

SCHOOL STAFF PERCEPTIONS OF CONNECTEDNESS WITH STUDENTS IN A LOW-INCOME PUBLIC MIDDLE SCHOOL: IMPLICATIONS FOR SCHOOL NURSING PRACTICE

by

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School connectedness, defined as the belief by students that adults and peers within the school care about them and their learning, has been found to be a protective factor against suicidal thoughts and behaviors among adolescents. Since suicide is the second leading cause of death for ages 10-14, school connectedness is important for adolescent health. School connectedness can be fostered with trusting relationships within a positive school climate. While school nurses are positioned to collaborate with school staff in suicide interventions, there is minimal evidence of collaborative interventions cited within the literature. The purpose of this study was to examine the experiences of teachers and support staff that explain their perceptions of school climate and feeling connected to students and discuss implications for school nursing practice.

A sequential explanatory mixed-methods secondary data analysis was conducted, guided by Bronfenbrenner's bioecological theory of human development. The site for the primary study was a rural public middle school in the Southeast United States. The quantitative data were obtained from a convenience sample of 6th, 7th, and 8th grade core and electives teachers ($n = 14$) and support staff ($n = 5$) who completed the Teacher School Connectedness Survey. Descriptive statistics were used to examine the culture related to school climate and connectedness. The

qualitative data were obtained from five focus group transcripts with teachers ($n = 20$) and support staff ($n = 6$). Qualitative data were analyzed using in Vivo and Focused Coding. Themes were developed using thematic analysis.

The quantitative and qualitative results diverged. The quantitative data revealed that more than half of the respondents described the climate as warm/positive and all felt positively connected to students. The major themes from the qualitative data, *cloud of chaos*, *snowballing*, and *pushing through the fog*, describe an environment characterized by disruptive, aggressive, and withdrawn student behaviors. The results suggest lower levels of connectedness and a school climate not conducive to fostering connectedness. Student behaviors may be masking underlying mental health issues, such as depression, a risk factor for suicide. Implications for school nursing practice to enhance school connectedness are discussed.

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PRACTICE

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Chapter 1: Introduction

School connectedness has been found to be a protective factor against suicidal thoughts and behaviors among adolescents (Centers for Disease Control and Prevention [CDC], 2018; Marraccini & Brier, 2017; Resnick et al., 1997). School connectedness may act as a protective mechanism for at-risk adolescents by increasing coping attitudes and behaviors, fostering the perception that adults are supportive, and increasing the likelihood that they will seek help from adults within the school (CDC, 2009; Whitlock, 2006; Whitlock et al., 2014). Additionally, being connected to others in school may increase opportunities for signs of emotional distress to be recognized (Whitlock et al., 2014). Since suicide rates in the United States have increased by more than 50% among adolescents since 2010 (Jameson, 2020), school connectedness is an important protective factor to consider in decreasing suicidal behavior.

In 2011, suicide rose from the third to the second leading cause of death in adolescents aged 15-19 years (CDC, 2019b). In 2018, over 2,000 young people aged 14-18 years died by suicide (Asha et al., 2020). The Youth Risk Behavior Survey conducted by the CDC in 2019 revealed that 18.8% of high school students had seriously considered attempting suicide, 15.7% made a suicide plan, and 8.9% had one or more suicide attempts (CDC, 2019a). As suicide rates continue to rise among older, high school adolescents, a similar trend is being noted in the younger adolescent population. For children aged 10-14 years, suicide became the second leading cause of death in 2014 (CDC, 2019b). In 2017, more than 500 youth aged 10-14 years died by suicide (Curtin & Heron, 2019).

The rate of adolescent suicide in North Carolina reflects the national trend. North Carolina is ranked 37th in the nation for rates of adolescent suicides (Jameson, 2020). During the 2018-2019 school year, 914 North Carolina public school students attempted suicide and 28 died

by suicide (North Carolina Department of Health and Human Services [NCDHHS], 2019).

Thirty-three percent ($n = 301$) of these students who attempted suicide and 18% ($n = 5$) who died by suicide were enrolled in middle school (NCDHHS, 2019).

Significance

Suicide rates among adolescents are trending in the wrong direction (CDC, 2017) and the risk of suicide becomes evident in early adolescence (Schilling et al., 2014). The emotional and financial costs associated with adolescent suicide and suicide attempts are significant. The estimated cost of one suicide for an individual aged 10 years or older is \$1.2 million (Ahern et al., 2018). The fiscal impact includes direct costs, such as medical care and coroner investigations, and indirect costs which may include future salaries and the value of lost household productivity (Shepard et al., 2015).

Suicide causes emotional distress and psychosocial morbidity to loss survivors (Calear et al., 2016; Matel-Anderson et al., 2019). Loss survivors, such as family and friends, have been shown to be more likely to have signs and symptoms of depression and anxiety as compared to those that have not been exposed to suicide (Cerel et al., 2016). As such, they are at increased risk for mental health issues and suicidal ideation (Cerel et al., 2016).

Suicide Risk and Protective Factors

Approximately 50% of the emotional and behavioral disorders that are risk factors for suicide have an onset of symptoms by 14 years of age (Wyman, 2014). Risk factors for suicide are multi-faceted and interactive and may be comprised of components which include individual (e.g., depression), relationship (e.g., sense of isolation), community (e.g., lack of connectedness) and, societal (e.g., stigma associated with help-seeking) (Carballo et al., 2019; Sood & Linker, 2017; Stone et al., 2017). Socioeconomic factors, such as neighborhood and school poverty have

also been associated with suicide risk (Carballo et al., 2019; Fang, 2018). Dupère et al. (2009) found neighborhood poverty, which consisted of neighborhoods with 20% or more of the residents with income less than Canada's Low-Income Cut-off, to be associated with suicidal thoughts and attempts for adolescents. In their study, the odds of suicidal ideations were two times higher and suicide attempts four times higher in poor neighborhoods as compared to affluent neighborhoods (Dupère et al., 2009). Similarly, Fang (2018) found that school poverty, defined as schools in which the average family income was approximately \$29,000, may be a significant determinant for suicide attempts. Characteristics of poverty that may place youth at risk for suicide are exposure to violence and abuse, poor quality family relationships, lack of neighborhood cohesiveness, and lack of school resources (Dupère et al., 2009). Lower levels of connectedness in low-income schools may be an important mechanism that places students with mental health needs at heightened risk for suicide attempts (Fang, 2018).

School connectedness, as a protective factor against suicidal behaviors, may circumvent one or multiple risk factors (Stone et al., 2017). School connectedness is defined as the perception by students that adults and peers within the school care about them and their learning (CDC, 2009). Connections to adults in schools may increase the opportunities for adolescents to seek help in times of distress, including for suicidal concerns (Whitlock et al., 2014). Whitlock et al. (2014) suggest that isolation, as a subjective experience, is the key component of disconnectedness that influences whether one engages in suicidal behavior. School connectedness decreases or diminishes social isolation (Tomek et al., 2018), and a relationship with an adult is often a bridge for seeking help (Whitlock et al., 2014). If social isolation decreases, adolescents may be more willing to seek help from trusted adults in school during times of emotional distress. Conversely, if students do not feel there is a trusted adult, they may

not know there are resources available for distress relief, resulting in low help-seeking behavior (De Luca et al., 2019). Since suicide attempts peak during the mid-adolescent years with increased mortality throughout the teenage years, adolescence is a critical time for preventing the commencement of suicidal behavior (Carballo et al., 2019; Wyman, 2014).

School connectedness can be developed by modifying the environment (Pham et al., 2014). A positive school climate can cultivate school connectedness and encompasses the dimensions of safety, academics, structure, and community (Caridade et al., 2020; Wang & Degol, 2016). The dimension of community includes the quality of trusting interpersonal relationships and connectedness between staff and students (Wang & Degol, 2016). School connectedness is reflective of the school's ability to engender a sense of affiliation among students (Wang & Degol, 2016); thus, strategies to enhance school connectedness should be a collaboration between all members of the school team.

School Nurse Role in Suicide Interventions

The National Association of School Nurses' (NASN) position statement regarding the role of the school nurse in the behavioral health/mental health of students states that "school nurses have an essential role in addressing behavioral health disorders, promoting mental wellness and social-emotional competencies, enhancing protective factors, and referring to and collaborating with behavioral health support networks when appropriate" (2018, para 2). School nurses are often the first health care provider to see at-risk adolescents (Bains & Diallo, 2016) and have been regarded as the gateway professional for mental health services (Cowell, 2019). They are easily accessible and may be less intimidating to students (NASN, 2018); as such, they may be the only caring adult the adolescent develops a connected relationship with during what may be a tumultuous time in life (Davis-Aldrit, 2012).

School nurses are critical to the school mental health team (NASN, 2018) and are in a key position to facilitate connectedness between teachers, support staff, and students to prevent suicide (Kim et al., 2019). Yet, in an integrative review conducted to determine the role of the school nurse in suicide prevention, there was minimal evidence where school nurses collaborate with other school staff (Pestaner et al., 2019). In developing collaborative interventions to address the issue of adolescent suicide, it is important to examine the school environment and the way students connect with others within that environment, including peers, school nurses, teachers and support staff.

Gaps in Knowledge

Most studies on school connectedness have focused on the perspective of students, but little is known about school connectedness from the perspective of teachers or support staff (Biag, 2016). Further, only a few studies have examined specific dimensions of school climate, such as student-teacher relationships and connectedness (Ramsey et al., 2016). Since school connectedness can be fostered with trusting relationships with adults in school (CDC, 2009; Marraccini & Brier, 2017), it is important to obtain teacher and support staff perspectives as they facilitate supportive school environments that enhance students' connectedness within the school (Biag, 2016).

School nurses are uniquely equipped to collaborate with interprofessional team members to coordinate and develop interventions that promote school connectedness; yet, there is minimal research demonstrating the impact of nursing interventions on enhancing protective factors (Federici et al., 2019). Research is needed to identify the direct outcomes of collaborative efforts of the school nurse with interdisciplinary team members in developing suicide prevention approaches that enhance protective factors among adolescents. Understanding the perceptions of

teachers and support staff about relationships and connectedness will inform the development of collaborative school nurse interventions. These collaborative interventions can foster connected relationships and a positive school climate, thereby facilitating school connectedness as an important protective factor for adolescents.

Conceptual Framework

The bioecological theory of human development by Urie Bronfenbrenner (2005) is an effective framework to guide research in school connectedness and help-seeking within the context of adolescent suicide. The theory has been referred to as the socioecological theory of development, ecological system theory, or the developmental ecological model (Hickey et al., 2012; Hong et al., 2011; Nichols et al., 2016). It is the most widely used theory in research focused on belonging in settings such as schools, while recognizing the need to belong (Allen et al., 2016). The theory has been used in studies about the influence of parental incarceration on the experiences of high school and middle school students and the protective effects of school connectedness (Nichols et al., 2016); risk factors and protective factors for suicidal behavior among sexual minority youth (Hong et al., 2011); school connectedness as associated with bullying and peer victimization (Hong & Espelage, 2012); and, school satisfaction as associated with suicide among Korean youth (Lee et al., 2010).

The main proposition of the theory is similar to other developmental systems theories, in that the dynamic relationship between the individual and the context establish the human development process (Bronfenbrenner, 2005). In the bioecological theory, the context is comprised of nested levels, or environmental systems (Bronfenbrenner, 2005). These systems include the macrosystem, exosystem, mesosystem, and microsystem (Bronfenbrenner, 2005). The interactions between the individual and these nested systems are bi-directional or reciprocal

(Hickey et al., 2012). The nature of those interactions may predict the ongoing developmental outcomes of an individual (Bronfenbrenner & Ceci, 1994). The bioecological theory focuses on the relational nature of human development and the interactions with the changing ecology (Bronfenbrenner, 2005). The individual is an active agent embedded within this multilevel ecology (Bronfenbrenner, 2005). While the multi-level contextual relations that occur are interactive and reinforce the effects of each other, the characteristics of the individual also contribute to the evolving process of development (Bronfenbrenner, 2005). The nested systems each contain roles, norms, and rules that influence development (Hickey et al., 2012). Development occurs throughout one's life as a result of ongoing reciprocal relationships between the person and the macrosystem, exosystem, mesosystem and, microsystem (Hickey et al., 2012).

Macrosystem

The macrosystem consists of cultural or societal patterns that guide the other systems (Bronfenbrenner, 2005). If the perception of school connectedness is related to student identity (e.g., ethnicity) as suggested by Voight et al. (2015), cultural patterns could impact the presence or absence of school connectedness differently for individuals within the same school. It is important to understand how cultural beliefs and values could influence school connectedness and help-seeking attitudes.

Exosystem

The exosystem, although not containing the developing person as an active participant, consists of linkages that influence processes occurring within one's immediate setting (Bronfenbrenner, 2005; Hickey et al., 2012). The immediate setting is where activities or interactions with the developing person take place, such as family, classroom, or peers (Bronfenbrenner & Ceci, 1994). For example, the exosystem may consist of school policies

determined by the Board of Education which may directly impact the adolescent (Hickey et al., 2012). These policies may dictate the way funds are budgeted with a primary focus on academic priorities resulting in time constraints that prevent school staff from building school connectedness.

Mesosystem

The mesosystem consists of linkages and processes that are important to or affect the developing person and, occur between two or more of the individual's immediate settings (Bronfenbrenner, 2005; Hickey et al., 2012). It is a system of microsystems (Bronfenbrenner, 2005), such as the interactions between teacher/youth and peer/youth (Hong & Espelage, 2012). The interactions within one setting can be influenced by the interactions in another (Hong et al., 2011). For example, teachers have the ability to influence relationships that students have with their peers by intervening if peer interactions are harmful, such as bullying behavior (Hong & Espelage, 2012). An important factor for school connectedness is for students to feel safe at school (Allen et al., 2016), and if teachers interrupt bullying behavior, students may perceive the school as a safe environment (Hong & Espelage, 2012).

Microsystem

The microsystem consists of conditions or relationships occurring in one's immediate setting (Bronfenbrenner, 2005). It contains individuals with whom the adolescent interacts, such as teachers, peers, or nurses in the school, or parents in the home (Hong et al., 2011). Factors that support school connectedness include supportive adult relationships and positive peer group interactions (CDC, 2009). The presence or absence of school connectedness or the way a student connects with others within the school microsystem may be one determinant of whether an

adolescent seeks help or engages in risk-taking behaviors, including suicide (Whitlock et al., 2014).

Application of the Bioecological Theory at the Microsystem Level

This dissertation research will focus on the microsystem level or the school setting, since the most immediate influences on suicidal behavior occur within this level (Lee et al., 2010). The bioecological theory is illustrative of the complexity of human development and is an effective lens in guiding research on school connectedness within the context of adolescent suicide. Human actions and reactions are difficult to predict, and adolescent suicides are often spontaneous acts (Molina & Farley, 2019). The bioecological theory views human development as a dynamic and interactive process (Bronfenbrenner & Ceci, 1994). While events occur in one's immediate setting, they are also occurring within the nested systems surrounding the individual's immediate setting (Bronfenbrenner & Ceci, 1994; Hickey et al., 2012), which suggests that the development of children is influenced indirectly by events occurring in the broader context because of linkages to the conditions within the child's immediate setting (Bronfenbrenner, 2005). The interactions within the settings and between the settings may be predictive of the outcomes of development (Bronfenbrenner, 2005). These person-context relations can be modified or altered in such a way that can positively impact the way an individual develops (Bronfenbrenner, 2005).

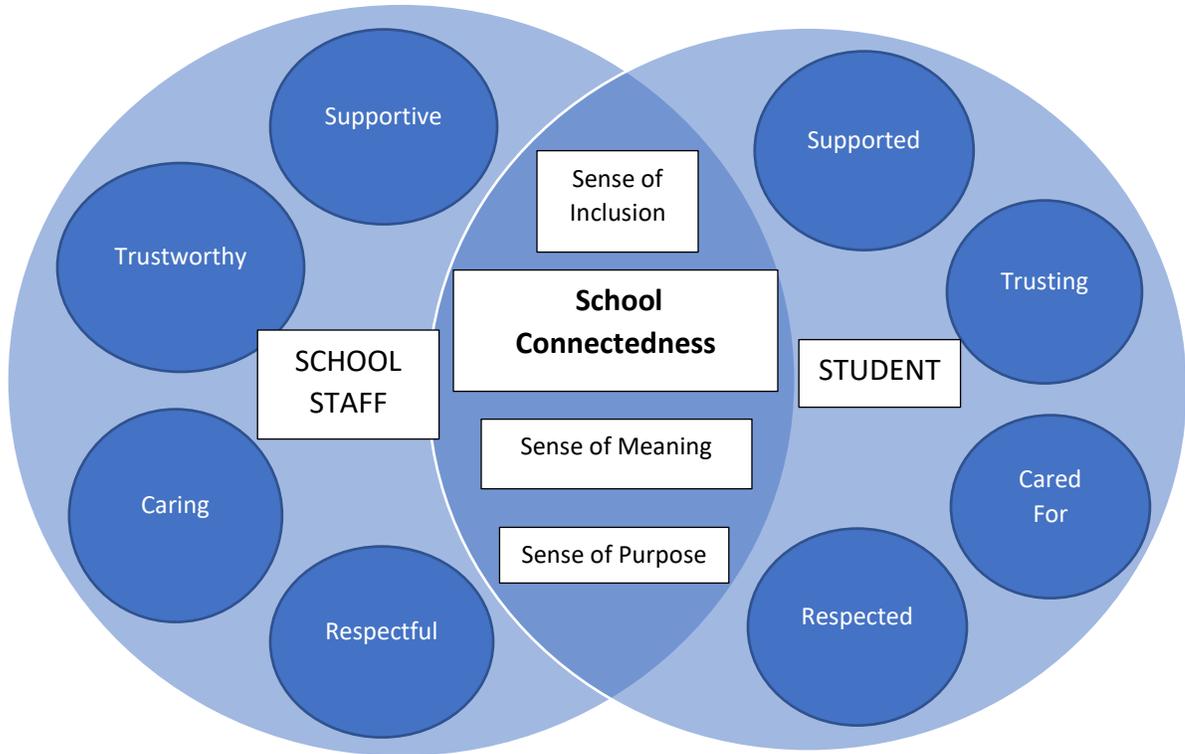
The microsystem level, consisting of individuals that the child interacts consistently with, is the level at which there are the most immediate influences on suicidal behavior (Lee et al., 2010). These interactions between the child and others are constantly influencing the individual (Hong et al., 2011). School connectedness, a protective factor against suicidal behavior, can be enhanced as a result of individual and microsystem level forces (Allen et al., 2016). If personal

characteristics of the individual, such as coping skills, are encouraged by schools, this may enhance the perception of school connectedness (Allen et al., 2016). The presence or absence of the perception of connectedness within the school, or microsystem, may impact whether an adolescent experiencing emotional distress would be willing to seek help from adults within that microsystem (Whitlock et al., 2014). School connectedness is a subjective experience (Hodges et al., 2018) and while two students may experience the same environment, their perceptions of that environment may be different (Voight et al., 2015). Students bring different beliefs, values, and experiences into the classroom which impacts their views and experiences within that setting. This suggests that culture, beliefs, and values may affect perception of school connectedness which could translate to variability in willingness to seek help for emotional distress.

Interventions in adolescent suicide prevention should be guided by a framework that acknowledges the importance of human interactions, relationships, beliefs and values. Schools can be a catalyst for change and a place that behaviors linked to suicide can be altered (Nakhid-Chatoor, 2020). School connectedness can be developed by fostering relationships with adults in school with whom students have a caring, supportive, respectful, and trusting relationship (CDC, 2009; Marraccini & Brier, 2017; Whitlock, 2006; Whitlock et al., 2014). It may engender students with a sense of meaning or purpose and promote a sense of inclusion (Tomek et al., 2018; Whitlock et al., 2014) (see Figure 1). Since the interactions between the child and members within a microsystem level, such as teachers, support staff, peers, and school nurses in school, may have the most immediate influence on suicidal behavior (Lee et al., 2010), enhancing school connectedness is an important protective factor to explore in the context of suicide prevention.

Figure 1

Microsystem Model of Connectedness: Middle School Setting



Note. School staff includes teachers, administrators, clinical support staff (e.g., social workers, counselors, school nurses).

Purpose

The purpose of this study was to explore the experiences of teachers and support staff in a low-income public middle school and how these experiences explained relationships between their perception of school climate and feeling connected to students. The long-term goal of this research is to develop suicide intervention strategies by identifying collaborative opportunities between school nurses, teachers, and support staff to enhance school connectedness that will facilitate help-seeking behavior among middle school students.

The research questions were as follows:

RQ1. What is the relationship between teacher/support staff perceptions of school climate and feeling connected to students in a low-income public middle school?

RQ2. What experiences of teachers/support staff explain perceptions of school climate and feeling connected to students in a low-income public middle school?

Theoretical and Operational Definitions

School Climate

School climate is a modifiable, multidimensional construct and encompasses quality of academics, degree of safety, structural features and, the quality of relationships within the school (Wang & Degol, 2016). School climate was operationalized with the survey question from the Teacher School Connectedness Survey (Vidourek & King, 2014), which asked respondents to describe the emotional climate of the school among four indicators: 1) extremely warm and positive; 2) warm and positive; 3) cold and negative; or, 4) extremely cold and negative. Self-report surveys are the most used tools to assess school climate (Wang & Degol, 2016). School climate was also explored by teacher/support staff perceptions, which was knowledge derived from descriptions of experiences obtained in the transcripts.

Connected

Connected refers to the subjective state of feeling associated or affiliated with, or related to another individual (McKernie, 1983). Feeling connected to students was operationalized with the survey question from the Teacher School Connectedness Survey (Vidourek & King, 2014), which asked respondents if they felt positively connected to students. The response was dichotomous, which included a yes or no option. Feeling connected to students was also explored by teacher/support staff perceptions, which was knowledge derived from descriptions of experiences obtained in the transcripts.

Low-Income Public Middle School

A public school in North Carolina is defined as a day school that is within State authority and supervision of an elected or appointed city or county school board and supported and controlled by the State (North Carolina Retirement System for Teachers and State Employees, 1941/2019). A low-income school is one in which there is a poverty percentage of at least 30% (Harris, 2020). To be considered a Title 1 school under the Elementary and Secondary Education Act of 1965, more than 40% of students in the school must be low-income according to the U.S. Census (LAWS, 2019). Federal funds are provided to Title 1 schools to increase test scores and academic development (LAWS, 2019).

Summary

The protective mechanism of school connectedness is an important consideration in adolescent suicide prevention as it may offset risk factors for suicide. Adolescents spend a great deal of time in school with teachers and support staff; thus, it is important to obtain teacher and support staff perspectives since they facilitate supportive school environments that enhance students' connectedness within the school (Biag, 2016). School connectedness can be developed because the school environment can be modified (Pham et al., 2014) by strengthening relationships between adults and students that support a positive school climate. As such, understanding the relationships between teacher and support staff perceptions of school climate and feeling connected with students is an important first step in developing interventions to address the issues. This research focused on the school environment and the way middle school students connect with others within that environment as seen through the lens of teachers and support staff. Evidence regarding perceptions of connectedness and school climate will provide

empirical support to guide collaboration between school nurses and school staff in developing interventions that will impact suicide risk in middle schools.

Chapter 2: Review of the Literature

The purpose of this study was to explore the experiences of teachers and support staff in a low-income public middle school and how these experiences explained relationships between their perception of school climate and feeling connected to students. The long-term goal of this research is to develop suicide intervention strategies by identifying collaborative opportunities between school nurses, teachers, and support staff to enhance help-seeking behavior among at-risk middle school populations. The review of the literature will focus on: (a) adolescent suicide and risk factors; (b) school connectedness as a protective factor; (c) help-seeking and barriers; (d) relationship between school connectedness and help-seeking within the context of adolescent suicide; (e) collaborative opportunities for school nurses and school staff to enhance school connectedness and help-seeking; and (f) research gaps.

An integrative review was conducted to examine the role of the school nurse in suicide interventions from February 2019 – July 2019 (Pestaner et al., 2019). This integrative review informed a second literature review conducted during February – March 2020 to identify the relationship between school connectedness and help-seeking within the context of adolescent suicide. Inclusion criteria were: (1) adolescents or children and (2) help-seeking behavior or school connectedness evaluated in relation to suicide or suicide risk factors; and (3) public schools. Peer-reviewed English language journals in PubMed, PsychInfo, and CINAHL were searched for quantitative and qualitative research articles. Search terms included adolescents, children, suicide, school connectivity, school connectedness, school bonding, protective factor, help seeking, help seeking behavior, nurses, teachers. Searches focused on articles published between 2014-2020 to capture studies occurring after trends in the incidence of child and adolescent suicide increased.

Adolescence and Suicide

Adolescence is the transitional period from childhood to adulthood which begins with the initiation of sexual maturation (Sood & Linker, 2017). Between the ages of 6-13 years, children test limits and start to become independent (De Luca et al., 2019). The onset of egocentrism occurs between the ages of 11-13 years (De Luca et al., 2019) and social skills develop which may be either positive or negative (Carney et al., 2018). Between the ages of 13-15 years, identities and values develop, but adolescents may feel that seeking help is a sign of an inability to care for oneself (De Luca et al., 2019). The period of adolescence may be stressful and intense with increased independent decision making that may appear impulsive at times (Sood & Linker, 2017). Identifying with and relating to peers becomes important (Morales-Chicas & Graham, 2015), and adolescents may have difficulty controlling emotions (Sood & Linker, 2017). Adolescence is characterized by impulsiveness and lack of forward thinking; as such, adolescents may have difficulty gauging their level of distress (De Luca et al., 2019). While feeling insecure, adolescents may also feel invulnerable, which can be a barrier to help-seeking behavior (De Luca et al., 2019). Because of the different developmental processes occurring throughout adolescence, there may be differences in how early adolescents (before age 13 years), middle adolescents (before age 15 years), and later adolescents (15 years and older) seek help in times of distress (De Luca et al., 2019).

Adolescence is a time of significant physical, emotional, and social changes (De Luca et al., 2019). Non-suicidal-self injury (NSSI) and suicidal behavior are common, with an average onset at approximately 12 years of age (Bem et al., 2017; Berger et al., 2015; Klemera et al., 2017). Approximately 10-23% of adolescents engage in self-injurious behavior (Berger et al., 2015). An estimated 12.1% of adolescents in the United States experience suicidal ideations, 4%

make a suicide plan, and, 4.1% attempt suicide (Nock et al., 2013). Adolescence is the period with the highest rate of suicide attempts (Robinson, 2015; Wyman, 2014). Further, the risk of future suicide attempts and death by suicide increases with each attempt (Wyman, 2014). Adolescent suicide has distinctive features related to history, communicating intent, and precipitating events. Molina and Farley (2019) reviewed pediatric suicide medical examiner records from San Antonio, Texas for a 25-year period and found that approximately 20% of adolescents who died by suicide had a psychiatric disorder, with depression being the most common (75%). Before acting, only 16% expressed the intent to commit suicide. Intent was expressed verbally (60%), by text (31%), social media (3%), in writing (3%), or was documented as unknown (3%). A precipitating event occurred in 62% of the cases, such as issues with a romantic partner (31%), conflicts with family (13%), death of a loved one (8%), issues at school (7%), bullying (2%), and issues with a friend (1%). The overall average age of death was 15.4 years. Signs and/or symptoms of mental illness and suicidal behaviors may appear years prior to commencement of suicide attempts; thus, adolescence is a critical period for suicide prevention efforts (Schmidt et al., 2015; Wyman, 2014).

Risk and Protective Factors

The dynamic relationship between risk and protective factors impacts adolescent risk-taking behavior, such as suicide (Matel-Anderson et al., 2019). Risk factors are “individual or environmental characteristics, conditions, or behaviors that increase the likelihood that a negative outcome will occur” (CDC, 2009, p. 3). They are stressors that increase one’s vulnerability and risk for suicide (Breton et al., 2015; Matel-Anderson et al., 2019). Protective factors are “individual or environmental characteristics, conditions, or behaviors that reduce the effects of stressful life events; increase an individual’s ability to avoid risks or hazards; and,

promote social and emotional competence” (CDC, 2009, p. 3). They weaken the impact of risk factors and decrease the risk of suicide (Matel-Anderson et al., 2019). Risk and protective factors influence the level of resilience one has to adversity (Matel-Anderson et al., 2019). The greater the resilience, the less risk of engaging in suicidal behaviors (Matel-Anderson et al., 2019).

Risk factors for adolescent risk-taking behavior, such as suicide, are accumulative and interactive (Carballo et al., 2019). They include psychological (such as depression, prior suicide attempt, anxiety, externalizing behaviors, and aggression); biological (impulsivity, poor self-esteem); and, social or environmental factors (family conflicts, poverty, peer conflicts and academic challenges) (Carballo et al., 2019; Sood & Linker, 2017). Risk factors related to the school setting include absenteeism, suspension, disciplinary issues, bullying or being bullied, and social disconnectedness (Biddle et al., 2010). Protective factors may offset one or multiple risk factors (Stone et al., 2017). Protective factors for adolescents include positive coping skills, self-esteem, self-control, moral opposition to suicide, connectedness to school and community, access to care, and minimal access to lethal weapons (Breton et al., 2015; Stone et al., 2017).

Environmental/Social Factors

Environmental factors, such as influences and relationships in school, community, and home have the most significant impact on adolescent suicidal behaviors (Sood & Linker, 2017). Adolescent suicide risk is generally higher in rural areas as compared to urban areas (Miller & Eckhert, 2009). This may be related to greater access to firearms, limited access to mental health services (Capps et al., 2019), lack of insurance and transportation, as well as low parental education (Wilger, 2018). Cultural barriers may also be a factor as stigma associated with

mental illness is typically greater in rural areas, which impedes help-seeking behavior (Wilger, 2018).

Poverty is a risk factor for suicidal behavior (Brown & Grumet, 2009). Ghandour et al. (2019) found a higher prevalence of depression, behavioral, and conduct problems among adolescents living in poverty. Additionally, poor adolescents are less likely to receive treatment for mental health issues (Ghandour et al., 2019). Fang (2018) found that adolescent boys in middle-income schools with an average family income of \$43,000-\$66,000 were significantly less likely to attempt suicide compared to boys in low-income schools with an average family income of \$29,000, suggesting that boys from low-income schools are at greater risk for suicide attempts.

Psychological Factors

Depression is a significant risk factor for suicide (Lindsey et al., 2017). Signs of depression for adolescents include feelings of worthlessness, hopelessness, sadness, aggression, anger, irritability, difficulty with sleep, and withdrawing socially (Lindsey et al., 2017). There are gender differences in how these signs and symptoms are displayed. Males are more likely to display externalizing behavior such as anger, aggression, or disruptiveness, while females typically demonstrate internalizing behavior such as anxiety, which may mask signs of depression (Lindsey et al., 2017; Piqueras et al., 2019). Externalizing behaviors may be misinterpreted as conduct issues instead of signs and symptoms of depression or anxiety (Lindsey et al., 2017). African American boys have higher rates of suspension as a result of disrupting class and are less likely to receive treatment for depression as compared to their European American classmates (Lindsey et al., 2017).

Race/Ethnicity

Race/ethnicity is considered a static risk factor for suicide (Jameson, 2020). There is growing awareness that mental health disparities are impacting adolescents in underrepresented groups (Hargett, 2020). African American adolescents are at risk for mental illness due to social inequities, such as racism, poverty, and social isolation (Haynes et al., 2017; Price & Khubchandani, 2019). One of the most significant risk factors for suicide is a previous suicide attempt, and compared to other racial groups African American adolescents have a higher rate of suicide attempts (Price & Khubchandani, 2017).

Health disparities and inequities due to race/ethnicity are often influenced by economic, social, and environmental factors that result in barriers to accessing and receiving health care (Manuel, 2018). Barriers to accessing care for African Americans include poverty and lack of health insurance (Manuel, 2018). African American adolescents may not want to burden parents or caregivers or may feel they should be able to handle problems on their own (Lindsey et al., 2017). Brady et al. (2014) found that African American students' lack of trust for teachers and other school staff impacted their willingness to discuss topics of a personal nature. Other obstacles identified by African American students include culture, discrimination, fear and distrust of services, stigma related to mental illness, low mental health literacy, and the belief that mental illness reflects weakness (Haynes et al., 2017; Manuel, 2018; Price & Khubchandani, 2019).

Middle School Years and Prevention

The transition to middle school may be a difficult time for adolescents as their developmental needs, such as the need to make decisions and have close relationships with others, may be in opposition to the environment (Loukas et al., 2016). The student-teacher relationship changes as students begin to rotate classes (Nadeem et al., 2011) and teacher support

may decrease (Madjar et al., 2018). The structure of middle school may be an obstacle to the development of relationships (Biag, 2016). Adolescents must adjust to a different curriculum with an emphasis on standardized testing, and perhaps a larger school (Biag, 2016; Morales-Chicas & Graham, 2015) with potentially more negative peer interactions (Madjar et al., 2018). Perceptions of school belonging decrease in middle school and may be the result of these interpersonal and structural changes (Biag, 2016; Loukas et al., 2016; Morales-Chicas & Graham, 2015). Additionally, the onset of mental health needs may add to the challenges of middle school (Nadeem et al., 2011). The goal of primary prevention for suicide is to target individuals prior to the risk period for developing maladaptive behaviors (Sood & Linker, 2017). As such, middle school may be a particularly crucial time for initiating approaches to prevent the commencement of suicide behaviors (Schilling et al., 2014; Wyman, 2014).

Adolescent suicide prevention strategies have typically focused on identifying at-risk students or treating those already engaged in suicidal behavior (Sieving et al., 2017; Wyman, 2014). To prevent the onset of suicidal behavior, strategies have broadened to include an upstream approach focused on protective factors (Sieving et al., 2017; Wyman, 2014). Protective factors, such as school connectedness, are related to positive coping mechanisms, such as help-seeking behavior (De Luca et al., 2019). Research examining help-seeking behavior in adolescents has primarily targeted high schools (De Luca et al., 2019). As such, there is a gap in knowledge about how or from whom younger adolescents in middle school seek help during times of emotional distress (De Luca et al., 2019). Enhancing and understanding these coping mechanisms in middle school prior to the additional challenges presented in high school, is important to prevent subsequent adverse behavior (De Luca et al., 2019). Prevention initiated after middle school may be too late (De Luca et al., 2019).

School Connectedness

In the seminal National Longitudinal Study of Adolescent Health (Add Health), Resnick et al. (1997) described school connectedness as a concept that emanates from individual and school environment interactions. Resnick et al. (1997) found that higher levels of school connectedness were associated with lower levels of emotional distress and suicidal behavior. Subsequent studies confirmed that school connectedness may be a significant protective factor for adolescents. As a result of this seminal report, the Wingspread Conference was convened in 2003, with researchers from governmental, health, and educational venues in attendance to discuss the current state of knowledge regarding school connectedness (Blum & Libbey, 2004). This led to the development of the Wingspread Declaration on School Connections, which contains core components of school connectedness (Blum & Libbey, 2004) and one of the most widely accepted definitions of the concept (Marraccini & Brier, 2017). The definition of school connectedness, which is “the belief by students that adults in the school care about their learning and about them as individuals” (Blum & Libbey, 2004, p. 231), expresses the interpersonal and affective aspects of adolescent experiences (Loukas et al., 2016). The core components of school connectedness are:

- 1) Student success can be improved through strengthened bonds with school.
- 2) In order to feel connected, students must experience high expectations for academic success, feel supported by staff, and feel safe in their school.
- 3) Critical accountability measures can be impacted by school connectedness such as: academic performance, fighting, truancy, and drop-out rates.
- 4) Increased school connectedness is related to educational motivation, classroom engagement, and better attendance, resulting in higher academic achievement.

- 5) School connectedness is also related to lower rates of disruptive behavior, substance and tobacco use, emotional distress, and early age of first sex.
- 6) School connectedness can be built through fair and consistent discipline, trust among all members of the school community, high expectations from the parents and school staff, effective curriculum and teaching strategies, and students feeling connected to at least one member of the school staff (Blum & Libbey, 2004, p. 232).

School Connectedness: Conceptualizing and Operationalizing

School connectedness has been inconsistently defined and conceptualized and operationalized as either a uni-dimensional or multi-dimensional construct (Chung-Do et al., 2015; Marraccini & Brier, 2017; Whitlock et al., 2014). In a systematic review of the psychometric properties of school connectedness measures, Hodges et al. (2018) found that most of the studies selected in their review ($n = 19$) focused on the methodology used to create the measures rather than adequately conceptualizing or defining the construct of school connectedness. School connectedness has been used interchangeably with school belonging, school bonding, school engagement, school climate, school involvement, and school commitment (Chung-Do et al., 2015; Loukas et al., 2016). School connectedness, based on the literature, is subjective and can be developed by cultivating a positive school climate (Caridade et al., 2020; Hodges et al., 2018; Pham et al., 2014) to include supportive relationships, such as those of peers and teachers, perceptions of safety, feeling cared for and respected, feeling a sense of belonging, and having high academic standards with clear expectations (Biag, 2016; Furlong et al., 2011; Marraccini & Brier, 2017).

Since school connectedness has been inconsistently defined, determining the most valid and reliable measures for this construct is a difficult process (Hodges et al., 2018).

Connectedness has typically been operationally defined and measured by self-report which assesses perceptions of attachment, belonging within a group setting, and availability of support (Whitlock et al., 2014). The most widely used scale in research, the School Connectedness Scale (SCS), is a 3-7 item unidimensional measure derived from the Add Health study (Marraccini & Brier, 2017; Resnick et al., 1997;). The SCS reflects social and affective aspects of students' school experiences or perceptions of belonging and not cognitive or behavioral aspects (Chung-Do et al., 2015; Loukas et al., 2016). Whitaker et al. (2016) used the SCS to assess school connectedness among 9th and 11th grade students in all San Francisco public high schools and used additional measures to assess safety in school and caring relationships at school. The authors did not find a significant relationship between safety in school, caring relationships, and suicidal ideation. However, there was a significant inverse relationship between school connectedness and suicidal ideation. This suggests that since the school connectedness construct encompasses the concepts of safety, relationships and school belonging, which is reflected in the SCS, that measuring each concept independently is not a valid predictor of suicidal ideation (Whitaker et al., 2016).

School Connectedness as a Protective Factor

There is an inverse relationship between school connectedness and suicidal behavior, as studies have demonstrated that school connectedness is related to reduced suicidal thoughts and behaviors (Marraccini & Brier, 2017; Whitlock et al., 2014). Mechanisms that may support this relationship include group responsibility in which those at risk are identified, interactions that impact perceived isolation and rejection, and positive expectations that may bolster help-seeking

behavior (Marraccini & Brier, 2017). There is a strong association between school connectedness and positive health and academic outcomes (CDC, 2009; Chung-Do et al., 2015). Adolescents who perceive higher levels of school connectedness may be less anxious and depressed (Carney et al., 2018). Research suggests that if there is positive academic performance, adolescents are less likely to participate in risk-taking activities (CDC, 2009). Relationships with teachers have been positively related to academic progress and negatively related to aggression, disciplinary issues, and internalizing behaviors associated with depression (Biag, 2016).

Factors that support school connectedness include supportive adult relationships and positive peer groups (CDC, 2009). Maintaining high academic expectations, fair disciplinary policies, and allowing students to be involved in decision making within a school environment that is safe, clean, and comprised of mutual respect are strategies to enhance school connectedness (CDC, 2009). Strategies that make students feel they are part of a team and part of something larger than themselves connect students to their classroom or school (Carney et al., 2018). Developing trusting and caring relationships between school staff and students is important and building connectedness with at least one adult enhances school connectedness (CDC, 2009; Marraccini & Brier, 2017).

School Connectedness and Gender/Race/Ethnicity

There may be gender and racial/ethnic differences in perception of school connectedness (Loukas et al., 2016; Whitlock et al., 2014). Loukas et al. (2016) found that girls reported higher levels of school connectedness than boys upon entering middle school, but it declined during the middle school years for both boys and girls. Further, higher levels of externalizing behavior and

depression during middle school were related to lower levels and a faster rate of decline of school connectedness (Loukas et al., 2016).

There may be racial gaps in how the school environment is perceived, masking inequities that may impact whether school connectedness acts as a protective factor for youth of color (Voight et al., 2015). Voight et al. (2015) found that African American middle school students reported less connectedness and adult-student relationships compared to European American students. Given the increase in the rate of African American adolescent suicide over the last few years, Shain (2019) suggests that protective factors may have diminished or changed to more of an internal perspective.

Help-Seeking

Help-seeking is an important concept since seeking help from adults by adolescents at-risk for suicide may potentially be a life-saving measure (Pisani et al., 2012). The literature reveals lack of clarity in defining help-seeking and lack of empirical evidence supporting the psychometric properties of help-seeking measures (Schmeelk-Cone et al., 2012; Wilson et al., 2005). Help-seeking has been described as the intent to seek help and the act of verbalizing the need for help when suicidal (Strunk, Sorter, et al., 2014), or proactively requesting help from formal or informal sources (Maiuolo et al., 2019). There is a relationship between negative help-seeking experiences and negative attitudes about help-seeking in the future (Sheppard et al., 2018). Further, help-seeking behavior is related to future help-seeking intentions (Sheppard et al., 2018).

Help-Seeking Attitudes: Operationalizing

De Luca et al. (2019) used the four-item Help-Seeking Acceptability at School Scale (HSA) in the context of trusted adults being social buffers and resources for students. The HSA

measures adolescents' attitudes by assessing intent to seek help, expectations of being given help, and, perceptions of whether a family member or friend would support the student's help-seeking behavior (Pisani et al., 2012; Schmeelk-Cone et al., 2012). Consistent with the bioecological theory, the HSA is based on the recognition that relationships within the various ecological levels of an adolescent, such as adults in schools, influence suicide risk and protective factors (Schmeelk-Cone et al., 2012). Additionally, perceptions of peer expectations, norms, and intentions impact adolescent decision-making in seeking help for distress (Schmeelk-Cone et al., 2012).

Help-Seeking Barriers

Factors that impede adolescent help-seeking include not wanting to burden caregivers, shame for having suicidal thoughts, and the need to handle the issue oneself (Lindsey et al., 2017; Schmeelk-Cone et al., 2012). Stigma and lack of mental health literacy are common barriers and it is possible that the presence of either of these obstacles may impede help-seeking (Nearchou et al., 2018; Perry et al., 2014). Stigma has a negative effect on self-esteem, confidence and self-worth (Casañas et al., 2018). If there is pervasive stigma about mental health within the school environment, an adolescent with mental health challenges may be excluded from relationships with peers or fear exclusion. If one is excluded, they may be reluctant to seek help from others within that environment.

Adolescents typically seek help from informal sources rather than formal sources (Sheppard et al., 2018). Flynn et al. (2016) examined knowledge level changes about suicide and help-seeking intent following administration of a gatekeeper-type suicide prevention program to students aged 11-18 years. The authors reported that adolescents would first seek help from a friend followed by an outside adult and school staff. Wilkinson (2011) noted that the

school nurse was listed as the second to last individual that students who engaged in self-injurious behavior would contact for help. This suggests that students may not realize that school nurses are resources when in distress or the at-risk behavior may not be recognized by school nurses (Wilkinson, 2011). Some adolescents may not have trusting relationships with adults in school that support help-seeking behavior (Lindsey et al., 2017). Trusting relationships are critical in facilitating school connectedness that may support help-seeking behavior.

Help-Seeking and Gender/Age/Race/Ethnicity

There may be gender, age, and racial/ethnic differences in help-seeking. Females, as compared to males, are generally less impulsive and more likely to seek help, which may be pertinent in protecting females from completing suicide as compared to males (Badr, 2017). De Luca et al. (2019) examined age differences in help-seeking attitudes and found that younger adolescents (aged 11-12 years) reported stronger beliefs that trusted adults could assist them as compared to older adolescents (aged 13-15 years). This suggests that there may be specific times during adolescence that are particularly critical to facilitate strategies to promote help-seeking (De Luca et al., 2019).

Brady et al. (2014) found that African American youth may not trust school staff enough to seek help from them if feeling sad. Research examining adolescent help-seeking behavior has typically focused on European American student populations (De Luca et al., 2019). As such, there is a gap in knowledge regarding how or from whom underrepresented adolescents seek help during times of distress (De Luca et al., 2019).

School Connectedness and Help-Seeking

Research suggests a relationship between school connectedness and help-seeking for suicidal thoughts (Colvin et al., 2019); yet there is minimal evidence regarding factors that

impact help-seeking which has hampered the development of interventions to enhance help-seeking behavior (Schlmeek-Cone et al., 2012). Aspects of school connectedness that facilitate help-seeking include trusted adults and peers, supportive environment, open communication, reciprocal relationships, and inclusion (Anyon et al., 2014; Carney et al., 2018; Colvin et al., 2019; Parikh et al., 2018; Pham et al., 2014; Shukla et al., 2016). Colvin et al. (2019) suggest that since supportive adults are a critical component of a supportive school environment, students must *perceive* those adults as supportive before seeking help from them. Carney et al. (2018) suggest that school connectedness enhances social skills, or personal resources that students bring into all social interactions, enabling them to have more positive interactions with others in the school setting.

The goals of many suicide prevention programs include increasing help-seeking behavior and school connectedness to decrease suicidal behaviors (Strunk, King, et al., 2014; Strunk, Sorter, et al., 2014), demonstrating the linkage between these variables. Open communication with parents and adults in the school is an important component of school connectedness (Strunk, King, et al., 2014; Strunk, Sorter, et al., 2014). If one is connected to trusted adults within the school, it is assumed that they would have a communicative open relationship, which may lead to the likelihood of being willing to seek help in times of distress. Many at-risk adolescents prefer to seek help from their friends rather than an unfamiliar person (Strunk, Sorter, et al., 2014), but if there are trusted adults in school, they may be willing to view them as a resource if in distress. Without trusted adults, students may not realize that there are help-seeking opportunities, placing them at greater risk (De Luca et al., 2019).

Tomek et al. (2018) discuss school connectedness in terms of decreasing or diminishing social isolation, which has a positive effect in reducing suicidal behaviors. Social integration

may increase the resources accessible to youth when in distress (Whitlock et al., 2014). If adolescents are socially integrated into various activities in school, they may feel a sense of belonging, perceive that social support is available, and believe that adults are capable of helping in times of distress, thereby enhancing the likelihood of help-seeking intent and behavior (Whitlock et al., 2014).

Collaboration Between School Nurses & School Staff

Collaborative interventions between school nurses, teachers, and support staff that enhance school connectedness among middle school adolescents can positively impact mental health (Onnela et al., 2014). While school nurses have a significant role in enhancing protective factors, promoting mental health, and collaborating with teachers, administrators and family (National Association of School Nurses [NASN], 2018), Pestaner et al. (2019), found minimal evidence regarding collaboration between school nurses and school staff in the prevention, assessment, and early identification of at-risk students. Further, research is limited about the direct impact of school nurse interventions on school connectedness (Federici et al., 2019). School nurses and teachers are important members of the school team and their involvement with students can be one determinant of how students perceive the school environment (Chung-Do et al., 2015; NASN, 2018). Unfortunately, the practice in schools is typically that of “silo-style work” where the teacher stays in the classroom and school nurses travel to various schools in one district (Pufpaff et al., 2015, p. 688), leaving minimal, if any, time for collaboration. Together, school nurses and teachers have an opportunity to positively impact school connectedness if barriers to collaboration are removed.

Effective collaboration is demonstrated by information-sharing among team members and maximizing the strength of each member, resulting in a more comprehensive, individualized

plan for students (Pufpaff et al., 2015). School nurses should be considered part of the education team (Pufpaff et al., 2015) and invited to staff meetings when the needs of challenged students are discussed. They should be kept informed about students experiencing difficulties with absenteeism, truancy, and acting out, or if they are demonstrating withdrawn or isolative behaviors. Students that have patterns of disciplinary problems may benefit from being referred to the school nurse for assessment, as short-term suspensions may place students at risk for a loss of connectedness and further academic challenges and risk-taking behavior (Henderson & Guy, 2017). School nurses may be able to develop relationships with at-risk students and determine if there are untreated mental health needs. This would facilitate the creation of a collaborative plan of action to develop connected relationships with adolescents struggling in school and to make referrals as appropriate.

School nurses promote school connectedness by supporting students and ensuring they have access to health resources (Davis-Aldritt, 2012), but effective interventions require collaboration between all school staff (Wilkinson, 2011). School nurses often connect students and parents with outside resources (Pestaner et al., 2019). Identifying at-risk students by collaborating with other school team members may result in student referrals that would otherwise be missed.

School nurses can educate school staff on signs and symptoms of depression and anxiety that may be perceived as acting-out behavior. This will improve the school environment by providing school staff with skills that allow them to identify and cope with various emotional needs of students (Onnela et al., 2014). In addition, teachers' supportive presence can enhance school connectedness and promote mental health (Madjar et al., 2018).

School nurses are positioned to assist in reducing stigma and barriers to care (NASN, 2018). They can reduce the stigma associated with seeking help for mental health needs by providing easily accessible services (Onnela et al., 2014). As trusted health professionals in the school setting (Bohnenkamp et al., 2015), and because their role is supportive and not of a disciplinary nature, adolescents may be more likely to trust and confide in nurses (Cooper et al., 2012). If school nurses and school staff work together to promote a culture of belonging and trust, stigma may decrease while supporting positive mental health for students (Onnela et al., 2014).

School connectedness may act as a protective factor against suicidal thoughts and behaviors by enhancing the likelihood that adolescents will seek help when in distress (Stone et al., 2017). As such, collaborative interventions between school nurses and teachers are important suicide preventative measures. Adolescent suicides are often spontaneous acts (Molina & Farley, 2019) and school personnel are in a unique position to recognize a student in crisis or at risk. Teachers spend more time with students than other school personnel and have an opportunity to observe the way they interact with peers and school staff (Lindsey et al., 2017; Nadeem et al., 2011). School nurses can coordinate with teachers and stakeholders to develop collaborative strategies to build trust, rapport, and caring relationships (Wilkinson, 2011) that support school connectedness and facilitate help-seeking behavior.

Research Gaps

School nurses are uniquely equipped to collaborate with interprofessional team members to coordinate and develop interventions that promote school connectedness; yet, there is minimal research demonstrating the impact of nursing interventions on enhancing protective factors (Federici et al., 2019). Research is needed to identify the direct outcomes of collaborative efforts

of the school nurse with interdisciplinary team members in developing suicide prevention approaches that enhance protective factors among adolescents, such as school connectedness. Most studies on school connectedness have focused on the perspective of students and few studies have examined specific dimensions of school climate (Biag, 2016; Ramsey et al., 2016). Since school connectedness can be fostered with trusting relationships with adults in school (CDC, 2009; Marraccini & Brier, 2017), it is important to obtain teacher and support staff perspectives as they facilitate supportive school environments that enhance students' connectedness within the school (Biag, 2016). Understanding the perceptions of teachers and support staff about relationships and connectedness will inform the development of collaborative school nurse interventions to foster connected relationships and a positive school climate, thereby facilitating school connectedness as an important protective factor for adolescents.

Long-term research goals are to explore school connectedness and its influence on help-seeking attitudes of middle-schoolers, particularly underrepresented youth. Research suggests that school connectedness and help-seeking behaviors play a role in adolescent suicide risk. However, research about the risk and protective factors for adolescent suicide have mostly been based on European American adolescents in high school and may not be representative of the full range of the adolescent years or racial/ethnic gaps in school connectedness as a protective mechanism and its influence on help-seeking behavior. Findings from this research will support the identification of further collaborative opportunities between school nurses, teachers, and support staff to enhance school connectedness and help-seeking among middle school students at risk for suicide.

Summary

School connectedness can be developed with strategies that promote a supportive, trusting and respectful school climate of reciprocal relatedness between students and adults. If adolescents perceive there are caring individuals in environments where they spend a great deal of time such as schools, they may be more willing to seek help from them during times of distress. School connectedness is an important modifiable factor for adolescents in protecting them against the risk of suicide by offsetting risk factors that lead to vulnerability, especially during the middle school years. School personnel observe and interact with students daily. School nurses, who are trusted health care providers and may be the only health care professional in the school setting, have expertise in coordinating and delivering care. They are uniquely positioned to collaborate with teachers and other school support staff to develop strategies to enhance school connectedness and help-seeking behaviors that will positively impact the risk of suicide for middle school students.

Chapter 3: Methodology

This chapter will provide an overview of the research design and methodological approaches. Ethical considerations and strategies to minimize threats to research integrity will be discussed, followed by a brief description of changes that were made to the original dissertation study.

The Impact of Covid-19 on the Dissertation

The novel coronavirus (COVID-19) was declared by the World Health Organization (WHO) to be a global pandemic on March 11, 2020 (Cucinotta & Vanelli, 2020). Efforts to prevent transmission of the virus included social distancing and the closing of businesses and schools (Witt et al., 2020). This resulted in significant challenges in recruiting middle school students for the original dissertation study.

The purpose of the original dissertation study was to explore the experiences of 7th grade students in a public middle school that explained the relationship between perceived school connectedness and help-seeking attitudes. The intended methodology was a sequential, explanatory mixed-methods design. Quantitative data was to be collected with surveys and qualitative data was to be collected with the use of focus groups among 7th grade students. In an effort to move the study forward, three Institutional Review Board amendments were submitted over a period of ten weeks to enhance recruitment strategies. The first and second amendments focused on revising the recruitment platform from face-to-face to virtual. Additional strategies included recruitment videos, texts, and automated phone calls from school administration, and a personal letter signed by the principal. The third amendment focused on expanding the sample to include 6th and 8th grade students and additional virtual recruitment meetings with teachers,

parents, and students. Despite these additional recruitment efforts, only four informed consents were received.

On December 17, 2020, approval was given by the dissertation committee to revise the dissertation study. The research design was changed from an explanatory sequential mixed-methods study to a secondary data analysis of data obtained from an explanatory sequential mixed-methods study. The PhD candidate had assisted the principal investigator with collection, management, and analysis of the data generated from the primary study. The purpose and research questions were also revised:

Table 1

Comparison of Initial and Revised Dissertation Study Purpose and Research Questions

	Initial Study	Revised Study
Purpose	To explore the experiences of 7 th grade students in a public middle school that explain the relationship between perceived school connectedness and help-seeking attitudes.	To explore the experiences of school staff in a low-income public middle school that explain relationships between their perception of school climate and feeling connected to students.
Research Question 1	What is the relationship between perceived school connectedness and help-seeking attitudes among 7 th grade students in a public middle school?	What is the relationship between school staff perceptions of school climate and feeling connected to students?
Research Question 2	What experiences of 7 th grade students in a public middle school explain relationships between perceived school connectedness and help-seeking attitudes?	What experiences of school staff explain perceptions of school climate and feeling connected to students?

Design

A sequential, explanatory mixed-methods secondary data analysis was used to address the specific aims of the dissertation research (Portz et al., 2018; Risom et al., 2019; Wadman et

al., 2020). Data for this study were generated from findings originated from a community-engaged research project (Tyndall et al., 2021). The doctoral candidate has been engaged with the community partner as a Research Assistant conducting research with the research mentor/dissertation chair since January 2019. The research focused on school-based interventions to address the mental health needs of middle-school adolescents.

Primary Study

The primary study was a sequential, explanatory mixed-methods design, in which quantitative and qualitative data were collected in sequence (Tyndall et al., 2021). In a mixed-methods design, the data is mixed or integrated within a single study such that parallel or contrasting themes and patterns are identified (Halcomb & Hickman, 2015; Chiang-Hanisko et al., 2016). Congruent with the bioecological theory, the mixed methods approach is a dynamic method (Bartholomew & Lockard, 2017) and the mixing of data can be accomplished throughout the process (Halcomb & Hickman, 2015). This is an appropriate design to use if multiple viewpoints would provide a deeper understanding of the phenomenon rather than a lone perspective (Halcomb & Hickman, 2015).

The purpose of the primary mixed-methods study was to examine teacher and support staff perceptions of the mental health needs of students in a low-income, public middle school (Tyndall et al., 2021). The research questions from the primary study were:

1. What are teacher/support staff perceptions of student emotional and/or mental health needs at a low-income, public middle school?
2. What is the frequency of school connectedness strategies used by teachers/support staff?
3. What is the teacher/support staff perceived confidence in using school connectedness strategies?

4. What experiences of middle-school teachers/support staff engaging with adolescents with emotional and/or mental health needs explain trends or significant findings from survey data?

While Tyndall et al. (2021) focused on examining teacher/support staff perceptions of the mental health needs of students and school connectedness, the dissertation research focused on teacher and support staff (e.g., administrators, clinical staff) perceptions of school climate and feeling connected with students. An advantage of using a secondary data analysis is that new research questions can be developed that go beyond the intent of the original research and may provide new insights that would otherwise not be gained (Wadman et al., 2020).

This dissertation research study was exempt from East Carolina University Institutional Review Board (IRB) approval because the data had been deidentified and confidentiality was protected.

Setting and Sample for Data Collection

Data collection was conducted at a rural public middle school, located in the Southeast United States. The school has an overall performance grade of “D”, or a 53, for the academic year 2018-2019 (State Department of Public Instruction, 2019). The grading system utilizes a metric of 80% academic achievement and 20% academic growth. The school earned a “D” performance grade for Math, with 40% of the students being grade level proficient as compared to 55% in the county and 60% statewide. They earned a “D” performance grade for English Language Arts/Reading with 48% of the students being grade level proficient as compared to 60% in the county and 60% statewide.

The study site serves a student body ($n = 430$) of 6th, 7th and 8th grade students comprised of 56% African Americans, 22% Hispanics, 17% European Americans, and 0.03% of two or

more races (National Center for Education Statistics [NCES], 2019). This is a Title I school; as such, it receives federal funding for resources and services (LAWS, 2019). To be considered a Title I school, at least 40% of students must be low-income (LAWS, 2019). Seventy-two percent of the students are eligible for free or reduced-price lunches (State Department of Public Instruction, 2018).

The school has several student indicators, such as short-term suspensions, criminal acts and instances of bullying/harassment, that are four to nine times higher than the county and state average (State Department of Public Instruction, 2019). Many of the characteristics of this middle school population are risk factors for suicide, such as residing in a rural area, low income, academic issues, suspensions, aggression, disciplinary issues, bullying and being bullied, and a student body composed of mostly underrepresented youth (Biddle et al., 2010; Carballo et al., 2019; Jameson, 2020; Sood & Linker, 2017).

Data Collection/Instrumentation

Quantitative Data

Quantitative data for this secondary data analysis were derived from data collected from the primary study. The quantitative data were obtained from a convenience sample of 6th, 7th, and 8th grade core and electives teachers ($n = 14$) and school support staff ($n = 5$). Seventy-nine percent ($n = 11$) of the teachers had taught 11 to > 20 years and 79% ($n = 11$) had taught at this school 1-3 years. Ninety-five percent ($n = 18$) of the participants were European American and 5% ($n = 1$) was African American. All participants had been employed at the study site for at least 6 months.

Participants completed the Teacher School Connectedness Survey (Vidourek & King, 2014) (See Appendix A). The survey was placed in REDCap, a secure web platform, and the

link to the survey was sent by a Research Assistant to school staff by email. Participants completed the survey in September 2019 after the first 2 weeks of the school year. The primary purpose of the Teacher School Connectedness Survey is to assess school staff confidence in using school connectedness strategies. Internal consistency reliability was established for the subscales by computing Cronbach's alphas, which were .840 for the items assessing frequency of use and .944 for the items assessing efficacy in using school connectedness strategies (Vidourek & King, 2014). Stability reliability of the survey was confirmed by administering the survey on two separate occasions to 20 teachers from an elementary and middle school and Pearson correlation coefficients for the items were .832 for frequency of use and .865 for efficacy in using school connectedness strategies (Vidourek & King, 2014). The questions used for this dissertation study were background items that inquired about school staff feelings of connectedness to students and the emotional climate of the school. Kendall's tau-b coefficient was $> .80$ for these items among elementary and middle school teachers (Vidourek & King, 2014). Relationships or connectedness with students can serve as a bridge for adolescents to seek help (Whitlock et al., 2014), and responses to these questions could provide insight into the level of school connectedness.

Qualitative Data

Qualitative data for this secondary data analysis were derived from data collected for the primary study. The qualitative data were obtained from transcripts of five one-hour focus groups that were conducted after survey completion. The focus groups were composed of teachers ($n = 20$) and support staff ($n = 6$). There were 4-6 participants in each group. Semi-structured questions based on the results of the online survey were used during the focus groups (See Appendix B). While the semi-structured questions targeted teacher/support staff experiences

with the most common reported emotional and/or mental health behaviors and/or concerns observed in students, content related to school climate and connectedness emerged during the focus groups.

Data Analysis

Quantitative Data

Data analysis for this study was performed in a sequential manner and the surveys were completed by 14 teachers and 5 support staff. No surveys were excluded. Questions from the survey were extracted for analysis if they were about perceptions of school climate and connecting with students. Questions assessed the perceptions of school staff about whether the school places a priority on school climate and connecting with students, as well as the value school staff place on connecting with students. Some questions were answered with yes/no responses, while others required respondents to select a value on a Likert-type scale (e.g., strongly agree, agree, neutral, disagree, strongly disagree). Descriptive statistics were used to examine the culture related to school climate and connectedness. General trends were identified based on the research questions and in preparation for exploring the qualitative data (Creswell & Clark, 2018). (Refer to Chapter 5 for details regarding survey questions).

Qualitative Data

Transcripts from the focus groups were analyzed for explanations of teacher/support staff perceptions regarding school climate and connectedness to students. Participants in the focus groups included 20 teachers and 6 support staff. Two members of the research team (MP & DT) analyzed the data during first cycle coding with in Vivo Coding. In Vivo Coding is an appropriate method for most qualitative studies, particularly those focused on the voice of the participant and the meaning of the words (Saldaña, 2013). In addition, it is useful for those

learning to code qualitative data (Saldaña, 2013). A codebook was developed containing a list of codes, which facilitated organization of the data and supported the process of subsequently compiling the codes into categories and subcategories (Saldaña, 2013). Coding occurred line-by-line and key words or phrases were highlighted according to frequency of use, significant meaning to the participant, or because they were expressive, thought-provoking, or interesting passages to be revisited (Saldaña, 2013). The codes were placed in quotes at the end of each line or every few lines (Saldaña, 2013). In addition to coding, memoing was conducted, which involved making notations about striking passages (Saldaña, 2013). As the analysis evolved, referring to the memo was an opportunity to reflect on the participant's words and meaning.

A third researcher (SP) joined during the second cycle coding phase in which focused coding was used to continue analysis. This involved synthesizing large sections of the data and developing broader categories (Giles et al., 2016; Saldaña, 2013). The final analysis involved a rigorous and intensive process of synthesizing and collapsing the categories into several major themes by independently and jointly reviewing the transcripts again. Exemplars for each theme were identified and each researcher developed a trinity configuration using a Venn diagram to depict three themes that best reflected the qualitative data (Saldaña, 2013). The diagrams were compared and discussed until consensus was achieved regarding the predominant three themes.

Data Integration

The quantitative and qualitative data were integrated by examining the convergence and divergence of the data. A table was developed to illustrate these comparisons and how the qualitative results explained or enhanced the quantitative results (Creswell & Clark, 2018). This resulted in further interpretation and summarization of the results (Creswell & Clark, 2018).

Data Management

Research data was maintained in accordance with the East Carolina University UMCIRB policies and procedures. Written data had been deidentified and maintained in a locked file cabinet. There was no access to this file cabinet by anyone other than the doctoral candidate.

Ethical Considerations

Researchers must consider the ethical implications of any research study and this study was exempt from IRB approval because all data was deidentified and confidentiality was protected.

Minimizing Researcher Bias

Researcher bias, such as research errors and biased results, can decrease the accuracy of the results of a study (Tavel, 2015). Errors could result while analyzing the qualitative and quantitative data, as well as when conducting the statistical analysis of the quantitative data. Since subjective outcomes are particularly vulnerable to bias (Tavel, 2015), the analysis of the data was interpreted and integrated in a way that minimized bias (Polit & Beck, 2017). Three researchers (MP, DT, & SP) conducted a rigorous analysis of the qualitative data by comparing and contrasting themes during multiple cycles of coding, and with the quantitative data in an iterative manner. The sequential nature of the analysis should have minimized bias because quantitative data, which is objective, was mixed with subjective qualitative data. To ensure accuracy of the results of the statistical analysis of the quantitative data, a statistician (CM) was consulted regarding appropriate statistical methods and findings. To further enhance objectivity of the results, members of the dissertation committee were consulted regarding the validation of the findings.

Advantages of Mixed Methods

The rationale for using a mixed-methods design was that the use of a quantitative or qualitative method alone would not have been sufficient for answering the research questions (Chiang-Hanisko et al., 2016). Complementarity was needed to adequately answer the research questions and while the quantitative method showed associations and relationships, the qualitative method explained the “why” of the quantitative results. (Halcomb & Hickman, 2015; Polit & Beck, 2017). The use of this design resulted in a synthesis of the data that added a higher level of fullness and richness to the implications of the findings that otherwise might have been lacking with the use of other methods (Chiang-Hanisko et al., 2016).

Limitations

There were challenges and limitations in using a secondary data analysis. Responses provided during focus groups could not be clarified and participants could not be probed to expound on interesting statements. As such, attempts were made to refrain from implying meaning from the words during analysis (Murphy et al., 2019). Focus group questions were not specific to the dissertation research questions, but topics related to connecting with students and school climate emerged during the focus groups. Further, seven of the participants in the focus groups did not complete the survey.

Demonstrating rigor was a more complex consideration than if a quantitative or qualitative method was used alone, since methods for doing so in mixed methods research, are not well defined (Halcomb & Hickman, 2015). A well-organized audit trail with decision-making rationale was maintained throughout the analysis and added to the rigor of the study (Halcomb & Hickman, 2015). While more complex, the mixed methods research design captured a contextually rich data set due to triangulation of the methods and an integration of multiple perspectives.

Summary

The secondary data analysis of a sequential explanatory mixed methods research study provided new insights into existing data through the lens of teachers and support staff. Data analysis was performed in a sequential manner and the qualitative data clarified the quantitative results. The data was integrated and provided an understanding of school staff perceptions that would otherwise have been lacking in a quantitative or qualitative study alone. This method supported the research questions to identify relationships between the variables and explore experiences that influenced perceptions of school climate and feeling connected with students.

Manuscript Option

The manuscript option was the method of choice for this dissertation. Chapter One provides an overview of school connectedness, the theoretical framework, and the role of the school nurse in suicide interventions. Chapter Two presents a review of the literature and discusses risk and protective factors for adolescent suicide and the importance of prevention during the middle school years, as well as detail on school connectedness and implications for help-seeking. Chapter Three explains revisions to the original dissertation study and provides details about the methodology for the revised study.

Chapter Four – Manuscript 1

Chapter Four contains the first manuscript, which is entitled: *The Role of the School Nurse in Suicide Interventions: An Integrative Review*. It was published in *The Journal of School Nursing* online in 2019 and in printed form in 2021 (Pestaner et al., 2019). The purpose was to: 1) critically examine the role of the school nurse in school-based suicide interventions; 2) explore potential barriers preventing the school nurse from participating in suicide interventions;

and, 3) recommend strategies to build capacity for principles of school nursing practice in suicide intervention. The findings informed Manuscript 2.

Chapter Five – Manuscript 2

Chapter Five consists of the second manuscript, which is entitled: School Staff Perceptions of Connectedness with Students in a Low-Income Public Middle School: Implications for School Nursing Practice. This manuscript expands on the findings from the integrative review, which revealed minimal evidence regarding collaboration between school nurses and school staff in suicide prevention. Further, there is limited research about the direct impact of school nurse interventions on enhancing protective factors, such as school connectedness (Federici et al., 2019). Yet, according to the National Association of School Nurses, school nurses have a significant role in enhancing protective factors and collaborating with school staff (2018). But, before collaborative interventions can be developed to enhance protective factors, such as school connectedness, understanding the factors influencing connectedness by examining teacher and support staff perceptions of feeling connected with students and its relationship to the school climate, was needed. As such, the purpose of the manuscript in Chapter Five is to: 1) determine the relationship between teacher/support staff perceptions of school climate and feeling connected to students; 2) describe experiences of teachers/support staff which explain perceptions of school climate and feeling connected to students; and, 3) examine implications for school nursing practice. The target journal for submission of this manuscript is *The Journal of School Nursing*.

Additional Findings

Additional findings from the dissertation research, such as the influence of parental involvement, culture/diversity, and lack of school resources on school connectedness will not be

discussed in Chapter Five, but will be addressed in subsequent manuscripts and submitted to interdisciplinary journals.

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CHAPTER 4: MANUSCRIPT 1
THE ROLE OF THE SCHOOL NURSE IN SUICIDE INTERVENTIONS: AN
INTEGRATIVE REVIEW

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Abstract

Suicide rates among children and adolescents has continued to rise over the past decade indicating the need for school-based suicide prevention programs. School nurses (SNs) are well-positioned to assist in assessment, early identification, and intervention of at-risk students. This integrative review aimed to: 1) critically examine the role of the school nurse in school-based suicide interventions, 2) explore potential barriers preventing the school nurse from participating in suicide interventions, and 3) recommend strategies to build capacity for principles of school nursing practice in suicide intervention. The National Association of School Nurses' *Framework for 21st Century School Nursing Practice* was used to categorize interventions and outcomes related to suicide prevention. Findings demonstrate a lack of reported nursing interventions directly linked to student outcomes and suggest obscurity in the role of the school nurse. Recommendations for future research and strategies to build capacity for principles of school nursing practice are provided.

The Role of the School Nurse in Suicide Interventions:

An Integrative Review

Suicide among adolescents has continued to rise over the past decade. In 2011, for ages 15-24, suicide rose from the third to the second leading cause of death (Centers for Disease Control and Prevention [CDC], 2019). As suicide rates continue to rise among older high school adolescents, a similar negative trend is being noted in the younger adolescent population. For children ages 10-14, suicide rose from being the fourth leading cause of death to third in 2008 and became the second leading cause of death in 2014 (CDC, 2019).

Contributing to these rates is the finding that only 20% of adolescents in the United States receive services for mental health and substance use needs (US Department of Health & Human Services, 2017). Research demonstrates that there is a significant increase in suicide and suicide risk behaviors, such as suicide ideation and attempts, during adolescence (Hooven, Walsh, Pike, & Herting, 2012). In 2017, the CDC conducted the Youth Risk Behavior Survey and found that 17.2% of high school students had seriously considered suicide, 13.6% had made a plan, and 7.4% had made one or more suicide attempts (Kann et al., 2018).

Factors contributing to suicidality in children and adolescent populations are complex. In a recent systematic review of 44 studies, psychological factors (e.g. depression, drug use), stressful life events (e.g. peer conflicts), and personality traits (e.g. impulsivity) were identified as the three main contributing factors (Carballo et al., 2019). In addition to these main factors, suicidality has many features that add to the complexity of identifying risk. Features for consideration include suicidal ideations, intentions, and behaviors of adolescents which are associated with increased risk (Miller & Eckert, 2009). Of particular concern are behaviors categorized as self-injurious, or nonsuicidal self-injury, most commonly self-cutting without

suicide intent (Wilkinson & Goodyer, 2011). While the intent for suicide may be lacking, non-suicidal self-injury is associated with future suicide attempts (Wilkinson & Goodyer, 2011).

Since children and adolescents spend a large amount of their time in schools, the school can be an ideal setting for implementation of suicide prevention programs (Ross, Kolves, & De Leo, 2017). Currently, there are a variety of school-based suicide prevention programs being used to promote education for students and/or school staff on risk factors and warning signs, screening to identify those at risk for suicide, or responding to those displaying suicidal behaviors (Miller, Eckert, & Mazza, 2009). The overall goals of these programs are to increase knowledge and help-seeking behavior, improve the attitudes of students (Robinson et al., 2013) and decrease suicidal ideations, attempts and completed suicides (Katz et al., 2013). In a systematic review of 16 school-based suicide prevention programs, school nurses were involved in only two (12.5%) of these programs (Katz et al., 2013). Yet, school nurses are often the first health care provider to see at-risk children and adolescents (Bains & Diallo, 2016) and have been regarded as the gateway professional for mental health services (Cowell, 2019).

Framework for 21st Century School Nursing Practice

The National Association of School Nurses (NASN) published the *Framework for 21st Century School Nursing Practice* in 2016 to explain and further elaborate on the key components of school nurse practice. The aim of the *Framework* is to guide school nurses to practice student-centered care and focus their efforts on the inclusion of students, families, and communities. The *Framework* includes principles of standards of practice, care coordination, quality improvement, community/public health, and leadership. These principles often overlap, and all are embedded in the standards of practice, a vital component related to evidence-based, quality care (NASN, 2016). Researchers have used the *Framework* to examine the impact of

nurse-led interventions upon student health and education outcomes (Best, Oppewal, & Travers, 2018). In contrast, our review examined the role of the school nurse in school-based suicide interventions and reported outcomes related to decreasing child and adolescent suicide; identified potential barriers impeding school nurse participation; and, recommended strategies to address those obstacles.

NASN Position Statement

NASN's Position Statement regarding the role of the school nurse in the behavioral/mental health of students states that "behavioral health, which encompasses mental health, is as critical to academic success as physical well-being" (2018, para 1). The Position Statement further supports the value of the role of the school nurse in managing the mental health needs of students. Suicide rates in adolescents are rising and school nurses are well-positioned to have a participatory role in prevention, identification, and treatment of adolescent behavioral/mental health. However, it is unclear how school nurses are contributing to the implementation of school-based suicide interventions.

AIM

The initial aim of this review was to examine the empirical literature regarding the role of the school nurse in suicide interventions within the context of increasing suicide rates among adolescents in the United States. Studies were limited ($n = 4$); therefore, we expanded our search to include quality improvement projects. This resulted in six ($n=6$) articles. The final aim of the review was expanded to: 1) critically examine the role of the school nurse in school-based suicide interventions; 2) explore potential barriers preventing the school nurse from participating in suicide interventions; and, 3) recommend strategies to build capacity for principles of school nursing practice in suicide intervention. The NASN (2016) *Framework for 21st Century School*

Nursing Practice was used as a guide in determining how each intervention and outcome identified in the articles should be classified in terms of the nursing role. Additionally, recommendations to enhance practice were explored within the context of the NASN (2018) Position Statement on the role of the school nurse in the behavioral/mental health of students.

Methods

The methodology described by Whittemore & Knafl (2005) was used for this integrative review. The stages of this method include problem identification, literature search, data evaluation, data analysis and presentation. Following identification of the problem, a literature search was conducted to explore the role of the nurse in school-based suicide interventions. Due to the lack of research studies, the authors expanded the inclusion criteria to include quality improvement projects that described involvement of the school nurse in interventions to prevent suicide. Integrative reviews allow for a diversity of methodologies creating a more thorough exploration of the phenomenon under review (Whittemore & Knafl, 2005).

Literature Search

The search targeted research studies and quality improvement projects in peer-reviewed journals written in English with the following inclusion criteria: 1) school-based suicide interventions and/or prevention programs, 2) outcomes including suicide, suicidal ideations, suicidal attempts and non-suicidal self-injury for children or adolescents, and 3) school nurse involvement with the intervention. A comprehensive search, using multiple databases (i.e. PubMed, CINAHL, PsycInfo, and ProQuest) was conducted in consultation with a research librarian. Multiple search terms in combination were used, including suicide OR suicide attempts OR self-harm OR suicidal ideation OR self-injury OR suicidal behavior OR self-injurious behavior AND child OR youth OR adolescent OR children OR adolescents AND

prevention OR intervention AND schools AND nurses. A search was conducted for articles that were published between February 2009-February 2019.

The search resulted in 1,422 articles. An additional search in Google Scholar with the inclusion of the search term “nursing research” was conducted, which resulted in an additional 6 studies for a total of 1,428 articles. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (Moher et al., 2009) served as a reference for review of the articles. These articles were reviewed by title and abstract and after deleting duplicates, 1,279 articles were excluded with 149 remaining for full-text review. These articles were reviewed in detail and 129 articles were eliminated because the involvement of the school nurse was unclear (n=2); the school nurse did not participate in the intervention (n=69); the intervention was not conducted in a school setting (n=6); the article was not research or quality improvement (n=39); or, the outcome was not related to suicide or reducing suicide risk or competencies relating to suicide (n=13), leaving 20 articles for discussion and further evaluation.

Data Evaluation

Whittemore and Knafl (2005) note the complexity of evaluating the quality of diverse primary sources. Two reviewers (M.P. and D.T.) reviewed the remaining 20 articles independently, and then collaboratively. Exclusion and inclusion criteria were applied, and data were extracted relating to clarity of the description of the procedure and strength of the research method. To maintain our focus on the scope and standards of school nursing practice in the United States and within the NASN *Framework*, the reviewers excluded articles describing international studies (n=1). Fourteen articles were excluded because the involvement of the school nurse was unclear (n=3); the school nurse did not participate in the intervention (n=3);

the article was descriptive in nature or described a protocol (n=4); or, the outcome was not related to suicide or reducing suicide risk (n=3), leaving 6 articles for analysis (see Figure 1).

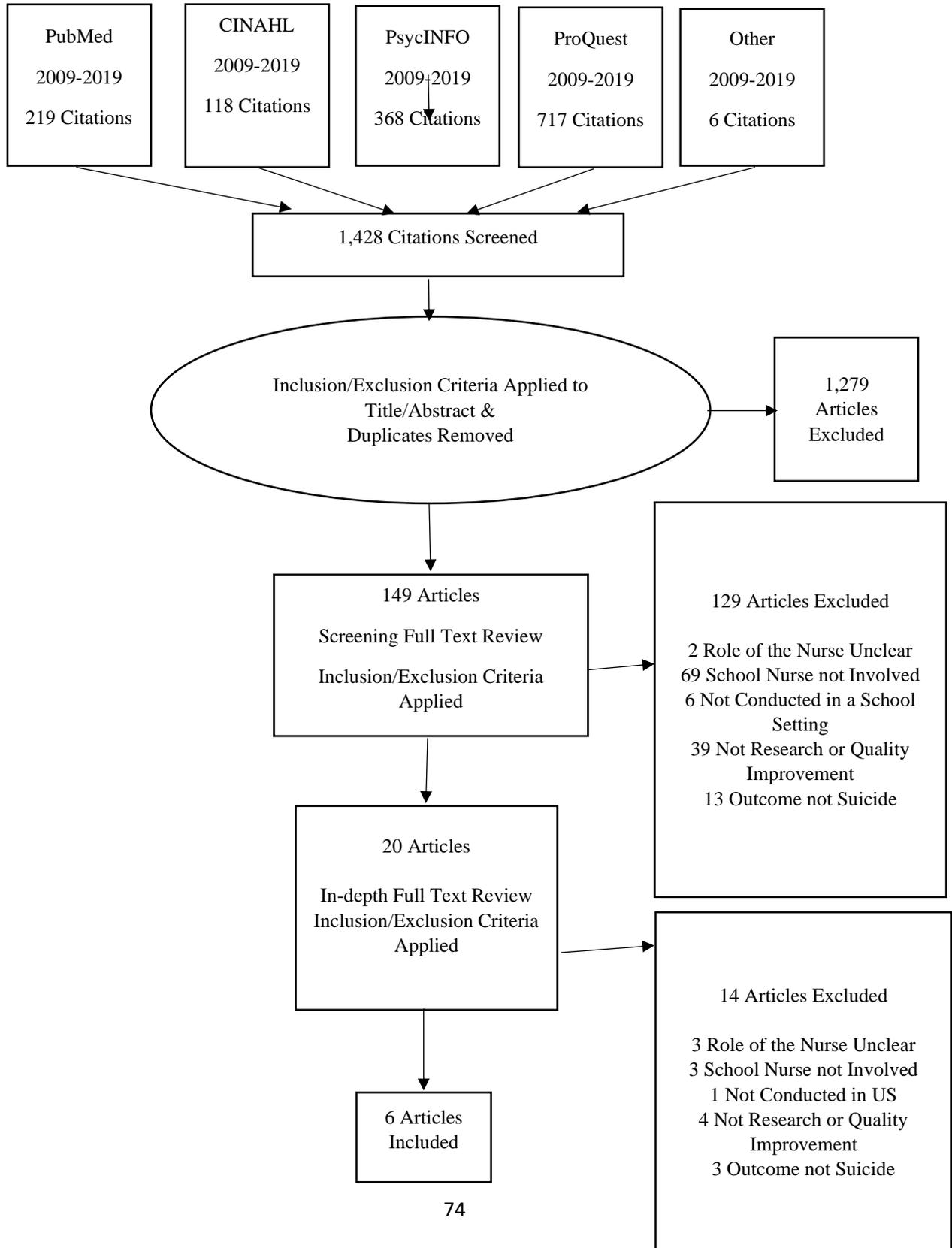
Data Analysis

The goals of the data analysis stage include interpreting primary sources thoroughly and without bias, as well as synthesizing the data in a creative way (Whittemore & Knafl, 2005). This stage involves data reduction, display, and comparison, as well as drawing conclusions and verification (Whittemore & Knafl, 2005). The data were reduced by identifying and categorizing the school nursing role in suicide interventions and outcomes according to the components of the principles outlined in the NASN (2016) *Framework for 21st Century School Nursing Practice*. The Best et al. (2018) integrative review, which used the framework in linking school nurse interventions to student health and education outcomes, served as a guide. The six primary sources were reviewed by three researchers (M.P., D.T., S.P.) independently and then collaboratively until consensus was attained. One of the researchers (S.P.) has expertise in school nursing and application of the *Framework* lending additional rigor to the process.

We critically analyzed each research study or project and categorized each according to all five principles and assigned multiple principles as applicable. While we recognize the five principles overlap (Maughan, Bobo, Hoffmann, & Bland-Slaffey, 2018), we categorized interventions and outcomes into *Framework* principles and components based upon best placement. The data were displayed by organizing each school nurse role in suicide intervention and outcome according to its aligned principle in the form of a table which allowed the researchers to visualize patterns and common themes. The last step in the data analysis stage involves synthesizing the data into an integrated summary (Whittemore & Knafl, 2005). Each

Figure 1

Article Selection Process



researcher reviewed the resulting summary and discussed it in detail to ensure there was minimal bias and an honest appraisal of the data.

Results

The six articles selected for this integrative review include four quantitative studies and two quality improvement projects. Four of the articles described studies or projects conducted in urban (n=2), suburban (n=1), and urban/rural (n=1) public school settings. Interventions were conducted in elementary (n=1), middle (n=3) and high (n=6) schools. Interventions examined student outcomes related to suicidal risk (Allison, Nativio, Mitchell, Ren, & Yuhasz, 2014; Biddle, Kern, Thurkettle, Puskar, & Sekula, 2014; Hooven et al., 2012) or school staff outcomes pertaining to knowledge (Walsh, Hooven, & Kronick, 2013; Johnson & Parsons, 2012), confidence (Walsh et al., 2013), and post-training behaviors (Johnson & Parsons, 2012; Condrón et al., 2015).

School Nurse Role in Suicide Interventions and Outcomes

The interventions and outcomes contained in the six articles were classified under the five principles of the NASN (2016) *Framework for 21st Century School Nursing Practice* to reflect the activities of school nurses in suicide prevention. Scholarly articles describing school nurse roles in suicide interventions were classified within the community/public health principle (n=4); the care coordination principle (n=3); the quality improvement principle (n=2); the leadership principle (n=1); and, the standards of practice principle (n=1) (see Table 1).

Community/public health principle. School nursing practice may include the assessment of at-risk students and initiating referrals according to the community/public health principle (NASN, 2016). Interventions and outcomes were classified under the components of screening/referral/follow-up (n=3) and outreach (n=3). School nurses conducted screenings

Table 1*School Nurse Role in Suicide Interventions and Outcomes*

Authors	SN Role in Suicide Intervention	Outcomes	Framework Principles	Components
Allison et al. (2014); Condrón et al. (2015); Biddle et al. (2014) Hooven et al. (2012)	- Conduct screenings for suicide risk; Initiate referrals - Provide follow-up support after counseling intervention	- Early identification and increased referral; Lower suicide rate - Decreased suicide risk factors; Increased protective factors	Community/ Public Health	Screening/ Referral/Follow-Up Outreach
Allison et al. (2014); Biddle et al. (2014)	- Connect parent/student to in-school and community-based services	- MH treatment for suicide risk; Identified services which better predicted educational outcomes		
Condrón et al. (2015)	- Connect at-risk students to services	- Increased number of students receiving services		
Allison et al. (2014); Biddle et al. (2014)	- Communicate with school support staff, parents, and community-based professionals	- Increased awareness of students with MH treatment or psychosocial needs	Care Coordination	Collaborative Communication
Allison et al. (2014); Biddle et al. (2014); Hooven et al. (2012)	- Collaborate with various disciplines (e.g., social worker, counselors, teachers, MH professionals)	- Interdisciplinary perspective and approach		Interdisciplinary Teams
Allison et al. (2014)	- Provide support service options to parent/student	- Parent/student decision making		Student-Centered Care
Allison et al. (2014)	- Participate in evaluation of screening tools - Evaluate impact of training on	- Recommendations for utilization of tool - Increased knowledge level about	Quality Improvement	Evaluation

Johnson & Parsons (2012)	participant knowledge	suicide; reported use of protocol		
Johnson & Parsons (2012)	- Advocate for gatekeeper suicide prevention program	- School board approval to implement program	Leadership	Advocacy
Johnson & Parsons (2012)	- Implement suicide prevention program	- Trained non-medical staff in suburban school district		Change Agent
Walsh et al. (2013)	- Participate in school-wide gatekeeper training	- Increased perceived competency and knowledge in recognizing and referring at-risk youth	Standards of Practice	Clinical Competence

Note. SN = school nurse; MH = mental health

(Allison et al., 2014; Biddle et al., 2014; Condrón et al., 2015) resulting in early identification of students at-risk for suicide for treatment and referral (Allison et al., 2014; Condrón et al., 2015) and lower suicide rates (Biddle et al., 2014). As members of the Student Assistance Program (SAP), school nurses initiated the use of two validated screening tools for mental health during routine physical exams (Allison et al., 2014). One study examined the impact of the SAP team on educational outcomes for students at risk for suicide. While not statistically significant, suicide rates were lower for those who participated in the SAP (Biddle et al., 2014).

School nurses were participants alongside teachers, mental health professionals, and social workers in gatekeeper training aimed to improve identification of at-risk youth and referrals for services (Condrón et al., 2015). Evaluation of post-training behaviors indicated that professional role was predictive of identification of at-risk youth (Condrón et al., 2015). School nurses also assisted with a counselor-led youth/parent suicide intervention by providing follow-up support to students after screening for suicide (Hooven et al., 2012). Outcomes of this youth/parent intervention included decreased student suicide risk factors and increased protective factors (Hooven et al., 2012).

We found evidence of outreach, which was demonstrated by school nurses connecting parents and students to in-school and community-based resources (Allison et al., 2014; Biddle et al., 2014; Condrón et al., 2015). As a result of screening initiated by school nurses, students were referred to the SAP which resulted in one student being hospitalized for suicidal ideation (Allison et al., 2014). Biddle et al. (2014) examined services used by school nurses and other SAP team members to support students at suicidal risk. They found that services, such as drug and alcohol assessments, better predicted positive educational outcomes. In another study, factors associated with participant behaviors following gatekeeper training were examined.

Findings indicated that participants who spent more time with students, identified more at-risk students and had higher numbers of students receiving services (Condrón et al., 2015).

Care coordination principle. School nurses manage care for students and support autonomous decision making by collaborating with others and participating as team members within the care coordination principle (NASN, 2016). Interventions and outcomes were classified under the components collaborative communication ($n=1$); interdisciplinary teams ($n=1$); and, student-centered care ($n=1$). As members of an SAP, school nurses demonstrated care coordination by communicating with school support staff, parents, and community-based professionals (Allison et al., 2014; Biddle et al., 2014). This collaborative communication resulted in increased awareness of students with mental health treatment or psychosocial needs.

School nurses were often described as members of an interdisciplinary team. Disciplines school nurses collaborated with included social workers, counselors, mental health professionals, and/or teachers lending to an interdisciplinary perspective and approach. As members of interdisciplinary teams, school nurses collaborated with other professionals in school-based suicide interventions for at-risk students (Allison et al., 2014; Biddle et al., 2014; Hooven et al., 2012). In one project, in-school or community-based service options were provided to parents and students after collaboration with the SAP team (Allison et al., 2014). This collaboration led to student-centered care by facilitating student/parent decision making.

Quality improvement principle. School nursing practice incorporates the nursing process in providing care for students within the quality improvement principle (NASN, 2016). Interventions and outcomes were classified under the evaluation component ($n=2$). In one quality improvement project, Pediatric and Family Nurse Practitioners, who were certified school nurses, evaluated the effectiveness of two screening tools which included questions

pertaining to suicidality (Allison et al., 2014). Based upon their evaluation, the school nurses recommended the assessment of student reading and literacy skills prior to administration of tools. In another quality improvement project, a school nurse supervisor implemented gatekeeper training to non-medical school personnel (Johnson & Parsons, 2012). The school nurse supervisor evaluated participants' suicide knowledge and the use of the gatekeeper protocol. Findings showed a significant increase in knowledge about suicide and use of the protocol three months following training.

Leadership principle. School nursing practice includes initiating and developing prevention programs in the school within the leadership principle (NASN, 2016). Interventions and outcomes were classified under the components advocacy ($n=1$) and change agent ($n=1$). One project described how a school nurse supervisor received approval for the implementation of a gatekeeper suicide prevention program by advocating for the program to school administrators and board members (Johnson & Parsons, 2012). As a change agent, the school nurse supervisor completed training to become a certified gatekeeper instructor and provided training to school staff within the school district (Johnson & Parsons, 2012).

Standards of practice principle. School nursing practice maintains a high level of performance and competency under the standards of practice principle (NASN, 2016). Interventions and outcomes were classified within the clinical competence component ($n=1$). In one study, school nurses enhanced their clinical competence by completing gatekeeper training (Walsh et al., 2013). School nurses received the gatekeeper training along with other in-school participants. Knowledge was assessed after the training showing an increase in the ability of staff to recognize at-risk behavior, approach at-risk students and make referrals (Walsh et al., 2013).

Discussion

School Nurse Role in Suicide Interventions and Outcomes

While systematic reviews have reported on the effectiveness of school-based suicide intervention programs in general (Katz et al., 2013; Robinson et al., 2013), our review sought to examine these intervention programs through the lens of school nursing. We found the role of the school nurse in suicide interventions represented within each of the *Framework* principles, but research is limited. While the integrative review by Best et al. (2018) found direct links between school nurse interventions and student health and education outcomes, our review was not able to discern a direct link between school nursing interventions and student outcomes related to suicide.

Outcomes were often reported based on interdisciplinary team efforts, leading to obscurity of the role of the school nurse and how their participation impacted outcomes (Biddle et al., 2014; Hooven et al., 2012; Allison et al., 2014). For example, school nurses screened at-risk students and referred these students to the SAP, but it is unclear if the school nurses were involved in the process of making referrals to community services (Allison et al., 2014). In another study, post-training behaviors were evaluated and found that professional role was predictive of identification of at-risk youth (Condron et al, 2015). However, prediction of the school nurse role on identification of at-risk youth was not clear, as nurses were grouped with school administrators, advisors, and bus drivers. Other studies noted school nurses as part of prevention efforts (Hooven et al., 2012; Walsh et al., 2013), but their role and the type of support provided is not clearly described.

Furthermore, limited evidence on the role of school nurses in suicide interventions hindered our examination of whether or not the role is in alignment with the NASN 2018

Position Statement. We found minimal evidence of school nurses collaborating with others in prevention, assessment, early identification, and intervention for students at risk for suicide. Thus, we explored potential barriers hindering school nursing practice related to suicide intervention.

Barriers for School Nursing Practice

Accessibility of school nurses. School nurses are easily accessible to students and may be less intimidating for those who need mental health support (NASN, 2018). However, heavy caseloads are barriers to addressing student mental health needs (Prymachuk, Graham, Haddad, & Tylee, 2011; Ravenna & Cleaver, 2016) and the nursing shortage in schools may limit collaboration with other mental health providers (Cowell, 2019). While NASN recommends at least one full-time school nurse accessible daily to students, Willgerodt, Brock, and Maughan (2018) found that the majority of school nurses are responsible for two or more schools and 18.1% of the public schools surveyed ($n=1,062$) did not employ any nurses. Additionally, results from a 2015 NASN school nurse survey ($n=7,293$) found the majority (61%) of respondents reporting the students per nurse ratio at 942 or greater (Mangena & Maughan, 2015). When school nurses manage heavy caseloads or availability of school nurses is limited, time constraints can be a significant barrier and nursing practice in suicide prevention efforts may be overlooked.

Mental health competencies. School nurses are well-equipped to recognize warning signs of mental health issues and qualified to identify behavioral concerns (NASN, 2018). However, competency may be a barrier to school nurses participating in interventions pertaining to mental health. A lack of training in the care of students with mental health issues has been frequently reported (Bohnenkamp, Stephan, & Bobo, 2015; Ravenna & Cleaver, 2016;

Prymachuk et al., 2011) which parallels with the 2015 NASN survey of school nurses (n=8,006) indicating mental health as a top priority educational need (Mangena & Maughan, 2015).

Findings from an integrative review on trends in self-injurious behavior, suggest that school nurses may lack competencies to recognize high-risk behaviors (Wilkinson, 2011). Although one study found that 40% of school nurses provided suicide emergency management within their school, they may not be receiving adequate training to do so (Ramos et al., 2013).

Lack of screening tools. School nurses can identify and screening for mental health issues and referring students for mental health services (NASN, 2018). However, tools and resources to support assessments and interventions have been reported as obstacles for school nurses in providing mental health care (Ravenna & Cleaver, 2016). Specifically, school nurses may not have access to suicide risk assessment tools to use for screening students (Nolta, 2014). Additionally, when there are insufficient mental health services to address needs, the effectiveness of screening is questionable (Robinson et al., 2013). Further, there may be a potential for harm if adequate support is not available for at-risk students (Heilbron, Goldston, Walrath, Rodi, & McKeon, 2013). Lack of referral services has also been reported as an obstacle to implementing screening of at-risk students (Singer, 2017) and policies relating to nonsuicidal self-injury (Berger, Hasking, & Reupert, 2015).

Role confusion. School nurses are critical to the mental health team (NASN, 2018). Yet, school nurses are often not recognized as part of the school-based mental health team (Bohnenkamp et al., 2015). Research on school-based suicide prevention programs has shown that school nurses are often not involved (Katz et al., 2013). Nursing practice in school settings may be viewed as the professional role that attends to physical injury or disease processes (King, 2014) hampering their ability to collaborate with other school staff members on mental health

needs of students (Bohnenkamp et al., 2015). Further, some nurses may lack an understanding of their role in mental health screening or as a member of the mental health team in school settings (Cowell, 2019).

Recommendations

The NASN 2018 Position Statement guided our recommendations for future research and strategies to build capacity for the *Framework* principles of school nursing practice (Table 2). Research aimed to clearly identify school nurse interventions and measure direct outcomes could increase evidence of school nursing practice within the quality improvement principle of the *Framework*. A first step might be for school nurses to participate in the NASN (2019a) Outcome Challenge by identifying a data point and outcome measure for suicide intervention. For example, school nurses could track students who are identified as at-risk for suicide (data point) and collect data on referrals (outcome measure) initiated to in-school or community services (e.g. school counselor, mental health professional). The results of these referrals could be investigated to determine direct links between school nurses and student outcomes related to suicide. Research is also needed on the impact of interprofessional collaboration on addressing mental health needs of students (Cowell, 2019). Participating in the Outcome Challenge and tracking data related to school nurse participation within interdisciplinary teams would empirically demonstrate the impact of the school nurse. Collection of these data points would assist researchers in examining school nurse interventions and outcomes to further advance the science and inform school nursing practice.

Research is also needed on the barriers impeding school nurse participation in suicide prevention and how nurses can advocate for policies that would decrease these barriers. For

Table 2*Recommendations to Build Capacity for Principles of School Nursing Practice*

Role of SN in Behavioral/ Mental Health of Students	Barriers for SN Role in School- Based Suicide Interventions	Recommendations	<i>Framework</i> Principle
SN is uniquely equipped to assist in providing services including prevention, assessment, early identification/intervention, and treatment of MH	Research is limited and lack of evidence linking SN to direct outcomes. Role of SN in suicide intervention is obscure	Participate in the NASN Outcome Challenge to support linking SN interventions with outcomes	Quality Improvement
SN is easily accessible for students, and visiting SN may be less intimidating for students who need MH support	Accessibility of SN is constrained due to heavy caseloads and school nursing shortage	Participate in the NASN (2019) National School Health Data Set: Every Student Counts!	Care Coordination
SN is well-equipped to recognize warning signs and is qualified to identify behavioral concerns	Competency in the care of students with MH needs is limited	Continuing education programs for SNs that include suicide prevention and MH topics	Standard of Practice
SN can do MH screenings, identification, and referrals for MH services	Lack of screening tools and resources	Valid screening tools for SNs to conduct assessments and utilization of resources	Community/Public Health
SN is critical to the interdisciplinary team for promoting MH	Lack of recognition of SN as part of the MH team	Use the NASN 2018 position statement as a guide for advocating SN role in MH	Leadership

Note. NASN = National Association of School Nurses; SN = School Nurse; MH = mental health

example, increasing accessibility of school nurses could support the ability of individual nurses to build practice capacity within the care coordination principle of the *Framework*. Policies that support more funding for full-time school nurses to decrease the student/nurse ratio is needed. Improving caseloads and accessibility of school nurses should be considered as research has found identification of at-risk for suicide adolescents is positively correlated with time spent with those trained in identifying at-risk students (Condron et al., 2015). Research has also shown that school-based suicide prevention programs are cost-effective when compared to the estimated cost of over \$1 million for one suicide (Ahern et al., 2018). Investing in school nurses for prevention and intervention of suicide is worthwhile to students, schools, families, and communities. Participating in the NASN (2019b) National School Health Data Set: Every Student Counts! initiative can help demonstrate the value and need for more school nurses.

Increasing school nurses' competency in the care of students with mental health needs has the potential to enhance the ability of nurses to assimilate the standards of practice principle of the *Framework* into practice. School nurses have expressed feeling doubtful about their competency and needing more education about mental health issues (Jönsson, Malttestam, Tops, & Garmy, 2019). While training nurses on mental health topics has been shown to increase confidence and knowledge in providing mental health care (Blair, Chhabra, Belonick, & Tackett, 2018; Bullock, Libbus, Lewis, & Gayer, 2002; Higson, Emery, & Jenkins, 2017), more research is needed on how increased competency influences nursing practice and outcomes.

Interprofessional education is an important way in which to develop collaboration among school nurses, teachers, and other school professionals (Bohnenkamp et al., 2015). Interprofessional education would not only promote increased efficacy regarding mental health issues but promote a collaborative working relationship with other school professionals.

Valid screening tools and resources can enhance the ability of the school nurse to integrate the community/public health principle of the *Framework* into practice. The NASN 2018 Position Statement reflects the expertise of school nurses in conducting screenings and referring at-risk students for mental health services. Thus, providing school nurses with appropriate screening tools will enhance their ability to conduct these assessments (Nolta, 2014) and refer at-risk students for services. While not included in this integrative review, we found one international study in which school nurses incorporate a screening tool for suicidal behavior during student physical health screenings (de Wilde, de Looij, Goldschmeding, & Hoogeveen, 2011). Findings indicate that questions about recent suicidal thoughts was most predictive of subsequent actions by school nurses when compared to self-report of other emotional or behavioral problems. These findings support the need for validated screening tools to appropriately identify at-risk students in school settings. More research is needed on appropriate screening tools for use in schools to identify students at risk for suicide or mental health disorders.

Removing role obscurity has the potential to enhance the ability of the school nurse to incorporate the leadership principle of the *Framework* into practice. Using the NASN 2018 Position Statement as a guide, school nurses should be proactive in identifying themselves as instrumental in suicide interventions by making others aware of their expertise in assessing and intervening among those with mental health needs. Following the scope and standards of practice component, which notes the “evolving boundaries” of the practice of school nursing (NASN, 2016, p. 51), school nurses should become involved in developing policy, whether it is for advocating for changes at the district, local, statewide or national level. Advocating for school-based suicide prevention programs using a team-based approach, including the school

nurse, is critical (Bohnenkamp et al., 2015). It is incumbent on the school nurse to clarify ways in which their strong assessment and leadership skills can positively impact the health and academic success of students by engaging in preventative and interventional initiatives, such as suicide prevention.

Limitations

There were several limitations in conducting this integrative review on the role of the school nurse in suicide interventions. We comprehensively searched the literature using a rigorous method, but it is possible that some research may have been overlooked. We attempted to maintain a high level of rigor in classifying interventions within the principles of the framework, and while the literature has objectively defined the principles and their components, there may have been some level of subjectivity in our classifications. While it is certainly possible that many school nurses have key roles in suicide interventions, we found this lacking in the literature.

Conclusion

Suicide rates in adolescents are rising and school nurses are well-positioned to have a participatory role in prevention, identification, and treatment of adolescent behavioral/mental health. However, this integrative review revealed a lack of empirical evidence supporting the role of the school nurse in school-based suicide interventions. Interventions and outcomes were classified according to the NASN (2016) *Framework for 21st Century School Nursing Practice*, but due to role obscurity or lack of clearly defined roles they were limited in scope. Future research aimed to directly link school nurse interventions with outcomes related to suicide is warranted. Barriers that impede school nurses from participating in school-based suicide

interventions also needs further investigation. Eliminating these barriers would support the role of the school nurse and build capacity for the *Framework* principles of school nursing practice

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CHAPTER 5: MANUSCRIPT 2

**SCHOOL STAFF PERCEPTIONS OF CONNECTEDNESS WITH STUDENTS IN A
LOW-INCOME PUBLIC MIDDLE SCHOOL: IMPLICATIONS FOR SCHOOL
NURSING PRACTICE**

Abstract

School nurses are uniquely positioned to collaborate with school staff to enhance school connectedness, a protective factor against suicidal thoughts and behavior for adolescents. The purpose of this study was to examine the school climate and connectedness with students through the lens of school staff and implications for school nursing practice. A sequential explanatory mixed-methods secondary data analysis was used. Nineteen school staff completed the Teacher School Connectedness Survey and results were analyzed with descriptive statistics. Transcripts from five focus groups were analyzed for explanations of their perceptions regarding school climate and connectedness to students. Divergent from the quantitative results, the qualitative data depict an environment characterized by disruptive/aggressive or withdrawn student behavior, suggesting a lower level of connectedness between students and school staff with a climate not conducive to connectedness. Implications for school nursing practice to foster connectedness are discussed.

School Staff Perceptions of Connectedness with Students in a Low-Income Public Middle School: Implications for School Nursing Practice

School connectedness is the perception by students that adults and peers within the school care about them and their learning (Centers for Disease Control and Prevention [CDC], 2009) and has been identified as a significant protective factor against suicidal thoughts and behaviors in adolescents (CDC, 2018; Marraccini & Brier, 2017; Resnick et al., 1997). School connectedness as a protective factor is significant for adolescent population health since suicide rates in the United States have increased by more than 50% among teenagers in the past decade (Jameson, 2020), and is now the second leading cause of death for youth aged 10-19 years (CDC, 2019).

School connectedness can be developed by modifying the environment to reflect a positive school climate (Caridade et al., 2020; Pham et al., 2014). School climate is a multidimensional construct and refers to safety, academics, structure, and community (Wang & Degol, 2016). The dimension of community includes the quality of trusting interpersonal relationships and connectedness between staff and students (Wang & Degol, 2016). Because of their frequent and direct contact with students, teachers and school support staff are uniquely positioned to observe the way students relate and interact with others in the school (Lindsey et al., 2017; Nadeem et al., 2011). As such, school staff are an important resource for information about the environment which can lead to an understanding of how to positively modify the school environment (Biag et al., 2016) to facilitate school connectedness.

School connectedness may act as a protective mechanism for at-risk adolescents by increasing coping attitudes and behaviors, fostering the perception that adults are supportive, and increasing the likelihood that they will seek help from adults within the school with whom they have a caring, supportive, respectful, and trusting relationship (CDC, 2009; Whitlock, 2006;

Whitlock et al., 2014). School connectedness may offset one or multiple risk factors for suicide (Stone et al., 2017). Risk factors for adolescent suicide may be psychological, biological, social, or environmental (Carballo et al., 2019; Sood & Linker, 2017). In particular, school poverty or school-level household income, may be associated with suicide risk (Fang, 2018). Fang (2018) found that school poverty, defined as schools in which the average family income was approximately \$29,000, may be a significant school-level social risk factor for suicide attempts. Environmental stressors related to schools with a larger proportion of low-income families include exposure to higher levels of violence, crime, and drug use with less school-based health resources (Fang, 2018). Additionally, there may be more disruptive behavior and lower levels of connectedness (O'Brennan et al., 2014; Voight et al., 2015), which may increase suicide risk (Fang, 2018). As such, trusting interpersonal relationships and connectedness between staff and students may be even more important in low-income schools (O'Brennan et al., 2014; Voight et al., 2015).

Most studies on school connectedness have focused on the perspective of students, and few have examined specific dimensions of school climate (Biag, 2016; Ramsey et al., 2016). Since school connectedness can be fostered with trusting relationships with adults in school (CDC, 2009; Marraccini & Brier, 2017), it is important to obtain school staff perspectives since they facilitate supportive school environments that enhance students' connectedness within the school (Biag, 2016). Understanding the perceptions of school staff about relationships and connectedness can lead to collaborative strategies to strengthen connected relationships that support a positive school climate, thereby facilitating school connectedness, which is an important protective factor for adolescents.

School support staff, such as school nurses, are trusted healthcare providers and have a key role as collaborators within the school (Bohnenkamp et al., 2015; National Association of School Nurses [NASN], 2018). School nurses can coordinate with teachers and other school staff to develop collaborative strategies to build trust, rapport, and caring relationships with students (Kim et al., 2019; Wilkinson, 2011) that support a positive school climate and as a result, high levels of school connectedness among students. Given the influence of school nurse/school staff collaboration on developing school connectedness as a critical protective factor, this study sought to identify opportunities for collaborative practice. The specific aims were as follows: (1) to determine the relationship between teacher/support staff perceptions of school climate and feeling connected to students, (2) to describe experiences of teachers/support staff which explain perceptions of school climate and feeling connected to students, and (3) to examine implications for school nursing practice.

Theoretical Framework

The bioecological theory of human development by Urie Bronfenbrenner (2005) guided this research and is an effective framework for studying school connectedness as a protective factor against adolescent suicidal behavior. The main proposition of the theory is like other developmental systems theories, in that the dynamic relationship between the individual and the context establishes the human development process. In the bioecological theory, the context is comprised of nested levels, or environmental systems which include the macrosystem, exosystem, mesosystem, and microsystem.

The microsystem is the level at which there are the most immediate influences on suicidal behavior (Lee et al., 2010). The microsystem consists of conditions or relationships occurring in one's immediate setting (Bronfenbrenner, 2005). In this study, the microsystem is the school

setting and contains individuals with whom the adolescent consistently interacts, such as teachers, support staff (e.g., administrators, clinical staff), and peers (Hong et al., 2011). These person-context relations can be modified or altered in such a way that can positively impact the way an individual develops (Bronfenbrenner, 2005). School connectedness, a protective factor against suicidal behavior, can be developed as a result of individual and microsystem level forces (Allen et al., 2016). Since the interactions within the microsystem level may have the most immediate influence on suicidal behavior (Lee et al., 2010), understanding factors that influence connected relationships between students and school staff is important in developing strategies to enhance school connectedness.

Method

A sequential, explanatory mixed-methods secondary data analysis was used to address the specific aims (Portz et al., 2018; Risom et al., 2019; Wadman et al., 2020). The study received Institutional Review Board approval as an exempt study because this was a secondary analysis of data that had been de-identified and did not pose a risk to confidentiality for participants. The site for the primary study was a rural public middle school located in the Southeast United States. This is a Title I school, which requires that at least 40% of students must be low-income (LAWS, 2019), and almost 72% of the students at this school are eligible for free or reduced-price lunches, as compared to the state average of 44.3% (State Department of Public Instruction, 2018). The school had an overall performance grade of “D”, or 53, for the academic year 2018-2019 (State Department of Public Instruction, 2019). The grade is composed of 80% academic achievement and 20% academic growth. The study site serves a student body ($n = 430$) of 6th, 7th and 8th grade students comprised of 56% African Americans,

22% Hispanics, 17% European Americans, and 0.03% of two or more races (National Center for Education Statistics [NCES], 2019).

Data for the secondary analysis for this study were generated from findings originated from a community-engaged research project. The purpose of the primary mixed-methods study was to examine teacher/support staff perceptions of the mental health needs of students and perceived gaps in resources and training (Tyndall et al., 2021). The quantitative data was obtained from the Teacher School Connectedness Survey (Vidourek & King, 2014) that was administered to a sample of 6th, 7th, and 8th grade core and electives teachers ($n = 14$) and support staff ($n = 5$), consisting of administrators and clinical staff. Seventy-nine percent ($n = 11$) of the teachers had taught 11 to > 20 years and 79% ($n = 11$) had taught at this school 1-3 years. Ninety-five percent ($n = 18$) of the participants were European American and 5% ($n = 1$) was African American. All participants had been employed at the study site for at least 6 months.

Participants completed the Teacher School Connectedness Survey (Vidourek & King, 2014) after the first 2 weeks of the school year. The primary purpose of this survey is to assess school staff frequency of use and confidence in using school connectedness strategies (Vidourek & King, 2014). Cronbach's alpha was .840 for the items assessing frequency of use and .944 for the items assessing efficacy in using school connectedness strategies. The questions used for this study were background items that inquired about teacher/support staff feelings of connectedness to students and the emotional climate of the school. Kendall's tau-b coefficient was > .80 for these items among elementary and middle school teachers (Vidourek & King, 2014). The qualitative data was obtained from transcripts from five focus groups that were conducted after survey completion. The focus groups were composed of teachers ($n = 20$) and support staff ($n = 6$), consisting of administrators and clinical staff. There were 4-6 participants in each group.

While the semi-structured questions for the focus groups were not specific to school climate and connectedness with students, discussions related to these topics were independently verbalized by participants.

Data analysis for the current study was performed in a sequential manner. Descriptive statistics were used to examine the culture related to school climate and connectedness. General trends were identified based on the research questions by visually depicting the data in chart-form in preparation for exploring the qualitative data (Creswell & Clark, 2018). Transcripts from the focus groups were analyzed for explanations of their perceptions regarding school climate and connectedness to students. Two members of the research team (MP & DT) analyzed the data initially with in Vivo Coding to construct a coding scheme (Saldaña, 2013). A third researcher (SP) joined during the second cycle coding phase in which focused coding was used to continue analysis. This involved synthesizing large sections of the data and developing broader categories (Giles et al., 2016; Saldaña, 2013). The final analysis involved a rigorous and intensive process of synthesizing and collapsing the categories into several major themes by independently and jointly reviewing the transcripts again. Exemplars for each theme were identified and each researcher developed a trinity configuration using a Venn diagram to depict three themes that best reflected the qualitative data (Saldaña, 2013). The diagrams were compared and discussed until consensus was achieved regarding the predominant three themes.

The quantitative and qualitative data were integrated by examining the convergence and divergence of the data. A table was developed to illustrate these comparisons and how the qualitative results explained or enhanced the quantitative results (Creswell & Clark, 2018). This resulted in further interpretation and summarization of the results (Creswell & Clark, 2018).

Results

Quantitative Results

Participants reported mixed perceptions of the school climate and while participants identified barriers to connecting with students, all felt connected to students at the middle school. The emotional climate of the school was described as at least warm and positive by 68% ($n = 13$) of respondents (see Table 1). Most respondents felt that the school places positive school climate as a leading priority, but 32% ($n = 6$) felt the school climate was cold and negative. Most respondents (68%; $n = 13$) felt that the school places getting students positively connected as a priority, but there were some (15%; $n = 3$) who strongly disagreed that it is important to get students positively connected to their school (see Tables 2 and 3).

All respondents ($n = 19$) indicated they felt positively connected to students, but some (11%; $n = 2$) strongly disagreed that it is the role of teachers/support staff to try to positively connect with students. Respondents identified barriers to connecting with students and two of those barriers relevant to the qualitative data were lack of time and lack of student interest (see Table 4).

Table 1

Respondent Descriptions of Emotional Climate of the School

Question	Extremely Warm/Positive		Warm/Positive		Cold/Negative		Extremely Cold/Negative	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
How would you describe the emotional climate of your school?	2	10%	11	58%	6	32%	0	0

Table 2

School Staff Perceptions about School Climate/Connectedness Priorities and Feeling Connected to Students

<u>Question</u>	<u>Yes</u>		<u>No</u>	
	<i>n</i>	%	<i>n</i>	%
Do you feel that your school places positive school climate as a leading priority?	15	79%	4	21%
Do you feel that your school places getting students positively connected as a leading priority?	13	68%	6	32%
Do you feel that school climate and academic achievement are positively related?	17	89%	2	11%
Do you feel that your school places getting parents involved with school activities as a leading priority?	14	74%	5	26%
Do you feel that your school places getting students connected with the community as a leading priority?	6	32%	13	68%
Overall, do you feel positively connected to your students?	19	100%	0	0

Table 3

School Staff Perceptions about Feeling Connected to Students

<u>Question</u>	<u>Strongly Agree</u>		<u>Agree</u>		<u>Neutral</u>		<u>Disagree</u>		<u>Strongly Disagree</u>	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I feel it is important to try to get students positively connected to their school (help them to feel like they fit in or belong).	14	74%	2	11%	0	0	0	0	3	15%
I feel it is a role of each teacher/support staff to try to positively connect with each of his/her students.	13	68%	4	21%	0	0	0	0	2	11%
I feel it is a role of each teacher/support staff to try to get his/her students positively connected to their classmates.	9	47%	7	37%	1	5%	0	0	2	11%

Table 4

Barriers to Connecting with Students Reported by Respondents

<u>Barrier</u>	<i>n</i>	%
Lack of Parental Involvement	11	58%
Lack of Time	10	53%
Emphasis on increasing scores on the State Proficiency Test	10	53%
Lack of Student Interest	9	47%
Emphasis on Academic Achievement (increasing grades)	6	32%
Lack of Knowledge on how to positively connect with students	2	11%
Lack of Confidence in my ability to connect with students	1	5%

Qualitative Results

Analysis of focus group data further explained participants' perceptions regarding feeling connected to students and factors that influenced connectedness and its relationship to the school climate. Participants provided narratives about their interactions with students in the classroom, observations of student interactions with others, and factors that influence those interactions. Three major themes were identified reflecting participant experiences: *cloud of chaos*, *snowballing*, and *pushing through the fog*.

Cloud of Chaos

The predominant theme, cloud of chaos, is descriptive of the school atmosphere and reflects a hazy mass of disorder and confusion caused by frequent disruptive and aggressive student behaviors. Students often communicated with "no filter" and engaged in impulsive or "mean" behavior. Classroom instruction was often interrupted by students displaying anger or communicating at inappropriate times and in a defiant manner, that required management by

school staff. This was demonstrated by one student who was unable to cope with a newly created seating chart and disrupted class with an angry outburst as described by one participant:

I had a situation in my classroom [...] I had just redone seating charts and one fell at the table [student noisily and heavily slams his upper body and chest onto the table beside the other student], like, thirty seconds after the other kid sat down with him and was like ‘man, can you move me, because I just, ugh! I’m trying not to pop off but I’m going to if you don’t move me,’ [...] and now it’s like [...] could we have communicated that without this cloud of chaos that just happened?

Disruptive behaviors typically required teachers to stop instruction and reprimand students or remove them from the classroom. These interruptions took time away from building connected relationships with both disruptive and non-disruptive students. Participants described acting out behaviors, such as a student swinging “his bookbag (and it) hit the wall”; a student yelling at a teacher “the f bomb and it went from there...I got cussed...and as I’m trying to get out the door she’s pacing in front of the door....and I couldn’t leave...”; and, “hair on the ground fights”. Student reactions to situations in the classroom were often to “storm out of class or slam the door...wanting to get violent” and staying “so wound up...and it continues like little tornado behavior”.

Participants described strategies to manage classroom behaviors that prevented instruction. But, instead of students engaging with school staff, they became withdrawn. Responses to those attempts to foster a positive learning environment were often negative, such as, “I’m not talking to you...about it” or “they’ll go slower, and they’ll shut down...”. One participant indicated that “some of our students are the authority outside of school...they can look after themselves...(teachers are) disrespecting them because they can handle it”. These

perceptions were summarized by one participant as students not being “ready to receive the service that teachers are ready to provide”.

This theme also reflects school staff concerns for safety and managing situations that impact safety. Interactions between students and school staff were sometimes “violent” and participants discussed worry about student safety or their own safety. They described instances such as a student waiting by a teacher’s car with “a knife and...a broken signpost” and “waiting in the bushes with a shank ...like a knife”. They described their concerns about students being anxious or fearful of other students and one respondent stated, “knowing that someone is terrified of another student that she’s around all day; like, I couldn’t imagine being around someone all day that I was scared of.” Several participants stated it felt “scary to be in this school”. As such, this cloud of chaos created a pervasively negative school climate and impeded connectedness between school staff and students.

Snowballing

The theme, snowballing, depicts the building up or mushrooming of factors external to the school that can spread in such a way as to influence school staff connectedness with students. Participants discussed their perceptions of socioeconomic, cultural, behavioral, or emotional factors, which begin a snowball effect that subsequently impacts relationship building and levels of connectedness. One participant described an altercation between students that may have escalated due to these pre-existing factors. The altercation began while away from school, but culminated in school because of students’ inability to emotionally manage the situation:

I’d call it attention getting [as students] don’t have the social parameters in place [...] a lot of [the behavior] is verbal [the situation] happens outside, and they can’t stop it and [it] just [keeps] snowballing inside that leads to altercations or something.

Participants speculated on student actions, such as aggression, withdrawal, or lack of engagement, that may be obscuring deeper emotional factors that impacted their connecting with school staff, such as:

could be surface behaviors, where it's still hidden, that stuff's still down below, it hasn't come out yet [or these actions occur because] hurt people hurt people [or] when kids do that they're either scared of something; they're just trying to get themselves away from reality; or, there's something going on that they don't want anyone to see them cry.

Participants characterized withdrawn or non-engaging students as “putting a strong face on; they don't want others to know” and that “some of it's saving face”, which impacted their attempts to connect with students. One participant stated, “these children don't want you to know what they go through...they want to know that you're different. Like one wrote me a letter and said, ‘you don't know what I go through at home’”. One participant talked about an incident with a student that resonated these perceptions:

Cause I feel like the folks that have the most stuff going on outside of school are also the ones that have the toughest face [group agrees] and wouldn't show it, aren't gonna talk about it...I mean, I had one little girl come in to homeroom one morning saying “I cried at church last night” and I said “really? Why?” and she said “cause they were talking about having a father figure in your life, and I don't really have a father figure at home,” and so I just gave her a hug, but I feel like she's probably not the one in this room that has the deepest hurt. The people that have the deepest hurt are not going to be the ones that come up to me and tell me “this is my hurt.”

The snowballing effects from socioeconomic, cultural, behavioral, or emotional factors, may impact levels of connectedness with students.

Pushing Through the Fog

The theme, “pushing through the fog”, refers to attempts to move forward or beyond the factors that may be impeding the potential for connectedness. This theme encompasses descriptions of attempts to enhance connectedness with students by building relationships with them and their responses to those attempts. School staff described connectedness strategies of encouraging and motivating students in an attempt to move them forward and beyond their perceived limitations. One participant stated:

they don't like the environment they're in [...] which makes them not really like school [...] but they [get] to a point where “I don't care” [...] and trying to help them realize that they've got to be able to push through the fog [...] because they're getting labeled as a failure and they're not failures.

Participants talked about the importance of having a relationship with students and understanding the emotional needs that may be precipitating aggressive or withdrawn behavior, and the implications in terms of effectively managing and teaching in the classroom:

I think part of it is tied to trauma. I just came from a workshop where we talked about how kids deal with this stuff and they bring it back in and we are actually traumatizing them in the classroom, you're actually doing trauma in the classroom by pushing somebody that you know it might make them uncomfortable, but you keep pushing for them to just respond to a question. A kid might, just from something we perceive as simple, get up, storm out, have a meltdown, just not knowing and having a relationship with the child, not knowing more about their triggers and what's gonna work and what's not [impacts the ability to build connectedness].

Other participants stated “If you can reach a child emotionally everything else comes through. They’ll be safe, they’ll feel supported, they’ll feel nurtured by you” and “it just gives them a chance”. If school staff can push through the fog with students and build relationships, this may increase the chances that students will have positive academic and emotional outcomes.

Integrated Results

The quantitative and qualitative results were compared for convergence and divergence. The quantitative results were mixed regarding participant perceptions of the emotional climate of the school and diverged from the qualitative results. More than half of the respondents described the emotional climate of the school as warm and positive and more than one third described it as cold and negative. Most respondents felt that the school places positive school climate as a leading priority. The major themes which arose from the qualitative data contain descriptions of disruptive and volatile daily occurrences with multiple participants voicing concerns for the safety of students and themselves, which is more suggestive of a school climate that is not conducive to connectedness.

The majority of respondents felt that the school places getting students positively connected to the school as a leading priority, but the qualitative data diverge from the quantitative data, as it contains descriptions by participants of situations suggesting a lack of student connectedness with the school. Although the quantitative data indicated that all respondents felt positively connected to students, the qualitative data contain descriptions of lack of responsiveness from students to school staff attempts to connect with them, suggesting lower levels of connectedness between school staff and students. Convergent with the quantitative results, which indicated that there are barriers in connecting with students, such as lack of time

and lack of student interest, the qualitative results provide numerous descriptions of respondents' perceptions about how these factors impede school staff/student connectedness.

Discussion

The integrated findings suggest that there are lower levels of connectedness between students and teachers/support staff with a school climate that is not conducive to connectedness. While the quantitative and qualitative findings diverged regarding connectedness and school climate, the qualitative data aided in explaining why lack of time and lack of student interest were identified as barriers to connecting with students in the quantitative data. Participants described a chaotic environment with daily occurrences of disruptive and aggressive student behavior which hindered their ability to engage students in meaningful conversations to build connected relationships. This may explain why participants felt there was a lack of time to connect with students. Aggression in school leads to a school climate characterized by emotional instability and associated with student perceptions of a negative school climate (Mitchell et al., 2010), which supports the finding of a school climate that is not conducive to connectedness. School staff discussed feeling concerned about safety for students and themselves because of disruptive and violent behavior. The rate of acts of bullying and harassment at this school are almost eight times greater than the average of other schools in the state for the school year 2018-2019 (State Department of Public Instruction, 2019). Behavior problems, such as aggression and incivility, can impede social attachment (Caridade et al., 2020), and students must feel safe to feel connected to school (Blum & Libbey, 2004), suggesting that there are lower levels of connectedness than indicated by the quantitative data.

Disruptive and aggressive behavior may be the result of the snowballing effects of limited emotional development due to socioeconomic and cultural factors, such as poverty

(Lindsey et al., 2017). Fang (2018) found an association between suicidal behavior and low levels of connectedness between students and teachers in impoverished schools. This finding is of interest as 72% of the students at the school described in the current study are eligible for free or reduced-price lunches (State Department of Public Instruction, 2018). In addition, short-term suspensions for the school are almost 7x higher than the state average (State Department of Public Instruction, 2019). Externalizing behavior, like anger, aggression, or disruptiveness may be obscuring mental health needs, such as depression (Lindsey et al., 2017; Piqueras et al., 2019). Teachers and support staff often intervene with those displaying externalizing behavior (Lindsey et al., 2017), which takes time away from building connected relationships with students. These externalizing behaviors may be misinterpreted as conduct issues, instead of signs and symptoms of depression or anxiety (Lindsey et al., 2017). Depression is a significant risk factor for suicide (Lindsey et al., 2017), and studies have found that higher levels of externalizing behavior and depression during middle school were related to lower levels and a faster rate of decline of school connectedness (Loukas et al., 2016).

Internalizing symptoms for depression, such as anxiety, lack of joy, and social withdrawal (Durbeej et al., 2019), are often associated with, and “underlie” externalizing behavior (Lindsey et al., 2017, p. 380; Piqueras et al., 2019). Participants tried to push through the fog and connect with students, but they described students withdrawing and refusing to talk when they attempted to counsel them about their behavior. Perceptions were that students did not want anyone to see them cry or would put on a “strong face” to avoid showing their feelings. As one participant commented, the student with “the deepest hurt” will not be the one to confide about their emotional distress. While externalizing behavior is often managed because of its interruption of classroom instruction, students exhibiting internalizing behavior may be

overlooked as they are less disruptive (Lindsey et al., 2017). All participants indicated they felt connected to students, but lack of interest was identified as a barrier to connecting with students. School staff may perceive this withdrawn behavior as a lack of interest in connecting with them; yet, these behaviors may be manifestations of symptoms of depression. Thus, it is also important to assess students exhibiting withdrawn behavior or antisocial attitudes (Lindsey et al., 2017).

Implications for School Nursing Practice

School nurses have a significant role in enhancing protective factors and collaborating with teachers, administrators, and family (NASN, 2018), to develop strategies to build trust, rapport, and caring relationships (Wilkinson, 2011). Yet, in an integrative review conducted to determine the role of the school nurse in suicide prevention, evidence of school nurse collaboration with other school staff was minimal (Pestaner et al., 2019). Additionally, in a study conducted by Wilkinson (2011), students who engaged in self-injurious behavior identified the school nurse less frequently than other sources of support if they needed help for emotional distress. This suggests that students may not realize that school nurses are a resource when in distress. Since many at-risk adolescents prefer to seek help from their friends rather than an unfamiliar person (Sheppard et al., 2018; Strunk et al., 2014), connectedness with trusted adults in school may increase opportunities for adolescents to seek help in times of distress, including for suicidal concerns (Whitlock et al., 2014). If collaborative strategies between school nurses and other school staff are developed to build trusting relationships with students, school connectedness could be enhanced to facilitate help-seeking behavior.

School nurses should be considered part of the education team (Pufpaff et al., 2015) and invited to staff meetings when the needs of students with challenges are discussed.

Communication with school nurses should be standard practice when school staff are following

students experiencing difficulties with absenteeism or truancy and acting out, withdrawn or isolative behaviors. Students that have patterns of disciplinary problems may benefit from being referred to the school nurse. Short-term suspensions may place students at risk for a loss of connectedness and further academic challenges and risk-taking behavior (Henderson & Guy, 2017). School nurses may be able to develop relationships with at-risk students and their parents to determine if there are untreated mental health needs. This would facilitate the creation of a collaborative plan of action to develop connected relationships with adolescents struggling in school and making referrals for at-risk students that would otherwise be missed.

School nurses can educate school staff on signs and symptoms of depression and anxiety that may be perceived as acting-out behavior. Since teachers spend so much time with students and have the observation skills to determine if a child is displaying changes in behavior or intellectual functioning, it is important to train teachers on the symptoms of depression (Lindsey et al., 2017). This will improve the school environment and enhance school connectedness by providing school staff with skills that will allow them to identify and cope with various emotional needs of students (Madjar et al., 2018; Onnela et al., 2014).

School nurses can foster school connectedness by engaging parents with the school and assisting them with referrals to appropriate community resources. School nursing practice is student-centered, and the family and community are important considerations in the care of students (NASN, 2016). A primary motivating factor for parental involvement in their child's education is knowing that it will positively impact their learning and well-being (Davis-Aldritt, 2012). As such, school nurses have the opportunity to educate parents about depression and how their involvement can enhance their child's health and academic progress (Davis-Aldritt, 2012).

Building relationships with parents in collaboration with school staff would support a positive school climate to enhance school connectedness for students.

Limitations/Implications for Research

The interpretation of the findings of this study should be considered in light of several limitations. The method was a secondary data analysis from a sequential explanatory mixed-methods study; as such, the focus group questions were not specific to the aims of this study. However, a strength of using this method was that new research questions were developed that expanded beyond the original research and provided new insights (Wadman et al., 2020).

This study provides a snapshot of the perceptions of school climate and feeling connected to students through the lens of teachers and school support staff. Future research should focus on obtaining perspectives of multiple informants (Ramsey et al., 2016), such as students, staff, and parents, as understanding how perspectives may differ can result in more effective interventions to enhance school connectedness (Brand et al., 2008; Mitchell et al., 2010; Ramsey et al., 2016). While generalizability was limited due to the small sample size, the student body was comprised of a racially/ethnically diverse population. Studies suggest there may be racial/ethnic differences in perceptions of connectedness and school climate, and how underrepresented youth in middle school seek help (DeLuca et al., 2019; Voight et al., 2015). Further research is needed to explore perceptual differences and how or from whom underrepresented youth in middle school seek help, to facilitate the development of culturally appropriate school connectedness strategies.

School nurses are uniquely equipped to collaborate with interprofessional team members to coordinate and develop interventions to promote school connectedness; yet, there is minimal research demonstrating the impact of nursing interventions on enhancing protective factors (Federici et al., 2019). Research is needed to examine outcomes of school nurse collaborative

interventions with interdisciplinary team members to enhance protective factors among adolescents. For example, if students were referred to the school nurse for assessment of at-risk behaviors, data could be collected regarding interventions. Those interventions might be referrals to community resources; regular meetings with teachers, the school nurse, and parents; or, monitoring of student behavior. Since school connectedness can impact academic performance, truancy, and disruptive behavior (Blum & Libbey, 2004), longitudinal collection of statistical data regarding these factors would demonstrate the impact of those collaborative interventions on enhancing school connectedness.

Conclusions

School connectedness, a protective factor against suicide, is a powerful byproduct of a positive school climate and may act as a bridge for adolescents in need of help for emotional distress. Participants described their experiences in attempting to foster a positive learning environment and enhance connectedness with students, while managing disruptive and aggressive behaviors among a student population challenged by socioeconomic, cultural, and emotional factors. While more than half of the respondents described the emotional climate of the school as warm and positive and all felt positively connected to students, the themes derived from the qualitative analysis, suggest a school climate that is not conducive to fostering connectedness with lower levels of connectedness between students and teachers/support staff. The disruptive, aggressive, and withdrawn behaviors described by teachers and support staff may be symptoms of underlying mental health issues, such as depression, which is a risk factor for suicide. As trusted healthcare professionals, school nurses are uniquely positioned to develop relationships with students displaying such behavior and their parents to determine if there are untreated mental health needs. School nurses have the knowledge to provide parents and school

staff with education on behaviors that may be indicative of depressive symptoms. They can collaborate and assist school staff to identify appropriate resources in the community for at-risk youth which may lead to enhanced parental involvement in schools. Fostering positive relationships among students, parents, and school staff, would facilitate collaborative opportunities that have the potential to influence school connectedness and mental health outcomes.

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Appendix A

Teacher/Support Staff Survey

Please check how often you....(Everyday, Once a Week or More, Once a Month or More, Less than Once a Month, Never)

1. Use strategies to try to get your students positively connected in your class (feel like they fit in or belong)
2. Offer praise to your students
3. Call students by their first names
4. Use icebreakers to get students to know one another
5. Smile when teaching in class
6. Use humor when interacting with students
7. Encourage student discussion in class
8. Spend time engaging students in conversations about their daily lives
9. Try to relate to your students and get to know them better
10. Try to show your students that you respect them
11. Actively listen to your students when they are speaking to you
12. Show your students that you care about them
13. Tell your students that you care about them
14. Provide students with opportunities to show responsibility in the classroom
15. Try to act as a positive role model for students
16. Allow students to make low-level decisions in class
17. Set high expectations for achievement
18. Set rules for students to show respect to one another
19. Enforce rules of student respect
20. Use cooperative learning in class
21. Divide students into small groups in class
22. Make small talk with students before/after class
23. Share personal stories or experiences during class to try to reach students
24. Encourage students to share their feelings
25. Encourage and motivate your students to do their best in class
26. Involve parents in student activities (such as homework assignments)
27. Encourage students to talk to their parents
28. Encourage students to get positively involved in their community

Please check how confident you feel that you can . . .(Extremely Confident, Confident, Slightly Confident, Not Confident at All)

29. Positively connect with your students (help them to feel like they fit in or belong)
30. Positively impact your students
31. Offer praise to your students
32. Call students by their first names

33. Use icebreakers to get students to know one another
34. Smile when teaching in class
35. Use humor when interacting with students
36. Encourage student discussion in class
37. Spend time engaging students in conversations about their daily lives
38. Try to relate to your students and get to know them better
39. Try to show your students that you respect them
40. Actively listen to your students when they are speaking to you
41. Show your students that you care about them
42. Tell your students that you care about them
43. Provide students with opportunities to show responsibility in the classroom
44. Try to act as a positive role model for students
45. Allow students to make low-level decisions in class
46. Set high expectations for achievement
47. Set rules for students to show respect to one another
48. Enforce rules of student respect
49. Use cooperative learning in class
50. Divide students into small groups in class
51. Make small talk with students before/after class
52. Share personal stories or experiences during class to try to reach students
53. Encourage students to share their feelings
54. Encourage and motivate your students to do their best in class
55. Involve parents in student activities (such as homework assignments)
56. Encourage students to talk to their parents
57. Encourage students to get positively involved in their community

**58. Which, if any of the following, are benefits of positively connecting with your students?
(check all that apply)**

- | | |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------|
| <input type="checkbox"/> Decrease student violence | <input type="checkbox"/> Increase academic achievement (increasing grades) |
| <input type="checkbox"/> Decrease student bullying | <input type="checkbox"/> Increase student involvement in positive behaviors |
| <input type="checkbox"/> Decrease student alcohol and other drug use | <input type="checkbox"/> Increase student perceived safety at school |
| <input type="checkbox"/> Decrease student depression | <input type="checkbox"/> Improve student-to-student interactions |
| <input type="checkbox"/> Decrease student suicide | <input type="checkbox"/> Improve student-to-teacher interactions |
| <input type="checkbox"/> Increase student self-esteem | <input type="checkbox"/> Create a more positive school climate |
| <input type="checkbox"/> Other (specify) | |

Please check how strongly you agree or disagree with each statement...(Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree)

- 59. I feel it is important to try to get students positively connected to their school (help them to feel like they fit in or belong).
- 60. I feel it is a role of each teacher to try to positively connect with each of his/her students.
- 61. I feel it is a role of each teacher to try to get his/her students positively connected to their classmates.
- 62. I feel it is important for schools to try to set positive student-school connection as a school priority.
- 63. I feel teachers should be encouraged by their principals to positively connect with their students.
- 64. Overall, I feel teachers should devote more effort to trying to connect with their students.
- 65. Overall, I feel schools should devote more effort to trying to get students connected to school.
- 66. I feel it is important for schools to try to prevent students from getting involved in risky behaviors (such as alcohol, drugs, violence and suicide).
- 67. I feel that teachers can help to prevent student involvement in risky behaviors (such as alcohol, drugs, violence and suicide).

68. Which, if any of the following, prevents you from positively connecting with your students? (check all that apply)

- Lack of time
- Lack of knowledge on how to positively connect with students
- Lack of confidence in my ability to connect with students
- Lack of administrative support
- Lack of student interest
- Emphasis on academic achievement (increasing grades)
- Emphasis on increasing scores on the state proficiency test
- I believe it is not my role to positively connect with students
- Lack of parental involvement and support
- Other (specify) _____

Please check Yes or No for the following questions.

69. During your college coursework, did you receive training on how to positively connect with students?
70. Have you ever received training (outside of college) on how to positively connect with students?
71. In the past year, have you ever read about strategies on how to positively connect with students?
72. Do you feel that you can make a positive difference in the lives of your students?
73. Do you ever attend after-school activities for your students?
74. Do you feel that you are enthusiastic when you teach?
75. Does your school administrator encourage or motivate you to positively connect with your students?
76. Do other teachers at your school encourage or motivate you to positively connect with your students?
77. Does your school have a committee that deals with getting students positively connected to the school?
78. Do you feel that your school places getting students positively connected as a leading priority?
79. Do you feel that your school places positive school climate as a leading priority?
80. Do you feel that your school places getting parents involved with school activities as a leading priority?
81. Do you feel that your school places getting students connected with the community as a leading priority?
82. Do you feel that school climate and academic achievement are positively related?
83. Overall, do you feel positively connected to your students?
84. Would you like to learn more about how to develop positive connections with your students?

85. How would you describe the emotional climate of your school?

- Extremely warm and positive
- Warm and positive
- Cold and negative
- Extremely cold and negative

85. Which of the following sources would you use to get information on how to positively connect with students? (check all that apply)

- Teacher workshops & trainings (local/regional)
- National conferences

_____ Continuing education courses at colleges

_____ Distance education courses

_____ Journals

_____ Internet

_____ Strategies from other teachers

_____ Other (specify)

Demographics

1. What is your sex?

_____ Male

_____ Female

2. What is your race/ethnicity?

_____ African-American

_____ Asian

_____ Caucasian

_____ Hispanic

_____ Other

3. What grade level do you teach?

_____ 1st

_____ 2nd

_____ 3rd

_____ 4th

_____ 5th

_____ 6th

_____ 7th

_____ 8th

4. How many years have you been a teacher?

_____ years

5. How many years have you taught at your current school?

_____ years

6. What subject(s) do you teach?

7. What is your highest degree?

_____ Bachelors degree

_____ Masters degree

_____ Doctoral degree

_____ Other

8. What percent of students in your school are:

African-American _____ 0-24% _____ 25-49% _____ 50-74% _____ 75-100%

Hispanic/Latino _____ 0-24% _____ 25-49% _____ 50-74% _____ 75-100%

White _____ 0-24% _____ 25-49% _____ 50-74% _____ 75-100%

Other _____ 0-24% _____ 25-49% _____ 50-74% _____ 75-100%

Appendix B

Focus Group Instrument Used in the Primary Study

Questions:

[Mental health concern](e.g. aggression) has been reported as a common concern observed in students, what specific behaviors have you observed?

What strategies do you use to manage this behavior/concern in your students?

[Type of strategy] (e.g. involve parents in student activities) was reported as one of the most commonly used strategies to connect students to their peers, teachers, school, and community. What factors contribute to you being able to successfully use this strategy?

[Type of strategy] (e.g. involve parents in student activities) was reported as one of the least commonly used strategies to connect students to their peers, teachers, school, and community. What factors contribute to you being able to successfully use this strategy?

[Barrier to strategy] was reported as most common barrier to preventing you from connecting students to their peers, teachers, school, and community. What factors contribute to these barriers?

[Area of confidence] was reported as being an area where staff did not feel confident. What factors contribute to this lack of confidence?

Appendix C

4/29/2021

<https://epirate.ecu.edu/App/sd/Doc/0/DAN6M5UODNKL62J5RHLU2UMEE/fromString.html>



EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board
4N-64 Brody Medical Sciences Building - Mail Stop 682
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rede.ecu.edu/umcib/

Notification of Exempt Certification

From: Social/Behavioral IRB
To: [Deborah Tyndall](#)
CC:
Date: 8/21/2019
Re: [UMCIRB 19-001721](#)
School-Based Interventions to Address Mental Health Needs in Middle-School Adolescents

I am pleased to inform you that your research submission has been certified as exempt on 8/21/2019. This study is eligible for Exempt Certification under category 2B.

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

IRB00000705 East Carolina U IRB #1 (Biomedical) IORG0000418
IRB00003781 East Carolina U IRB #2 (Behavioral/SS) IORG0000418

