimate in the decline of life expectancy is directly correlated with increased childhood obesity and chronic health problems including type 2 diabetes, increased cholesterol, hypertension, asthma, orthopedic problems, sleep apnea, and psychosocial concerns (Centers for Disease Control and Prevention, 2012a).

Quality of life is an important concept associated with childhood obesity. It has been found that children and adolescents with obesity describe a significantly lower level of quality of life when compared to those who are of normal weight (Kolotkin et. al, 2006; Maher, Hesketh, Williams, Waters, & Wake, 2005; Modi, Loux, Bell, Harmon, Inge, & Zeller, 2008; Morrison, Shin, Tarnopolsky, & Taylor, 2015; Rosen, Friedlander, Redline, Larkin, & Palermo, 2003; Swallen, Reither, Haas, & Meier, 2005; Trevino, Pham, & Edelstein, 2013; Varni, Burwinkle, & Schwimmer, 2003; Wallander, et. al, 2013). Components of health-related quality of life include both physical and psychosocial aspects. Children's physical health-related quality of life includes general limitations and the child's ability to participate in physical activities. Emotional health and social functioning are aspects of psychosocial health-related quality of life (Varni, Burwinkle, Seid, & Skarr, 2003). The first study described in this proposal is a quantitative study that examines the quality of life of obese students and compares them to previous norms developed for normal weight students. This study also provided qualitative comments by school nurses delivering case management to the sample of students.

The next major theme is the role of the school nurse. It has been recommended by the Institute of Medicine (IOM) that “nurses should practice to the full extent of their education and training” (Institute of Medicine [IOM], 2010, pg. 2). The Robert Wood Johnson Foundation (RWJF) (2010) reported the great potential school nurses have when provided the opportunity to practice at their full scope of practice. The IOM recommends a focus on obesity prevention and recognizes schools as an ideal location for interventions to take place (IOM, 2012). The National Association of School Nurses states that school nurses have the expertise to implement activities to prevent overweight and obesity and intervene with overweight and obese students (NASN, 2013). The school nurse is often the only health care provider in most school settings and thus a likely professional to successfully implement interventions to prevent and reduce overweight and obesity among children.

School nurses are well positioned to positively impact this population since children spend such large amounts of time in the school setting. The current trends of childhood overweight has been identified by the National Association of School Nurses (NASN) as a priority area of intervention for school nurses (National Association of School Nurses [NASN], 2013). School nurses are often encouraged to intervene with overweight and obese children or to implement obesity prevention programs. Despite this, childhood obesity interventions by school nurses vary greatly (Kubik, Storey, & Davey, 2007; Nauta, Byrne, & Wesley, 2009; Quelly, 2014). Many barriers have been identified in the literature (Kubik et al., 2007; Morrison-Sandberg, Kubik, & Johnson, 2011; Hendershot, Telljohann, Price, Dake, & Mosca, 2008; Moyers, Bugle, & Jackson, 2005; Nauta et al., 2009; Stalter, Chaudry, & Polivka, 2011; Steele et al., 2011; Quelly, 2014).



One barrier frequently identified is negative parental response (Hendershot et al., 2008; Moyers et al., 2005; Nauta et al., 2009; Stalter et al., 2011; Steele et al., 2011, Quelly, 2014). A second barrier that has been identified is heavy workloads and inadequate time (Hendershot et al., 2008; Kubik et al., 2007; Morrison-Sandberg et al., 2011; Stalter et al., 2011; Steele et al., 2011, Quelly, 2014). A third barrier is insufficient resources from the school and community (Hendershot et al., 2008; Morrison- Sandberg et al., 2011; Stalter, Chaudry, & Polivka, 2010; Stalter et al., 2011; Steele et al., 2011, Quelly, 2014). Other barriers include concerns of labeling a child (Hendershot et al., 2008; Moyers et al., 2005; Stalter et al., 2011), insufficient knowledge (Hendershot et al., 2008; Kubik et al., 2007; Mullersdorf, Zuccato, Nimberg, & Eriksson, 2010; Steele et al. 2011), lack of support from school administrators (Hendershot et al., 2008; Kubik et al., 2007; Morrison-Sandberg et al., 2011; Stalter et al., 2010, 2011; Steele et al., 2011), lack of policies (Hendershot et al., 2008; Stalter et al., 2010, 2011), and privacy concerns (Hendershot et al., 2008; Stalter et al., 2010). To better understand the variability in practice of North Carolina school nurses, a second study using a qualitative approach explores the experiences and perceived barriers of school nurses in North Carolina providing care to students that are overweight or obese.

The final concept is moral distress which evolved from the findings of the second study. The phenomenon of moral distress in nurses is described widely in the literature with reported negative consequences. Moral distress has been frequently studied in nurses working in acute care settings. Jameton (1984) described moral distress as follows: “Moral distress arises when one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action” (p. 6). It has further been described as “a form of distress that occurs when one knows the ethically correct thing to do, but is prevented from acting on that perceived

obligation” (Hamric, 2012, p. 167). Increased levels of moral distress among nurses have been linked to decreased job satisfaction and increased intent to leave a job. Limited studies exist related to moral distress in nurses or health care workers outside of the acute care setting. The phenomenon of moral distress has not yet been studied with the population of school nurses.

### Descriptions of the Manuscripts

#### Manuscript 1: Quality of Life in School Age Children Living with Obesity

This study was completed as a directed research during PhD course work. The data is derived from a school nurse case-management project that was conducted by my dissertation chair. The larger study focused on providing a framework for school nurses that were providing case management to students with chronic illnesses. The study was presented at a podium presentation at the Southern Nursing Research Society meeting.

#### Abstract

Significance: Childhood obesity is a multifaceted, complex problem that is widespread in the United States and many countries worldwide. Childhood obesity is linked to a variety of physical and psychosocial problems. A better understanding of perceived quality of life of school age children with obesity is important for both school and health personnel working with this population.

Purpose: The purpose of the study was to describe the self-reported physical and psychosocial quality of life of school age children living with obesity. A second purpose was to examine the descriptive comments of school nurses providing case management to these students to gain insight from their perspectives on effective strategies for addressing the needs of these students.

Research Questions: What is the quality of life of school age children with obesity as measured by the Pediatric Quality of Life Inventory Version 4.0 Short Form (SF15)? How does the quality of life of school age children with obesity compare to available norms of the healthy pediatric population? What are the perspectives of school nurses providing case management to students with obesity?

Methods: Data were collected as part of a larger state-wide project that focused on the development and implementation of a case management program for students with chronic illnesses. The study was approved by the ECU University & Medical Center Institutional Review Board. School nurses enrolled students having difficulty managing their illness. There were 37 students identified with obesity. Quality of life (QOL) was measured using the Pediatric Quality of Life Inventory Version 4.0 Short Form (SF15). Average QOL scores of healthy children were derived from a previous study. School nurses provided qualitative comments which were used to elaborate on concerns and care provided.

Results: Internal consistency reliabilities for QOL total score (Cronbach's  $\alpha=.82$ ), physical health summary (.79) and psychosocial health summary (.77) in the obesity sample were adequate for group comparisons. The obesity group QOL total mean score ( $M=59.8$ ,  $SD=17.2$ ) was lower than healthy group ( $M=86.2$ ,  $SD=11.2$ , effect size = .235); as was physical health score ( $M=61.0$ ,  $SD=25.1$ ) compared to healthy norm ( $M=91.7$ ,  $SD = 10.7$ , effect size = .287) and psychosocial health score ( $M=59.2$ ,  $SD=17.5$ ) compared to healthy norm ( $M=83.3$ ,  $SD=13.7$ , effect size = .176). Qualitative comments made by school nurses providing case management to these students support the physical and psychosocial health concerns reflected by the quality of life scores.

Discussion & Conclusions: The school age children with obesity reported substantially lower QOL scores than the pediatric healthy normative sample. The large effect sizes suggest that the observed mean differences are real, and that living with obesity is a burden. Comments by school nurses suggest that a holistic approach that includes environmental and psychosocial interventions might be most effective.

This manuscript was written in anticipation of being published in *Journal for Specialist in Pediatric Nursing*. This journal is peer reviewed with the target audience of nurses specializing in care of children and families. The aim of this journal is to provide evidence-based information related to pediatrics that will impact nursing practice. The concept of quality of life in children with obesity is in keeping with this journals primary aim and audience.

#### Manuscript 2: School Nurses Experiences Providing Care to Children Living with Overweight and Obesity

This study was completed as a directed research during PhD course work following pilot work in the qualitative methods course. The initial pilot study was presented as a poster at the International Advances in Qualitative Methods conference and a podium presentation at the Bariatric Nurses Society meeting. The pilot study involved interviews with three school nurses and was expanded to include a total of ten school nurse participants with analysis of the ten interviews.

#### Abstract

Purpose: The purpose of this qualitative, descriptive study was to explore the experiences of school nurses in providing care to children living with overweight and obesity. Providing care was generally defined as childhood obesity practices for children with overweight or obesity in the school setting.

Significance: The incidence of childhood overweight and obesity has been recognized as a serious problem in the United States with the rates for overweight and obesity having tripled among children and adolescents over the past 3 decades. Obesity rates are higher among disadvantaged groups including those with low incomes and among minority populations. It is recognized that since children spend a large amount of time in the school setting, schools are a likely place for successful intervention. School nurses are well positioned to assess, intervene, and evaluate efforts to positively impact this population.

Research Questions: What are the experiences of school nurses providing care for school children that are overweight and obese? What are the perceived barriers of school nurses in relation to successful intervention to prevent and reduce childhood overweight and obesity among school age children in the school setting? How do school nurses successfully implement interventions to prevent and reduce childhood overweight and obesity among school age children in the school setting?

Methods: The study was approved by the ECU University & Medical Center Institutional Review Board. Data was collected through face-to-face, tape-recorded, in-depth, open-ended interviews with ten school nurses from rural areas of North Carolina working with minority and low income children in the public school setting. The text of the interviews were transcribed and analyzed into codes, categories, and themes.

Results: Three themes and eight subthemes were identified. The first theme is described as: (1) “Jumping Hurdles” and includes the following subthemes (A) Lack of time and (B) Heavy workload due to large student ratios and competing priorities were overwhelming factors that influenced practices in the school setting, (C) Limited resources, and (D) School supervisor pressure were also barriers to practices within the school setting. The second theme is labeled:

(2) School nurses have a “seize the moment” approach to childhood overweight and obesity practices in the school setting and includes the following subthemes (A) Visits to school nurse for health issues and (B) It comes up in conversation. The third theme is identified as: (3) Moral Distress as school nurses experience feelings of discomfort when unable to implement obesity practices in the school setting and includes the following subthemes (A) Priorities and (B) “I wish I could do more”.

Discussion and Conclusions: The findings of this study provide a beginning understanding into the experiences of school nurse practices for children with overweight and obesity. The experiences of these ten participants suggest that limited time, workload, limited resources, and supervisor pressure may prevent obesity interventions thus leading school nurses to a “seize the moment” approach and leave school nurses with feelings of “I wish I could do more”. The themes identified in this study may be used to further develop successful school based interventions for obesity.

Implications: Nurses in this study described experiences that may be related to moral distress, a concept that has not been previously studied in school nurses. Future studies should be done to further explore the existence of moral distress in school nurses and its relationship to school nurse practice.

This manuscript was written in anticipation of being published in *The Journal of School Nursing*. This journal is peer reviewed with the target audience of school nurses and other interested parties. The aim of this journal is to publish research and evidence-based innovations to better the health of school children and the school community at large. The concept of school nurse experiences providing care to students with obesity addresses this journals primary aim and audience.

### Manuscript 3: Moral Distress of School Nurses

This study is based on the concept of moral distress which was identified as a theme in the second study. Though the second study focused on care of students with obesity, it was anticipated that moral distress has broader implications related to school nursing practice. Instruments used to study moral distress have most commonly been used with nurses and other health care workers in acute care settings. An attempt to adapt a current instrument was made including contact with Ann B. Hamric, PhD, RN, FAAN concerning her revised Moral Distress Scale (MDS-R) and Dr. Michal Mashiach Eizenburg, PhD regarding his moral distress questionnaire for clinical nurses (MDQ). Dr. Hamric advised that the MDS-R was not recommended for adaptation given the vast differences in school nursing when compared to acute care nursing. She suggested I review Wocial & Weaver's (2012) instrument, Moral Distress Thermometer (MDT), to see if this might be more appropriate. Dr. Eizenburg gave permission to use the MDQ instrument, however the scale was found to be inappropriate for use with school nurses (Eizenberg, Desivilya, & Hirschfeld, 2009). The MDT is less situation specific and was found to be more applicable with school nurses. Dr. Lucia D. Wocial, a developer of the MDT was contacted and approved use of the instrument for this study. In addition to the MDT, a researcher-developed questionnaire will be used. The researcher-developed questionnaire was developed following a literature review of instruments to test moral distress, contact with authors of other instruments, and using findings from the qualitative study done with school nurses that is described in this chapter as manuscript two. The MDQ was helpful in wording some of the questions on the researcher-developed questionnaire and the questionnaire was developed following Dillman's method of questionnaire construction (Dillman, Smyth, & Christian, 2009). Both the MDT and a draft of the researcher-developed questionnaire are presented in *Appendix A*. This study was submitted to the ECU University &

Medical Center Institutional Review Board for approval following proposal acceptance and data for this study was collected from March through May of 2016.

#### Abstract

Significance: The concept of moral distress has not been studied in school nurses. School nurses are well positioned to provide care to a large, diverse population of school-age children in the United States. A better understanding of moral distress in school nurses is important for school nurse employers, their funding agencies, and ultimately the students they serve.

Purpose/Aims: The purpose of the study was to identify the moral distress level that exists in school nurses and to describe its relationship to common moral dilemmas and school nurse characteristics.

Research Questions: What is the level of moral distress in school nurses as measured by the moral distress thermometer (MDT)? What is the relationship between moral dilemmas experienced by school nurses and moral distress? Does the level of moral distress and the type of moral dilemmas experienced by school nurses differ by demographic and work characteristics?

Methods: Data were collected through face-to face attendance at school nurse meetings in North Carolina. There were 307 school nurses included in the sample. Moral distress was measured using the MDT. School nurse common moral dilemmas were measured using a researcher developed questionnaire and individual and job related school nurse characteristics were obtained through 14 additional questions on the survey.

Results: 97.3% of school nurses experienced some degree of moral distress in their practice. Each of the school nurse common moral dilemmas were positively correlated with moral distress levels. School nurses with assignments of 900 students or more had higher levels of moral



distress, and reported more concerns related to time and workload constraints when delivering care than nurses assigned to fewer than 900 students.

Discussion & Conclusions: Moral distress was found to be an issue for school nurses. The findings suggest that many of the common moral dilemmas experienced by school nurses are strongly related to moral distress. The causes of moral distress in school nurses with larger numbers of students may be different than the causes for those with smaller numbers of students. This study provides policy implications for school nursing practice specifically related to funding and mandates for school nurse positions as well as increased awareness for school administrators and supervisors of school nurses.

This manuscript was written in anticipation of being published in *Nursing Ethics*. This journal is an international peer reviewed journal with a target audience of nurses and related disciplines. The aim of this journal is to publish articles relating ethical and legal topics in working environments. The concept of moral distress in school nurses is applicable to this journals primary aim and audience.

#### Summary

Childhood obesity is a national problem associated with multiple chronic health problems. Children living with obesity have been found to have a lower health related quality of life compared to normal weight children and this was further examined in the first study. The school setting provides an optimal environment to intervene with children suffering from chronic illnesses including obesity. School nurses are key professionals to address the needs of these children as they are often the only health care provider in most school environments. It has been recommended in the landmark IOM report (2010) and by RWJF (2010) that nurses must practice to the fullest scope of their practice. School nurses often experience barriers in their practice

which constrains their ability to function to the fullest scope of their practice which may lead to moral distress. The NASN promotes school nurses work with children with chronic illness and childhood obesity as a priority intervention for school nurses. However, school nurse practice varies greatly. Many barriers to school nurse interventions are named in the literature and further explored in the second study. The second study identified a theme of moral distress in school nurse participants providing care to children with obesity. Other school nurses may experience moral distress, however the concept of moral distress has not been studied in the population of school nurses. A better understanding of school nurse moral distress and its potential effects may have policy implications related to school nursing practice.

## CHAPTER 2: QUALITY OF LIFE IN SCHOOL AGE CHILDREN WITH OBESITY

### Abstract

Significance: Childhood obesity is a multifaceted, complex problem that is widespread in the United States and many countries worldwide. Childhood obesity is linked to a variety of physical and psychosocial problems. A better understanding of perceived quality of life of school age children with obesity is important for both school and health personnel working with this population.

Purpose: The purpose of the study was to describe the self-reported physical and psychosocial quality of life of school age children living with obesity. A second purpose was to examine the descriptive comments of school nurses providing case management to these students to gain insight from their perspectives on effective strategies for addressing the needs of these students.

Research Questions: What is the quality of life of school age children with obesity as measured by the Pediatric Quality of Life Inventory Version 4.0 Short Form (SF15)? How does the quality of life of school age children with obesity compare to available norms of the healthy pediatric population? What are the perspectives of school nurses providing case management to students with obesity?

Methods: Data were collected as part of a larger state-wide project that focused on the development and implementation of a case management program for students with chronic illnesses. The study was approved by the ECU University & Medical Center Institutional Review Board. School nurses enrolled students having difficulty managing their illness. There were 37 students identified with obesity. Quality of life (QOL) was measured using the Pediatric Quality of Life Inventory Version 4.0 Short Form (SF15). Comparison QOL scores of healthy

children were derived from a study by the author of the instrument. School nurses provided qualitative comments which were used to elaborate on concerns and care provided.

Results: Internal consistency reliabilities for QOL total score (Cronbach's alpha=.82), physical health summary (.79) and psychosocial health summary (.77) in the obesity sample were adequate for group comparisons. The obesity group QOL total mean score (M=59.8, SD=17.2) was lower than healthy group (M=86.2, SD=11.2, effect size = .235); as was physical health score (M=61.0, SD=25.1) compared to healthy norm (M=91.7, SD = 10.7, effect size = .287) and psychosocial health score (M=59.2, SD=17.5) compared to healthy norm (M=83.3, SD=13.7, effect size = .176). Qualitative comments made by school nurses providing case management to these students support the physical and psychosocial health concerns reflected by the quality of life scores.

Discussion & Conclusions: The school age children with obesity reported substantially lower QOL scores than the pediatric healthy normative sample. The large effect sizes suggest that the observed mean differences are real, and that living with obesity is a burden. Comments by school nurses suggest that a holistic approach that includes environmental and psychosocial interventions might be most effective.

## Introduction

Childhood obesity is a multifactorial problem affecting the lives of 31.8 % of children and adolescents in the United States with higher rates among Hispanic and non-Hispanic black youth (Ogden, Carroll, Kit, & Flegal, 2014). Increased obesity rates are also higher in low income households (Levine, 2011). Childhood overweight is defined as a body mass index (BMI) in the 85<sup>th</sup> – 94<sup>th</sup> percentile and obesity as a BMI in the 95<sup>th</sup> percentile and higher (NIH, 2012). Obese youth face many physical health problems associated with obesity including type 2 diabetes, increased cholesterol, hypertension, asthma, orthopedic problems, and sleep apnea (Centers for Disease Control and Prevention, 2015, Pulgarón, 2013). Psychosocial concerns associated with childhood obesity include depression, low self-esteem and quality of life, behavioral problems, and trouble in school (Morrison, Shin, Tarnopolsky, & Taylor, 2015). The rate of childhood obesity is three times greater than in 1980 (Ogden & Carroll, 2010). Recent evidence suggests that the prevalence of obesity is stable although still a concern (Ogden et al., 2014). Childhood obesity is a complex problem that may be assessed and managed in the school setting since youth spend a majority of their time in school.

Quality of life involves both physical and psychosocial dimensions and the school nurse is well positioned as the health professional in the school setting with the knowledge to case manage these students. School age children living with overweight and obesity often visit the school nurse due to associated health problems managed during the school day. Many of these problems are associated with an increased risk due to weight such as type II diabetes, hypertension, respiratory complaints, orthopedic problems, and psychosocial concerns. The National Association of School Nurses (NASN) (2013) position statement on overweight and

obesity clearly discusses the role of the school nurse in addressing this problem. The position (NASN, 2013) states:

It is the position of the National Association of School Nurses that school nurses have the knowledge and expertise to promote the prevention of overweight and obesity and address the needs of overweight and obese youth in schools. The school nurse collaborates with students, families, school personnel, and health care providers to promote healthy weight and identify overweight and obese youth who may be at risk for health problems. The school nurse can refer and follow up with students who may need to see a health care provider. The school nurse also educates and advocates for changes in the school and district that promote a healthy lifestyle for all students. (p. 62)

Though school nurses are recognized as vital resources in efforts to improve childhood obesity, school nurse practice varies greatly in this area and many school nurses have difficulty addressing the needs of school age children with obesity.

#### Literature Review

Quality of life is an important concept associated with childhood obesity. It has been found that children and adolescents with obesity describe a significantly lower level of quality of life when compared to those who are of normal weight (Kolotkin et. al, 2006; Maher, Hesketh, Williams, Waters, & Wake, 2005; Modi, Loux, Bell, Harmon, Inge, & Zeller, 2008; Morrison et al., 2015; Rosen, Friedlander, Redline, Larkin, & Palermo, 2003; Swallen, Reither, Haas, & Meier, 2005; Trevino, Pham, & Edelstein, 2013; Varni, Burwinkle, & Schwimmer, 2003; Wallander, et. al, 2013). Components of health-related quality of life include both physical and psychosocial aspects. Children's physical health-related quality of life includes general

limitations and the child's ability to participate in physical activities. Emotional health and social functioning are aspects of psychosocial health-related quality of life (Varni, Burwinkle, Seid, & Skarr, 2003).

There are many types of school-based interventions discussed in the literature targeting childhood obesity, however interventions specifically targeting quality of life and obesity is lacking. School-based interventions for obesity have primarily focused on a combination of educational opportunities and incorporation of dietary and physical activity changes. Interventions have most often been implemented by classroom teachers or occasionally by other personnel such as physical education teachers, school nurses, or research staff to name a few (Ickes, McMullen, Haider, & Sharma, 2014). School-based interventions by Wang et al (2010) incorporated cooking classes, school gardens, changes in school meals, and food diaries. Other interventions have included a focus on recording dietary intake (Kanyamee et al., 2013) and diet journaling and exercise logs (Wong & Cheng, 2013). Classroom lessons and activities relating to healthy diet and increased physical activity have also been implemented (Llargues et al., 2011; Johnston et al., 2013; Manger et al., 2012; Sachetti et al., 2013; Walther et al., 2009). Pbert et al. (2013) implemented a school nurse counseling intervention that centered on healthy eating and physical activity guidelines. This study provides a better understanding of the quality of life experienced by students with obesity and may lead to further development of successful school-based interventions.

The purpose of the study was to describe the self-reported physical and psychosocial quality of life of school age children living with obesity. A second purpose was to examine the qualitative, descriptive comments of school nurses providing case management to these students to gain insight from their perspectives related to the needs of these students. This study adds to

existing knowledge of quality of life in children with obesity by using a well-established tool used in pediatrics that captures both physical and psychosocial dimensions of QOL as well as the inclusion of qualitative comments of school nurses providing case management to these children.

The following research questions were examined in this study:

1. What is the quality of life of school age children with obesity as measured by the Pediatric Quality of Life Inventory Version 4.0 Short Form (SF15)?
2. How does the quality of life of school age children with obesity compare to available norms of the healthy pediatric population?
3. What are the perspectives of school nurses providing case management to students with obesity?

## Methods

### Procedure

The sample for this project consisted of students that were enrolled in a state wide case management project. Students were enrolled in case management if they had a chronic illness, were having difficulty managing their illness at school, or their illness was affecting their learning or behavior. The specific components of the case management program have been described previously (Engelke, Guttu, Warren, 2009). School nurses followed a specific protocol for providing case management. The protocols were developed through collaboration with the school nurses and were consistent with the scope and standards of school nursing which were in effect at the time (ANA/NASN, 2005).

After the initial assessments, the nurse chose individual goals for each student. Goals were divided into 6 categories: safe school environment; symptom management; self-care;



academic success; family/peer relationships and health care coordination. During the school year the nurse provided interventions to the student to meet their goals. The interventions were divided into 5 categories: direct care; student education/counseling; parent/family education; teacher/staff education; and health care coordination. As part of the intervention, school nurses provided comments related to working with the student. These were entered on the same secured server.

## Measures

In addition to the usual assessment performed by the school nurse, the nurse had the student complete a baseline measure of quality of life. Quality of life for children with obesity was measured by the Pediatric Quality of Life Inventory Version 4.0 SF15 which is a shortened version of the 22 item PedsQL 4.0 Generic Core Scales (Varni, Seid, & Rode, 1999). The internal consistency was above the threshold of .7 demonstrated consistently for the original instrument. Construct validity was demonstrated by the scales' ability to differentiate healthy children from children with a variety of health conditions and its correlation with measures of morbidity and illness burden (Varni, Seid, M & Kurtin, 2001; Varni, Burwinkle, Seid, Skarr, 2003). These findings were consistent in the abbreviated version (Chan, Mangione-Smith, Burwinkle, Rosen, & Varni, 2005). This instrument measures health-related quality of life and consists of physical health (5 items), emotional functioning (4 items), social functioning (3 items), and school functioning (3 items). Each of the subscales except physical health can be combined into a 10-item subscale called psychosocial health.

There are three versions of the instrument depending on the child's age (5-7 years; 8-12 years; 13-18 years). The instrument used a Likert-type format that asks the child to report

whether an item is a problem 0 (never), 1 (almost never), 2 (sometimes), 3 (often), or 4 (almost always). The instrument version for children from 5 to 7 years of age uses smiling faces rather than words, and responses are ranked 0 (not at all), 2 (sometimes), or 4 (a lot). For scoring, responses are transformed to 100, 75, 50, 25, and 0, resulting in a range of 0 to 100 with higher scores indicating better quality of life. The quality of life scores of healthy children that were used for comparison in this study were derived from a sample of 451 healthy children recruited during well-child visits (Chan et al., 2005).

## Results

The sample consisted of 37 students from 15 counties across the state who were receiving case management by the school nurse. The sample was primarily female (65%) and Caucasian (57%). The demographic characteristics of the sample are summarized in Table 1.

Table 1

*Characteristics of the Sample (N = 37)*

Characteristic	n	%
Gender		
Female	24	65
Male	13	35
Race/Ethnicity		
Caucasian	21	57
African American	9	24
Other	7	19
Grade Level		
1-5	20	54
6-8	9	24
9-12	8	22

Internal consistency reliabilities for QOL total score (Cronbach's alpha=.82), physical health summary (.79) and psychosocial health summary (.77) in the obesity sample were adequate for group comparisons. In this study, the obesity group QOL total mean score (M=59.8, SD=17.2) was lower than healthy group (M=86.2, SD=11.2, effect size = .235); as was physical health score (M=61.0, SD=25.1) compared to healthy norm (M=91.7, SD = 10.7, effect size = .287) and psychosocial health score (M=59.2, SD=17.5) compared to healthy norm (M=83.3, SD=13.7, effect size = .176). Effect sizes were calculated using Eta Squared. Each scale measuring QOL was found to have large effect sizes. In Table 2, items related to difficulty participating in sports activity or exercise and difficulty running were the most frequent physical

concerns while “worry about what will happen to me” was the most frequent psychosocial concern.

Table 2

*PedsQL Means, Standard Deviations, and Frequency of Problem (N = 37)*

Problem	Item		Frequently		Sometime		Rarely	
	M	SD	n	%	n	%	n	%
<b>Physical Health</b>								
It is hard for me to walk more than one block	64.2	35.6	8	22	9	24	20	54
It is hard for me to run	46.0	37.0	13	35	14	38	10	27
It is hard for me to do sports activity or exercise	52.0	34.0	12	32	12	32	13	35
It is hard for me to lift something heavy	64.9	33.6	7	19	10	27	20	54
It is hard for me to do chores around the house	78.4	29.6	3	8	8	22	26	70
<b>Psychosocial Health</b>								
I feel afraid or scared	68.2	23.3	2	5	16	43	19	51
I feel sad or blue	60.1	28.5	6	16	17	46	14	38
I feel angry	58.1	27.7	7	19	16	43	14	38
I worry about what will happen to me	49.3	33.6	13	35	11	30	13	35
I have trouble getting along with other kids	60.8	30.9	6	16	14	38	17	46
Other kids tease me	52.7	32.7	9	24	7	19	21	57
It is hard to pay attention in class	64.2	33.1	9	24	7	19	21	57
I forget things	53.4	32.9	9	24	16	43	12	32
I have trouble keeping up with school work	64.9	30.3	7	19	13	35	17	46

As described in Table 3, there were no statistically significant differences in quality of life based on grade level, most likely due to the small sample size. However each of the effect

sizes were moderate suggesting that students with obesity in grades 9-12 have lower physical, psychosocial, and total quality of life than students in grades 1-5 or 6-8.

Table 3

*Quality of Life Scores per Grade Level and Total Sample (N = 37)*

Grade Level	n	Physical		Psychosocial		Total	
		M	SD	M	SD	M	SD
1-5	20	68.5	20.0	59.6	17.5	62.6	16.4
6-8	9	57.2	23.6	66.1	15.5	63.1	13.3
9-12	8	46.9	33.2	50.3	17.6	49.2	20.9
Total Group	37	61.0	25.1	59.2	17.5	59.8	17.2
p Value		.101		.177		.142	
Eta Squared		.13		.10		.11	

Qualitative comments made by school nurses providing case management to these students were coded and grouped into two themes. The themes were identified as physical struggles and psychosocial struggles of children living with obesity. Physical struggles of the children in this sample focused on the physical limitations of the students during school activities. Psychosocial struggles of the children in this sample included being teased, fear, sadness, low self-esteem, and feelings of depression. Comments made by school nurses representing these themes are presented in Table 4.

Table 4

*Physical and Psychosocial Struggles*

<i>Physical Struggles</i>	<i>Psychosocial Struggles</i>
<i>"Has difficulties with physical tasks."</i>	<i>"She has been teased about her weight."</i>
<i>"Having leg/knee pain."</i>	<i>"Family laughed about him measuring his food."</i>
<i>"He often talks about sore legs and knees and chest pains."</i>	<i>"Says other children make fun of her....and call them fat."</i>
<i>"Refer to cardiologist. Mom called about BP and chest pain."</i>	<i>"Reports that she wants people to accept her as she is."</i>
<i>"Walking down the hall is tremendous exertion."</i>	<i>"Student seems sad a lot."</i>
<i>"She struggles climbing the two steps at the smart board."</i>	<i>"Reported that he is afraid that he will die due to all of his fat."</i>
<i>"He struggles to sit on the floor during class."</i>	<i>"A classmate has been teasing about her weight."</i>
<i>"On field trips it is hard for her to keep up, especially on walking trips."</i>	<i>"Cries a lot. Kids class her fat. She eats a lot when not hungry."</i>
<i>"Tires easily, but is willing to participate in physical activity."</i>	<i>"Very low self-esteem."</i>
<i>"Student has some problems keeping up physically with other students."</i>	<i>"At times this makes her very depressed."</i>

The qualitative data provided by school nurses support the physical and psychosocial health concerns reflected by the quality of life scores.

***Discussion***

This study examined quality of life in school age children with obesity that were receiving case management by the school nurse. The children in this sample reported

substantially lower QOL than the pediatric healthy normative sample in all areas including total QOL, physical, and psychosocial QOL scores. The large effect sizes suggest that the observed mean differences in this study are noteworthy and living with obesity is a burden for the children in this sample. There is some indication that QOL is lower in students in high school compared to those of younger ages.

The qualitative comments provided by school nurses working with these children further support the physical and psychosocial struggles experienced by the children in this sample. These students experienced pain in their joints as well as chest pain. They had difficulty with daily school activities such as climbing stairs and participating in exercise. From a psychosocial perspective, the school nurses confirmed that these students are often teased which makes them sad and they have low self-esteem. This is consistent with previous research (Morrison, et. al, 2015; Wang, Wild, Kipp, Kuhle, & Veugelers, 2009), but the comments of school nurses provides additional insight and confirmation of these findings.

### Limitations

Although this study had a small sample size, the students that are included represent a unique population in that they were chosen for case management by the school nurse because they were struggling at school. We did not have the actual BMI of the students but anecdotally from comments made by the school nurse, this sample represents those students who are morbidly obese and have co-morbidities that limit their physical activity and peer interactions.

### Implications for Clinical Practice

This study provides a better understanding of the quality of life in school age children with obesity and gives insight into a day in the life of a student that is morbidly obese. The

literature suggests that school-based interventions for obesity most often focus on aspects related to diet and physical activity (Llargues et al., 2011; Ickes et al., 2014; Johnston et al., 2013; Kanyamee et al., 2013; Manger et al., 2012; Pbert et al., 2013; Sachetti et al., 2013; Walther et al., 2009; Wong & Cheng, 2013) but these students struggle with simple activities like getting up the stairs and walking down the hall in addition to the psychosocial struggles they experience such as being teased about their weight. School personnel need to be sensitive to environmental interventions that might reduce the barriers experienced by these students such as creating a class schedule that recognizes their mobility issues. This is an area where group interventions may be successful, because peer pressure and support is critical, allowing students to support each other in a group-based intervention. Teaching about diet and exercise without addressing the low self-esteem and physical challenges experienced by these students is unlikely to be as successful as when these issues are included in a more holistic program. The comments in this study suggest that for obese students, there may need to be inclusion of structuring the environment so they can be successful on a day to day basis in both academic achievement and peer relationships.

School nurses are in a unique position to identify and address the daily challenges experienced by obese students. A partnership between the school nurse and school nutritionist, counselor, and physical education specialist is likely to be more successful than an educational program that is only focused on diet and exercise. Involvement of the school nurse allows for direct observation of the student during the school day and can be a valuable asset in tailoring interventions that recognize both the strengths and challenges of individual students.

In summary, school-age children with obesity experience lower quality of life and deal with both physical limitations and psychosocial concerns on a regular basis. These students can benefit from tailored interventions that address psychosocial well-being in addition to physical



health interventions. School nurses are well positioned to participate in collaborative efforts to provide school-based interventions and work with these students in the school setting.

## CHAPTER 3: SEIZING THE MOMENT: EXPERIENCES OF SCHOOL NURSES CARING FOR STUDENTS WITH OVERWEIGHT AND OBESITY

### Abstract

Purpose: The purpose of this qualitative, descriptive study was to explore the experiences of school nurses in providing care to children living with overweight and obesity. Providing care was generally defined as childhood obesity practices for children with overweight or obesity in the school setting.

Significance: The incidence of childhood overweight and obesity has been recognized as a serious problem in the United States with the rates for overweight and obesity having tripled among children and adolescents over the past 3 decades. Obesity rates are higher among disadvantaged groups including those with low incomes and among minority populations. It is recognized that since children spend a large amount of time in the school setting, schools are a likely place for successful intervention. School nurses are well positioned to assess, intervene, and evaluate efforts to positively impact this population.

Research Questions: What are the experiences of school nurses providing care for school children that are overweight and obese? What are the perceived barriers of school nurses in relation to successful intervention to prevent and reduce childhood overweight and obesity among school age children in the school setting? How do school nurses successfully implement interventions to prevent and reduce childhood overweight and obesity among school age children in the school setting?

Methods: The study was approved by the ECU University & Medical Center Institutional Review Board. Data was collected through face-to-face, tape-recorded, in-depth, open-ended interviews with ten school nurses from rural areas of North Carolina working with minority and

low income children in the public school setting. The text of the interviews were transcribed and analyzed into codes, categories, and themes.

Results: Three themes and eight subthemes were identified. The first theme is described as: (1) “Jumping Hurdles” and includes the following subthemes (A) Lack of time and (B) Heavy workload due to large student ratios and competing priorities were overwhelming factors that influenced practices in the school setting, (C) Limited resources, and (D) School supervisor pressure were also barriers to practices within the school setting. The second theme is labeled: (2) School nurses have a “seize the moment” approach to childhood overweight and obesity practices in the school setting and includes the following subthemes (A) Visits to school nurse for health issues and (B) It comes up in conversation. The third theme is identified as: (3) Moral Distress as school nurses experience feelings of discomfort when unable to implement obesity practices in the school setting and includes the following subthemes (A) Priorities and (B) “I wish I could do more”.

Discussion and Conclusions: The findings of this study provide a beginning understanding into the experiences of school nurse practices for children with overweight and obesity. The experiences of these ten participants suggest that limited time, workload, limited resources, and supervisor pressure may prevent obesity interventions thus leading school nurses to a “seize the moment” approach and leave school nurses with feelings of “I wish I could do more”. The themes identified in this study may be used to further develop successful school based interventions for obesity.

Implications: Nurses in this study described experiences that may be related to moral distress, a concept that has not been previously studied in school nurses. Future studies should be done to

further explore the existence of moral distress in school nurses and its relationship to school nurse practice.

## Introduction

Childhood obesity is a multifaceted and complex issue with many underlying factors. The incidence of childhood overweight and obesity has been recognized as a serious problem in the United States with the rates for overweight and obesity having tripled among children and adolescents over the past 3 decades. Childhood overweight is defined as a body mass index (BMI) in the 85<sup>th</sup> – 94<sup>th</sup> percentile and obesity as a BMI in the 95<sup>th</sup> percentile and higher (NIH, 2012). Recent statistics categorize 16.9% of children and adolescents as obese; when combined with figures for overweight status, approximately one third of U. S. children are affected (Ogden, Carroll, Kit, & Flegal, 2014). Children in North Carolina (NC) reflect national trends with 31.4% considered overweight or obese (Alliance for a Healthier Generation, 2015). Chronic health conditions seen in childhood are often attributed to the increased rate of obesity. Obesity rates are higher among disadvantaged groups including those with low incomes and among minority populations. The National Health and Nutrition Examination Survey conducted by Ogden & Carroll (2010) indicated obesity rates to be highest among Mexican-American boys and Non-Hispanic black girls (Ogden & Carroll, 2010). Since children spend a large amount of time in the school setting, school nurses are often recognized as vital in the fight against childhood obesity.

It has been recommended by the Institute of Medicine (IOM) that “nurses should practice to the full extent of their education and training” (Institute of Medicine [IOM], 2010, pg. 2). The Robert Wood Johnson Foundation (RWJF) (2010) reported the great potential school nurses have when provided the opportunity to practice at their full scope of practice. The IOM recommends a focus on obesity prevention and recognizes schools as an ideal location for interventions to take place (IOM, 2012). The National Association of School Nurses states that school nurses

have the expertise to implement activities to prevent overweight and obesity and intervene with overweight and obese students (NASN, 2013). The school nurse is often the only health care provider in most school settings and thus a likely professional to successfully implement interventions to prevent and reduce overweight and obesity among children.

School nurses are well positioned to positively impact this population since children spend large amounts of time in the school setting. The current trends of childhood overweight has been identified by the National Association of School Nurses (NASN) as a priority area of intervention for school nurses (National Association of School Nurses [NASN], 2013). School nurses are often encouraged to intervene with overweight and obese children or to implement obesity prevention programs. Despite the encouragement from IOM and NASN for school nurses to practice to their fullest capability, childhood obesity interventions by school nurses vary greatly (Kubik, Storey, & Davey, 2007; Nauta, Byrne, & Wesley, 2009; Quelly, 2014).

There have been several studies identifying barriers to school nurse practices and interventions related to childhood obesity (Hendershot et al., 2008; Kubik et al., 2007; Morrison-Sandberg et al., 2011; Moyers et al., 2005; Nauta et al., 2009; Stalter et al., 2011; Steele et al., 2011, Quelly, 2014). However, there is a lack of research on the experience of caring for children with obesity in the school setting from the perspective of the school nurse. It was the goal of this study to address this gap in the literature. This research has implications to provide a better understanding of school nurse's experiences and therefore may lead to a better understanding of the support needed for school nurse initiatives and successful development of school based interventions for childhood obesity.

## Literature Review

Many barriers to school nurse interventions have been identified in the literature, including negative parental response (Hendershot et al., 2008; Moyers et al., 2005; Nauta et al., 2009; Stalter et al., 2011; Steele et al., 2011, Quelly, 2014). Another barrier is heavy workloads and inadequate time (Hendershot et al., 2008; Kubik et al., 2007; Morrison-Sandberg et al., 2011; Stalter et al., 2011; Steele et al., 2011, Quelly, 2014). A third barrier discussed in the literature is insufficient resources from the school and community (Hendershot et al., 2008; Morrison-Sandberg et al., 2011; Stalter, Chaudry, & Polivka, 2010; Stalter et al., 2011; Steele et al., 2011, Quelly, 2014). Other barriers found in the literature include concerns of labeling a child (Hendershot et al., 2008; Moyers et al., 2005; Stalter et al., 2011), insufficient knowledge (Hendershot et al., 2008; Kubik et al., 2007; Mullersdorf, Zuccato, Nimberg, & Eriksson, 2010; Steele et al. 2011), lack of support from school administrators (Hendershot et al., 2008; Kubik et al., 2007; Morrison-Sandberg et al., 2011; Stalter et al., 2010, 2011; Steele et al., 2011), lack of policies (Hendershot et al., 2008; Stalter et al., 2010, 2011), and privacy concerns (Hendershot et al., 2008; Stalter et al., 2010). In addition to the barriers previously mentioned, some studies have found that school nurse practices may vary due to individual school nurse preparedness, competence, or self-efficacy.

A study by Kubik, Story, & Davey (2007) found that childhood obesity practices varied greatly among school nurses in Minnesota. This study related the amount of variance in childhood obesity practices to limited time and lack of preparedness to oversee these practices in the school setting. A study by Nauta, Byrne, & Wesley (2009) included New Jersey school nurses and identified that the large variances in childhood obesity interventions by school nurses was related to a lack of competence in recommending weight loss treatment. This study also identified barriers to practices including the large workloads of school nurses and the stress of

reporting potentially stigmatizing results to parents. A study completed with Florida school nurses (Quelly, 2014) found that childhood obesity practices varied greatly among school nurses and that the school nurse's self-efficacy had the most significant influence on childhood obesity practices. This study also found a significant influence of perceived barriers to practice such as lack of resources and time, potential for stigmatization, and inappropriate parental responses. Previous studies have not focused on school nurses from rural areas, though a few of the studies included some school nurses that worked in rural areas. Also, studies of this nature have not been done in North Carolina or its bordering states. The current study focused on school nurses working in rural areas thus enhancing awareness of the unique challenges faced by school nurses working in rural areas.

To better understand the variability in practice of school nurses and explore their experiences, this study used a qualitative descriptive approach to explore the experiences of school nurses providing care to students that are overweight or obese. For the purpose of this study, providing care was generally defined as school nurse practices for children with overweight or obesity in the school setting.

The research questions were as follows:

1. What are the experiences of school nurses providing care for school children that are overweight and obese?
2. What are the perceived barriers of school nurses in relation to successful intervention to prevent and reduce childhood overweight and obesity among school age children in the school setting?



3. How do school nurses successfully implement interventions to prevent and reduce childhood overweight and obesity among school age children in the school setting?

#### Methods

The study used a qualitative descriptive approach. Participants were recruited through purposeful sampling. The sample was comprised of school nurse volunteers from North Carolina. The names of public school nurses were identified through community acquaintances, school system lead nurses, and snowball sampling. The school nurses were contacted by phone or email for potential interest in the study. The first ten school nurses to volunteer who met the inclusion criteria were selected for participation in the study (see Table 1). The ten school nurse participants selected for this study were chosen because they were currently employed as a school nurse in a North Carolina public school(s) with the experience needed for the study. The first ten school nurses to agree to participate each met the inclusion criteria and included school nurses working in primary, elementary, middle, and high schools. The primary school in this sample included grades prekindergarten through second grade and the elementary schools included kindergarten through fifth grade. Each of the ten school nurses were working in rural areas of North Carolina.

Table 1

*Demographic Characteristics of Participants (N = 10)*

Characteristic	n	%
Gender		
Male	0	0
Female	10	100
Race		
White	9	90
African American	1	10
Education		
BSN	8	80
Bachelor degree other area	1	10
ADN	1	10
Certification		
NCSN	9	90
Number of schools in assignment		
1 school	4	40
2 schools	4	40
3 schools	2	20
Number of students in assignment		
Less than 400 students	1	10
400-699 students	1	10
700-999 students	3	30
1000-1299 students	1	10
1300-1599 students	2	20
1600-1899 students	1	10
1900-2200 students	1	10

Data was collected using face-to-face, tape-recorded, in-depth, open-ended interviews, lasting about 45 - 60 minutes. Supplemental data included observations and field notes. The University and Medical Center Institutional Review Board of East Carolina University approved the research protocol, and informed consent was obtained from the participants. Upon arrival to the meetings, consent was obtained, and the participants were interviewed by the principal investigator at the end of the school day in the school nurses location of choice, usually the school nurse office. This allowed further observation within a naturalistic setting and added to the richness of data collection. Interviews and responses were audio taped and transcribed verbatim for content analysis to identify themes. The interviews began with a broad open-ended question asking the school nurses to describe their experiences related to providing care for school children who were overweight or obese. The overarching question asked to the participants was, "Tell me about your experiences in providing care to school children who are overweight or obese?" Follow up probe questions were also used during the interviews. These questions included: (1) "What school nurse practices are performed for children who are overweight or obese?" (2) "Describe any barriers for providing care in the school setting for children who are overweight or obese." and (3) "Is there anything else you would like to share with me about this topic?"

The trustworthiness approach discussed by Shenton (2004) and Krefting (1991) was used for this study. Credibility, dependability, and confirmability were established through various methods. The transcripts were analyzed using triangulation including ten different sources of interviews and peer examination. The texts of the interviews were analyzed by the principal investigator and two additional researchers to create codes, categories, and themes. Member checking was used with summaries of the transcript analysis provided to the participants to

verify the data obtained. The researcher used prolonged engagement in interviewing participants, transcribing data, and analyzing data thoroughly. A field journal was kept to allow reflexivity during the study. Shenton (2004) points out that presenting the results of a study as transferable may not be realistic and may disregard the importance of the study. Therefore, transferability was not the intent of this study, but rather to have a better understanding of the experiences of these school nurses with regard to childhood obesity practices. Confidentiality was assured to participants with their identities protected by the use of letters and numbers and audio files were kept secure. Identifiable information from interviews, such as school or county names, was left blank in the transcripts. The participants selected fictitious names for the study. The selected fictitious names were used to label recordings and transcripts. The participants were school nurses with varied experiences as school nurses, nine of the ten were certified as a National Certified School Nurse with one currently working on the process to becoming certified, and were each experts in their field. This added to the trustworthiness of the study.

#### Data Analysis

Content analysis was used to analyze data and identify common themes regarding the experiences of school nurses. Krippendorff (2013) defined content analysis “a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use” (p. 24). This type of analysis allows narrative data to be coded and grouped based on shared concepts to identify common themes.

Each of the audio-taped interviews were transcribed verbatim, then reviewed in detail by the principal investigator. The steps of analysis in the study included 1) verbatim transcripts each were read, 2) codes, categories, and themes were identified, 3) analysis was validated by peer researchers, 4) analysis was shared with participants to validate the researcher’s description

of the school nurses experiences. Member checking process included email communication to the participants with the basic analysis of themes provided. Participants were asked to respond if they agreed, disagreed, or were neutral with the themes identified. Nine of the ten participants responded to the email.

## Results

Three themes and eight subthemes were identified from the ten interviews (see Figure 1). The first theme was identified as 1) “Jumping hurdles” and included four subthemes. These subthemes included A) Time: Lack of school nurse time due to other priorities; this was an overwhelming factor that influenced practices in the school setting. B) Heavy workload: Including multiple schools and differing priorities; this greatly influenced school nurse practices. C) Limited resources: Within the school setting and access to appropriate referral services for students influenced school nurse practices. D) School administrator pressure: Expectations of school nurse practice may differ from the school nurses priorities as well as pressure to avoid interrupted academic time. The second theme identified 2) School nurses have a “seize the moment” approach for interventions related to childhood overweight and obesity practices in the school setting. Subthemes included A) Visits with the school nurse for health issues: Students often report to the school nurses office for chronic issues or acute problems and school nurses use this time to provide interventions related to obesity where applicable. B) It comes up in conversation: School nurses are often seen throughout different school day activities such as lunchtime in the cafeteria, hall monitoring, or monitoring playground safety where more casual time may be used by the school nurse to provide interventions related to obesity. The third theme was identified as 3) Moral Distress and describes some of the feelings experienced when school nurses are unable to provide services that they feel would benefit students. Two

subthemes included A) Priorities: School nurses provide care that often takes priority over obesity interventions with limited time available for non-urgent care. B) “I wish I could do more”: There is an understanding of obesity as an important issue for school age children and a desire of school nurses to provide interventions and help for these students, however a feeling exists that it is not possible given the circumstances.

Figure 1

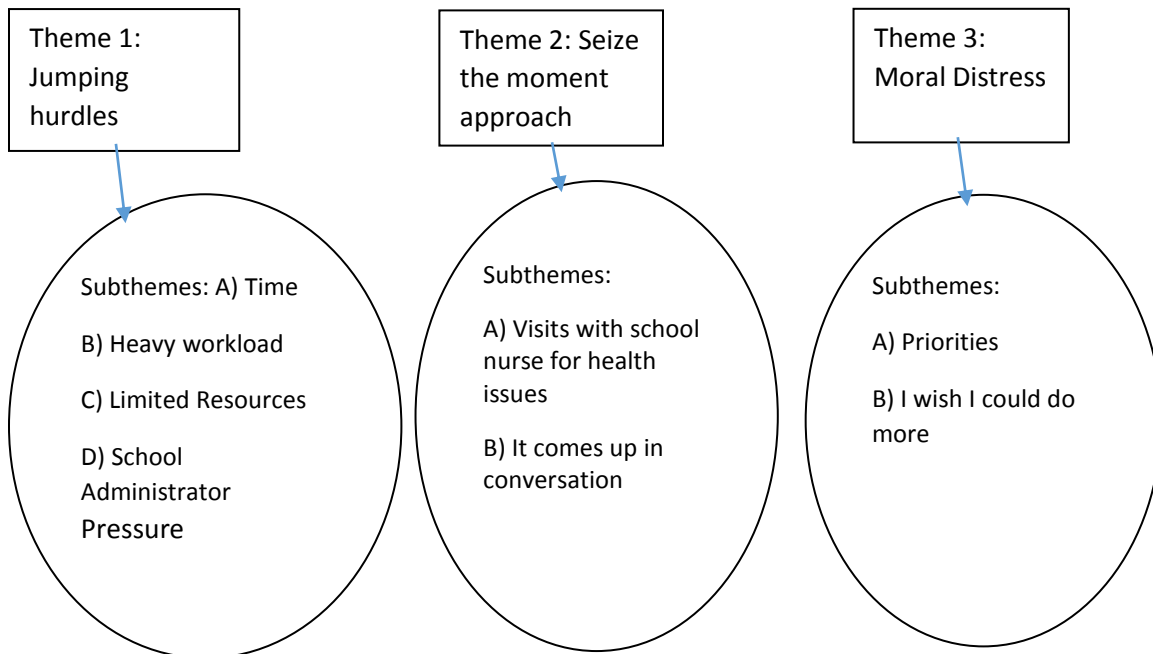


Figure 1. Themes of school nurse experiences providing care to school age children with overweight and obesity.

Theme 1. “*Jumping hurdles*”

“Jumping hurdles” describes the common barriers to school nurse practices and interventions related to obesity and was present in all ten interviews. These barriers created a sense of uncertainty regarding where to start. The four subthemes were discussed in each of the

ten interviews as specific barriers perceived by the school nurses. All nine of the respondents to the email providing the analysis agreed with this theme.

#### “Jumping Hurdles” Subtheme 1A: Time

The subtheme, lack of time, was frequently mentioned throughout all ten of the interviews as a barrier to obesity interventions. Time is defined as the amount of available or remaining time in the school nurse’s schedule after school priorities or expectations have been accomplished. This theme was prevalent regardless of the variation in school nurse assignments. Kay stated when referring to barriers “The first one is time. The student nurse ratio is just way to high. If we were in one school, I feel I could be much more successful in meeting the needs of those children.” Amy reported “Number one barrier is time of course and it’s not just my personal time obviously being spread between multiple schools leaves very little time to focus on screenings...checking height and weight, calculating BMI’s.” Nicole simple stated “Time is, time is a kicker.” Susie added “It’s a time control thing for me, I just don’t have time to be in the classrooms and to be doing more...there’s no way that I can manage my time any better because I work around home schedules, I’m working around lunch schedules, I’m working around class schedules.” Lily included “As far as being able to address childhood obesity globally and in the school, fortunately I have lots of ideas and have had since I started doing school nursing, I am not able to get there. Funding is an issue of course, but time is, just as big an issue...there’s not a lot of time left for addressing obesity as a whole...I am here sometimes, there sometimes.”

#### “Jumping Hurdles” Subtheme 1B: Heavy Workload

Heavy workload was a subtheme often described in association with time. Workload is defined as the amount of work that a school nurse is expected to perform. School nurse

workloads may include multiple schools in an individual nurse assignment or multiple tasks within one school assignment that focus the priorities of the school nurse toward more immediate care and away from preventive care or case management services. This concern was voiced by school nurses with one school or multiple schools. Susie stated “There are other things that I would be interested in doing but I feel like I am cooped up in this office giving medications...I feel like I administer meds and then between those times I try to do vision screenings, I am trying to check new cumulative folders of students that have transferred in or coming to our school or being admitted so it’s a full day.” Anne indicated that her workload included “Immunizations, getting in asthma plans, diabetic care plans...so now I am seeing the sickness come in”. Lucy described “I do a lot of talking with doctors, most of my chronic kids...following up with kids, putting our fires, a lot of assessment.” When caring for children that are overweight or obese, Lucy adds “Well, given the total number of kids I have, it’s not as much as I would like.” When referring to care for children that are overweight or obese. Ellen conveyed “I give medications every day, see children with sickness.” Lily informed “I have 3 schools assigned to me...I am at 2 schools that have roughly 600 students each and they are elementary ages students, which also means there is just a lot of time...a lot of communication that has to occur between the parent and myself, the teacher and myself, the student and me.” Nicole stated “Day to day...every day is different and right now my answer is due to a vacancy...I don’t know what this year will bring with 200 extra students on campus.”

#### “Jumping Hurdles” Subtheme 1C: Limited Resources

Limited resources was a recurring theme identified in all ten of the interviews. Limited resources is defined as a lack of a source of support for students specifically the lack of community resources such as medical personnel, clinics, or programs. Susie described “Another



barrier that's not related to school, just our area, our economic status that we have here...resources in the community for that parent if the child has a weight issue, you know may not be there." Amy reported "To be honest, we don't have a lot of resources for these kids that I am aware of...if we are going to screen and refer then we've got to have resources." Lucy indicated "I think access can be an issue...I don't think we have enough providers whether it be children or adults...we need more physicians or physician extenders to improve capability of care." Mary stated "This is a poor county so we don't have a lot of resources." Joshua informed "There are limited resources...we have that one program, I am not even sure if they got funding for it to go this year, it's been kind of hit and miss." Kay included "I would like to have a program, like a canned program that I could pull from like a book or materials...one for elementary school and one for middle school."

#### "Jumping Hurdles" Subtheme 1D: School Administrator Pressure

School administrator pressure including pressure to avoid classroom interruptions was identified as a theme and found in eight of the ten interviews. School administrator pressure is defined as the school nurse feeling pressure from the administrator to meet expectations that may not coincide with the school nurse's priorities. This hindered school nurse interventions as nurses felt pressure to meet the expectations of the school administrator who felt that taking students out of class was not appropriate, particularly if it was related to an issue not directly causing the student an academic problem. Nicole reported "We are educational, in business of education, it's difficult to pull the children out of the classroom setting." Anne stated "Teachers don't like them out of the classrooms so schedules are an issue because there's really not a lot of time to pull them out...music, art, computer, that kind of thing, you could get them out of there but those teachers are kind of getting tired of the kids coming out of their classes making it seem

as their classes are not as important as core classes, so you don't know when to get them." Mary described "We don't have a whole lot of support from the district...its hard trying to get things approved...They don't really see the problem or understand how it really impacts their education...I think maybe they don't understand the importance, how it maybe takes a back seat to other things they see important or pressing." Amy emphasized "The time our children are in school right now is very regimented. There is a lot of emphasis obviously when they are in school on education. They don't want the children and the teachers interrupted for anything that is not an educational type of thing...even if I had more time, the time that administration would allow me to take those children out to do screenings like BMI's I think would be very difficult."

## Theme 2. "*Seize the moment*"

School nurses were found to have a "seize the moment" approach for interventions related to childhood overweight and obesity practices in the school setting. The second theme was identified from all ten school nurses interviewed and describes the school nurse's approach that is successful in providing intervention to students with overweight or obesity concerns. The theme highlights that school nurses have many priorities that have to be done with limited time. Therefore, school nurses "seize the moment" and intervene when working with overweight or obese children during other types of visits or interactions. Each of the nine respondents to the email regarding analysis agreed with this theme.

### "Seize the moment" Subtheme 2A: Visits with school nurse for health issues

Visits with the school nurse for health issues refers to when students visit the school nurse office for health issues such as management of chronic illness, acute health problems, or follow-ups. The subtheme was supported by the following quotes: Ellen: "When they come in

for a health concern like maybe a headache or stomach ache or I think I have a fever or something like that then I'll try to spend some time with them doing work on safety and nutrition issues." Lily described implementing obesity practices when seeing children for other health reasons such as asthma or diabetes, "I have in the past specifically taken a couple of different kids that I felt like it (obesity) is also related to their asthma, tried to address that...hopefully to improve their asthma condition." Lily further described "I did have a student who was severely obese and she was borderline diabetic... and so I addressed that." Nicole describes providing education while seeing students requiring blood pressure monitoring in the school setting. "I try to talk about diet and exercise, especially having the high blood pressure, kind of a way to bring up that topic." Kay reported: "Last year, I worked with a student who had high blood pressure and high risk for developing type II diabetes and his physician actually thought I should take his blood pressure on a weekly basis...during that time when I was taking his blood pressure, I would take the opportunity to do counseling with him every week."

"Seize the moment" Subtheme 2B: It comes up in the conversation

It comes up in conversation refers to conversations that occur during other types of interactions throughout the school day. Ellen discussed educating when moments presented such as while monitoring in the cafeteria at lunch time. Ellen: "You have to seize the moment to do education with these kids like for instance we help with lunch coverage in the lunch room... as you're walking around the lunch room and you're supervising the kids eating lunch, you have the opportunity to say to a child who never drinks their milk, the importance of drinking your milk, you have the opportunity to see a child who maybe eats whatever meat choice it is for the day, but they won't touch their fruits and vegetables. Or kids who go through the line to get lunch but then get two or three cookies they pay for, don't eat the fruit but eat the cookies." "You really do

have to seize the moment and use it however you can to squeeze in education.” Lucy also shared using time to educate students when the opportunity presents, “It comes up in the conversation... and a lot of them come for something, but in the course of the conversation they say oh, ... especially in the middle school, ... I’ve got posters all over my walls,... but certainly my chronic, chronically ill students, especially my type II diabetics and I talk about it all the time.”

### Theme 3. *Moral Distress*

Moral distress describes school nurses experiences with feelings of frustration when unable to include practices or services they feel may benefit students. This theme resonated in all ten interviews as the school nurses described that they were aware childhood obesity was an issue and ideally wanted to do more in the school setting to address this issue. However, they described in a variety of ways that they felt constrained by other factors or were limited in their ability to implement childhood obesity practices. In the email sent to participants presenting the analysis, this theme was labeled “moral distress”. Seven of the nine respondents agreed with this theme. Two of the school nurses responded to this as neutral. Discussion of the theme’s relationship to the established concept of moral distress is discussed further in the article.

#### Moral Distress Subtheme 3A: Priorities

The subtheme, priorities, is defined as nursing care that is regarded as more important. Mary reported “It’s so hard to do everything that you want to do because you are being pulled to two different places, you have to get done what has to be done but doing extra things can get hard.” Joshua stated “chronic stuff... that kind of stuff tends to kind of overwhelm you and so it’s like well, I know this is important, cause it’s not like I don’t think it’s important, but when I look at my list of things, where does it fall and unfortunately for me that where it falls, towards

the bottom.” Lily said “They are the priority. Asthma, its severe allergies, its cystic fibrosis, its diabetes, so those things do take priority. Unfortunately, there’s not a lot of time left for addressing obesity as a whole.

Moral Distress Subtheme 3B: “I wish I could do more”

“I wish I could do more” refers to a strong feeling of wanting to provide additional nursing care and interventions. Susie stated “It’s not a don’t want to, it’s a not able to and not capable of doing it.” “It’s not that I don’t realize there’s a need, it’s just something that I know that I’m not able to fulfill.” “I wish I had that little bit more time that I was able to get into the classrooms and do more.” Amy said: “I don’t think you have an unwillingness of school nurses to be involved in any way. I know that’s not the case. I think again the barriers, the time, resources for follow up. It’s a very difficult topic... I think it’s not for willingness, but lack of our ability with time restraints and the way money is being used with hiring nurses for schools.” Mary stated “I wish that we had more resources and more you know time that you could because I do think that’s important.” Anne stated “I wish I could do more but it’s difficult.”

In addition to the themes determined through content analysis, the observation and field note data was reviewed. It is important to note that each of the school nurses interviewed did have a private office space to meet with students. The naturalistic setting allowed observation of the environment in addition to the interview itself. Throughout this process, school nurses were observed receiving phone calls, intercom pages, and knocks at the door including student and staff visits to the school nurse. It is important to note that in each of these cases, the school nurse had previously arranged to provide care around the scheduled interview in an attempt to allow uninterrupted time for the interview. This observed experience captured the many interruptions

that may occur during a school nurse's day that may limit the amount of time they are able to focus on childhood obesity interventions.

### Discussion and Conclusions

Although school nurses are well positioned to positively influence childhood obesity issues, school nurses are limited in their ability to provide this care. Theme one of this study describes barriers to school nurses providing interventions directly related to childhood obesity. Previous research has suggested that school nurse interventions related to childhood obesity vary greatly (Kubik, Storey, & Davey, 2007; Nauta, Byrne, & Wesley, 2009; Quelly, 2014). The current study with school nurses in rural areas is consistent with this previous finding. Lack of time and workplace demands are barriers that have been identified in previous studies (Hendershot et al., 2008; Kubik et al., 2007; Morrison-Sandberg et al., 2011; Stalter et al., 2011; Steele et al., 2011, Quelly, 2014). These were also found in this study and were not related to the number of schools assigned. Through observation in the school setting and the interview process, the principal investigator noticed that school nurses assigned to only one school reported the same barriers of those with multiple schools. It appeared that the nurses with one school gave most of the medications and attended to acute illnesses on a more regular basis than those with multiple schools, while those with multiple schools referred more to the higher ratio of students and being at multiple schools in different directions.

Another barrier described by nurses working in these rural counties was a lack of community resources for addressing the obesity. This suggests that even if the nurses found the time to screen students, they would have limited means of addressing the problem. The nurses in this study did not identify their competence or self-efficacy related to offering weight loss recommendations to be a concern as was found in previous studies (Nauta, Byrne, & Wesley,

2009; Quelly, 2014). This study also identified the stress on academic time as a barrier to childhood obesity practices which has not specifically been a focus in past studies. The participants' narratives in this study provide insight into the daily practices of these school nurses and the obesity practices implemented within the school setting. The barriers described by the school nurses in this study suggest that there are factors that limit the ability of the school nurse to be effective in this area. Solving this problem will require system level interventions. For example, job descriptions, policies, and evaluation criteria need to include working with students that are obese. It is important to note that the subthemes described as barriers to childhood obesity practices in the first theme appear to directly influence the other two themes, leading to school nurses developing a "seize the moment" approach to provide interventions for these students. Likewise, the inability to provide more thorough childhood obesity interventions may leave school nurses with feelings of moral distress.

The second theme of the study provides a framework for possible interventions to expand the role of the school nurse in working with these students. It is unlikely that school nurses will have large blocks of time to work with students that are obese and that they will have to use a "seize the moment" approach. As one nurse mentioned, there is a need for programs that are developed that can be individualized into smaller modules and activities rather than longer sessions. Strategies to enhance the school nurses ability to maximize interactions with students to provide interventions related to obesity management and prevention may lead to successful outcomes.

The final theme identified in this study suggests that school nurses recognize the importance of addressing the needs of obese students and they experience a level of discomfort in the inability to provide this care. This is a new area which has not been discussed in previous

studies. The nurses in the study described feelings of frustration with wishing they could do more for students with overweight and obesity however they were unable to do so. According to Jameton (1984), “Moral distress arises when one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action” (p. 6). Wocial and Weaver (2012) further described, “Moral distress is a form of distress that occurs when you believe you know the ethically correct thing to do, but something or someone restricts your ability to pursue the right course of action” (p. 169). Based on the definitions of moral distress, the principal investigator interpreted that these descriptions were characteristic of feelings associated with moral distress. Seven of the nine respondents agreed with the label of moral distress and the description provided during member checking. Moral distress has been studied most often in acute care nurses (Corley, Elswick, Gorman, & Clor, 2001; Corley, Minick, Elswick, & Jacobs, 2005; Elpern, Covert, & Kleinpell, 2005; Hamric, Borchers, & Epstein, 2012; Hart, 2005; McClendon & Buckner, 2007; Meltzer & Huckabay, 2004; Mobley, Rady, Verheijde, Patel, & Larson, 2007; Rice, Rady, Hamrick, Verheijde, & Pendergast, 2008) and has been associated with work satisfaction, burnout, intent to leave and nurse turnover (Corley et al., 2001; De Veer, Francke, Struijs, & Willems, 2013; Elpern et al., 2005; Hart, 2005; Hamric et al., 2012; Meltzer & Huckabay, 2004; Pendry, 2007; Trautmann, Epstein, Rovnyak, & Snyder, 2015). This may be applicable to school nurses as the inability of the school nurse to provide care they feel important may lead to moral distress and issues related to work satisfaction and nurse retention.

This qualitative study was designed to interview school nurses in rural areas of North Carolina and was not intended to generalize findings. Beyond the inability to generalize findings, limitations of this study include the sample of all female school nurses. The majority of



the participants were Caucasian. Different results may have been found from a more representative sample of nurses. This study helps fill the gap in the literature of the experiences of school nurses providing care to children that are overweight and obese. Insight from the school nurse experience is vital to those planning school based interventions as well as those working in policy related to school nurse practice and funding.

### Implications

This study identified the theme of moral distress from the school nurses interviewed. The concept of moral distress in school nurses should be further explored with potential for studying it in school nurses and to include studies using quantitative approaches to allow for a larger, national sample.

## CHAPTER 4: MORAL DISTRESS IN SCHOOL NURSES

### Abstract

Significance: The concept of moral distress has not been studied in school nurses. School nurses are well positioned to provide care to a large, diverse population of school-age children in the United States. A better understanding of moral distress in school nurses is important for school nurse employers, their funding agencies, and ultimately the students they serve.

Purpose/Aims: The purpose of the study is to identify the moral distress level that exists in school nurses and to describe its relationship to common moral dilemmas and school nurse characteristics.

Research Questions: What is the level of moral distress in school nurses as measured by the moral distress thermometer (MDT)? What is the relationship between moral dilemmas experienced by school nurses and moral distress? Does the level of moral distress and the type of moral dilemmas experienced by school nurses differ by demographic and work characteristics?

Methods: Data were collected through face-to-face attendance at school nurse meetings in North Carolina. There were 307 school nurses included in the sample. Moral distress was measured using the MDT. School nurse common moral dilemmas were measured using a researcher developed questionnaire and individual and job related school nurse characteristics were obtained through 14 additional questions on the survey.

Results: 97.3% of school nurses experienced some degree of moral distress in their practice. Each of the school nurse common moral dilemmas were positively correlated with moral distress levels. School nurses with assignments of 900 students or more had higher levels of moral distress, and reported more concerns related to time and workload constraints when delivering care than nurses assigned to fewer than 900 students.

Discussion & Conclusions: Moral distress was found to be an issue for school nurses. The findings suggest that many of the common moral dilemmas experienced by school nurses are strongly related to moral distress. The causes of moral distress in school nurses with larger numbers of students may be different than the causes for those with smaller numbers of students. This study provides policy implications for school nursing practice specifically related to funding and mandates for school nurse positions as well as increased awareness for school administrators and supervisors of school nurses.

## Introduction

Moral distress, is a phenomenon that has been studied primarily in acute care settings but it has not been studied among nurses working in schools. Jameton (1984) described moral distress as follows: “Moral distress arises when one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action” (p. 6). It has further been described as “a form of distress that occurs when one knows the ethically correct thing to do, but is prevented from acting on that perceived obligation” (Hamric, 2012, p. 167). Limited studies exist related to moral distress in nurses or health care workers outside of the acute care setting. A better understanding of moral distress in school nurses is important for school nurses and their employers, but most importantly for the students they serve.

School nurses are well positioned to positively impact the health and well-being of children in the United States since children spend such large amounts of time in the school setting. It has been recommended by the Institute of Medicine (IOM) that “nurses should practice to the full extent of their education and training” (Institute of Medicine [IOM], 2010, pg. 2). The Robert Wood Johnson Foundation (RWJF) (2010) reported the great potential school nurses have when provided the opportunity to practice at their full scope of practice. The school nurse is often the only health care provider in most school settings and thus a likely professional to successfully implement preventative services in school-age children as well as interventions for children with chronic illness. The American Academy of Pediatrics (AAP) has recognized the vital role that school nurses have in improving the health of the school-age children population including their great potential for impacting large numbers of school-age children if staffing appropriations for school nurses were adequate (2016). School nurses are often limited in their ability to provide services due to constraints within their practice settings. The inability

of the school nurse to provide the level of care they feel is optimal may lead to the development of moral distress.

The phenomenon of moral distress in nurses is found in the literature with reported negative consequences (De Veer, Francke, Struijs, & Willems, 2013; Eizenburg, Desivilya, & Hirschfeld, 2009; Hamric, 2012). Moral distress has been studied most often in acute care nurses (Corley, Elswick, Gorman, & Clor, 2001; Corley, Minick, Elswick, & Jacobs, 2005; Elpern, Covert, & Kleinpell, 2005; Hamric, Borchers, & Epstein, 2012; Hart, 2005; McClendon & Buckner, 2007; Meltzer & Huckabay, 2004; Mobley, Rady, Verheijde, Patel, & Larson, 2007; Rice, Rady, Hamrick, Verheijde, & Pendergast, 2008). Negative consequences found in nurses working in acute care settings includes decreased work satisfaction and increased burnout, intent to leave and nurse turnover (Corley et al., 2001; De Veer, Francke, Struijs, & Willems, 2013; Elpern et al., 2005; Hart, 2005; Hamric et al., 2012; Meltzer & Huckabay, 2004; Pendry, 2007; Trautmann, Epstein, Rovnyak, & Snyder, 2015).

Fewer studies discuss findings related to moral distress in other types of nurses. Eizenburg, Desivilya, & Hirschfeld (2009) included nurses working in community, nursing home, chronic care and mental health facility settings in addition to nurses working in hospitals in a study of moral distress, while De Veer, Francke, Struijs, & Willems (2013) studied moral distress in a sample of nurses working in nursing homes, homes for the elderly, home care, and acute care hospitals. In this study, moral distress was associated with decreased job satisfaction (De Veer, Francke, Struijs, & Willems, 2013). Moral distress may be applicable to school nurses because they are one of the few nursing specialties that are employed in an organization where the primary focus is not on health but education. Furthermore, they are usually the only health profession in a school and moral distress may arise from conflicts between their organizational

and professional obligations. However, these relationships have not been examined in previous studies.

The purpose of this study was to examine moral distress in school nurses. A second purpose was to describe the relationship between moral distress, common moral dilemmas, school nurse characteristics, and job related characteristics. The following research questions were examined in this study:

1. What is the level of moral distress in school nurses as measured by the moral distress thermometer (MDT)?
2. What is the relationship between moral dilemmas experienced by school nurses and moral distress?
3. Does the level of moral distress and the type of moral dilemmas experienced by school nurses differ by demographic and work characteristics?

## Methods

### Procedure

The sample for this study consisted of practicing school nurses in North Carolina during the school year of 2015-2016. Inclusion criteria required that participants be currently practicing as a school nurse with a current school assignment. School nurses serving in an administrative position or lead role were eligible to participate if they currently had a school assignment in their workload. Those only working in administrative positions were not eligible.

The study was approved as an exempt study from the ECU University & Medical Center Institutional Review Board prior to data collection. Responses were not linked in any way to those participating in an effort to protect privacy and also increase accurate responses to the survey. Participants that completed the entire survey were given the option to enter into a

drawing for a \$50 Visa gift card. There were a total of four gift cards distributed. The name of participants that entered the drawing were not linked in any way to their responses as a separate slip of paper was provided and collected. As an exempt study, participants were provided an information sheet approved by the IRB explaining the study.

Data were collected face-to-face in an effort to have an increased number of respondents. Face-to-face surveys were administered through attendance at school nurse meetings in North Carolina. School nurse meetings for this sample included a total of eight meetings, four regional school nurse meetings and four individual school district nurse meetings. The principal investigator contacted five School Nurse Association of North Carolina (SNANC) regional presidents via email to request an invitation to attend the respective regional meetings to administer the survey. All five of the regional presidents contacted extended an invitation to the principal investigator to attend meetings and ask for volunteers to take the survey. The principal investigator attended three of the regional meetings where a scripted introduction was given to the participants seeking volunteers to participate in the survey and surveys were administered. One of the regional meetings occurred on the same day as another meeting and the regional school nurse president for one of the regions volunteered to administer the survey. Training for the survey administrator was provided by the principal investigator via phone. A script was provided along with the surveys to allow for participation from that region. The completed surveys from the meeting were retrieved face-to-face by the principal investigator. The fifth regional meeting was not included due to a time conflict. However, school nurses from this region were represented through some of the school district meetings. In addition to the regional meetings, lead nurses for six large school districts in North Carolina were contacted via email or phone to request an invitation to one of their school district wide nurse meetings. Four of the

school districts extended an invitation. The same scripted introduction was given to these participants seeking volunteers to take the survey and the survey was administered by the principal investigator.

## Measures

The Moral Distress Thermometer (MDT) (Wocial & Weaver, 2012) was used to measure moral distress. In addition, the researcher developed individual items to measure school nurse moral dilemmas that included 14 questions. Additional questions in the survey included 14 questions related to demographic and employment variables.

Instruments used to measure moral distress have most commonly been used with nurses and other health care workers in acute care settings and were evaluated for use in this study. An attempt to adapt a current instrument, the revised Moral Distress Scale (MDS-R) (Hamric, Borchers, & Epstein, 2012) was made. Personal communication with the author, who is considered a leader in research related to moral distress in acute care settings was initiated and the author suggested using Wocial & Weaver's (2012) instrument, Moral Distress Thermometer (MDT) (A.B. Hamric, personal communication, December, 17, 2015). A second researcher in the area was contacted regarding the moral distress questionnaire for clinical nurses (MDQ) (Eizenberg, Desivilya, & Hirschfeld, 2009). The author gave permission to use the MDQ instrument, however the scale was found to be inappropriate for use with school nurses (M. M. Eizenberg, personal communication, December 18, 2015). The MDT is less situation specific and was found to be more applicable with school nurses. The author of the MDT was contacted and gave permission for its use in this study (L. D. Wocial, personal communication, January 6, 2016).



The MDT is an individual item, 11 point scale that ranges from 0-10 (Wocial & Weaver, 2012). The scale includes words to help identify varying degrees of moral distress and ranges from “none” to “worst possible”. The thermometer includes a definition of moral distress and includes instructions for respondents to reflect on their practice and identify their level of moral distress by circling a number on the thermometer. The MDT has been tested with other moral distress measures and found to be a valid instrument to test moral distress (Wocial & Weaver, 2012). Benefits of the MDT include its convenient measurement using only one question and being less situation specific compared to other moral distress measures specific to nurses working in acute care.

The original MDT asked respondents to reflect on their practice over the past two weeks and indicate their level of moral distress on the thermometer. Due to the variability of school nurse workloads over the school year, the MDT instructions for this survey asked school nurse participants to reflect on their practice over the past month and indicate their level of moral distress on the thermometer. An author of the MDT was contacted via email regarding the desire to change instructions from past 2 weeks to 1 month and agreed that this was an acceptable alteration (L. D. Wocial, personal communication, February 22, 2016).

The school nurse moral dilemma items were developed following a review of the literature and discussion with other authors of instruments related to moral distress. In addition, the dilemmas that were chosen were informed by a previous qualitative study with school nurses completed by the author (Powell, 2016). The format of the moral dilemma individual items were guided by principals described by Dillman, Smyth, & Christian (2009). After development of the moral dilemma items, the survey was reviewed by school nurse volunteers and experienced researchers in instrument development. This resulted in several significant revisions based on

feedback. There were a total of 14 moral dilemma items which were presented in a Likert scale with 5 response options from strongly agree to strongly disagree.

The total instrument was printed on 2 pages with an introductory paragraph and included 29 items and could be completed in 5-10 minutes. After the PI or designee read the scripted introduction, the school nurses completed the survey and returned it when finished. The script included brief information about the purpose of the study, IRB approval, and general information to facilitate survey completion including instructions for those with multiple schools to complete the survey based on their overall experience as a school nurse as well as specific attention given to the thermometer question instructing participants to circle number. The thermometer information was added to the script after a large percentage of surveys were missing a response to the MDT during the first administration of the survey.

#### Data Analysis

Data were entered in to the Statistical Package for the Social Sciences (SPSS). Descriptive statistics were used to analyze the characteristics of the sample and the participants' responses to the moral dilemma items. School nurses that agreed or strongly agreed that a statement was a moral dilemma in their practice were categorized as agreed. To examine if the dilemmas might vary based on the level of moral distress, the sample was divided into those nurses that had high and low moral distress. Scores on the MDT greater than 4 were defined as "high" levels of moral distress, while scores less than 4 were defined as "low" levels of moral distress. The number 4 was chosen for the division because of its description, "uncomfortable". To investigate if there was a statistically significant association between the common moral dilemma questionnaire and moral distress levels, a correlation was computed. Because each of the variables was normally distributed and the assumption of linearity was not markedly violated,

Pearson correlations were calculated. Correlations greater than 0.5 were considered large, 0.3 - 0.49 were medium, and less than 0.3 were considered small. T-Test and One-Way Analysis of Variance were computed to compare the effects of selected school nurse characteristics on moral distress levels. The strength of the relationships involving T-Test and One-Way Analysis of Variance were assessed with Eta squared, where a value of .01 is a small effect, .06 is a moderate effect, and .14 is a large effect. Statistical significance was assessed with p-values less than or equal to .05.

### Results

The sample consisted of 307 school nurses representing 619 public schools from North Carolina. After review of the surveys, 43 were missing the MDT and were excluded from analysis leaving a total of 264 surveys included in the analysis. Response rates for the school district meetings were 90-100%, while the regional meetings were more difficult to assess. Many of the regional meetings included a continuing education component where some of the attendees were not eligible to take the survey limiting complete accuracy of the response rates based on the number of attendees, however large percentages of surveys were returned at regional school nurse meetings. The majority were female (98.9%) and Caucasian (87.5%). Most of the school nurses held a bachelor's degree or higher (86.0%) and were certified as a school nurse (64.4%). The majority of the school nurses were employed by the local school system (59.1%) and were assigned to more than one school (68.4%) with greater than 900 students in their assignment (58.0%). Of the two hundred-sixty-four school nurses that responded to the moral distress thermometer ( $M = 4.69$ ), one hundred-thirty-one (49.6%) reported their level of moral distress as uncomfortable or higher. The characteristics of the sample are described in Table 1.

Table 1

*Characteristics of Study Participants (N = 264)*

Characteristic	n	%
Age (years)		
Less than 40	63	23.9
40-50	85	32.2
Greater than 50	115	43.6
Missing	1	0.4
Gender		
Female	261	98.9
Male	3	1.1
Race/Ethnicity		
Caucasian	231	87.5
African American	28	10.6
Hispanic/Latino	1	0.4
Other	4	1.5
Highest level of education		
ADN	17	6.4
BSN/Bachelor's degree non-nursing	227	86.0
MSN/Master's degree non-nursing	17	6.4
Missing	3	1.1
National certification in school nursing		
Yes	170	64.4
No	94	35.6
Years of experience in school nursing		
Less than 5 years	89	33.7
5-10 years	74	28.0
Greater than 10 years	101	38.3
Type of employer		
Local school system	156	59.1
Public Health Department	83	31.4
Hospital Agency	23	8.7
Missing	2	0.8

Table 1 Continued

*Characteristics of Study Participants (N = 264)*

Characteristic	n	%
Number of schools in assignment		
1	86	31.3
2	105	41.7
3 or more	72	26.7
Missing	1	0.3
Number of students in assignment		
Less than 900	104	40.5
Greater than 900	155	58.0
Missing	5	1.6
Percentage of students economically disadvantaged		
Less than 40%	66	23.8
40-80%	150	58.6
Greater than 80%	48	17.6
Administration of medications		
School nurse administers majority of medications	89	33.6
Delegated to school personnel	173	65.5
Missing	2	0.8
Moral Distress Level per Moral Distress Thermometer Categories		
Greater than Distressing to Worst Possible	66	25.0
Greater than Uncomfortable to Distressing	65	24.6
Greater than Mild to Uncomfortable	58	22.0
Less than or equal to Mild	75	28.4
Moral Distress Level per Moral Distress Thermometer (M/SD)	4.69	2.43

The percent of school nurse responses related to the moral dilemmas are shown in Table 2. While the dilemmas were different between those with high and low distress, there were some dilemmas that were consistently rated high across all groups. The common dilemmas were, “students with chronic illness do not receive needed care”, “unable to provide case management due to workload”, and “unable to achieve goals for students due to family issues”. The least common dilemma across the groups was, “no private space”.

Table 2

*Percent Agreement of Responses to Moral Dilemma Items for Participants with High and Low Levels of Moral Distress (N = 264)*

Moral Dilemmas	Total Group %	High MD %	Low MD %
1. Not enough time to provide care to students with chronic illness	63.7	87.0	40.5
2. Pressure from administration	41.3	55.7	27.1
3. Unable to provide care due to workload	58.0	82.4	33.8
4. Unable to provide care due to lack of time	50.6	74.6	27.1
5. Concern students with chronic illness do not receive needed care	64.1	81.4	47.4
6. Unable to address family requests due to lack of time	34.5	54.7	15.0
7. Unable to address staff requests due to lack of time	41.1	63.4	18.9
8. Pressured to not interrupt class to provide needed care	64.4	74.0	54.9
9. Unable to provide preventive care	55.9	74.6	37.6
10. Unable to provide care due to lack of school resources	43.0	56.9	29.3
11. Unable to provide care due to lack of referral services	40.5	54.3	27.3
12. Unable to provide case management due to workload	68.3	84.7	51.9
13. Unable to achieve goals for student due to family situation	76.9	84.0	69.9
14. Don't have a private space	33.3	40.5	26.3

Note: Responses to individual items for total group range from 259-264, High MD range from 127-131, and Low MD range from 131-133.

Each of the moral dilemmas were significantly correlated with moral distress as shown in Table 3. The strongest positive correlations with moral distress were dilemmas “unable to provide care due to lack of time”, “not enough time to provide care to students with chronic illness” and “unable to provide care due to workload”. Moral distress levels were positively correlated with each of the moral dilemmas with medium to large size correlations according to Cohen (1988) with the exception of small correlations for items “unable to achieve goals due to family situation” and “do not have private space to work with students.”

Table 3

*Pearson Correlations of Moral Dilemmas with Moral Distress Levels (n = 264)*

Moral Dilemmas	<i>r</i>
1. Not enough time to provide care to students with chronic illness	.58
2. Pressure from administration	.39
3. Unable to provide care due to workload	.58
4. Unable to provide care due to lack of time	.60
5. Concern students with chronic illness do not receive needed care	.41
6. Unable to address family requests due to lack of time	.51
7. Unable to address staff requests due to lack of time	.50
8. Pressured to not interrupt class to provide needed care	.32
9. Unable to provide preventive care	.44
10. Unable to provide care due to lack of school resources	.42
11. Unable to provide care due to lack of referral services	.36
12. Unable to provide case management due to workload	.49
13. Unable to achieve goals for student due to family situation	.27
14. Don't have a private space	.23

\*All p values less than .001. Note: Responses for individual items range from 259-264.



The next analysis examined the relationship among the demographic characteristics, work characteristics, and moral distress. These results are summarized in Table 4. The only characteristic that had a statistically significant relationship with moral distress was the number of students in the school nurse caseload. Nurses with 900 or more students had higher moral distress ( $M=5.21$ ) and 59.4% of them reported a high level of moral distress. In comparison, only 36.5% of school nurses with less than 900 students reported high levels of moral distress and the mean level of distress was lower, ( $M=3.99$ ). The effect size ( $\eta^2$ ) for this difference is .06, which is a moderate effect size.

Table 4

*Means, Standard Deviations, and T-Test or One-Way Analysis of Variance for the Effects of Selected Nurse Characteristics on Moral Distress Levels (n = 264)*

Characteristic	n	MDT		F	p	$\eta^2$
		M	SD			
Education				.08	.922	.001
ADN	17	4.82	2.24			
BSN/Bachelor's degree	227	4.71	2.48			
MSN/Master's degree	17	4.50	1.98			
School Nurse Experience				.31	.734	.002
Less than 5 years	89	4.58	2.48			
5-10 years	74	4.87	2.36			
Greater than 10 years	101	4.65	2.43			
Number of Students				*4.05	<.001	.06
< 900 students	104	3.99	2.40			
≥ 900 students	155	5.21	2.35			
Age				.08	.920	.001
< 40 years	63	4.59	2.35			
40-50 years	85	4.75	2.36			
> 50 years	115	4.69	2.55			
Employer				1.24	.291	.009
Local School System	156	4.64	2.48			
Public Health Department	83	4.59	2.29			
Hospital Agency	23	5.46	2.68			
Disadvantaged Students				.36	.697	.003
< 40%	66	4.86	2.19			
40-80%	150	4.58	2.46			
> 80%	48	4.79	2.69			

Table 4 Continued

*Means, Standard Deviations, and T-Test or One-Way Analysis of Variance for the Effects of Selected Nurse Characteristics on Moral Distress Levels (n = 264)*

Characteristic	MDT			<i>F</i>	<i>p</i>	$\eta^2$
	<i>n</i>	<i>M</i>	<i>SD</i>			
Number of Schools				1.36	.258	.01
1 school	86	4.71	2.70			
2 schools	105	4.43	2.30			
3 or more schools	72	5.04	2.29			
Medication Administration				*.116	.908	.00
Primarily by school nurse	89	4.72	2.58			
Delegated to other staff	173	4.68	2.37			

Note: Reported N's are from those that completed the MDT.

\* indicates T values

Finally, a T-test to examine if there were differences in the moral dilemmas experienced by school nurses based on caseload. School nurses with larger caseloads were more likely to experience moral dilemmas on all of the items except for the availability of resources and family issues (items 11 and 13) when compared to those with smaller caseloads. The largest differences were found in “having enough time to provide care for students with chronic illness” and “unable to provide care due to workload”. All of the statistically significant differences were found to have large to moderate effects.

Table 5

*Moral Dilemma Differences Between Nurses Responsible for <900 and ≥900 Students (n=264)*

Moral Dilemma	<900 (n = 104)		≥900 (n = 155)		df	t	p	η <sup>2</sup>
	M	SD	M	SD				
1. Not enough time to provide care to students with chronic illness	3.08	1.12	3.90	0.97	255	6.22	<.001	.132
2. Pressure from administration	2.87	1.12	3.26	1.08	257	2.88	.004	.031
3. Unable to provide care due to workload	2.98	1.12	3.85	0.99	257	6.61	<.001	.145
4. Unable to provide care due to lack of time	2.96	1.06	3.61	1.02	256	4.94	<.001	.087
5. Concern students with chronic illness do not receive needed care	3.43	1.09	3.74	1.02	255	2.35	.019	.021
6. Unable to address family requests due to lack of time	2.60	0.94	3.17	1.03	254	4.49	<.001	.074
7. Unable to address staff requests due to lack of time	2.73	0.96	3.34	1.05	256	4.77	<.001	.082
8. Pressured to not interrupt class to provide needed care	3.30	1.24	3.84	1.11	257	3.66	<.001	.05
9. Unable to provide preventive care	3.09	1.13	3.76	0.96	256	5.13	<.001	.093

Table 5 Continued

*Moral Dilemma Differences Between Nurses Responsible for <900 and ≥900 Students (n=264)*

Moral Dilemma	<900		≥900		df	t	p	η <sup>2</sup>
	M	SD	M	SD				
10. Unable to provide care due to lack of school resources	2.90	1.05	3.33	1.11	256	3.08	.002	.036
11. Unable to provide care due to lack of referral services	2.94	1.07	3.23	1.17	252	1.96	.052	.015
12. Unable to provide case management due to workload	3.31	1.12	4.01	0.95	255	5.40	<.001	.103
13. Unable to achieve goals for student due to family situation	4.04	0.99	3.99	0.92	257	.374	0.71	.001
14. Don't have a private space	2.56	1.35	2.98	1.38	257	2.44	0.02	.023

## Discussion

This study examined moral distress in school nurses which is an area that had not been previously addressed in the literature. The school nurses in this sample confirmed that moral distress exists in the population of school nurses. The moderate to large correlations between moral distress level and the moral dilemmas offers insight into the source of this distress. Not being able to provide adequate care to students with chronic illness because of time constraints was the largest source of distress. Although moral distress was higher in nurses with larger caseloads, some nurses with smaller caseloads also experienced high levels of moral distress. The moderate to large effect sizes found in the analysis suggest that these differences are important for understanding school nurse practice.

The literature suggests that a perceived lack of time to deliver care to patients increases moral distress (Austin et al., 2005; De Veer, Francke, Struijs, & Willems, 2013; Eizenburg, Desivilya, & Hirschfeld, 2009; Glasberg et al., 2006; Rager Zuzelo, 2007; Redman & Fry, 2000; and Sørli et al., 2005). This study supports this previous finding. Similar to acute care nurses, lack of time to deliver optimal care the school nurse perceived important was associated with increased moral distress in this study. Additionally, this study adds to existing knowledge by exploring common moral dilemmas in school nursing practice as well as school nurse characteristics that were found to be related to increased moral distress in school nurses.

### Limitations

A limitation of this study is the convenience sample. Recruitment at regional school nurse association meetings may have recruited school nurses that were more engaged in school nursing issues as well as the availability of school nurses with employers that allowed time off from a school day to attend the regional meeting. Therefore, this sample is not necessarily a

representative sample of all school nurses. Recruitment at local school district meetings were more likely to include a more representative sample of school nurses in the district as attendance was mandatory unless there was a pressing issue in a school or personal issue.

Another limitation of this study was that the MDT had not previously been used in the population of school nurses. While the thermometer has been used successfully in studies where the participant worked in a well-defined environment, school nursing practice varies considerably and when the school nurse served more than one school, it was sometimes difficult for the nurse to evaluate the level of distress because it varied between the schools. In addition, feedback from school nurses that participated in the study suggested that the range for the variable related to caseload size should be expanded. The upper limit of greater than 900 was a ceiling and anecdotally some nurses said they had 3000 to 4000 students in their caseload.

This study provides an awareness of common moral dilemmas in school nursing practice and moral distress in school nurses. Knowing that these moral dilemmas exist and cause distress has clinical implications for school nursing. Future studies are needed to better understand how moral distress affects work satisfaction and the retention of school nurses. School nursing is a very specialized area of nursing practice and many educational programs provide little content related to school nursing. Orienting and developing competent professional school nurses is labor intensive and when a school nurse is not retained, there are financial and human costs involved. In addition, it is important to understand how moral distress affects actual care to students. Do nurses with high moral distress experience burnout and distance themselves from being totally committed to their role as an advocate for students? This is an important question for future studies as very little is known about how moral distress affects the quality of care provided.

Additional research related to instruments that measure moral distress specific to school nursing is another important focus area. The development of an instrument similar to MDS-R, which is more situation specific, would provide a better understanding of the underlying reasons for moral distress so that potential interventions to reduce distress could be developed and evaluated.

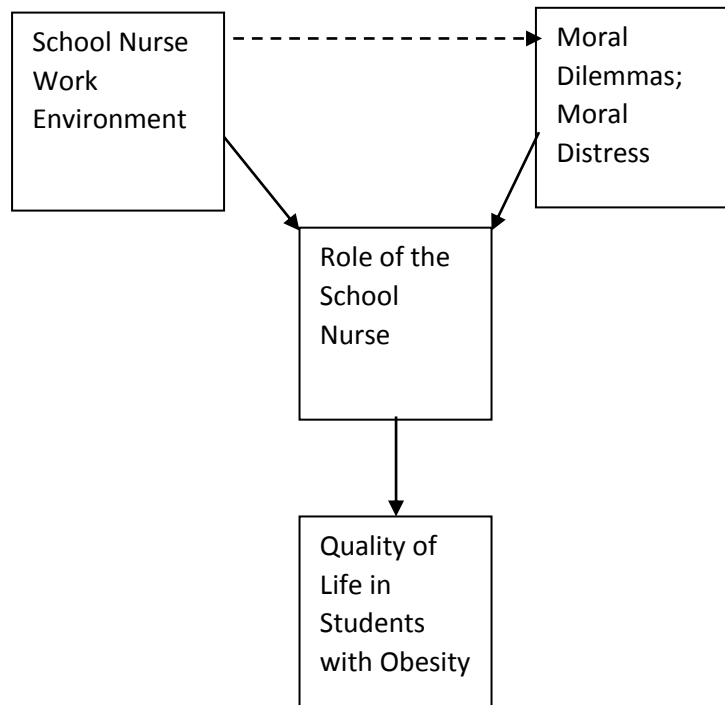
Finally, this study provides policy implications for school nursing practice specifically related to school nurse positions and caseloads. There has been a growing awareness that determining the optimal staffing level for school nursing is a complex decision. Recently the National Association of School Nurses [NASN] (2015) has issued a position statement which de-emphasized the 1/750 ratio that was previously recommended, and encourages an approach that includes both the health conditions of students as well as the social determinants of illness. This study is consistent with this document in that it demonstrated that school nurses with larger caseloads experience more moral dilemmas, particularly as it relates to having enough time to meet the needs of students with chronic illnesses. Although this study did not include a qualitative component, the voice of one school nurse who shared the following comment on her survey summarizes the importance of this issue: “My distress comes from trying to deliver care that results in the most optimal outcome. Consequently, I am always behind with reams of paperwork and documentation. Very oppressive over time”. Moral distress in school nurses is important for school nurse employers, funding agencies, and organizations planning school based interventions.



## CHAPTER 5: SYNTHESIS OF FINDINGS

This dissertation incorporates a research trajectory that began with an interest in care of school-age children living with obesity. The first study (Chapter 2) examined the quality of life in school-age children receiving case management by school nurses using both quantitative and qualitative methods. The second study (Chapter 3) used a qualitative descriptive design to explore the experiences of school nurses providing care to students with overweight and obesity. The final study (Chapter 4) within this dissertation used a quantitative descriptive, correlational design to study moral distress and moral dilemmas in school nurses. The concepts that link the manuscripts in the dissertation are: quality of life of students with obesity, quality of school nurse work environment that affects nursing practice related to meeting student needs, and the moral dilemmas and moral distress that are experienced by school nurses when providing care to school age children. Figure 1 describes these relationships.

Figure 1: Relationship of Dissertation Concepts



The first study included qualitative comments by school nurses providing case management for students with obesity concerns in addition to a quantitative measurement of health-related quality of life of the students. This study exposed some of the physical and psychosocial struggles these students deal with on a daily basis in the school setting. This led to the development of a second study to better understand the experiences of school nurses caring for children with overweight and obesity in the school setting. The second study used a qualitative descriptive design with in-depth interviews to explore the experiences of school nurses providing care to students with overweight or obesity concerns. This study provided a better understanding of the hurdles that school nurses face and how they overcome some of these obstacles when working with these students. An additional finding of this study was that the school nurses experienced moral distress when describing feelings of frustration when constraints within their practice prevent them from providing care they feel may benefit these students. There was a gap identified in the literature related to moral distress in school nurses, leading to the third study which investigated moral distress in school nurses. This study also explored moral dilemmas experienced by school nurses from a general perspective since previous research suggested that moral distress is not confined to just one aspect of practice. Moral distress was found to be an issue for school nurses and it was related to moral dilemmas experienced by school nurses.

The number of children with chronic health conditions is increasing. Halfon & Newacheck (2010) reported the percentage of children in the United States with chronic health conditions at 25% in 2007, up from 1.8% in the 1960's. Some report 15% of children under the age of 18 in the United States have chronic conditions that could be categorized as having special health care needs (Bloom et al., 2012; Center for Child and Adolescent Health, 2012; U.S.

Department of Health and Human Services [USDHHS], 2012). Special health care needs is an umbrella term often used to describe chronic health conditions in the school setting that encompasses long-term physical, mental, behavioral, and developmental disorders (Forrest, Bevans, Riley, Crespo, & Louis, 2011). Children with chronic health care conditions have historically been cared for in institutional type settings or their homes (Dang, 2010). Today, more children with chronic health conditions are attending schools since this is now a right protected by federal law and the Rehabilitation Act, Section 504 and the Individuals with Disabilities Educational Act [IDEA] of 2004. This allows children, regardless of disability, the right to a free education in the least restrictive environment (U.S. Department of Education, 2013). School nurses are vital in meeting the needs of these children in the school setting.

It is often emphasized that healthier students are better able to learn, thus contributing to academic success (Basch, 2011; Engelke, Guttu, Warren, & Swanson, 2008; Mooney, Sterling, Figgs, & Castro, 2008; & Vinciullo & Bradley, 2009). School nurses are essential in the promotion of healthy school environments and providing care in the school setting to promote the health of students. Manuscripts within this dissertation provide insight into the issues that support and hinder the optimal care of students with chronic illnesses, especially obesity.

### Clinical Implications

#### Manuscript 1

- School personnel need to be sensitive to environmental interventions that might reduce the barriers experienced by these students.

- Group interventions may be successful, because peer pressure and support is critical, allowing students to support each other in a group-based intervention.
- If interventions are to be successful, they need to address the daily physical and psychosocial problems experienced by these students in addition to healthy eating and exercise.

#### Manuscript 2

- Barriers described by the school nurses suggest that there are factors that limit the ability of the school nurse to be effective in this area. Solving this problem will require system level interventions. Job descriptions, policies, and evaluation criteria need to include working with students that are obese.
- It is unlikely that school nurses will have large blocks of time to work with students that are obese. There is a need for programs that are developed that can be individualized into smaller modules and activities rather than longer sessions. Strategies to enhance the school nurses ability to maximize interactions with students to provide interventions related to obesity management and prevention may lead to successful outcomes.

#### Manuscript 3

- Orienting and developing competent professional school nurses is labor intensive and when a school nurse is not retained, there are financial and human costs involved.

- Policy implications are needed for school nursing practice specifically related to school nurse positions and caseloads.

### Research Implications

#### Manuscript 1

- Studies needed to measure the restructuring of the environment within school settings and its relationship to successful academic achievement and peer relationships.

#### Manuscript 2

- The concept of moral distress in school nurses should be further explored with potential for studying it in school nurses and to include studies using quantitative approaches to allow for a larger, national sample.
- Evaluation of outcomes related to programs developed to be used in small blocks of time.

#### Manuscript 3

- Future research investigating direct causes and the effects of moral distress is an important next step.
- Finding ways to effectively manage moral distress in school nurses is important not only to the population of school nurses, but also the students they serve.
- Future studies are needed to better understand how moral distress affects work satisfaction and the retention of school nurses.

- Studies asking how moral distress affects actual care to students is also important. Do nurses with high moral distress experience burnout and distance themselves from being totally committed to their role as an advocate for students?
- Additional research related to instruments that measure moral distress specific to school nursing is another important focus area. The development of an instrument similar to MDS-R, which is more situation specific, would provide a better understanding of the underlying reasons for moral distress so that potential interventions to reduce distress could be developed and evaluated.

In summary, this dissertation has provided new knowledge related to quality of life in students with obesity, quality of school nurse work environment that affects nursing practice to meet student needs, and the moral dilemmas and moral distress experienced by school nurses. School nurses are vital in the success of school-age children thriving in the school setting, particularly impacting those with chronic illness. In the future, additional research of specific causes of moral distress and effective management strategies will be important and may provide beneficial outcomes for school nurses and the students they serve.

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## APPENDIX A: IRB APPROVAL LETTERS



### EAST CAROLINA UNIVERSITY

University & Medical Center Institutional Review Board Office  
11-09 Brody Medical Sciences Building • 600 Moye Boulevard • Greenville, NC 27834  
Office 252-744-2974 • Fax 252-744-2284 • www.ecu.edu/irb

TO: Marsha Engelke, PhD, School of Nursing, ECU—4210-C—LAHN Building  
FROM: UMCIRB *ec*  
DATE: August 22, 2011  
RE: Expedited Continuing Review of a Research Study  
TITLE: "Case Management Services for Children with Chronic Illness"

#### UMCIRB #06-0486

The above referenced research study was initially reviewed and approved by expedited review on 8.11.06. This research study has undergone a subsequent continuing review using expedited review on 8.19.11. This research study is eligible for expedited review because the research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis). (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.01(b)(4). This listing refers only to research that is not exempt.)

The Chairperson (or designee) deemed this **Kate B. Reynolds Health Care Trust** sponsored study **no more than minimal risk** requiring a continuing review in **12 months**. Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The investigator must adhere to all reporting requirements for this study.

The above referenced research study has been given approval for the period of **8.19.11 to 8.18.12**. The approval includes the following items:

- Continuing Review Form (date 8.15.11)
- Research Proposal

The Chairperson (or designee) does not have a conflict of interest on this study.

**The UMCIRB applies 45 CFR 46, Subparts A-D, to all research reviewed by the UMCIRB regardless of the funding source. 21 CFR 50 and 21 CFR 56 are applied to all research studies under the Food and Drug Administration regulation. The UMCIRB follows applicable International Conference on Harmonisation Good Clinical Practice guidelines.**



**EAST CAROLINA UNIVERSITY**  
**University & Medical Center Institutional Review Board Office**  
4N-70 Brody Medical Sciences Building - Mail Stop 682  
600 Moye Boulevard - Greenville, NC 27834  
Office 252-744-2914 - Fax 252-744-2284 - [www.ecu.edu/irb](http://www.ecu.edu/irb)

### Notification of Initial Approval: Expedited

**From:** Social/Behavioral IRB  
**To:** [Shannon Powell](#)  
**CC:** [Marie Pokorny](#)  
**Date:** 3/3/2014  
**Re:** [UMCIRB 14-000130](#)  
Exploring the Experiences of School Nurses Providing Care for School Children with Overweight and Obesity

I am pleased to inform you that your Expedited Application was approved. Approval of the study and any consent form(s) is for the period of 3/3/2014 to 3/2/2015. The research study is eligible for review under expedited category #6, A. The Chairperson (or designee) deemed this study no more than minimal risk.

Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The Investigator must adhere to all reporting requirements for this study.

Approved consent documents with the IRB approval date stamped on the document should be used to consent participants (consent documents with the IRB approval date stamp are found under the Documents tab in the study workspace).

The approval includes the following items:

Name	Description
Informed Consent Powell.doc	Consent Forms
Interview questions.doc	Interview/Focus Group Scripts/Questions

The Chairperson (or designee) does not have a potential for conflict of interest on this study.



**EAST CAROLINA UNIVERSITY**  
**University & Medical Center Institutional Review Board Office**  
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### Notification of Exempt Certification

**From:** Social/Behavioral IRB  
**To:** [Shannon Powell](#)  
**CC:** [Martha Engellek](#)  
**Date:** 3/1/2016  
**Re:** [UMCIRB 16-000250](#)  
Moral Distress in School Nurses

I am pleased to inform you that your research submission has been certified as exempt on 2/29/2016. This study is eligible for Exempt Certification under category #2.

It is your responsibility to ensure that this research is conducted in the manner reported in your application and/or protocol, as well as being consistent with the ethical principles of the Belmont Report and your profession.

This research study does not require any additional interaction with the UMCIRB unless there are proposed changes to this study. Any change, prior to implementing that change, must be submitted to the UMCIRB for review and approval. The UMCIRB will determine if the change impacts the eligibility of the research for exempt status. If more substantive review is required, you will be notified within five business days.

The UMCIRB office will hold your exemption application for a period of five years from the date of this letter. If you wish to continue this protocol beyond this period, you will need to submit an Exemption Certification request at least 30 days before the end of the five year period.

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

---

IRB00000005 East Carolina University Institutional Review Board  
IRB00000001 East Carolina University Institutional Review Board

## APPENDIX B: PERMISSION LETTER

RE: Moral Distress Thermometer

<https://piratemail.iu.edu/owa/?ac=Item&C=IPM.Note.EnterpriseVault...>

**RE: Moral Distress Thermometer**

Wocial, Lucia D. [lwocial@IUHealth.org]

Sent: Wednesday, January 06, 2016 2:33 PM

To: Powell, Shannon Baker

**This message has been archived. [View the original item](#)**

Dear Shannon,

You are welcome to use the Instrument. I hope you will share with me whatever results you get if you move forward with your study.

Sincerely,

Dr. Wocial

Lucia D. Wocial, PhD, RN, FAAN

Nurse Ethicist,

317-962-2161 phone

lwocial@iuhealth.org <mailto:lwocial@iuhealth.org>

Discover the strength at [www.iuhealth.org](http://www.iuhealth.org) <http://www.iuhealth.org>

**Attachments:**

[image001.png](#)

(1) (2)

