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School Psychologists Involvement and Perceived Preparedness in the
Provision of Suicide-Related Services:
A Comparison of Practitioners Serving Different School Levels

by

Jennifer M. Cunningham

A thesis submitted in partial fulfillment
of the requirements for the degree of
Education Specialist
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**School Psychologists' Involvement and Perceived Preparedness in the
Provision of Suicide-Related Services:
A Comparison of Practitioners Serving Different School Levels**

Jennifer M. Cunningham

ABSTRACT

While the manifestation of suicidal thoughts and/or behavior is more common among adolescents, children are capable of, and do experience, suicidal ideation as well as demonstrate suicidal behaviors. Suicide is the sixth leading cause of death among children aged 5-14 years (Center for Disease Control [CDC], 2008). However, children may not always be referred or brought to the attention of the school psychologist, as their threats may be considered immature and unfounded. The purpose of this study is to provide data that clarifies the need for the provision of suicide-related services for children in elementary school. An archival dataset of 226 National Association of School Psychologist (NASP) practitioners was analyzed. In regards to referrals for potentially suicidal youth, within a two year period, practitioners who served elementary schools received an average of 1.64 referrals, practitioners who served middle/junior high schools received 2.95 referrals, and practitioners at the high school level received 3.95 referrals. Within the same time period, practitioners who served elementary schools experienced an average of .05 completed suicides, middle/junior high school practitioners experienced

.07 completed suicides, and practitioners at the high school level experienced .16 completed suicides. Results indicated that overall, practitioners felt “moderately prepared” to provide suicide-related services to youth. School psychologists who predominantly served high schools perceived themselves to be significantly more prepared to engage in suicide-related roles than their elementary school colleagues. School psychologists who predominantly served middle/junior high schools were similar to their colleagues who served either elementary or high schools on three out of four professional roles. Implications for future research, training, and practice are discussed.

Chapter One

Introduction

Statement of the Problem

Completed suicides during childhood remain a relatively rare phenomenon. However, suicide is the sixth leading cause of death among children aged 5-14 years (Center for Disease Control [CDC], 2008). This is an increase from years past, such as 1991, when suicide was the seventh leading cause of death among this age group (Milling, Campbell, Davenport, & Carpenter, 1991). Nevertheless, the dearth of completed suicides among children may lead school psychologists who work primarily with elementary-age children to dismiss the need for skills related to prevention, assessment, and intervention with suicidal youth. Administrators and other school personnel also may tend to doubt the importance of such a skill set. However, research suggests that professional practices relevant to suicide prevention and intervention are pertinent to all school psychologists, including those who work with elementary-age children due to (a) the prevalence of suicidal thoughts and harm-related statements made by elementary age students (CDC, 2008), and (b) the impact of prevention-related activities delivered to children on later suicide-related thoughts and behaviors (Greening et al., 2008). The value of proactive professional practices with children as young as first grade is supported by results of recent outcome studies in which elementary school students who participated in universal interventions geared towards socializing children

for the student role and reducing aggressive disruptive behavior experienced reduced suicidality (less suicide ideation and fewer suicide attempts) during young adulthood (Wilcox et al., 2008).

Specific risk and protective factors exist for children that are particularly predictive of later suicidality (Greening et al., 2008). School psychologists must be cognizant of these factors, so that early intervention efforts can be implemented if necessary. Additionally, factors such as age, developmental level, cognitive ability, and death or suicide experiences influence children's perceptions of death and suicide (Mishara, 1999). As such, the expression of their risk factors or warning signs may differ from older children or adolescents. Due to the numerous differences between children and adolescents, existing suicide assessment procedures must be modified to accommodate this developmentally-unique population (Hunter & Smith, 2008; Merrell, 2008). Appropriate modifications to clinical interviewing techniques, as well as use of developmentally-appropriate assessment instruments, is crucial in ensuring that an accurate assessment of the threat to self-harm is conducted. Thus, school psychologists who work with young children need to be equipped with a unique skill set to work effectively with this population.

Despite the research supporting the need for the provision of services to suicidal children (Greening et al., 2008; Wilcox et al, 2008), there are few empirically supported school-based prevention, intervention, or postvention programs that address the developmental differences in children. Further, there is a lack of training opportunities and literature specifically geared towards preparing school personnel, namely school psychologists, to work with potentially suicidal children. To inform practice and

professional development efforts, information is needed regarding (a) the frequency with which school psychologists who serve young children encounter suicidal youth in their professional practice, as well as (b) school psychologists' confidence in their abilities to work effectively with this population in relation to suicide risk.

Purpose of the Current Study

The primary purpose of the current study was to explore school psychologists' encounters with suicidal children and adolescents in their school-based practice. The study aimed to provide concrete figures regarding the frequency of both referrals for and completed suicides among students at different school levels (i.e., elementary school, middle/junior high school, high school). A specific focus of the study also was to provide data that clarifies the need for the provision of suicide-related services for children in elementary school, by determining the frequency with which elementary referrals received by school psychologists are referred potentially suicidal children in schools (relative to the school psychologists who work in middle/junior high schools and high schools), as well as the frequency with which school psychologists who work in elementary schools experience the occurrence of a completed suicide (relative to school psychologists' experiences of completed deaths among middle/junior high and high school students). The final purpose of the study was to determine whether practitioner-perceived preparedness to engage in professional roles relevant to youth suicide (i.e., prevention, assessment, counseling/support, postvention) differed as a function of school level predominantly served.

Definition of Key Terms

Suicide. The term suicide refers to the intentional taking of one's own life or engaging in intentional self-injurious behavior that ultimately results in death (Mazza & Reynolds, 2008).

Suicidal. The term suicidal refers to a range of thoughts, behaviors, and/or deliberate actions that can result in potentially life-threatening consequences (Mazza & Reynolds, 2008). An individual is identified as suicidal when he or she is actively thinking about and/or engaging in behavior with the intent of taking his or her own life.

Suicide prevention. Prevention is an overarching term that is comprised of many activities that seek to reduce the prevalence of suicidal thoughts, behaviors, attempts, and ultimately completed suicides (Kalafat & Lazarus, 2002). Such activities include, but are not limited to: general suicide awareness and education, screenings, crisis and/or mental health team coordination, collaboration with community services, reliance on evidence-based strategies to guide prevention activities, and detailed intervention and postvention protocols aimed at preventing subsequent suicide attempts (Lieberman, Poland, & Cowan, 2006).

Suicide assessment and intervention. Assessment and intervention activities are geared towards preventing suicide among youth that have demonstrated warning signs, or possess risk factors, associated with suicidal behaviors (Kalafat & Lazarus, 2002). While these specific activities may vary, the general components include: detecting suicidal students, assessing suicidal intent, parental notification, initiating referrals for necessary mental health services, and providing follow-up care (Kalafat & Lazarus, 2002).

Postvention. Postvention activities commence after the occurrence of a completed suicide, and the ultimate goal of these procedures is to take purposeful steps to prevent another suicide (Poland & Lieberman, 2002). Such activities include: having a trained crisis-response team, verifying that the death was a suicide, releasing only truthful and relevant information to students and parents, and offering grief counseling for students affected by the death (Brock, 2002).

Elementary-age children. Children who are currently in grades Kindergarten through fifth are referred to as elementary-age youth or children. These children are typically from 5 to 10 years of age.

Middle/junior high school age adolescents. Adolescents who are currently in grades six through eight are referred to as middle/junior high school adolescents. These adolescents are typically 11 to 14 years of age.

High school age adolescents. Adolescents who are currently in grades nine through twelve are referred to as high school adolescents. Typically, these adolescents are between the ages of 14 and 18.

Research Questions

To generate information regarding practitioner experiences with and preparedness for the provision of suicide-related services to children, the following research questions were addressed by analyzing a dataset consisting of responses from mail-out surveys that current practicing school psychologists were asked to complete.

Research Question 1: What is the frequency with which school psychologists who work in different school levels receive referrals for potentially suicidal youth?

Research Question 2: Does the frequency of referrals for potentially suicidal youth differ as a function of school level served (i.e., elementary, middle, high)?

Research Question 3: What is the frequency with which school psychologists who work in different school levels experience the occurrence of a completed suicide?

Research Question 4: Does the frequency of occurrences of completed suicides differ as a function of school level served (i.e., elementary, middle, high)?

Research Question 5: Does the perceived level of elementary school psychologists' preparedness for professional roles relevant to suicide differ as a function of the proportion of time they spend serving that population with respect to:

- a. Prevention?
- b. Intervention/assessment?
- c. In-school counseling or support?
- d. Postvention?

Research Question 6: Does the perceived level of practitioner preparedness for professional roles relevant to suicide differ as a function of school level served (i.e., elementary, middle, high) with respect to:

- a. Prevention?
- b. Intervention/assessment?
- c. In-school counseling or support?
- d. Postvention?

Contributions to the Literature

The current study augments the extant literature by underscoring the need for specific suicide-related services (i.e., prevention, intervention, and postvention) for young children by providing data that support the notion that even young children evidence suicidal thoughts. This study also contributes to the literature by providing the first examination of school psychologists' perceptions of preparedness in the provision of suicide-related services as a function of school population served. Findings may provide implications for training programs regarding the need to more fully prepare practitioners to deal with potentially suicidal children.

Significance of the Current Study

The results from this study provide concrete evidence supporting not only the need for school psychologists serving all school levels to be trained in the provision of suicide-related services, but also for those practitioners employed in elementary school settings to be trained in how to provide suicide-related services to children. The fact that the majority of practitioners employed by public schools practice in elementary schools (Curtis, Hunley, Walker, & Baker, 1999), further illustrates the need to inform professional practices relevant to this specific population of school psychologists. Further, this study can provide evidence for school psychology training programs that practitioners should receive training in suicide-related services specific to developmental levels of students (i.e., children, adolescents).

The results from the current national study also provide baseline data specific to school psychologists' current average perceptions of confidence in the provision of

suicide-related services to young children. Systemic efforts to provide needed training in this area to practitioners can be evaluated in part by examining mean levels of practitioners' perceptions of preparedness to the results obtained in the current study.

Chapter Two

Review of the Literature

This chapter reviews literature relevant to the current study. Specifically, this chapter examines the literature in three main areas: the phenomenon of suicide among all youth, suicide-related services for youth in schools, and the role of the school psychologist relevant to the provision suicide-related services. When available, information within these areas that is specific to young children is highlighted. An understanding of pertinent literature in these three areas provides the relevant background information necessary in order to put the aim of the current study into context.

Phenomena of Suicide Among All Youth

Suicidal Behavior

When discussing suicide, it is important to differentiate between the terms “suicide” and “suicidal behavior.” Suicide is the act of intentionally taking one's own life, while suicidal behavior involves any deliberate action that can result in potentially life-threatening consequences (Mazza & Reynolds, 2008). The phenomenon of suicide involves a continuum of behaviors, which ranges from suicidal ideation at one end, followed by suicidal intent, suicidal attempt, and finally death at the other end of the continuum (Mazza & Reynolds). Along the continuum of behaviors, the frequency of each behavior decreases, but its lethality increases. Mazza and Reynolds defined suicidal ideation as “cognitions and thoughts about killing oneself and thoughts about suicide in general”; suicidal ideation is the first domain on the suicidal behavior continuum (p.

216). Example of suicidal ideations can be wishes of never being born to more specific thoughts, such as a suicide plan. Suicidal intent is the second domain along the continuum, and is defined as the “students’ objectives or intentions at the time of their suicidal attempt specific to their wish to die” (p. 217). Examples of suicidal intent behaviors include giving away prized possessions, engaging in minor self-destructive behaviors, and making subtle or overt threats (Mazza & Reynolds). A suicidal attempt is the most lethal form of suicidal behavior. A suicide attempt is defined as “a self-injurious behavior with the intent of causing death” (p. 217). The final domain of suicidal behavior is that of suicide, or the intentional taking of one’s life, or more specifically it is an intentional self-injurious behavior that results in death (Mazza & Reynolds). This domain is the most rare.

Prevalence Rates and Trends

Across the United States, approximately 30,000 people take their own lives each year, and about another 650,000 receive emergency care after attempting to take their own lives (U.S. Department of Health and Human Services [DHHS], 2001). As the eleventh overall leading cause of death in 2006, suicide accounted for 32,185 deaths (Heron et al., 2008). Suicide and suicidal behaviors are not restricted to just adults. In fact, according to the National Vital Statistics Report for 2006, suicide rates were the highest for the 15-24 year old age group being the third leading cause of death, followed by ages 25-44, for which suicide ranks as the fourth leading cause of death (Heron et al., 2008). Over the past few decades, suicide rates for adolescents have been on the rise (Kalafat & Lazarus, 2002). Between 1960 and 1990, suicide rates for teens ages 15-19 more than tripled, from 3.6 to 11.3 per 100,000 deaths. Similar trends were observed for

youth ages 10-14 years, increasing over 120% between 1980 and 1996. During the 1990's, a decline in the suicide rate for youth ages 10-19 was observed, until an 18% increase between 2003 and 2004 occurred (Bridge, Greenhouse, & Weldon, 2008). In speculating as to what may contribute to this increase, factors such as increased use of and access to media, internet, and specifically online social networking sites should be considered. In 2006, suicide was the third leading cause of death for adolescents and young adults ages 10-24 years (National Adolescent Health Information Center [NAHIC], 2006).

Adolescent and young adult males ages 10-24 have a consistently higher suicide rate than their female peers, averaging more than five times the rate of same-age females (NAHIC, 2006). Between 1981 and 2003, 84.1% of 10- to 24-year-olds who committed suicide were male (NAHIC, 2006). However, while adolescent males typically complete suicide at a higher rate than their female peers, females are more apt to attempt suicide at a higher rate and report more suicidal ideation (Center for Disease Control [CDC], 2006; Mazza and Reynolds, 2008; NAHIC, 2006). This is often referred to as the “gender paradox in suicide.”

When broken down by ethnicity, American Indian/Alaskan Native, non-Hispanic males and females ages 10-24 have the highest suicide rate, 31 deaths per 100,000, which is over two times higher than rates for White non-Hispanic adolescents (15.1 deaths per 100,000 in 2003; NAHIC, 2006). The suicide rate for African-American youth is 10.1 deaths per 100,000, while Hispanic/Latino youth average 9.6 deaths per 100,000. Finally, the suicide rate for Asian-American and Pacific-Islander youth was 8.9 per 100,000 deaths (NAHIC, 2006).

The three methods of self-harm most often used in suicides of young people include firearms, hanging or suffocation, and poisoning (CDC, 2006). In 2005, the leading suicide method for both males and females ages 10-14 was suffocation (63.7%), followed by firearms (31.1%), and poisoning (3.0%). For males and females ages 15-24, the top three methods of suicide involve firearms (46.6%), suffocation (37.3%) and poisoning (8.6%; CDC, 2006).

Specific to elementary-age children. Completed suicides during childhood remain a relatively rare phenomenon. While suicides have been verified among children younger than age 10, it is a very rare occurrence (Mazza & Reynolds, 2008). However, in 2006, suicide was the sixth leading cause of death among children ages 5-14 years, accounting for 3.4% of all deaths in that age group (Heron et al., 2008). This is an increase in position from years past, when suicide was the seventh leading cause of death among 5-14 year olds (Milling et al., 1991).

The trend in methods used by children has followed a similar pattern to that of youth ages 15 to 19 years. Since 1993, suicides by suffocation among children ages 10 to 14, and youth ages 15-19, have increased, while suicide by firearms has decreased. Since 1999, suicide by suffocation has occurred more frequently than those by firearms (American Association of Suicidology [AAS], 2008).

Notably, Mishara (1999b) found that many coroners are often reluctant to classify the death of children as suicide. Specifically, Mishara's interviews with coroners found that they are often hesitant to rule even obvious self-inflicted injuries as suicide, due to the belief that children do not fully understand the consequences of their actions. As a

result, it is probable that the actual number of children that commit suicide is underreported, or deaths are erroneously classified as accidental.

In sum, recent trends seem to indicate that while youth suicide rates decreased in the 1990's, in subsequent years the number of completed suicides has risen. Stable trends include that males commit suicide at a significantly higher rate, while more females attempt suicide and demonstrate suicidal ideations. This is attributed to the methods utilized by each; males tend to select more lethal and immediate methods, such as firearms, while females tend to utilize hanging or poisoning methods (NAHIC, 2006). Findings are also consistent regarding the frequency of completed suicides among children; although it was the sixth leading cause of death in 2006 for children ages 5-14, completed suicides in children younger than 10 years old remain rare.

Risk and Protective Factors

It is rare for an individual to commit suicide without warning. Rather, most suicides tend to be the result of increased risk factors and a lack of protective factors (Brock, Sandoval, & Hart, 2006). Additionally, a suicidal individual typically displays warning signs that can act as a "red flag" of behavior to come. While the presence of risk factors and the absence of protective factors do not definitively predict suicidal behavior, they do signal the need to be more vigilant of warning signs. There is general agreement in the research regarding what constitutes significant risk and protective factors, as well as warning signs. The most salient risk factors, protective factors, and warning signs are summarized below.

Risk Factors

Risk factors may be defined as leading to or being associated with suicide; more specifically, individuals "possessing" the risk factor or factors have a greater potential for demonstrating suicidal behavior (DHHS, 2001).

Prior suicide attempts. The most significant predictor of a future suicide attempt is a previous attempt (Brock et al., 2006). It is estimated that 26-33% of adolescent suicide victims have made at least one previous attempt (Poland & Liberman, 2005). Therefore, individuals who have made a previous attempt should be closely monitored for future risk.

Psychopathology. According to Poland and Lieberman (2005), over 90% of individuals who engage in suicidal behaviors have a psychiatric disorder or a history of psychopathology. Mood disorders, depression in particular, are typically the most common mental illnesses that place individuals at increased risk for suicide (Brock et al., 2006; Mazza & Reynolds, 2008). According to the AAS (2007), the risk of suicide among individuals with major depression is 20 times greater than individuals in the greater population. In addition, the feelings of hopelessness or helplessness that are commonly associated with depression are risk factors on their own, separate from the presence of a diagnosed mental illness. Other psychiatric disorders that are considered to be risk factors for suicide are substance abuse, anxiety disorders, and disruptive behaviors (Brock et al., 2006).

Substance abuse. Substance abuse plays an important role in suicide, and individuals who abuse substances are considered to be at high-risk for suicide. The main reason that this risk factor is so critical is because the use of substances (i.e., illicit drugs

and alcohol) decreases inhibition, thus increasing impulsivity and dissociation, and increasing the chance of making an attempt (Sommers-Flanagan & Sommers-Flanagan, 2008). Furthermore, if substance abuse is associated with depression, social isolation, or other risk factors, the level of risk is exacerbated further. For example, individuals with a history of alcohol abuse are six times more likely to die by suicide than those in the general population (Poland & Lieberman, 2002).

Familial. There are several risk factors related to the family that have been significantly associated with suicidal ideation and behaviors, such as low levels of parental support or involvement, the presence of maternal or paternal mental illness, family history of suicide, and the presence of abuse (e.g., emotional, sexual, and/or physical; Brock et al., 2006; DHHS, 2001). Additionally, restricted access to mental health treatment, cultural or religious beliefs that condone suicide, easy access to lethal means (such as a firearm in the house), stigma associated with help-seeking behavior, and exposure to media that sensationalizes suicide, are all associated with suicidal ideation and behavior (Brock et al., 2006; DHHS, 2001).

Situational. Several situation-specific risk factors have also been correlated with suicidal ideation and behaviors. Most of these factors can be divided into the following categories: loss (e.g., loss of a loved one, loss caused by family relocation, loss of self-esteem, loss of friends/social isolation), stressful life events (e.g., poverty, relationship break-up, questions about one's sexual orientation), family events (e.g., family violence, parental arguments, abuse, lack of social support at home), suicidality of others (e.g., exposure to the suicidal behavior of a peer, completed suicide in the community) (Brock et al., 2006; Poland & Lieberman, 2002). However, one situational risk factor stands

alone as it is the strongest situational risk factor: the presence of a firearm (Poland & Lieberman, 2002). In situations where a firearm is present, other risk factors are exacerbated, or place increased stress on the individual.

Specific to elementary-age children. While the presence of any of the aforementioned risk factors should be taken seriously, the presence of depression, impulsivity, and aggression in children are particularly important as they are empirically-identified risk factors for later suicidality as adolescents or adults (Greening et al, 2008). If these risk factors are identified in young children, their chances for experiencing feelings of suicidality and/or engaging in suicidal behaviors increase dramatically. Furthermore, demonstration of suicidal behaviors or suicide attempts in childhood predicts future suicide attempts in adolescents or adulthood, and such displays should be considered extremely serious (Greening et al., 2008).

Of additional importance are other risk factors particularly predictive of suicide among children, such as the presence of psychiatric disorders, poor social adjustment, abuse (emotional, physical, and/or sexual), change in the child's role in the family, family problems or familial suicide, chronic health problems, and poor coping strategies (Centre for Suicide Prevention, 2000). While these risk factors may be applicable to older adolescents, the presence of the aforementioned risk factors in children places them at an increased risk for suicide and/or suicidal behaviors.

Protective Factors

Opposite of risk factors, protective factors reduce the likelihood of suicide. They enhance resilience and may serve to counter risk factors (DHHS, 2001). According to the DHHS (2001), there are several important protective factors that can reduce the

likelihood of a suicide attempt or completion. Effective clinical care for mental, physical and substance use disorders, in addition to easy access to a variety of clinical interventions and support for help-seeking, are factors that can alleviate distress caused by mental illness.

Interpersonal. The most influential protective factors involve interpersonal systems, specifically family and peer networks. Strong connections to family members and friends, good communication among family members, parental involvement and engagement, and ties to the community, as well as peer support and close social networks, all act as strong protective factors as long as they are present and functional (Brock et al., 2006; DHHS, 2001). Cultural and religious beliefs that discourage suicide are also considered to be essential interpersonal protective factors.

Restricted access to firearms. Another important protective factor is restricted access to highly lethal means of suicide, such as firearms or poisons (Brock et al., 2006; DHHS, 2001). The availability of firearms in the home is associated with increased suicidal ideation, and the presence of a gun in the home is associated with a five time greater risk of completed suicide (Brock et al., 2006). As a result, the absence of these weapons or any other potentially lethal means acts as a protective barrier against suicidal ideation and behaviors.

Individual. Several additional protective factors relate to attributes within an individual. Specifically, good problem-solving and conflict resolution skills, adaptive coping skills, and nonviolent methods of handling disputes are linked to reduced suicidality. Also, general satisfaction with life, high self-esteem, and feeling that one has a purpose in life are considered to increase resiliency (Brock et al., 2006).

Specific to elementary-age children. While all of the aforementioned protective factors are pertinent to children, perhaps the most important protective factors for children are within the control of their parents (Ash, 2006). The most significant protective factor that parents have control over is removal of lethal means from the home. Especially if parents suspect suicidal ideation, it is of utmost importance that they be vigilant in keeping the home safe. In addition, parents can play a role in fostering resiliency in their children by reducing disruptive or stressful family patterns or events and increasing familial support and cohesion (Ash, 2006).

Warning Signs

Warnings signs are the ways in which an individual communicates distress, and signals the possibility of suicidal ideation (Brock et al., 2006). A common mnemonic used to remember salient suicide warning signs is “IS PATH WARM” (AAS, 2007). The “I” stands for ideation; does the individual demonstrate suicidal ideation? “S” stands for substance abuse, including increased alcohol or drug use. The “P” stands for purposelessness, when an individual sees no reason for living or no sense of purpose in life. “A” stands for anxiety, which can manifest as agitation, being unable to sleep or sleeping all the time. The “T” stands for trapped, or feeling as if there is no way out of one’s current situation. “H” represents hopelessness or feeling as though things will never improve. “W” stands for withdrawal, typically from family, friends, and community. “A” stands for anger, which can look like rage or revenge seeking behaviors for a perceived (or real) wrong. “R” stands for recklessness; engaging in careless, risk-taking behaviors with no regard for potential consequences. Finally, “M” stands for mood change, as dramatic changes in mood can signal distress.

Specific to elementary-age children. A review of the literature did not yield any warning signs that were specific to young children. However, it is important to note that elementary-age children do not generally refer themselves, and therefore their behaviors are often the first sign of their intentions (Poland & Lieberman, 2005). Therefore, presence of any of the above warning signs should be taken seriously.

Developmental Differences Unique to Elementary-Age Children

Perhaps the largest difference between children and older adolescents in regards to suicide is the concept of death. In order for children to understand and fully grasp the concept of suicide, they must understand the concept of death. This is important for school psychologists to be cognizant of, as children's concept of death is very different from that of adolescents, teenagers, and adults (Mishara, 2003).

There are four aspects of death that adults and children view differently: irreversibility, nonfunctionality (finality), universality, and inevitability (Hunter & Smith, 2008; Mishara, 2003; Willis, 2002). The first stage is irreversibility, in which young children liken death to sleep. This association is impacted largely by portrayals of death in fairytales and cartoons, in which characters that die can be reawakened or brought back to life if one has special knowledge or a magical potion (Cox, Garrett, & Graham, 2005; Mishara, 2003). This finding has provoked much research into the portrayal of death in fairytales, cartoons and movies (i.e. Cox et al., 2005), as those are the specific mediums to which younger children are frequently exposed. Second, children do not fully grasp the concept that once a person dies, his or her biological functioning ends. In other words, children do not understand that death is final. Third, universality refers to the stage in which children come to understand that all people die; young children tend to believe that not all people die (Hunter & Smith, 2003; Mishara, 2003). Finally, most

young children do not understand that death is unavoidable. They hold the misconception that people can avoid death/dying if they know how to. Children must acquire knowledge of each of these sub-concepts en route to gaining a mature understanding of death.

According to Hunter and Smith (2008), most research examining children's formulation of a mature understanding of death seems to suggest that children hold an immature view of death until about the age of 9 or 10 years old, at which age they begin to develop a mature understanding of death. However, one salient finding from Hunter and Smith's study was that children were able to understand the four sub-concepts of death at an earlier age ($M = 6.25$ years) than reported in previous studies. This finding, which is not consistent with previous research, suggests that there might not be definitive guidelines, as research suggests that mature death concepts are related to age, cognitive ability, and death experiences. Findings also implied that recent events in the United States, such as September 11th and the war in Iraq, have played major roles in facilitating younger children's ability to understand death, specifically the concept of finality.

Children learn about death through many different contexts, such as school, media, and conversations with adults (Mishara, 2003). For example, talking with parents about family members or pets that have died, memorial holidays for those who have died in wars, and depictions of death and dying on television or in movies are all ways that children learn about death and dying. Additionally, in today's technologically advanced society, the internet provides yet another medium for children to explore the topic of death independently. By increased exposure to the subject of death and conversations with adults, coupled with increasing cognitive reasoning and thinking abilities, children eventually begin to form a more mature concept of death.

Once children understand death, they can begin to understand the complex phenomena of suicide. There are two major ways in which children learn about suicide. In part because adults (i.e., parents and teachers) rarely explain suicide to children, children learn about suicide primarily on their own, from other children, or overhear adult conversations (Mishara, 2003). Adults tend to avoid the topic, as many believe that suicide is not something that children can or should have to deal with. When a suicide occurs in the family, parents usually explain that the death was an accident, even under obvious circumstances, such as when the child discovers the suicide victim's body (Mishara, 2003). Second, children learn about suicide through the media, particularly learn through mediums such as television, movies, and the internet. For example, research conducted in Quebec (Mishara, 1999a) found that one half of participants ages 5-7 reported seeing at least one suicide on television. Moreover, children reported that depictions of suicides on television or in movies were the primary methods of their knowledge of suicide.

Mishara's (1999b) research with 65 students ages 6-12 found that even though young children, in first and second grades, might not recognize the term "suicide," they are aware of what it means to "kill oneself." Furthermore, many of the participants were able to name several methods by which one can commit suicide. For example, in response to an open-ended question (i.e., how could someone commit suicide?), 58% of participants reported using a knife, 34% reported jumping, 31% reported using a firearm, and 25% reported poisoning. Finally, 14% indicated that they had at some point considered committing suicide, but none had attempted it. Taken together, results of this study have significant implications for professionals working with children; although

children might not be familiar with specific terminology, they are quite aware of what it means to kill themselves and specific methods of doing so.

Suicide-Related Services for Youth in Schools

Prevention

Prevention is typically the primary focus in the continuum of suicide-related services. Prevention can be thought of as an umbrella term that encompasses the following activities: general suicide awareness and education, screenings, crisis and/or mental health team coordination, collaboration with community services, reliance on evidence-based strategies of prevention, and detailed intervention and postvention protocols aimed at preventing subsequent suicide attempts (Lieberman, Poland, & Cowan, 2006).

Students spend the majority of their days at school, which is the obvious setting for the implementation of suicide prevention programs for multiple reasons (Kalafat & Lazarus, 2002; Mazza & Reynolds, 2008). First, school education policies mandate that schools must not only educate, but protect students. The implementation of suicide prevention programs can be seen as one mechanism of defense for students, by ensuring their safety and the safety of others. Second, the organizational qualities of schools provide access to all students, both children and adolescents. This gives school personnel the opportunity to raise student awareness of risk factors, foster protective factors, and identify (and intervene with) students that are determined to be at-risk. Thus, schools lend themselves to many varieties of prevention and early intervention initiatives. Further, programs that are designed to reach students who are at-risk for suicide can also help reach students who are struggling with other mental health issues, such as depression and

anxiety. Finally, school personnel can be found liable for a student's suicide if they "had actual knowledge of foreseeable harm and failed to take reasonable steps to prevent such harm" (Taylor, 2001, p. 77). The presence of suicide prevention programs in schools is considered to be one method of taking reasonable measures to prevent harm to students, and at the same time these programs are a way to ensure that school personnel are protected from legal sanction in the event a completed suicide occurs.

School-based prevention programs can be divided into three categories: universal prevention programs, selected prevention programs, and indicated prevention programs. Universal prevention programs target entire school populations, while selected prevention programs focus efforts on a specific subpopulation of students deemed to be at elevated risk, and indicated prevention programs target individual students who have previously attempted suicide or are experiencing clinical levels of depression (Kalafat & Lazarus, 2002; Mazza & Reynolds, 2008).

Universal prevention programs involve systematic school-wide activities aimed at increasing general awareness about suicidal ideation and/or behaviors, dispelling common myths, and providing information to staff and students about important risk factors and warning signs of suicide (Mazza & Reynolds, 2008). The overall goal of these programs is to ensure that school personnel are equipped to effectively identify at-risk students and initiate the appropriate course of action (Kalafat & Lazarus, 2002). Kalafat and Lazarus (2002) have outlined several general components of effective universal prevention programs. First, administrative consultation is necessary to ensure that there are specific policies and procedures in place for responding to at-risk students. It is important that all school personnel are aware of the specific procedures in place to ensure

that they follow the appropriate steps when dealing with potentially suicidal youth. Best practices suggest that crisis intervention policies and procedures, including information relevant to suicide, should be documented in a district-wide manual, so that practices are the same across all schools (Taylor, 2001). Then, school trainings should be provided for all faculty and staff; topics should include how to identify students who may be at-risk, and the correct procedures for referring them to the appropriate school personnel (i.e., school psychologist, guidance counselor). This training is referred to as gatekeeper training (Lieberman, Poland, & Cowan, 2006). Similar to gatekeeper trainings, parent training should also be conducted to inform parents of relevant warning signs or behaviors that might signal that their child is in distress. Community gatekeeper trainings should be conducted to facilitate policies and procedures between home and schools, as well as the integration of community resources. Finally, classes for students should be conducted to familiarize students with risk factors and warning signs, as well as information regarding when and how to report suicide threats to adults (Taylor, 2001). Taken in combination, the aforementioned components comprise a best practice model of a universal prevention program.

Selected prevention programs, sometimes referred to as targeted prevention programs, focus on a smaller population of students who are at higher likelihood of experiencing depression or engaging in suicidal behavior (DHHS, 2001). These students are typically identified through a school-wide screening, which can be part of a universal prevention program. Components of selected prevention programs usually consist of developing and teaching good decision-making skills, helping the student to identify

resources that they can utilize for help, practicing appropriate help-seeking behaviors, and developing effective coping strategies (Mazza & Reynolds, 2008).

The focus of indicated prevention programs is on an individual student who has been identified as experiencing depressive symptoms or has made a previous suicide attempt. These programs aim to reduce the current conflict or distress that the student is experiencing, and diminish any risk of the student further engaging in suicidal behavior (Mazza & Reynolds, 2008). As these programs are typically aimed at treating specific problems, they tend to draw from individualized, empirically-supported interventions for depression and/or suicidal behavior.

Specific to elementary-age children. In order to identify at-risk children, mental health professionals should consider school-wide and/or targeted screenings in early grades to identify children with high numbers of symptoms of depression and/or aggression (Greening et al., 2008). These screenings can be conducted as early as kindergarten or first grade. Children who are identified using these screenings can be provided early interventions to reduce those symptoms that are linked to subsequent suicidality.

Wilcox and colleagues (2008) evaluated a universal preventive intervention aimed at socializing first grade children and using classroom management techniques to reduce aggressive, disruptive behavior, with the ultimate purpose to delay or prevent onset of suicide ideation and attempts. Two interventions were examined: the Good Behavior Game (GBG; Barrish, 1969) and Mastery Learning (ML; Block & Burns, 1976). The GBG is a “classroom team-based behavior management strategy that promotes good behavior by rewarding teams that do not exceed maladaptive behavior standards as set by

the teacher” (Wilcox et al., 2008, p.S62). ML “ is a teaching strategy with demonstrated effectiveness in improving achievement and the underlying theory and research posit that under appropriate instructional conditions virtually all students can learn most of what they are taught” (Wilcox et al., 2008, p.S62). Results found that the GBG was associated with a reduction of risk for suicidal ideation by ages 19–21, as children who received the GBG reported experiencing half the rates of suicidal ideation of youth in matched control classrooms. There was no statistically significant impact on these same indicators for youth in the ML condition. Results from this study have not been replicated. However, these preliminary findings suggest that early mastery of social demands, including appropriate behavior, in the classroom may promote later successful adaptation.

Assessment and Intervention

When school personnel become aware of a student’s suicidal ideation and/or engagement in suicidal behavior, it becomes their legal responsibility to intervene and make certain that appropriate steps are taken to ensure the student’s safety. In addition to detection of risk factors and warning signs, more direct methods of assessments exist and typically concern five major areas: assessment of depression, presence of suicidal thoughts, exploration of suicide plans, assessment of student risk and protective factors, and final determination of whether the student intends to actually commit suicide (Sommers-Flanagan & Sommers-Flanagan, 2008).

If a student is suspected to be at-risk for suicide, then typically the school psychologist (or other mental health professional) will conduct a “risk assessment” in order to determine the student’s current level of risk to self-harm (Kalafat & Lazarus, 2002; Poland & Lieberman, 2005). Methods frequently used to assess a student’s risk

level include clinical interviews, completion of checklists, and administration of standardized questionnaires.

Although specific assessment and intervention procedures differ between school districts, many share similar components. The procedures employed by the Los Angeles Unified School District (LAUSD) are aligned with best practices in assessment and intervention; the LAUSD is frequently referenced throughout the literature as an excellent model of assessment and intervention protocols (Poland & Lieberman, 2005). This model consists of four main steps, the first being assessment of the student's risk for suicidal behavior. At this stage, clinical interviewing and administration of questionnaires (i.e., behavior rating scales) are conducted. The second step involves the intervener and/or school personnel's duty to warn parents about their child's risk to self-harm. Third, the intervener provides referrals to any appropriate community agencies. Finally, the intervener and/or other school personnel follow-up with the family and provide any assistance needed to make sure the student is supported.

Specific to elementary-age children. When assessing elementary-age children who are suspected to be suicidal, the intervener should modify existing assessment procedures to ensure the provision of developmentally-appropriate services (Merrell, 2008). Most suicide assessment measures are geared towards adolescents, but children differ from adolescents in several important ways relevant to suicide (Hunter & Smith, 2008; Mishara, 1999b; Mishara, 2003). As such, it is important to use developmentally-appropriate methods and/or modify existing techniques to suit the child.

Merrell (2008) outlines several important considerations that need to be kept in mind when interviewing children. First, establishment of adequate rapport and familiarity

with the child before the actual assessment commences is crucial for obtaining the maximum amount and quality of responses possible in standardized assessment situations. Children need to be comfortable, especially in new and/or sensitive situations. To ensure the child's maximum comfort, the interviewer should avoid extensive direct eye contact with the child. At the same time, the child should be allowed to determine how close he or she wants to sit to the interviewer, who should be willing to sit lower to the ground to avoid intimidation of the child. Next, allowing the child to see and/or use manipulatives or drawings during the interview provides an additional way for children to express themselves. It is also recommended that the interviewer avoid the use of abstract or symbolic questions, which could confuse the child. For example, rather than asking a younger and less cognitively sophisticated child if he or she has been thinking about killing himself or herself, ask question such as "Have you been thinking about wanting to be dead?" or "Do you sometimes wish you could make yourself be dead?" (Merrell, 2008, p.171). Finally, Merrell recommends that the interviewer selectively use praise or appreciative statements following self-disclosures, in order to let children know their honesty is appreciated.

While the majority of suicide assessment tools were developed for adolescents and adults, there are several instruments that have been previously used with children under the age of 12 (Larzelere, Anderson, Ringle, & Jorgensen, 2004). These instruments include the following: the Suicidal Behavior Questionnaire for Children (SBQ-C; Cotton & Range 1993), the Fairy Tales Test (Orbach et. al, 1983), the Scale for Suicidal Ideation (SSI; Beck et al., 1979), the Child Suicide Potential Scales (Pfeffer et al., 1979), the

Child-Adolescent Suicide Potential Index (CASPI; Pfeffer, Jiang, & Kakuma, 2000), and the Child Suicide Risk Assessment (CSRA; Larzelere et al, 2004).

The SBQ-C is a downward extension of the adult version of the SBQ. It contains only four items, which are written at a third grade level. Larzelere et al. summarized that the SBQ-C has good reliability, and is correlated with other youth measures of depression and hopelessness. Of note, this measure is unique in it only assesses suicidal ideation, not predictors of suicide risk.

The Fairy Tales Test, also known as the Suicidal Tendencies Test, is a four question measure that assesses a child's attraction toward life and death and repulsion toward life and death. This specific measure seems to be the most valid for children under the age of 10, as it seems to lose its effectiveness in 10- to 12- year old children, because older children might not identify as strongly with the fairy tale characters as younger children (Orbach et al., 1983).

The SSI is a 19-question clinical interview that was originally designed for adults, and then later validated for adolescents and pre-adolescents (Allan, Kashani, Dahlmeier, Taghizadeh, & Reid, 1997). The SSI addresses suicidal ideation, like the SBQ-C, but also emphasizes passive and active suicidal desires, and details regarding suicide plans. Similar to the SBQ-C, this measure does not address predictors of suicide beyond suicidal ideation. Allan and colleagues (1997) examined the use of the SSI with a sample of 100 children ages 7 to 12 years who were hospitalized in a psychiatric facility. Results of their study supported the reliability and validity of this measure of suicidal ideation within that sample. Additional research needs to examine the utility of this scale with a population of non-hospitalized children.

The Child Suicide Potential Scales is the most thorough assessment of suicide risk in pre-adolescents (Larzelere et al., 2004). While this measure elicits information on numerous variables and predictors of suicide, it takes approximately two hours to administer as it entails a semi-structured interview of the parent and the child. Therefore, this measure should not be used to screen for suicide risk, but for children that have already been identified as at-risk. Despite that, a strength of the assessment is the fact that it has been found to be reliable and valid for clinically and non- clinically referred children (Pfeffer, Zuckerman, Plutchik, & Mizruchi, 1984).

The CASPI is a measure based in part off the Child Suicide Potential Scales, and despite limited research on validity, is hailed as a promising screening measure for pre-adolescents and adolescents ages 6-17 by Larzelere and colleagues (2004). It is a 30-item measure that assesses three domains: anxious-impulsivity and depression, suicidal ideations/acts, and family distress.

The CSRA is an 18-item scale that assesses a wide range of suicide indicators, which are grouped into three domains: worsening depression, lack of support, and death as an escape (Larzelere et al, 2004). The CSRA has demonstrated concurrent validity for suicidal attempts, in addition to suicidal ideation. Also unique to this measure is the presence of follow-up questions for responses of “yes” on critical items. For example, if a child answers “yes” to the question “do you ever have dreams about you dying?” the child would be prompted with a question like “tell me more about those dreams” (Larzelere et al, 2004, p.813). These questions allow for a more in-depth assessment of the child’s risk to self-harm.

Postvention

Postvention procedures commence after the death of a student by suicide. Postvention involves the “provision of crisis intervention, support, and assistance for those affected by a completed suicide” (AAS, 1998, p.1). The ultimate goal of postvention procedures is to take necessary steps to prevent another suicide (Poland & Lieberman, 2002). While postvention procedures might differ by school district, Brock (2002) offers several general recommendations for appropriate activities. Before the crisis, anticipating the potential impact of a suicide and developing a response protocol is perhaps the best and most effective course of action, like having a crisis team already created and trained and on standby in case of emergency. After a death by suicide has occurred, the first step should be to mobilize the school’s crisis response team, and/or bring in the district-wide crisis team. Before any information is shared with school personnel or students, it is necessary to verify or confirm the death was in fact a suicide, directly from the medical examiner, family, or police. The family of the victim should be contacted to not only confirm the death was in fact a suicide, but also to offer sympathy and support or assistance. After the death has been confirmed as a suicide, school personnel must decide what information to share. Information about the suicide should not be released over the intercom or via a large assembly. Instead, information to students should be delivered simultaneously in classrooms, and information to parents should be delivered via a written letter. When information is released, it is important to be truthful, including acknowledging the fact that death was a suicide, and share only relevant information. The school should arrange for grief counseling for any significantly affected students, as well as follow the victim’s class schedule for discussion of the situation.

Brock (2002) also recommends things not to do to avoid doing after the occurrence of a suicide: dismissing school early, providing bussing to the funeral, or dedicating a memorial to the student. Partaking in such activities may glorify the death.

Regardless of the specific postvention activity, practitioners should keep in mind that both children and adolescents are prime for imitative behaviors. This is known as the contagion effect, when other individuals attempt to imitate the suicidal behavior of the victim (Brock, 2002). Therefore, sharing excessive or unnecessary details about a suicide might provide grieving youth with ideas or plans for similar behavior. When the media sensationalizes or glorifies death by suicide, imitative behavior among students may be exacerbated. As a result, school personnel must be mindful of which details they release.

Specific to elementary-age children. Research has suggested that it is not until the fifth grade, or about 10 years of age, that children have a clear understanding of what the term “suicide” means (Mishara, 1999a). While younger children appear to understand the concept of killing oneself, they typically do not recognize the term “suicide” and generally do not understand the circumstances or events that lead to that behavior. Results of one study by Mishara (1999b) found that first and second grade students did not recognize the term “suicide,” but they understood what it meant to “kill oneself.” Therefore, postvention for younger students needs to take into account their understanding of suicidal behavior (Brock, 2002). It cannot be assumed that children necessarily understand what “suicide” means, and postvention efforts should be developmentally-appropriate, such as rewording, breaking down more abstract concepts into terms that are more understandable to them, and explaining the situation in a context in which they can understand. Also because of their age, and somewhat limited language

abilities, children might not be able to effectively communicate their feelings about a completed suicide, and as a result they might express their feelings in unique ways, such as through drawings or pictures (AAS, 2008). Because secrecy about a death by suicide will only add to the children's confusion, any questions should be answered openly and honestly. Although completed suicides in children are rare events, postvention procedures should still be prepared in advance in case such an event does occur, as these procedures will differ slightly from established protocols for older students.

Role of the School Psychologist

Provision of Mental Health Services

The National Association of School Psychologists (NASP; 2003) defines mental health in children and adolescents as “the achievement of expected developmental cognitive, social, and emotional milestones” (p.1). Further, NASP acknowledges the importance of mentally healthy children, citing they experience increased functioning in their home, school, and community, as well as improved quality of life. As such, NASP (2008) advocates for the “provision of coordinated, comprehensive, culturally competent, and effective mental health services in the school setting which include prevention and early intervention services as well as therapeutic interventions” (p.1). Because school psychologists possess expertise, experience, and training in mental health issues, they have been recognized as being uniquely qualified to fill the position of school-based mental health specialists in schools (NASP, 2003). Mental health services that school psychologists can provide include, but are not limited to, the “design of prevention programs, assessment, counseling, mental health, case management, and behavioral consultation services and crisis intervention in partnership with teachers, parents, school

administrators, and other members of the school community to assist in developing effective strategies to serve students in need and to prevent mental health problems” (NASP, 2003, p.1).

Crisis Intervention

Defined broadly, a crisis is an unexpected, uncontrollable event that is extremely negative and depersonalizing, that has the potential for large-scale impact (Brock, 2002). Crisis events are not a normal occurrence, and they are not part of the day-to-day school experience. Examples of specific crisis events include severe illness and injury (i.e., suicide attempts, fires), violent and/or unexpected death (i.e., fatal accidents, suicide), threatened death and/or injury (i.e., domestic violence, rape), acts of war (i.e., terrorist attacks), natural disasters (i.e., hurricanes, floods), and man-made or industrial disasters (i.e., airplane crashes, nuclear accidents). Thus, crisis response services have three main objectives: (1) primary prevention, which are activities aimed at preventing crisis situations from occurring and/or being prepared for crisis situations that do arise, (2) secondary prevention, which entails effectively and immediately dealing with crisis situations when they occur, and (3) tertiary prevention, which entails providing long-term support to treat traumatized individuals long after the crisis event has occurred (Brock, 2002). Most schools or school districts handle crisis intervention via standardized policies and procedures, which are consulted frequently in the event that a crisis situation does arise.

Wise, Smead, and Huebner (1987) surveyed 193 NASP school psychologists about their training and interest regarding their involvement in the provision of crisis intervention services. Specifically, participants were asked about their training in crisis

intervention, their interest in the area of crisis intervention, and specific crisis related events with which they had intervened. Results indicated that 23% of participants had no formal training in crisis intervention, while 55% reported that crisis intervention had been one of many topics covered in a seminar or course. Further, only 8% reported that they had taken a class specific to crisis intervention. Of 32 possible crises events, participants reported intervening in one or more crises a mean of 9.8 (range: 2-27) times over the course of a semester. This early study's findings are important, as it suggested that while school psychologists seem to be interested in, and faced with, crisis situations, they were often times ill equipped to do so. Further, participants' responses made it clear that a more comprehensive approach to training in crisis intervention was needed.

Allen and colleagues (2002) surveyed 276 school psychologists from the Directory of Nationally Certified School Psychologists regarding their training within the areas of crisis intervention. Thirty-seven percent of participants reported having some type of crisis intervention training during their graduate studies, yet only 2% of the total sample felt that they were "well prepared" or "very well prepared" to deal with crises. Further, 58% of participants indicated that they felt "minimally prepared" or "not prepared at all" to deal with crisis situations based on their graduate training alone. Regarding trends in graduate training with regard to crisis intervention, the researchers found that a higher percentage of recent graduates reported receiving university coursework related to crisis intervention. For example, 38.3% of the participants that graduated after 1993 reported receiving academic coursework related to crisis intervention, compared to 10.8% of participants who graduated prior to 1980. Similarly, 51.1% of practitioners who graduated between 1994 and 2000 reported experiencing

school crisis events during practicum and internship, compared to 16.6% of those graduating prior to 1980. These trends seem to indicate that practitioners who graduated more recently received more graduate training within the realm of crisis intervention. Regarding training experiences in crisis intervention received after graduate school, the majority of respondents (80.7%) replied that they had received local training provided through their school district as well as self-help through reading/researching books and journal articles (63.5%). Interestingly, 26.6% of participants reported that they received crisis training at the annual NASP convention. In sum, this study indicates that although in recent years university training programs have provided more coursework related to crisis intervention, many practitioners do not feel well prepared based on solely their academic training, and as a result, they seek out additional training.

More recently, Nickerson and Zhe (2004) examined 197 school psychologists' roles in crisis prevention and intervention. The majority of participants (93%) reported being involved in their school's crisis response team. Participants also viewed the crisis team as the most commonly used crisis prevention strategy, and viewed it as the most effective as well. The most frequently reported crisis events experienced by participants were student-on-student assaults, serious illness or death of students, unexpected student deaths, and suicide attempts. Notably, only 33% of participants reported being involved in suicide prevention programs at their school; the only less common prevention strategy was the use of metal detectors. This study suggests that school psychologists should be prepared to assume a variety of crisis intervention roles, ranging from prevention of suicide (including initiation of universal prevention programs at their schools) to participation on crisis teams.

In summary, the studies cited above underscore that school psychologists are often engaged in a variety of crisis-related situations. Practitioners seem to understand the importance of being knowledgeable and trained to deal with situations when they arise, but not all have received sufficient training in graduate school on crisis intervention. Thus, many school psychologists would likely benefit greatly from additional formal training via graduate coursework or comprehensive in-service trainings.

Suicide-Related Services in Schools

Activities related to suicide prevention and intervention are among the most frequent crisis situations that school psychologists encounter (Nickerson & Zhe, 2004). While only 33% of participants in Nickerson and Zhe's study reported being involved in their school's suicide prevention efforts, such efforts received the third highest effectiveness rating, indicating that while many were not actually involved in implementing those programs, they felt that suicide prevention programs were quite effective.

While previous studies have examined school psychologists' preparation for crisis intervention in general, there is a paucity of literature regarding roles in suicide-related services or practitioners' preparedness for the provision of those services. This is surprising, as the majority of crisis-related services involve suicide (Debski et al., 2007). In addition, no published studies have examined the provision of suicide-related services at different school levels, such as elementary, middle, or high schools. Thus, no research has examined school psychologist's preparedness dealing specifically with elementary school age children. Further, no published studies have specifically examined the

provision of postvention services. The small number of existing studies to be discussed next have instead focused on the provision of prevention and intervention services.

Debski and colleagues (2007) surveyed 162 school psychologists regarding their professional roles, training, preparedness, and knowledge regarding youth suicide. Only 40% of participants reported receiving graduate level coursework in prevention, and less than 25% in postvention services. However 93% of participants reported being involved in at least one suicide prevention or postvention activity on the job. Additionally, 77% of participants reported having at least one potentially suicidal student referred to them for assistance in the two years, underscoring the need for school psychologists to receive formal training specific to suicide-related services.

Anderson and Miller (2008) examined school psychologists' roles, functions, and level of involvement with school-based suicide prevention programs. The researchers also gathered information regarding the different types of prevention programs with which school psychologists were currently involved. In regards to their training in suicide prevention, 69.3% participants reported that their main source of training was from professional conferences, compared to 50% of participants reported receiving such training as part of their graduate studies. Further, 59.2% of participants indicated that they felt "somewhat well prepared" to provide prevention services, and 59.3% reported that they would like more training in that area. Approximately 35% of participants reported suicide prevention as part of their roles, specifically mentioning involvement in the following programs: in-service trainings (28.2%), student self-report screening (18.8%), curriculum programs for students (11.8%), and comprehensive programs (4.4%). Alarming, nearly 50% of participants reported that no suicide prevention

programs were currently in place at their schools. Such findings suggest a considerable gap between best practice and actual practice with respect to systematic prevention of suicide.

While there is a gap in the extant literature regarding provision of suicide-related services to elementary-age students, one study conducted in a large school district in Florida provided preliminary data. Results found that elementary school psychologists (N=88) reported receiving an average of 2.5 referrals within the past two years for suicidal children (Cunningham, Sundman, Thalji, Snodgrass, & Suldo, 2009). The average number of children referred for a suicide assessment may underestimate the actual number of children in need, as the range of referrals reported by individual psychologists was between 0 and 10. These findings offer preliminary support for the need to provide suicide-related services to children, including those in elementary schools. However, this study is limited by the use of a geographically-restricted sample. It is currently unclear how often school psychologists working in elementary schools across the country encounter suicidal children.

Of note, while NASP advocates for school-based practitioners to provide mental health services, other school-based personnel can and are involved in the delivery of school-based mental health services. Foster et al. (2005) surveyed a nationally representative sample of school-based personnel in elementary, middle, and high schools. One purpose of their study was to identify which school-based personnel were involved in the provision of school-based mental health services. In total, 1,147 schools in 1064 districts across the country responded to the survey. Results indicated that the most common types of school mental health providers employed by responding schools were

school counselors (77%), school nurses (69%), school psychologists (68%), and social workers (44%). These findings are important, as the two most frequently-identified school-based mental health providers were not school psychologists. Therefore, it is feasible that referrals for potentially suicidal youth to school psychologists might underestimate the scope of the problem due to the fact that other school-based personnel (e.g., school counselors) may also receive the referrals and subsequently engage in the appropriate activities. This hypothesis is furthered by the fact that it is common for school psychologists to serve multiple schools, and therefore they are less likely to receive referrals that occur on days in which they are not physically present at a particular school.

Training in Suicide-Related Services for School Psychologists

According to NASP's Standards for Training and Field Placement in School Psychology (2000), school psychology training programs must ensure that their students demonstrate competence within several professional practice domains, one of which is "prevention, crisis intervention, and mental health." The standards stress the need for knowledge and skills within the area of mental health, including integration of these skills into practical applications via practicum or internship. Specific to crisis intervention, the relevant NASP (2000) standard reads as follows: "School psychologists have knowledge of crisis intervention and collaborate with school personnel, parents, and the community in the aftermath of crises (e.g., suicide, death, natural disasters, murder, bombs or bomb threats, extraordinary violence, sexual harassment, etc.)" (p. 30).

The American Psychological Association (APA) also has rigorous training standards for graduate programs. Due to the enormity of the APA and the many divisions

encompassed by it, all training programs must adhere to several commonalities and guidelines to ensure accreditation yet APA acknowledges the individual differences between professional psychological programs. According to the Guidelines and Principles for Accreditation of Programs in Professional Psychology (APA, 2008), professional psychology programs must provide knowledge and training in: the scientific, methodological, and theoretical foundations of practice in the substantive area(s) of professional psychology in which the program has its training (p.10).

In sum, school psychologists that graduate from a NASP-approved and APA-accredited approved training program should have received coursework and/or practical experience to refine their skills within the domain of mental health. NASP-approved programs require specific coursework tied to crisis intervention. While APA does not specifically call for training in crisis intervention, coursework and applied experiences in mental health should provide training within this area. Of note, multiple school psychology training programs are not NASP-approved and/or APA-accredited. It is unknown what proportion of those non-accredited programs elects to offer training in crisis intervention even though they are not mandated to provide it.

Despite NASP's published position on including crisis intervention training in graduate studies and specific mention of suicide as a crisis, there is not a formal training requirement specific to suicide as part of graduate education. This is perhaps why Anderson and Miller (2008) found that most of school psychologists' training in the provision of suicide-related services comes through conferences, workshops, and/or in-service presentations, in addition to graduate training. These findings were echoed by Debeski and colleagues (2007), who found that while the almost all (99%) of their

participants had received some training in suicide assessments, only 40% had received such training as part of their graduate coursework. The majority of participants received most of their training in suicide risk assessment from professional development workshops and self-study. Further, both studies found that few school psychologists received formal training in postvention procedures.

In sum, there seems to be insufficient graduate-level training for school psychologists on suicide-related professional activities. It is more common to receive some type of training within the realm of crisis intervention, but not specific to suicide-related services. Given the frequency that school psychologists have cited suicide as a crisis they encounter, the gaps in formal preparation to guide appropriate responses is surprising. While this might be an area touched upon in graduate coursework or training, it seems that most school psychologists must seek out additional trainings via conferences (i.e., NASP) or district in-services or workshops. Further, no published studies to date have examined school psychologists' perceived adequacy of training as a function of the developmental level of student served. Also, no studies were found that examined the availability of training (e.g., graduate coursework, in-services, workshops) focused solely on the unique needs of elementary school age children. Because completed suicides are relatively rare among this age group, some professionals could assume it is not necessary to be fluent in suicide prevention and intervention if they intend to focus their professional services on this age group. However, recent preliminary data regarding the frequency with which elementary school students are referred to school psychologists as potentially suicidal suggests this would be an erroneous conclusion. Thus, additional

research is needed to further explore the professional preparation, experience, and perceptions of school psychologists who work primarily with children.

Conclusions

Although completed suicides among children under the age of 10 remain a rare occurrence, suicide is the sixth leading cause of death among children ages 5-14 years (CDC, 2008). While the manifestation of suicidal ideation and/or attempts is more common among adolescents, children are capable of and do experience suicidal ideations as well as demonstrate suicidal behaviors. Further, often times children are not referred or brought to the attention of the school psychologist, as their threats are considered immature and unfounded.

Specific risk and protective factors exist that are unique to children (Greening et al., 2008). As such, it is important that school psychologists are prepared to work effectively with these suicidal children. Age, developmental level, cognitive ability, and experiences with death and/or suicide have all been identified as factors influencing a child's perception of suicide (Mishara, 1999). As such, the expression of their risk factors or warning signs may differ from older children or adolescents. School psychologists working with young children should be aware of these differences and effectively modify their practices to suit the child.

A gap currently exists in the literature in regards to the specific examination of school psychologist's preparedness in the provision of suicide-related services. Specifically, no studies to date have examined school psychologists' perceived preparedness in dealing with elementary school age children. Working with such a

distinct population calls for specific procedures and modifications, and as such has implications for specialized training opportunities.

The current study aims to provide data that clarifies the need for suicide-related services for children in elementary school, via identifying the frequency with which practitioners from across the country encounter suicidal children at various developmental levels. In addition, the current study aims to determine school psychologists' perceived level of preparedness in the provision of specific suicide-related services, and thus provide implications for training.

Chapter Three

Methods

This chapter provides a discussion of the database that was analyzed in this study, including the methods used to select the participants, and a discussion of the demographic characteristics of the participants. The instrument and procedures used for data collection, as well as procedures are then discussed, followed by an overview of procedures used to answer the research questions.

Participants

To answer the research questions included in this study, an archival dataset was analyzed. The dataset used in the current study was part of a larger research project investigating the current role of school psychologists in the provision of school-based mental health (SBMH) services (Friedrich, 2008). On May 12, 2009 the principal investigator (PI) of the larger study received written communication from the USF Division of Research Integrity and Compliance that study number 107624 G (title: School-based Mental Health Services: A National Survey of School Psychologists' Practices and Perceptions) meets federal criteria for exemption from IRB oversight, primarily because the study involves only adult participants. Approval was also obtained from the NASP Research Committee on March 26, 2009 to utilize the NASP membership database to draw the sample of participants. The author of this proposal had an active role in assisting the PI collect the data, including selecting the three items included in the larger study that related to suicide.

Participant Selection

Participants in the larger study were school psychologists who were affiliated with their national professional organization, the National Association of School Psychologists (NASP). A total of 600 participants were selected from the NASP membership database using a simple random probability sampling method. As summarized more thoroughly by Friedrich (2008), the inclusionary criteria were set to include only NASP Regular members who are identified as school psychologists and who are currently practicing in a school setting.

Lewis, Truscott, and Volker (2008) conducted a national study to determine the ratio of NASP and non-NASP member school psychologists in schools. A total of 124 practitioners were contacted by cold-calling schools and asking to speak to the school psychologist. The majority of school psychologists that were reached, 57.3%, indentified as NASP members. This finding supports the contention that most school psychologists in the United States are NASP members. Further, Fagan (2002) estimates that there are approximately 30,000-35,000 school psychologists in the United States. According to the NASP membership database, in 2008-2009 there were 25,245 NASP members. That number is approximately 70% of Fagan's estimate of all school psychologists in the United States, thus supporting the estimate that 60-70% of school psychologists in the United States are NASP members (Merrell, Ervin, & Gimpel, 2006). Taken together, this research supports the use of NASP members for a representative sample of school psychologists in the United States.

The overall survey response rate in the larger study was 38%, yielding a final sample of 226 participants between the ages of 25 and 68 ($M=42.60$, $SD=12.40$). After

data screening, a useable sample of 220 participants was yielded, and subsequently utilized in all analyses. Demographic characteristics of the sample are presented in Table 1. Also included in Table 1 are comparison demographic characteristics of NASP members, using 2004-2005 membership data (Curtis, 2007; Curtis et al., 2008). As seen in the table, the membership composition of the current sample was similar to the national NASP sample in terms of gender and ethnicity.

Table 1
Comparison of Demographic Characteristics of School Psychologists in Archival Database (N=220) and a National Sample of NASP Members (N=1,748)

Variable	Current Study		NASP Members
	n	%	%
Gender			
Male	44	20%	26%
Female	176	80%	74%
Ethnicity			
American Indian/Alaskan Native	4	2%	.8%
Asian American/Pacific Islander	6	3%	.9%
Black/African-American	7	3%	1.9%
Caucasian	198	90%	92.6%
Hispanic	5	2%	3.0%
Other	0	0%	.8%

Professional characteristics of the current sample can be seen in Table 2. When possible, comparisons were made to the professional characteristics of the NASP sample in Curtis's (2007; 2008; personal communication, April 7, 2010) research. Of note, N/A indicates that no data exists at the national level (i.e., for a NASP sample) on that specific

demographic item, primarily due to differences in which the items were operationalized in the current study.

Table 2
Professional Characteristics of School Psychologists in Archival Database (N=220)

Variable	Current Study		NASP Members
	n	%	%
Highest Degree Earned			
Bachelors	1	< 1%	0.1%
Masters	49	22%	32.6%
Specialist	119	53%	34.9%
Doctorate	49	22%	32.4%
Other	2	1%	N/A
Type of School Served			
Private	6	3%	5.2%
Public	207	95%	83.1%
Parochial	2	1%	2.1%
All	1	<1%	N/A
Parochial and Public	3	1%	N/A
Number of Buildings Served			
1-5	191	87.61%	N/A
6-10	19	8.72%	N/A
11-15	5	2.30%	N/A
15+	3	1.38%	N/A
School Psychologist to Student Ratio			
			<i>M=1482:1</i>
1: <500	31	14.29%	N/A
1:500-999	67	30.88%	N/A
1:1000-1499	64	29.49%	N/A
1:1500-2000	27	12.44%	N/A
1: > 2000	28	12.90%	N/A
Percent of Time at Each School Level			
Preschool			<i>M=2.9 hrs/wk</i>
0%	128	58%	N/A
>0% , < 50%	82	36%	N/A
≥ 50%, <100%	8	4%	N/A
100%	2	1%	N/A
Elementary			<i>M=19.7 hrs/wk</i>
0%	44	20%	N/A
>0% , < 50%	49	22%	N/A
≥ 50%, <100%	101	46%	N/A
100%	26	12%	N/A
Middle/Jr. High			<i>M=8.1 hrs/wk</i>
0%	88	40%	N/A
>0% , < 50%	93	42%	N/A
≥ 50%, <100%	27	12%	N/A
100%	13	6%	N/A
High			<i>M=7.3 hrs/wk</i>
0%	115	52%	N/A
>0% , < 50%	74	33%	N/A
≥ 50%, <100%	20	9%	N/A
100%	11	5%	N/A

Other				<i>M</i> =1.4 hrs/wk
0%	205	93%		N/A
>0% , < 50%	14	6%		N/A
≥ 50%, <100%	0	0%		N/A
100%	1	<1%		N/A

Instrument

The SBMH survey was developed by the principal investigator of the larger study to examine the delivery of school-based mental health services by school psychologists across the United States. As described by Friedrich (2008), the survey consisted of 149 items divided into eight sections: demographic information, referral concerns, mental health services provided, barriers to mental health service provision, enablers to mental health service provision, and training in school-based mental health. Questions were both open and closed-response format.

Embedded within the larger SBMH survey were questions added by the author of this document to collect data pertinent to the aims of the current study. Specifically, three multi-part questions regarding the frequency with which elementary school psychologists are referred potentially suicidal children in their school(s), the frequency with which these school psychologists experience the occurrence of a completed suicide, and whether the perceived level of practitioner preparedness for professional roles relevant to suicide differs as a function of school level served. Those three items pertaining specifically to suicide were adapted from a previous survey (i.e., Debski et al., 2007), and used successfully with 122 school psychologists in a local school district as part of an earlier research study (Cunningham et al., 2009). Questions regarding suicide were included in two sections of the SBMH survey: referral concerns and training opportunities. Specific demographic and content items of interest are included in Appendix A.

Procedure

This section briefly summarizes the procedures used to create the archival dataset to be examined in the current study. A description of procedures was ascertained through written documents describing the specific procedures involved in the larger study that yielded the dataset (Friedrich, 2008). The survey was sent out in two separate mailings, three weeks apart. Participants were mailed the survey, a cover letter (see Appendix B), and a postage paid, pre-addressed return envelope with an assigned code. To maintain confidentiality, each respondent was assigned a code number that was included on the pre-addressed return envelope for purposes of tracking which participants had already responded and thus did not need to receive a second mailed survey. Response to the survey was considered as consent to participate. As incentive to participate, five people who completed and returned the survey were randomly selected to receive a \$50 Visa gift card. As surveys were returned, they were entered into an SPSS database. Once all surveys were entered, data integrity checks were conducted on 10% of surveys.

Overview of Proposed Data Analyses

The following analyses were conducted to answer the research questions presented in the current study.

Research Question 1: What is the frequency with which school psychologists who work at different school levels receive referrals for potentially suicidal youth?

To address this research question, responses to items 15a, 15b, and 15c, which ask “In the past two years, about how many students have been referred to you as potentially suicidal in your elementary school, middle school, or high school?” were examined. Percentages were calculated for the sample of practitioners who provided a response

(rather than circle N/A). Data was excluded from participants who reported on demographic question nine that they have not served a given school level in the past year, yet still provided a response for items 15a, 15b, or 15c (i.e., the sub-item that corresponds to a school level that they have not served in the past year). Descriptive statistics were provided; specifically, the range and mean frequency of referrals were calculated for each school level served. The mean response obtained on item 15a (i.e., referrals for students in elementary schools) was of particular interest.

Research Question 2: Does the frequency of referrals for potentially suicidal youth differ as a function of school level served (i.e., elementary, middle, high)?

To address this research question, the mean frequency referrals for potentially suicidal youth for each school level were calculated, and analyzed again as a function of school level served to determine if the frequency of referrals differed reliably depending upon school level served. Differences in mean scores between items 15a, 15b, and 15c were compared via a series of repeated-measures *t*-tests using data from the subsample of participants who served at least two school levels (i.e., elementary and middle schools, high and middle schools, and elementary and high schools).

Research Question 3: What is the frequency with which school psychologists who work in different school levels experience the occurrence of a completed suicide?

To address this research question, responses to items 16a, 16b, and 16c, which ask “In the past two years, about how many completed student suicides have occurred in your elementary school, middle school, or high school?” were examined. Percentages were calculated for the sample of practitioners who provided a response (rather than circle

N/A). Data was excluded from participants who reported on demographic question nine that they have not served a given school level in the past year, yet still provided a response for items 16a, 16b, or 16c (i.e., the sub-item that corresponds to a school level that they have not served in the past year). Descriptive statistics were provided; specifically, the range and mean frequency of completed suicides were calculated for each school level served. The mean response obtained on item 16a (i.e., completed suicides for students in elementary schools) was of particular interest.

Research Question 4: Does the frequency of occurrences of completed suicides differ as a function of school level served (i.e., elementary, middle, high)?

To address this research question, the mean frequency of occurrence of completed suicides for each school level were calculated, and analyzed again as a function of school level served to determine if the frequency of completed suicides differed reliably depending upon school level served. Differences in mean scores between items 16a, 16b, and 16c were compared via a series of repeated-measures *t*-tests using data from the substample of participants who served at least two school levels (i.e., elementary and middle schools, high and middle schools, and elementary and high schools).

Research Question 5: Does the perceived level of elementary school psychologists' preparedness for professional roles relevant to suicide differ as a function of the proportion of time they spend serving that population with respect to:

- a. Prevention?**
- b. Intervention/assessment?**
- c. In-school counseling or support?**

d. Postvention?

To address this research question, participants were sorted into subsamples based on the proportions of time (i.e., 1-24%, 25-49%, 50-74%, 75-99%, 100%) they reported serving elementary school children via item 9. Frequency data was provided for items 26a, 26b, 26c, and 26d first for data provided for the group of participants who reported spending any time serving elementary schools, then the data for the five subsamples. Specifically, the frequency/percentage of the participant subsample indicating each response for each separate professional role was calculated. For the purposes of analyses, preparedness levels were represented by the following values: 0=Not at all Prepared, 1=Little Prepared, 2=Moderately Prepared, 3=Well Prepared, and 4=Extremely Prepared. Next, within each subsample of participants that spends a particular amount of time serving elementary-school children, the mean response for each professional role was calculated, and descriptive statistics (means, standard deviations, modes) were reported by subgroup. To determine if preparedness differs depending upon proportion of time, differences in mean scores between groups were compared via a series of ANOVAs (i.e., one ANOVA for each professional role category). In the event a significant univariate effect was detected, follow-up Tukey tests and group means would be examined to identify differences between pairs of groups (e.g., 1 – 24% vs. 100%) on perceived competence for each professional activity that yielded a significant univariate effect.

Research Question 6: Does the perceived level of practitioner preparedness for professional roles relevant to suicide differ as a function of school level served (i.e., elementary, middle, high) with respect to:

a. Prevention?

b. Intervention/assessment?

c. In-school counseling or support?

d. Postvention?

To address this research question, data was sorted by participants' school level predominantly served (i.e., environment in which they report spending $\geq 50\%$ of their time on demographic question #9). Frequency data was provided for items 26a, 26b, 26c, and 26d first for data provided by the complete sample, then the data for the three subsamples who predominantly serve a specific school level (i.e., elementary, middle, or high school students). Specifically, the frequency/percentage of the participant sample or subsample indicating each response for each separate professional role was calculated. For the purposes of analyses, preparedness levels were represented by the following values: 0=Not at all Prepared, 1= A Little Prepared, 2=Moderately Prepared, 3=Well Prepared, and 4=Extremely Prepared. Next, within each subsample of participants who predominantly serve a given school level, the mean response for each professional role was calculated, and descriptive statistics (means, standard deviations, modes) were reported by school level subgroup. To determine if preparedness differed depending upon school level predominantly served, differences in mean scores between groups were compared via a series of ANOVAs (i.e., one ANOVA for each professional role category). In the event a significant univariate effect was detected, follow-up Tukey tests and group means were examined to identify differences between pairs of school level groups on perceived competence for each professional activity that yielded a significant univariate effect.

Chapter Four

Results

This chapter presents the results of the statistical analyses conducted to answer the research questions within the current study. For the first and third research questions, frequencies and percentages of referrals for potentially suicidal students, and for completed suicides, were calculated and presented for the three different school levels of interest (i.e., elementary, middle/junior high, and high). Descriptive statistics are also presented, specifically the means, standard deviations, and ranges. Regarding the second and fourth research questions, results of repeated measures *t*-tests that were conducted to analyze differences between mean scores for school psychologists who provided responses (regarding referrals for suicidal students or frequencies of completed suicides) for at least two school levels served (e.g., elementary and middle schools) are presented. To answer the final two research questions, ANOVAs and follow-up Tukey tests were conducted to analyze differences in group means to determine if practitioners' perceived preparedness for professional roles relevant to suicide differs based upon the proportion of time spent serving elementary schools, and/or differs as a function of school level primarily served (i.e., elementary, middle/junior high, high school).

Data Screening

In total, 226 surveys were returned out of a possible 600, yielding a 38% return rate. The PI of the larger study reviewed the data entered for every tenth participant starting from the fourth survey to check for errors. Additional data were checked (i.e.,

data entered for participants immediately preceding and following every tenth protocol) in the event a data entry error was detected. In sum, approximately 13% of the data were reviewed for accuracy at completion of this process. During the data screening process, it was observed that five participants indicated that they served in an administrative position (e.g., director of autism services, coordinator of student services) and one participant reported serving in the role of mental health consultant; these six participants were excluded from data analysis because they were not school-based practitioners. Thus, the final dataset yielded a useable total sample of 220 participants.

Data Analyses

Surveys were initially entered into an SPSS database as they were returned, and data entry checks were conducted within the same database. After the data entry checks were complete and a final sample was created, the data was transferred into SAS © Version 9.2 and statistical analyses were conducted using this software.

Research Question 1: What is the frequency with which school psychologists who work in different school levels receive referrals for potentially suicidal youth?

To answer this research question, frequencies and percentages were calculated for responses to items 15a, 15b, and 15c for participants who provided a numerical response, as opposed to circling “N/A.” The participants who circled “N/A”, as well as the 8, 10, and 14 participants that reported that they had not served a given school level in the past year (i.e., demographic item nine) yet still provided a response for items 15a, 15b, or 15c, respectively, were excluded from analyses conducted for that specific school level.

Frequency of referrals for potentially suicidal children at the elementary school

level. Table 3 illustrates the frequency of referrals at the elementary school level. There were 173 school psychologists who served elementary schools in this particular subsample of interest. The sum total of referrals received at this school level was 283. Of note, it was assumed that each referral was a discrete event (such that two respondents did not have work on the same case). Frequencies ranged from 0 to 10, with the majority of participants who served elementary schools (57%) indicating they received at least one referral in the past two years for a potentially suicidal elementary school student.

Table 3

Frequencies of Referrals at the Elementary School Level (N=173)

Number of Referrals	Frequency Number Reported	Percent of Sample
0	75	43.35%
1	33	19.08%
2	22	12.72%
3	14	8.09%
4	10	5.78%
5	10	5.78%
6	3	1.73%
8	2	1.16%
10	4	2.31%

Frequency of referrals for potentially suicidal adolescents at the middle/junior

high school level. Frequencies of referrals at the middle/junior high school level are summarized in Table 4. The particular subsample had 130 participants. The total sum of referrals received at this school level was 383. Frequencies of referrals at this school level ranged from 0 to 25. Eighty-four participants serving middle schools (64.62%) indicated that they had received at least one referral in the past two years for a potentially suicidal middle school student.

Table 4

Frequencies of Referrals at the Middle/Junior High School Level (N=130)

Number of Referrals	Frequency Number Reported	Percent of Sample
0	46	35.38%
1	15	11.54%
2	26	20.00%
3	12	9.23%
4	3	2.31%
5	11	8.46%
6	2	1.54%
7	1	0.77%
8	3	2.31%
10	2	1.54%
12	3	2.31%
13	1	0.77%
15	1	0.77%
20	2	1.54%
21	1	0.77%
25	1	0.77%

Frequency of referrals for potentially suicidal adolescents at the high school level. Table 5 depicts the frequencies of referrals for suicidal adolescents at the high school level. There were 101 participants in this particular subsample. The total sum of referrals at this school level was 475. Seventy-two participants serving high schools (71.29%) indicated that they had received at least one referral in the past two years for a potentially suicidal high school student. While the majority of participants in this subsample reported receiving multiple referrals, a single participant reported receiving 80 referrals within the past two years. A statistical examination for univariate outliers indicated that this participant's response represents an extreme outlier, as it is greater than five standard deviations from the mean response. Thus, the outlier was removed from subsequent analyses within this research question regarding referrals at the high school

level, resulting in a sample of 100 for further analyses. With this subsample of 100 participants, the maximum referral frequency decreased from 80 to 38.

Table 5
Frequencies of Referrals at the High School Level (N=101)

Number of Referrals	Frequency Number Reported	Percent of Sample
0	29	28.71%
1	13	12.87%
2	18	17.82%
3	7	6.93%
4	8	7.92%
5	4	3.96%
6	3	2.97%
8	3	2.97%
10	7	6.93%
12	2	1.98%
15	1	0.99%
20	3	2.97%
24	1	0.99%
38	1	0.99%
80	1	0.99%

An interesting commonality emerged across subsamples when examining the frequencies of referrals. Within each group (i.e., elementary school, middle/junior high school, high school), more participants reported receiving at least one referral than not receiving any at all. For example, within the elementary school sample, 43.35% of participants reported that they had received no referrals in the past two years, while 56.65% of participants indicated they had received a minimum of one referral.

To further examine differences of referrals between school levels served, descriptive statistics were employed. Table 6 includes the mean number of students referred in the prior two years as potentially suicidal at each of the three school levels.

Table 6
Means, Standard Deviations, and Ranges of Referrals for Potentially Suicidal Youth Received in the Past Two Years by School Level

School Level	<i>N</i>	<i>M</i>	<i>SD</i>	Range
Elementary	173	1.64	2.20	0 – 10
Middle School	130	2.95	4.51	0 – 25
High School	100	3.95	5.99	0 – 38

The mean number of referrals at the elementary school level was 1.64 ($SD= 2.20$), and ranged from 0 to 10. School psychologists who served middle/junior high schools reported receiving an average of 2.95 ($SD=4.51$) referrals in the past two years, with the number of referrals ranging from 0 to 25. School psychologists who served high schools reported receiving an average of 3.95 ($SD= 5.99$) referrals in the past two years, with the number of referrals ranging from 0 to 38.

While tests to determine the “statistical significance” of these differences in school level means could not be performed due to the violation of the assumption of independence (specifically, some participants had scores in more than one category, precluding an independent grouping variable), these results appear clinically significant. Specifically, school psychologists serving middle and high schools receive approximately twice the frequency of referrals for potentially suicidal students as compared to school psychologists who work with elementary school students. Although the frequency with which school psychologists in elementary schools receive referrals is lower than the frequency of occurrences in both middle/junior high and high schools, these results demonstrate that a national sample of school psychologists who serve elementary schools do in fact receive referrals (at least occasionally) for potentially suicidal children.

Research Question 2: Does the frequency of referrals for potentially suicidal youth differ as a function of school level served (i.e., elementary, middle, high)?

As aforementioned, typical one-way between-groups ANOVA could not be used to determine the probability that the differences in means by school level occurred due to chance because of violations of the assumptions for ANOVA tests. Specifically, the assumption of independence was violated because some participants had scores in more than one category, precluding an independent grouping variable. Thus, an alternate strategy (i.e., repeated-measures *t*-tests) was employed to determine the statistical significance of differences in school level means (e.g., if the mean level of referrals received for students in elementary and middle schools differed significantly amongst practitioners who served both school levels). To conduct this series of three analyses (elementary vs. middle, elementary vs. high, middle vs. high), three subsamples were created using only participants that indicated on demographic item nine that they served the following settings: elementary and middle schools, high and middle schools, and elementary and high schools. Similar to research question one, participants that reported that they had not served a given school level in the past year (i.e., demographic item nine) yet still provided a response for items 15a, 15b, or 15c (i.e., referrals for potentially suicidal students) were excluded from analyses. Additionally, the participant who provided a response for item 15c but was identified as an extreme outlier was also excluded from inclusion in the subsamples pertinent to high school. Following the formation of subsamples, three paired-sample *t*-tests were conducted to determine if means between pairs of school levels differed reliably.

Frequency of referrals for potentially suicidal students in elementary schools vs. middle/junior high schools. Results of the paired-sample t -test using the data from the subsample of 104 participants who provided responses to both items 15a and item 15b revealed a significant difference between mean levels of referrals received by these school psychologists who work in both elementary and middle /junior high schools, $t(103) = -4.06$; $p < .01$. Specifically, across a two year period, these school psychologists received an average of 1.23 ($SD = 2.10$) referrals for potentially suicidal students in their elementary schools, as compared to 2.55 ($SD = 4.32$) among their middle school students.

Frequency of referrals for potentially suicidal students in middle/junior high schools vs. high schools. Results of the paired-sample t -test using data from the subsample of 74 participants who provided responses to both items 15b and 15c did not reveal a significant difference between mean levels of referrals received by psychologists who work in both middle/junior high schools and high schools, $t(73) = -0.09$; $p = .93$. In other words, within a two year period, these school psychologists received a statistically similar number of referrals for potentially suicidal students in their middle schools as in their high schools; specifically, an average of 2.84 ($SD=4.86$) and 2.80 ($SD=4.12$) referrals for potentially suicidal students in their middle and high schools, respectively.

Frequency of referrals for potentially suicidal students in elementary schools vs. high schools. Results of the paired-sample t -test using data from the subsample of 75 participants who provided responses to both items 15a and 15c revealed a significant difference between mean levels of referrals received by psychologists who work in both elementary and high schools, $t(74) = 3.35$; $p < .01$. Specifically, within a two year period, these school psychologists received an average of 1.12 ($SD=2.01$) referrals for potentially

suicidal students in their elementary schools, compared to an average of 3.25 ($SD=5.81$) among their high school students.

In sum, school psychologists who serve elementary schools receive fewer referrals for potentially suicidal students than they receive at their middle or high schools. The number of referrals received at the secondary level is similar regardless of school level served (i.e., middle/junior high school or high school).

Research Question 3: What is the frequency with which school psychologists who work in different school levels experience the occurrence of a completed suicide?

To answer this research question, frequencies and percentages were calculated for responses to items 16a, 16b, and 16c for participants who provided a numerical response, as opposed to circling “N/A.” The 8, 11, and 10 participants that reported that they had not served a given school level in the past year (i.e., demographic item nine) yet still provided a response for items 16a, 16b, or 16c were excluded from analyses conducted for that specific school level.

Frequency of completed suicides at the elementary school level. Frequencies of completed suicides at the elementary school level are summarized in Table 7. The sum total of completed suicides is 8. The majority of participants (95.95%) indicated that they had not experienced a completed suicide in the elementary schools they served during the past two years.

Table 7

Frequencies of Completed Suicides at the Elementary School Level (N=173)

Completed Suicides	Frequency Number Reported	Percent of Sample
0	166	95.95%
1	6	3.47%
2	1	0.58%

Frequency of completed suicides at the middle/junior high school level. Table 8

depicts the number of completed suicides experienced by middle/junior high school psychologists within the past two years. The sum total of completed suicides at this school level was 9. Similar to the elementary school subsample, the majority of participants (95.38%) did not experience a completed suicide within the past two years. Also, this subsample of participants experienced a similar frequency of completed suicides as reported by school psychologists who served students at the elementary school level (9 vs. 8, respectively).

Table 8

Frequencies of Completed Suicides at the Middle/Junior High School Level (N=130)

Completed Suicides	Frequency Number	Percent of Sample
0	124	95.38%
1	4	3.08%
2	1	0.77%
3	1	0.77%

Frequency of completed suicides at the high school level. Table 9 illustrates the

frequencies of completed suicides at the high school level. The sum total of completed suicides at this school level was 29. Approximately 13% of high school psychologists reported experiencing at least one completed suicide among students at the high schools that they served within the past two years.

Table 9

Frequencies of Completed Suicides at the High School Level (N=101)

Completed Suicides	Frequency Number	Percent of Sample
0	88	87.13%
1	2	8.91%
2	9	1.98%
3	1	0.99%
6	1	0.99%

Of note, the participant who reported six completed suicides had occurred within his/her high schools was removed from subsequent analyses because this response was identified as an extreme outlier (i.e., > 5 standard deviations from the mean) during data screening for this research question. This was not the same participant who was removed from the examination of mean referrals at the high school level.

To further examine differences in completed suicides between school levels served, descriptive statistics were employed. Table 10 includes the means, standard deviations, and ranges of completed suicides at the three school levels of interest.

Table 10
Means, Standard Deviations, and Ranges of Completed Suicide Experiences in the Past Two Years by School Level

School Level	<i>N</i>	<i>M</i>	<i>SD</i>	Range
Elementary	173	.05	.24	0 – 2
Middle School	130	.07	.36	0 – 3
High School	100	.16	.49	0 – 3

Similar to research question one, tests to determine the “statistical significance” of these differences in school level means could not be performed due to the violation of the assumption of independence. Nonetheless, these results appear to be clinically significant. School psychologists serving elementary and middle schools seem to experience similar numbers of completed suicides, and such occurrences seem to be quite rare, eight and nine total, among 173 and 130 practitioners, respectively. School psychologists serving high schools seem to experience two times as many completed suicides. While the frequency of occurrences of completed suicides at the elementary and middle school level is low, these numbers indicate that a national sample of school

psychologists who serve elementary and middle schools do in fact experience completed suicides, albeit rarely.

Research Question 4: Does the frequency of occurrences of completed suicides differ as a function of school level served (i.e., elementary, middle, high)?

To address this research question, three new datasets were created using only participants that indicated on demographic item nine that they serve at least two settings: elementary school and middle school, high school and middle school, and elementary and high school. Similar to research question two, participants who reported that they had not served a given school level in the past year (i.e., demographic item nine) yet still provided a response for items 16a, 16b, or 16c (i.e., completed suicides) were excluded from analyses. Additionally, the one participant that provided a response for item 16c and was later identified as extreme outlier during analyses for research question three was also excluded from analyses of this research question that pertained to high schools. Three separate paired-sample *t*-tests were conducted to determine if group means between pairs of groups (i.e., school level served) differed reliably.

Frequency of completed suicides in elementary schools vs. middle/junior high schools. Results of the paired-sample *t*-test using the data from the subsample of 104 participants who provided responses to both item 16a and item 16b failed to reveal a significant difference between mean levels of completed suicides experienced by these school psychologists who work in both elementary and middle /junior high schools, $t(103) = -.38; p = .71$. Specifically, across a two year period, these 104 school psychologists experienced an average of .07 ($SD = .29$) completed suicides in their elementary schools, as compared to .08 ($SD = .39$) among their middle school students,

which is a statistically similar rate.

Frequency of completed suicides in middle/junior high schools vs. high schools.

Results of the paired-sample t -test using the data from the subsample of 73 participants who provided responses to both item 16b and item 16c revealed a significant difference between mean levels of completed suicides experienced by these school psychologists who work in both middle /junior high schools and high schools, $t(72) = 2.04, p < .05$. Specifically, across a two year period, these school psychologists experienced an average of .04 ($SD = .26$) completed suicides in their middle/junior high schools, which is significantly less than the mean number experienced at their high schools ($M = .10, SD = .41$).

Frequency of completed suicides in elementary schools vs. high schools. Results of the paired-sample t -test using the data from the subsample of 74 participants who provided responses to both item 16a and item 16c failed to reveal a significant difference between mean levels of completed suicides experienced by these school psychologists who work in both elementary schools and high schools, $t(73) = -1.16; p = .25$. More specifically, across a two year period, school psychologists experienced an average of .07 ($SD = .25$) completed suicides in their elementary schools, as compared to .12 ($SD = .44$) among their high school students, which is a statistically similar rate when examined within this reduced sample size. While a visual examination of means from research question three may suggest significant differences between school levels are evident, the current analysis failed to produce a statistically significant difference between means. This may be due to the fact that when participants serving only high schools were removed from the dataset utilized in the repeated measures analysis, the mean number of

completed suicides at the high school level lowered from .16 to .12. This reduction in mean occurrences made it more difficult to statistically detect a significant difference between groups.

Research Question 5: Does the perceived level of elementary school psychologists' preparedness for professional roles relevant to suicide differ as a function of the proportion of time they spend serving that population with respect to:

- a. Prevention?**
- b. Intervention/assessment?**
- c. In-school counseling or support?**
- d. Postvention?**

To answer this research question, the subsample of participants who self-reported on item nine that they served elementary schools were divided into subgroups based upon the percent of time they indicated serving elementary schools. After removing the 44 participants from the sample who indicated spending no time serving an elementary school, five groups were created: approximately one-quarter of time in elementary schools (1%-24%), approximately one-half (25%-49%), approximately three-quarters (50%-74%), almost full-time (75%-99%) and completely full-time (100%). Table 11 includes additional information regarding these group assignments.

Table 11
Elementary School Psychologist Subgroups (N=176)

Percent of Time	Category	N	Percent of Sample
1%-24%	Approximately One-Quarter	11	6.25%
25%-49%	Approximately One-Half	38	21.59%
50%-74%	Approximately Three-Quarters	55	31.25%
75%-99%	Almost Full-Time	46	26.14%
100%	Completely Full-Time	26	14.77%

Mean responses regarding perceived level of preparedness for each separate professional role (i.e., prevention, assessment, counseling/support, postvention) were calculated for the total subsample of participants serving elementary school students, as well as for each of the five subgroups. Table 12 includes the means and standard deviations, which are presented in parentheses, for the elementary school sample as well as each of the five subgroups. Of note, higher scores indicate higher levels of school psychologists' perceived preparedness in providing that professional role.

Table 12
Mean Levels of Preparedness for Professional Roles by Proportion of Time Spent Serving Elementary Schools

Professional Role	Sample (N=176)	Approximately One-Quarter (n=11)	Approximately One-Half (n=38)	Approximately Three-Quarters (n=55)	Almost Full-Time (n=46)	Completely Full-Time (n=26)
Prevention	2.30 (.94)	2.36 (.81)	2.08 (.91)	2.01 (1.04)	2.04 (.79)	1.85 (1.08)
Assessment	2.28 (.94)	2.27 (.79)	2.39 (1.00)	2.22 (1.05)	2.28 (.78)	2.23 (.99)
Counseling	1.85 (1.02)	2.18 (.75)	1.79 (1.00)	1.81 (1.16)	1.84 (.90)	1.88 (1.07)
Postvention	1.76 (1.02)	2.36 (.67)	1.60 (1.08)	1.75 (1.04)	1.74 (.95)	1.77 (1.02)

* $p < .05$

To determine if practitioners' perceived preparedness differed reliably depending upon proportion of time spent serving an elementary school, differences in mean scores between groups were compared via four one-way ANOVAs, between-subjects design. None of these analyses indicated significant results for any of the professional roles. That is, the percent of time spent serving elementary schools did not seem to have a significant effect on practitioners' perceived preparedness to fill professional roles specifically relevant to suicide prevention, assessment, counseling, or postvention. Table 13 includes a summary of each of the ANOVA results. Of note, follow-up tests to compare means between pairs of groups were not conducted due to the failure to detect an overall effect of group.

Table 13
ANOVA Summary Table for Perceived Preparedness for Professional Roles by Percent of Time Spent Serving Elementary Schools

Source	<i>N</i>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Prevention	175	4	2.21	.55	.62	.65
Error		170				
Assessment	176	4	.77	.19	.21	.93
Error		171				
Counseling/Support	175	4	1.44	.36	.34	.85
Error		170				
Postvention	176	4	4.95	1.24	1.19	.32
Error		171				

* $p < .05$

Research Question 6: Does the perceived level of practitioner preparedness for professional roles relevant to suicide differ as a function of school level primarily served (i.e., elementary, middle, high) with respect to:

- a. Prevention?**
- b. Intervention/assessment?**
- c. In-school counseling or support?**
- d. Postvention?**

To answer this research question, a subsample was created comprised of only those participants who indicated on demographic item nine that they predominately served (i.e., spent 50% or more of their time serving) elementary schools, middle/junior high schools, or high schools. This dataset included three new subgroups: predominantly elementary school psychologists ($N=118$), predominantly middle/junior high school psychologists ($N=34$), and predominantly high school psychologists ($N=31$). Of note, 19 of those participants split their time equally between preschools and elementary schools ($n = 4$), elementary and middle schools ($n = 7$), elementary and high schools ($n = 2$), or middle and high schools ($n = 6$). Rather than deleting these participants from the dataset and unnecessarily reducing power, those 19 participants were included in the groups that corresponded to the most advanced age level predominately served (for instance, the 6 participants who spent 50% of their time in middle schools and 50% of their time in high schools were categorized as “predominantly high school psychologists”). This decision rule is line with findings from earlier research questions that indicate that participants’ exposure to suicidal youth and postvention activities increases linearly as a function of age level of students served.

As a basis for comparison, mean responses regarding perceived level of preparedness for each separate professional role (i.e., prevention, assessment, counseling/support, postvention) were calculated for the whole sample ($N = 220$). Then, these descriptive statistics were calculated for the three subgroups of interest. Table 14 summarizes ANOVA summary statistics for significant differences on preparedness to fill professional roles by school level predominantly served.

Table 14
ANOVA Summary Table for Perceived Preparedness for Professional Roles by School Level Predominantly Served

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Prevention	2	8.91	4.46	5.24	.0062
Error	179				
Assessment	2	7.49	3.75	4.72	.01
Error	180				
Counseling/Support	2	12.15	6.07	5.91	.0033
Error	179				
Postvention	2	12.47	6.23	6.03	.0029
Error	180				

* $p < .05$

Table 15 presents the means and standard deviations for the total sample, as well by subgroup. To determine if practitioners' perceived preparedness differs significantly depending upon school level served, four one-way ANOVAs, between-subjects design were conducted. In the event that a significant univariate effect was detected, follow-up Tukey tests were conducted and group means were examined to identify differences

between pairs of school level groups on perceived competence for each professional activity that yielded a significant univariate effect.

Table 15
Mean Levels of Perceived Preparedness for Professional Roles by School Level Predominantly Served

Professional Role	Total Sample (N=220)	Elementary School Subgroup (n=118)	Middle School Subgroup (n=34)	High School Subgroup (n=31)
Prevention	2.10 (.95)	1.98 _a (.96)	2.18 _{a,b} (.88)	2.58 _b (.81)
Assessment	2.31 (.94)	2.22 _a (.93)	2.50 _{a,b} (.83)	2.74 _b (.77)
Counseling	1.95 (1.04)	1.83 _a (1.07)	2.12 _{a,b} (.88)	2.51 _b (1.93)
Postvention	1.81 (1.04)	1.72 _a (1.03)	1.74 _a (1.05)	2.42 _b (.89)

Note. Significant differences between group means are indicated by different letters. Means having the same subscript are not significantly different.

**p < .05*

As shown in Table 15, significant differences were found between school psychologists who predominantly served elementary schools and high schools on all four professional roles relevant to suicide. Specifically, the mean level of school psychologists' perceptions to fill professional roles relevant to suicide was significantly higher for school psychologists who predominantly served high schools as compared to those professionals who primarily served elementary schools. School psychologists who predominately served middle schools were not distinguished from their peers who served either elementary or high schools on three of four professional roles. Within the fourth area, perception of preparedness to fulfill postvention roles, the mean perception of school psychologists predominantly serving middle schools was similar to the perceptions of the school psychologists who predominantly serve elementary schools;

both groups perceived themselves to be less prepared to provide postvention services than school psychologists who predominantly serve high schools.

Chapter Five

Discussion

The primary purpose of the current study was to explore school psychologists' encounters with suicidal children and adolescents in their practice. The study aimed to provide concrete figures regarding the frequency of both referrals for and completed suicides among students in different school levels (i.e., elementary school, middle/junior high school, high school). The final purpose of the study was to determine whether practitioner-perceived preparedness to engage in professional roles relevant to youth suicide (i.e., prevention, assessment, counseling/support, postvention) differed as a function of school level predominantly served.

This chapter summarizes the results of the current study and discusses the findings in the context of the extant literature. The chapter is organized by the topic investigated within the current research study. After the discussion of results and significant findings, implications of the results for school psychologists are summarized, limitations of the current study are reviewed, and directions for future research are discussed.

Discussion of Results

Frequency of Referrals for Suicidal Students

The purpose of this first area of research was to gather data regarding the frequency of referrals for potentially suicidal youth within in a two year time period by school level served. Results indicated that school psychologists serving high schools received the most referrals, with an average of approximately four referrals within a two

year time period. Middle/junior high school psychologists reported receiving about three referrals within the same time period, which was one student less than those referred at the high school level. School psychologists who reported serving elementary schools reported receiving approximately one to two referrals for potentially suicidal children over a two year time span.

Taken together, the results regarding the frequency of referrals for potentially suicidal youth are significant. Previous published research has not specifically examined the frequency of referrals for potentially suicidal youth by school level served, and as such, results from this study augment the current literature base substantially. Results demonstrate that the majority of practitioners serving all school levels (i.e., elementary school, middle/junior high school, high school) encounter at least one potentially suicidal youth within a two year period in their professional practice, regardless if the practitioner works with children or adolescents. Significant differences were not found between mean referrals for practitioners serving middle/junior high school and high school. Specifically, school psychologists serving middle and high schools receive approximately twice the frequency of referrals for potentially suicidal students as compared to school psychologists who work with elementary school students. Although the frequency with which school psychologists in elementary schools receive referrals is lower than the frequency of occurrences in both middle/junior high and high schools, results demonstrate that a national sample of school psychologists who serve elementary schools do occasionally receive referrals for potentially suicidal children.

The mean number of referrals at the elementary school level was the least of the three school levels, with an average of between one and two students during a two year

time period, although some practitioners received as many as ten referrals during the same time frame. This particular finding is somewhat similar to previous research conducted in an urban Florida school district that found that practitioners at the same school level reported receiving an average of 2.5 referrals for suicidal children, with the same 0 to 10 range, within a two year time period (Cunningham et al., 2009). While these ranges are identical, it is important to note that there was a difference in mean number of referrals within elementary schools of approximately one student every two years, on average. This difference could be accounted for by the fact that traditional practitioners within the smaller sample of local practitioners served an average of 1.69 school buildings (range: 1-3), with the majority of school psychologists (81.6%) reporting a school psychologist to student ratio of between 1:<500 – 1:1000-1499. The national sample of practitioners in the current study served an average of 3.24 school buildings, ranging from 1-34 buildings, with (60.4%) of psychologists reporting a school psychologist to student ratio of between 1:500 and 1:1499. Thus, school psychologists in the local Florida sample served fewer students and worked in less buildings, suggesting the possibility that practitioners who are more present in a specific school or schools (i.e., spend more time there) are more likely to receive referrals for suicidal youth. This can be due to the fact that teachers are more familiar with them, and therefore more likely to refer a student, or that they are more proactive in their school in providing information on risk factors and warning signs. Alternatively, perhaps school psychologists who are more integrated in a few schools field referrals that would have otherwise been directed to the school guidance counselor. Another hypothesis is that practitioners who serve more schools, and therefore spend less time in a given school, might only receive referrals for

youth that demonstrate blatant, as opposed to more subtle, warning signs. Other plausible reasons for the higher rate of referrals in the Florida sample entail the fact that the local sample served a predominantly urban area; youth in city environments may experience more risk factors (e.g., poverty, crime/violence, family stressors) than youth nationwide.

Of particular interest, this study provides concrete evidence supporting the need for school psychologists employed in elementary school settings to be trained in how to provide suicide-related services to children. As the majority of practitioners employed by public schools practice in elementary schools (Curtis, Hunley, Walker, & Baker, 1999), the results of the current study support the need to inform professional practices relevant to this specific population of school psychologists. While the frequency of referrals is significantly less than those received at the middle/junior high or high school levels, these children are being referred nonetheless and there is clearly a need to be prepared to provide services to these children. Further, because adults may consider suicidal threats by children to be immature and unfounded, they may not formally refer children who make such threats to the appropriate professional for assistance. As such, the number of referrals actually received by school psychologists working in elementary schools might under represent the actual number of children experiencing suicidality.

The practical implications of these results are also important, as findings indicate that school psychologists serving all school levels receive referrals for potentially suicidal students, and would need to engage in, at the very least, assessments of risk to self-harm. As such, all practitioners need to be familiar with assessment protocols and policies. This study provides evidence for school psychology training programs that trainees should receive education in suicide-related services, particularly information specific to

developmental levels of students (i.e., children, adolescents). Professional development (e.g., district in-services or conference trainings specific to the provision of suicide-related services) are another mechanism via which school psychologists can seek out training within this specific area of service delivery.

Frequency of Completed Suicides by Students

A second aim of this research was to gather concrete figures regarding the frequency of completed suicides at different school levels within in a two year time period. Results indicate that school psychologists serving elementary schools and middle/junior high schools experience similar numbers of completed suicides: a total of eight and nine deaths reported by 173 and 130 practitioners, respectively. Completed suicides at the high school level were almost three times more frequent, with a total frequency of 29 completed suicides within a two year time period reported by 101 school psychologists across the country. This finding is consistent with literature reviewed in chapter two: adolescents aged 15-19 (i.e., high school age) have a higher rate of completed suicides than their younger peers (Heron et al., 2008).

These findings are significant for several reasons. First, completed suicides, while rare, apparently do occur on occasion at the elementary and middle/junior high school levels. Therefore, school psychologists serving these school levels would be well suited to ensure they have adequate training in postvention procedures and activities. School psychologists at the elementary school level should be sure that postvention services are developmentally appropriate, as Mishara (2003) pointed out that children's understanding of death and suicide is quite different than their older peers. Completed suicides are more common at the high school level. As such, practitioners at this level should be

particularly sure that detailed postvention procedures are in place. Indeed, these practitioners should ensure that they are well trained in all professional roles relevant to suicide, as it is likely that before a completed suicide occurs, the student can be identified as in need of support services in order to prevent a tragic outcome.

Of note, although statistically differences in mean numbers of completed suicides were observed among the subsample of participants who reported serving both middle/junior high schools and high schools, mean differences in number of completed suicides were not statistically different among school psychologists who served both elementary and high schools. This result should be interpreted with caution for several reasons. A visual examination of means among the entire sample suggested that school psychologists serving high schools seem to experience two times as many completed suicides. The inability to deem this clinically significant difference to be “statistically significant” appears an artifact of the means yielded from the reduced sample size that was employed in the repeated measures analyses. Specifically, the school psychologists that were excluded from this analysis reported more high school student deaths by suicide than reported by participants who served both elementary and high schools (mean of .16 for the total sample compared to .12 for the reduced sample). It is plausible that the high school psychologists omitted from the repeated measures analysis experience more completed suicides because they serve multiple high schools (rather than dividing their time between elementary and high schools). School psychologists who were excluded from the reduced samples used in research questions two and four were most likely to be those practitioners who served one school, who are the most likely to be fully integrated

into a school and therefore perhaps most likely to seek out or field referrals for suicidal youth.

Perceived Preparedness for Professional Roles Relevant to Youth Suicide by Proportion of Time Spent in Elementary School

The perceived preparedness to engage in professional roles relevant to suicide perceived by school psychologists who predominantly served elementary schools did not significantly differ significantly as a function of the proportion of time they spent there. However, examinations of non-significant trends suggested that school psychologists who spent the least amount of time (i.e., 1-24% of their time) in an elementary school, perceived themselves to be the most prepared to engage in suicide-related activities across all professional roles (i.e., prevention, assessment, counseling, postvention). It is hypothesized that this could be due to the fact that since these practitioners spend only approximately one-quarter of their time serving one or more elementary schools, the rest of their time could be spent serving a middle/junior high or high school where they might receive more hands-on increased experience engaging in these roles.

Of note, full-time elementary school psychologists perceived themselves to be approximately “moderately prepared” to engage in all professional roles relevant to suicide. Out of the professional roles, full-time elementary school psychologists perceived themselves to be least prepared to engage in prevention and postvention activities. This finding makes sense in the context of the literature reviewed in chapter two, in which there was a paucity of evidence-based prevention activities aimed specifically at children. Similarly, as few school psychologists serving the elementary school level actually experience a completed suicide, it is reasonable to draw the

conclusion that these psychologists might not perceive themselves to be prepared to engage in postvention activities because they have not had the opportunity to enact the skills needed to effectively provide postvention services.

Perceived Preparedness for Professional Roles Relevant to Youth Suicide by School Level Served

Within the total sample, an examination of respondents' average perceived preparedness to fill professional roles relevant to suicide indicate that school psychologists feel approximately "moderately prepared" to engage in suicide-related activities. On the whole, the sample felt most prepared to conduct assessments of risk to self-harm, followed by prevention of suicide risk, providing in-school counseling or support for students identified as potentially suicidal, and finally relatively least prepared to engage in postvention activities. When further examined by school level subgroup, the same trend is apparent: of all suicide-related activities, practitioners rated themselves the lowest on ability to provide postvention activities. These findings support the need for increased training in postvention procedures, as this national sample of school psychologists, with the exception of practitioners predominantly serving high schools, perceived themselves to be less than "moderately prepared." School psychologists who predominantly served high schools perceived themselves to be between "moderately prepared" and "well prepared." This could be due to the fact that, based on data from this study, this population of school psychologists has more experience with applying knowledge and skills related to postvention services when compared to elementary and middle/junior high school psychologists. On the other hand, this difference could reflect that school psychologists who anticipate working with adolescents seek out additional

education pertinent to postvention and thus rate themselves higher in this area even without having had a chance to yet demonstrate this knowledge via applied work.

School psychologists who predominantly served elementary schools perceived themselves to be the least prepared to provide suicide-related services when compared to practitioners serving the other school levels, particularly high schools. The implications for this particular finding are quite significant, as this finding demonstrates that school psychologists who predominantly serve elementary schools do not feel maximally prepared in their abilities to effectively provide suicide-related services to children, as the average ratings from school psychologists who predominantly serve elementary schools suggest room for growth. As data from the current study illustrates, most practitioners serving elementary school students encounter at least one suicidal youth in their practice every couple of years, and a few practitioners have experienced a completed suicide within their elementary school students. To ensure that such practitioners are able to provide effective services in a preventative fashion and as called for (i.e., when a suicidal student is encountered), specific training in providing suicide-related services to children may be warranted.

While differences in means were not statistically significant, a visual examination of means suggest that school psychologists who predominantly served middle/junior high schools perceived themselves to be more prepared (relative to their colleagues who predominantly serve elementary schools) to engage in suicide-related activities, but not as prepared as their colleagues who predominantly serve high schools. Similarly, predominantly middle/junior high school psychologists perceived themselves to be the most prepared to conduct assessments of potentially suicidal youth, and least prepared to

engage in postvention activities. Again, this finding is supported by data gathered in the current study that school psychologists who predominantly serve middle/junior high schools regularly encounter potentially suicidal youth in their practice, and have minimal experiences with completed suicides. Specifically, school psychologists at this school level have increased opportunities to conduct assessments of risk to self-harm, as they receive an average of about three referrals within a two year period. As the total number of completed suicides within a two year period was nine, they likely have limited experiences providing postvention services as they have limited exposure to deaths by suicide. The correspondence between professional activities and perceptions of preparedness to provide these services suggest that school psychologists' confidence may be enhanced (or weakened) as a function of opportunity to engage in the relevant professional activities.

School psychologists who predominantly served high schools perceived themselves to be the most prepared to engage in all suicide-related activities, with their average ratings falling between "moderately prepared" and "well prepared," with the majority falling closer to "well prepared." This finding is consistent with the finding that school psychologists at the high school level encounter more potentially suicidal youth as well as completed suicides. As such, it is reasonable to speculate that since these psychologists are engaging in suicide-related activities more often than their elementary school and middle/junior high school colleagues, they feel more confident to do so as they have increased experience in applying knowledge and skills relevant to suicide-related services. Similar to their colleagues serving predominantly elementary and middle/junior high schools, high school psychologists also perceived themselves to be the

least prepared to fill postvention roles. While completed suicides are more prevalent at the high school level, it is more common to receive referrals for potentially suicidal youth. Thus, school psychologists who predominantly serve this level would be more familiar, and possibly more comfortable, conducting assessments of risk to self-harm rather than engaging in postvention activities.

As this is the first known examination of school psychologists' perceived preparedness in providing suicide-related services to potentially suicidal youth by school level served, the results from the current study serve as baseline data regarding school psychologists' average perceptions of confidence in the provision of suicide-related services to young children. Debski et al. (2007) examined school psychologists' perceived preparedness to engage in professional roles relevant to suicide, but did not examine such perceptions by school-level served. Of note, Debski and colleagues only inquired about assessment and postvention services. In regard to assessment, most of the respondents in their sample perceived themselves to be "somewhat prepared" (50%), or "well prepared" (43%) to do so. Only 6% of respondents reported feeling "not at all prepared" to engage in assessment activities. In regards to the provision of postvention services, the majority of respondents (60%) perceived themselves to be "somewhat prepared," while 29% indicated feeling "well prepared," and 11% indicated feeling "not at all prepared." While examined using a slightly different metric (i.e., three point metric, versus five point metric used in the current study), results from the current study corroborate Debski and colleagues findings, mainly in the respect that the majority of practitioners feel at least "somewhat prepared" (which corresponded to the current

study's rating of "moderately prepared") to engage in professional activities relevant to suicide, and more prepared to engage in assessment activities than postvention activities.

While focusing solely on school-based prevention services, Anderson and Miller (2008) found that 59.2% of participants within their study indicated that they felt "somewhat well prepared" to provide prevention services. Responses to a different research question found that 59.3% of participants also reported that they would like additional training in that area. These results also corroborate the findings of the current study, in that the majority of practitioners felt at least "somewhat prepared" to engage in activities relevant to the provision of prevention services.

As a whole, practitioners in the current study did not perceive themselves to be any more than "moderately prepared" to "well prepared" to provide suicide-related services. This finding reinforces the importance of ensuring practitioners receive specific training in providing suicide-related services. Previous research has found that school psychologists have reported receiving some training within the realm of crisis intervention, but few reported receiving training specific to suicide (Allen et al., 2002; Wise et al., 1987). This is surprising, as suicide is the most frequently cited crisis that school psychologists encounter (Nickerson & Zhe, 2004). Furthermore, no research could be located that examined training in suicide-related services specific to children. As such, it is important that school psychology training programs provide coursework and/or training in not only crisis intervention, but suicide in particular. More specifically, it is important to ensure the inclusion of developmentally appropriate suicide-related services to children.

Gains in beliefs regarding preparedness are important because confidence in one's ability to engage in particular skills is needed in order to initiate such activities (Bandura, 1997). For example, a meta-analysis of 114 studies examining the relationship between self-efficacy and work-related performance found a moderate, positive correlation between employees' self-efficacy beliefs and actual work-related performance (Stajkovic & Luthans, 1998). In other words, employees who felt more confident in their abilities to engage in certain work-related tasks were more likely to actually engage in those activities.

Ideally, increases in confidence (i.e., perceptions of preparedness) would be induced via a professional development rather than only an outcome of needs encountered (and thus services delivered) in a school. A recent examination of the outcomes of a professional development workshop geared toward improving the preparation of military psychologists to assess and treat suicidal patients found that psychologists' professional practice activities, confidence, and beliefs improved as a result of training (Oordt, Jobes, Fonseca, & Schmidt, 2009). Oordt and colleagues further found that the training which increased psychologists' self-efficacy also increased application of training-related behaviors (i.e., self-reported changes in suicide care practices and clinical policy). Specifically, immediately after training, 97% of participants indicated they agreed or strongly agreed to change at least one aspect of their work related to suicidal patients; at 6-month follow-up, 83% of participants had actually implemented a change as a result of the training. Additionally, participants' confidence in treating suicidal behavior significantly increased following the training, and maintained at 6-month follow-up.

In sum, research supports the importance of increasing employees' confidence in order to increase the likelihood of actually engaging in the relevant activities.

Furthermore, research also supports that content specific training (i.e., professional development) can not only increase practitioners' confidence to engage in professional activities, but also increased the application of those behavior and/or activities. As there were no average ratings that corresponded with "extremely prepared" for any professional role relevant to suicide, it seems as though school psychologists that serve all school levels could benefit from training specific to the provision of suicide-related services.

Implications of the Results for School Psychologists

Taken together, the findings from this study underscore the need for psychologists that serve all school levels to provide competent suicide-related services to youth, as the majority of practitioners across all three school levels encounter potentially suicidal youth in their practice. Practitioners must not only have the knowledge and skills necessary to effectively engage in these roles, but confidence in their abilities as well. The current findings support the need for increased training in professional roles relevant to suicide at both the graduate level as well as through professional development efforts, as few groups rated themselves as "well prepared" and no groups rated themselves as "extremely prepared" to provide suicide-related services. It is important to note that most means were closer to "moderately prepared" across all professional roles relevant to suicide, which approximately corresponds to a rating of "2" out of a "0" to "4" metric. While there is definitely room for improvement, mean ratings of perceived preparedness suggest that the vast majority of school psychologists feel at least a little prepared to

provide suicide-related services, which underscores the fact that school psychologists, as a whole, seem to have existing skills and knowledge relevant to the provision of suicide-related services.

Results of the current study also provide evidence for school psychology training programs that practitioners should receive training in suicide-related services specific to developmental levels of students (i.e., children, adolescents). At a more systemic level, practitioners must advocate for professional development specific to suicide. Annual NASP conventions, state-level conferences, and/or district-level in-services are natural avenues through which practitioners can seek out additional training and knowledge to ensure they have the necessary skills and knowledge, but also the confidence in their abilities to effectively provide these services. Additionally, school psychology training programs should try to ensure that information relevant to the provision of suicide-related services is included in specialist level coursework, not just in doctoral coursework. The majority of practitioners within the United States hold a specialist degree (Curtis et al., 2008), a fact that was confirmed by findings in the current study, which underscores the need for this training for all graduate students, regardless of the degree they seek. Finally, it is important to note that many graduate training programs typically train their students to work with low incidence populations, such as with students who are deaf or hard of hearing, have significant developmental delays, and have traumatic brain injuries. As such, providing training at the graduate level to prepare school psychologists to provide developmentally appropriate suicide-related services to children may be viewed as training school psychologists to be optimally prepared to work with another low incidence population.

An alternate approach to broad training involves preparing some school psychologists to be specialists with low incidence populations. Thus, it might be more cost effective for districts to train a small team of practitioners to be specialists within the domain(s) of suicide prevention, assessment/intervention, and/or postvention. While it is important that all practitioners have at least a foundational knowledge of suicide and the provision of suicide related services, it might be more practical to have a few expertly trained practitioners who could be called on to consult or handle at-risk cases, at least within large districts that can accommodate specialists. It will continue to be the case that practitioners in rural areas must have a working knowledge of all aspects of service delivery pertinent to youth suicide.

Delimitations of the Current Study

A delimitation is defined as purposefully including a limitation within a research study to limit the scope of the study. Within the current study, participants only included school psychologists who are currently practicing in a school setting, as opposed to those who practice in an alternative setting (e.g., hospital, university). Limiting the participants only to current school-based practitioners provides a more accurate depiction of practitioners' experiences working with suicidal children in schools, but excludes the voices of those practitioners who are in more atypical settings.

Limitations of the Current Study

Due to the use of an existing dataset, the author of the current study had little control over data collection procedures, nor the majority of the content included in the survey. However, documentation provided by the primary researcher in charge of

designing the study and collecting the data suggested that precautions were taken to address potential threats to validity (Friedrich, 2008).

Even so, a few limitations exist that may potentially limit the validity of the findings. First, a potential threat to external validity relates to population validity. The sample in the current study was comprised solely of Regular NASP members. Therefore, findings might not be applicable to the small proportion of school-based practitioners who are not members of NASP.

Limitations are also inherent to the use of mail survey methodology (Dillman, 2007). First, coverage error can occur when the list from which the sample is drawn does not include all elements of the population. As mentioned earlier, the sample of the current study was compared to overall NASP membership characteristics, and was found to be similar on the most salient demographic items (i.e., gender, ethnicity, highest degree earned). Furthermore, surveys were returned from 41/51 states, suggesting a truly national and representative sample. Second, low response rates may illustrate differences between those respondents who completed the survey versus those who did not. The response rate of the current study was 38%, which is lower than other research studies conducted on similar topics, which had a response rate of 50% (i.e., Debski et al., 2007). Therefore, it is possible that the responses of the current sample do not necessarily represent the experiences of the overall desired population. Third, measurement error can occur when respondents misunderstand or incorrectly answer questions. To reduce the likelihood of this occurring, the PI of the larger study piloted the survey for readability and clarity; school psychologists in the pilot did not report concerns with understanding (Friedrich, 2008). Fourth, the desire to provide socially desirable responses to questions

poses a threat to internal validity. The intent of the survey, as outlined in the cover letter and title of survey, conveys the rationale of the study. If a school psychologist does not provide SBMH services at all, they may be inclined to respond falsely, thus limiting the validity of the responses. This factor also might explain the low response rate. Finally, the survey asks participants to recall information from memory. As a result, recall bias might occur, in which participants provide inaccurate information. However, no comments were left on the survey that suggested that this was problematic for any of the items analyzed in the current study.

Two limitations exist specific to item directions. First, the two items asking participants to record the amount of referrals or completed suicides was worded in such a way that participants might have provided an estimate or approximate response instead of the actual number. For example, the directions for the item querying the amount of referrals school psychologists received read as “In the past two years, *about* how many completed student suicides have occurred in your ...” Furthermore, these items ask participants to recall information from memory, specifically a two-year time period. It is possible that recall bias might occur, in that participants provide inaccurate information. However, as events such as referrals for potentially suicidal youth and completed suicides are salient, it can be argued that these events might not be affected by recall bias. Similarly, these specific items were previously used in two studies that have yielded meaningful results (i.e., Cunningham et al., 2009; Debski et al., 2007). Notably, it is likely that most practitioners do not keep extensive documentation of their school-based psychological service activities. However, despite the threat of recall bias, statistically

significant and logical results were yielded, as well as a full distribution of self-reported frequencies (i.e., 6, 7, 24) as opposed to rounded numbers (e.g., 10, 20, etc.).

Also of note, the survey item intended to gather information about referrals for suicidal youth asked respondents to reflect on the number of students referred to them as “potentially suicidal.” It is possible that there could be some variability in how participants’ interpreted that phrase, and subsequently responded. Specifically, the definition of “potentially suicidal” could have been interpreted narrowly by some respondents, or more broadly by others (e.g., to include any student with depression). It is thus possible that participants either over or under reported the frequency of referrals they received for student in need of assessment of risk to self-harm in their respective schools.

Impact of Memory on Recall

Due to the use of survey methodology, and thus the heavy reliance on the respondent’s ability to recall information from memory, literature regarding the impact of memory on recall was examined. There are several factors that influence respondent’s ability to accurately recall information for surveys, which are briefly outlined below. While a bit outdated, Bradburn, Rips, and Shevell (1987) provide a helpful and relevant summary of the impact of memory and inference on recall in regards to survey research. They indicate that when asked to recall specific quantitative information from memory, respondents often have trouble complying with the demands of the task. On items for which respondents are asked to recount specific numbers or amounts (e.g., how many times have you going to the doctor in the past two years?) respondents often do not take the time to look up or check responses, and instead provide an estimate. It is possible that respondents could make two common errors: errors of omission (forgetting an event

or events) or commission (counting events that occurred outside the specified time period).

It can often take a few seconds respondents to recall an answer, longer if the activity is common (e.g., going for a drink with a friend). Similarly, recalling information can become more difficult for respondents when their memory is full of similar types of common events. This might lead to the respondent confusing details of the specific event in question, which in turn can lead to a decline in accurate responses, specifically when too many questions are asked within the time that the respondent is willing to devote to filling out the survey.

While much of the research on recall and memory indicates that recalling quantitative information on surveys is not always dependable, there is some research to the contrary. Dippo (as cited in Ayhan & Isiksal, 2004) reported that events that are “particularly salient to a person either because of their importance, their uniqueness or vividness are remembered better because more attention is paid to the event when it occurs” (p.477). This is reasonable to conclude, as prominent events or situations would entail the person to devote more of their time and/or energy to the specific event, therefore making it easier to remember and thus retrieve from memory.

Directions for Future Research

As this study is the first examination of the frequency of referrals for potentially suicidal youth and completed suicides by school level served, as well as practitioners perceived preparedness to engage in professional roles relevant to suicide by school level served, additional studies are needed to extend and replicate the current findings. Future studies regarding practitioners’ preparedness to engage in professional roles relevant to

suicide might be enhanced by elaborating on the information requested. Specifically, use of open-ended questions instead of forced-choice response might yield useful information, such as graduate school or conference training received specific to suicide, as well as availability and use of district materials relevant to suicide. It would also be beneficial to assess practitioners' actual knowledge related to suicide. This could be done by having practitioners answer quizzes or tests of knowledge (i.e., Debski et al., 2007) to gauge their content knowledge within this domain. Then, their actual knowledge could be compared to their perceived preparedness to engage in professional roles relevant to suicide, to determine if higher levels of knowledge (i.e., higher quiz scores) correlate to higher levels of perceived preparedness.

Another direction for future research should specifically focus on investigating elementary school psychologists' experiences with suicidal youth. In addition to eliciting information that would confirm the frequency of referrals, completed suicides, and perceived prepared to engage in suicide-related services, more information specific to policies procedures at the elementary school level, and specific activities or modification of existing practices should be further examined. Specifically, questions inquiring about what modifications exist, if any, between policies and procedures at different school levels could yield useful information that could inform training, policy, and procedures within this area.

Conclusions

The current study provides the first known examination of school psychologists' experience with referrals for potentially suicidal youth and completed suicides, specifically examined by school level served by a given school psychologist.

Additionally, this is the first known examination of whether school psychologists' perceived preparedness to fill professional roles relevant to suicide differs as a result of school level served. Results indicated that across all school levels (i.e., elementary, middle/junior high, high), the majority of practitioner received referrals for at least one potentially suicidal youth in the past two years. Completed suicides were experienced more often by school psychologists serving high schools, but were present at the elementary school and middle/junior high school levels to a lesser degree. Among school psychologists who served elementary schools at all, perceived preparedness to engage in professional roles relevant to suicide did not significantly differ as a function of the proportion of time they spent in an elementary school setting. Finally, school psychologists who predominantly served high schools rated themselves significantly more prepared to engage in suicide-related roles than their colleagues serving elementary school. School psychologists who predominately served middle schools were similar to their colleagues who served either elementary or high schools on three of four professional roles; regarding the fourth role (i.e., postvention), middle/junior high school psychologists rated themselves similarly to the perceptions of the school psychologists who predominantly serve elementary schools.

Results of the current study indicate that the majority of school psychologists perceived themselves to be approximately "moderately prepared" to engage in all professional roles relevant to suicide. While these results are encouraging, it is also apparent that there remains a need for training specific to the provision of suicide-related services as well as the consideration of developmental of students. This fact must be considered by graduate training programs when preparing their students for practice,

regardless of the developmental level of the student with whom they intend to work. Furthermore, opportunities to engage in professional development must be available for school psychologists to enhance the knowledge and skills necessary for effective provision of suicide-related services in schools, such that all school psychologists can perceive themselves to be extremely prepared to provide such services.

References

- Allen, M., Jerome, A., White, A., Marston, S., Lamb, S., Pope, D., & Rawlins, C. (2002). The preparation of school psychologists for crisis intervention. *Psychology in the Schools, 39*, 427-438.
- Allan, W., Kashani, J., Dahlmeier, J., Taghizadeh, P., & Reid, J. (1997). Psychometric properties and clinical utility of the Scale for Suicide Ideation with inpatient children. *Journal of Abnormal Child Psychology, 25*, 465-473.
- American Association of Suicidology. (1998). *Suicide postvention guidelines: Suggestions for dealing with the aftermath of suicide in the schools*. Washington, DC: Author.
- American Association of Suicidology. (2007). *Some facts about suicide and depression*. Retrieved November 29, 2008 from <http://www.suicidology.org>.
- American Association of Suicidology. (2008). *Youth suicide fact sheet*. Retrieved November 29, 2008 from <http://www.suicidology.org>.
- American Psychological Association. (2008). *Guidelines and Principles for Accreditation of Programs in Professional Psychology*. Retrieved March 2009 from the American Psychological Association website: <http://www.apa.org/ed/gp2000.html>
- Anderson, K. & Miller, D. (2008 February). *School-based suicide prevention and the role of the school psychologist*. Presented at the National Association of School Psychologists Annual Convention, New Orleans, LA.

- Ash, P. (2006). Children and adolescents. In R. Simon & R. Hales (Eds.), *Textbook of suicide assessment and management* (pp.35-56). American Psychiatric Publishing, Inc.
- Ayhan, H.O., & Isiksal, S. (2004). Memory recall errors in retrospective surveys: A reverse record check study. *Quality and Quantity*, 38, 475-493.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Barrish, H., Saunders, M., & Wolf, M. (1969) Good Behavior Game: Effects of individual contingencies for group consequences on disruptive behavior in a classroom. *Journal of Applied Behavior Analysis*, 2, 119–124.
- Beck A., Kovacs M., & Weissman A. (1979). Assessment of suicidal intention: the Scale for Suicidal Ideation. *Journal of Consulting and Clinical Psychology*, 47, 343-352.
- Block, J., & Burns, R. (1976). Mastery learning. In L. Shulman (Ed.), *Review of Research in Education*, vol. 4, (pp. 3–49). F.E. Peacock: Itasca, IL.
- Bradburn, N. M., Rips, L. J., & Shevell, S. K. (1987). Answering autobiographical questions: The impact of memory and inference on surveys. *Science*, 236, 157-161.
- Bridge, J.A., Greenhouse, J.B., Weldon, A.H. (2008). Suicide trends among youths aged 10 to 19 years in the United States- 1996-2005. *Journal of the American Medical Association*, 300, 1025-1026.
- Brock, S.E. (2002). Crisis theory: A foundation for the comprehensive crisis prevention and intervention team. In S. E. Brock, P. J. Lazarus, & S. R. Jimerson (Eds.), *Best*

- practices in school crisis prevention and intervention* (pp. 5-17). Bethesda, MD: National Association of School Psychologists.
- Brock, S. E., Sandoval, J., & Hart, S. (2006). Suicidal ideation and behaviors. In G. G. Bear & K. M. Minke (Eds.), *Children's needs III: Development, prevention and intervention* (pp. 225-238). Bethesda, MD: NASP Publications.
- Center for Disease Control and Prevention. (2006). Youth risk behavior surveillance- United States, 2005. *Morbidity and Mortality Weekly Review, CDC Surveillance Summaries, 55*, 1-107.
- Center for Disease Control. (2008). Deaths: Preliminary data for 2006. *National Vital Statistics Report, 56*, 1-52.
- Centre for Suicide Prevention. (2000). Children and suicide. Alert #39.
- Cotton C., & Range L. (1993). Suicidality, hopelessness, and attitudes toward life and death in children. *Death Studies, 17*, 185-191.
- Cox, M., Garrett, E., & Graham, J.A. (2005). Death in disney films: implications for children's understanding of death. *Omega, Journal of Death and Dying, 50*, 267-280.
- Cunningham, J., Sundman, A., Thalji, A., Snodgrass, H., & Suldo, S. M. (2009 February). Prevention, assessment, and intervention of suicidality in elementary age children. Presented at the National Association of School Psychologists Annual Convention, Boston, MA.
- Curtis, M. J, Hunley, S. A., Walker, K. J., & Baker, A. C. (1999). Demographic characteristics and professional practices in school psychology. *School Psychology Review, 28*(1), 104-116.

- Curtis, M. J. (2007, July). School psychology in the United States 2004-2005. Presentation made to the Delegate Assembly of the National Association of School Psychologists.
- Curtis, M. J., Lopez, A. D., Castillo, J. M., Batsche, G. M., Minch, D., & Smith, J. C. (2008). The status of school psychology: Demographic characteristics, employment conditions, professional practices, and continuing professional development. *Communiqué*, 36, 27-29.
- Debski, J., Spadafore, C. D., Jacob, S., Poole, D., & Hixson, M. (2007). Suicide intervention: Training, roles, and knowledge of school psychologists. *Psychology in the Schools*, 44, 157-170.
- Dillman, D. A. (2007). *Mail and internet surveys: The tailored design method (2nd ed.)*. New York, New York: Wiley
- Fagan, T. K. (2002). Trends in the history of school psychology in the United States. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology IV*, (pp. 209-221). Bethesda, MD: National Association of School Psychologists.
- Foster, S., Rollefson, M., Doksum, T., Noonan, D., Robinson, G., & Teich, J. (2005). *School mental health services in the United States, 2002-2003*. DHHS Pub no. (SMA) 05-4068. Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Administration.
- Friedrich, A. (2008). School-based mental health services: A national survey of school psychologists' practices and perceptions. Unpublished doctoral dissertation proposal, University of South Florida, Tampa, FL.

- Greening, L., Stoppelbein, L., Fite, P., Dhossche, D., Erath, S., Brown, et al. (2008). Pathways to suicidal behaviors in childhood. *Suicide and Life-Threatening Behavior*, 38, 35 – 45.
- Heron, M.P., Hoyert, D.L., Xu, J., Scott, C., & Tejada-Vera, B. (2008). Deaths: Preliminary data for 2006. *National Vital Statistics Reports*, 56, National Center for Health Statistics: Hyattsville, MD.
- Hunter, S., & Smith, D. (2008). Predictors of children's understandings of death: Age, cognitive ability, death experience, and maternal communicative competence. *Omega, Journal of Death and Dying*, 57, 142-162.
- Kalafat, J., & Lazarus, P.J. (2002). Suicide prevention in schools. In S.E. Brock, P.J. Lazarus, & S.R. Jimerson (Eds.), *Best practices in school crises prevention and intervention*. Bethesda, MD: National Association of School Psychologists.
- Larzelere, R.E., Anderson, J.J., Ringle, J.L., & Jorgensen, D.D. (2004). The child risk suicide assessment: A screening measure of suicide in pre-adolescents. *Death Studies*, 28, 809-827.
- Lewis, M. F., Truscott, S. D., & Volker, M. A. (2008). Demographics and professional practices of school psychologists: A comparison of NASP and non-NASP school psychologists by telephone survey. *Psychology in the Schools*, 45, 467-482.
- Lieberman, R., Poland, S., & Cowan, K. (2006). Suicide prevention and intervention: Best practices for principals National Association of Secondary School Principals: *Principal Leadership*, 7, 11-15.
- Mazza, J. J., & Reynolds, W. M. (2008). School-wide approaches to prevention of and intervention for depression and suicidal behaviors. In B. Doll & J. A. Cummings

- (Eds.), *Transforming school mental health services: Population-based approaches to promoting the competency and wellness of children* (pp. 213-241). Bethesda, MD: NASP Publications.
- Merrell, K. W., Ervin, R. A., & Gimpel, G. A. (2006). *School psychology for the 21st century*, pp. 3-5. The Guilford Press: New York.
- Merrell, K. W. (2008). *Behavioral, social, and emotional assessment of children and adolescents* (3rd ed.), pp.133-176. Mahwah, NJ: Lawrence Erlbaum Associates.
- Milling, L., Campbell, N. B., Davenport, C. W., & Carpenter, G. (1991). Suicidal behavior among psychiatric inpatient children: An estimate of prevalence. *Child Psychiatry and Human Development*, 22, 71-77.
- Mishara, B. L. (1999a). Childhood conceptions of death and suicide: Empirical investigations and implications for suicide prevention. In D DeLeo, A Schmidtke, & RFW Diekstra (Eds.), *Suicide prevention: A holistic approach* (pp.111-120). Dordrecht: Kluwer Academic Publishers
- Mishara, B. L. (1999b). Conceptions of death and suicide in children ages 6–12 and their implications for suicide prevention. *Suicide and Life-Threatening Behavior*, 29, 105–118.
- Mishara, B. L. (2003). How the media influences children’s conceptions of suicide. *Crisis*, 24, 128-130.
- National Adolescent Health Information Center. (2006). *Fact sheet on suicide: Adolescents & young adults*. San Francisco, CA: Author, University of California, San Francisco.

- National Association of School Psychologists. (2000). *NASP standards for training and field placement programs in school psychology*. Retrieved March 2009 from the National Association of School Psychologists website:
<http://www.naspweb.org/standards/FinalStandards.pdf>
- National Association of School Psychologists. (2003). *NASP position statement on mental health services in the schools*. Retrieved March 2009 from the National Association of School Psychologists website:
http://www.nasponline.org/about_NASP/pospaper_mhs.aspx
- National Association of School Psychologists. (2008). *The importance of school mental health services*. Retrieved April 2009 from the National Association of School Psychologists website:
http://www.nasponline.org/about_nasp/positionpapers/MentalHealthServices.pdf
- Nickerson, A.B., & Zhe, E. J. (2004). Crisis prevention and intervention: A survey of school psychologists. *Psychology in the Schools, 41*, 477-488.
- Oordt, M. S., Jobes, D. A., Fonseca, V. P., & Schmidt, S. M. (2009). Training mental health professionals to assess and manage suicidal behavior: Can provider confidence and practice behaviors be altered? *Suicide and Life-Threatening Behavior, 39*, 21-32.
- Orbach, I., Feshbach, S., Carlson, G., Glaubman, G., & Gross, Y. (1983). Attraction and repulsion by life and death in suicidal and in normal children. *Journal of Consulting and Clinical Psychology, 51*, 661-670.

- Pfeffer C., Conte H., Plutchik R., & Jerrett I. (1979). Suicidal behavior in latency age children: an empirical study. *Journal of the American Academy of Child Psychiatry, 18*, 679-692.
- Pfeffer C., Conte H., Plutchik R., & Jerrett I. (1980). Suicidal behavior in latency age children: an outpatient population. *Journal of the American Academy of Child Psychiatry, 19*, 703-710.
- Pfeffer, C. R., Jiang, H., & Kakuma, T. (2000). Child-Adolescent Suicidal Potential Index (CASPI): A screen for risk for early onset suicidal behavior. *Psychological Assessment, 12*, 304-318.
- Pfeffer, C., Zuckerman, S., Plutchik, R., & Mizruchi M. (1984). Suicidal behavior in normal school children: A comparison with child psychiatric inpatients. *Journal of the American Academy of Child Psychiatry, 23*, 416-423.
- Poland, S., & Lieberman, R. (2002). Best practices in suicide intervention. In A. Thomas & J. Grimes (Eds.), *Best Practices in School Psychology IV*. (pp.1151-1165). Bethesda, MD: National Association of School Psychologists.
- Sommers-Flanagan, J., & Sommers-Flanagan, R. (2008). *Clinical interviewing (4th ed.)*. Suicide assessment. (pp. 245 - 277). Hoboken, NJ: John Wiley & Sons.
- Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin, 124*, 240 – 261.
- Taylor, K. R. (2001) Student suicide: Could you be held liable? *Principal Leadership, 2*, 74 -78.

- US Department of Health and Human Services. (2001). *National strategy for suicide prevention: Goals and objectives for action*. Rockville, MD: Office of the Surgeon General, US Dept, of Health and Human Services, Public Health Service.
- Wilcox, H. C., Kellam, S. G., Brown, C. H., Poducka, J. M., Ialongo, N.S., Wang, W., & Anthony, J. C. (2008). The impact of two universal randomized first- and second-grade classroom interventions on young adult suicide ideation and attempts. *Drug & Alcohol Dependence, 95*, 63-70.
- Willis, C. A. (2002). The grieving process in children: Strategies for understanding, educating, and reconciling children's perceptions of death. *Early Childhood Education Journal, 29*, 221-226.
- Wise, P.S., Smead, V. S., & Huebner, E. S. (1987). Crisis intervention: Involvement and training needs of school psychology personnel. *The Journal of School Psychology, 25*, 185-187.

Appendices

Appendix A: Content Items of Interest

(Modified to fit in Current Document)

I. DEMOGRAPHIC INFORMATION

1. Gender (please circle) A. Female B. Male
2. Age _____
3. Ethnicity (circle one)
- A. American Indian/Alaskan Native D. Caucasian
- B. Asian American/Pacific Islander E. Hispanic
- C. Black/African American F. Other, please specify: _____
4. Years practicing psychology in school setting (include present year) _____
5. State in which employed (e.g., IL, FL, NY) _____
6. Highest degree earned (e.g., bachelors, masters, specialist, doctorate) _____
7. How many different school buildings do you serve in your current position? _____
8. What type of school(s) do you serve in your current position? (circle one)
- A. Private B. Public C. Parochial
9. What percent of your time is assigned to serving students at each school level? (e.g., 25%, 50%; total should equal 100%)
- _____ Preschool
- _____ Elementary School
- _____ Middle/Jr. High School
- _____ High School
- _____ Other, please specify: _____
10. In your current position, what is the school psychologist: student ratio? (circle one)
- A. 1: <500 B. 1: 500-999 C. 1: 1000-1499
- D. 1: 1500-2000 E. 1 : >2000

15. In the past two years, about how many students have been referred to you as potentially suicidal in your:

A. Elementary school(s)?	Number = _____ or N/A (I have not worked in elementary schools)
B. Middle school(s)?	Number = _____ or N/A (I have not worked in middle schools)
C. High school(s)?	Number = _____ or N/A (I have not worked in high schools)

16. In the past two years, about how many completed student suicides have occurred in your:

A. Elementary school?	Number = _____ or N/A (I have not worked in elementary schools)
B. Middle school?	Number = _____ or N/A (I have not worked in middle schools)
C. High school?	Number = _____ or N/A (I have not worked in high schools)

Appendix A: Continued

26. How well prepared do you perceive yourself to be in each of the following areas? 0=Not at all prepared, 1= A Little Prepared, 2=Moderately Prepared, 3=Well Prepared, 4=Extremely Prepared

	Not at All Prepared	A Little Prepared	Moderately Prepared	Well Prepared	Extremely Prepared
A. Prevention of suicide risk?	0	1	2	3	4
B. Conducting assessment of suicide risk for individual students?	0	1	2	3	4
C. Providing in-school counseling/support for students identified as potentially suicidal?	0	1	2	3	4
D. Providing postvention (i.e., assisting after a completed student suicide)?	0	1	2	3	4

Appendix B: Cover Letter

March, 2009

Dear NASP Member,

Growing concern for children's social and emotional functioning has led to calls for increased involvement by school psychologists in the provision of mental health assessment and intervention services. We are asking for your assistance in expanding the field's knowledge of school-based mental health services by completing the enclosed survey. Our goals in conducting the study are to better understand (a) the types of problems for which students are referred for mental health help, (b) factors that facilitate and prohibit school psychologists from providing mental health assessment and intervention services, and (c) the specific knowledge and skill areas in which additional training would be helpful in order to enable school psychologists to provide mental health interventions. Findings from this study may ultimately aid in influencing school psychologists' ability to provide mental health services as well as shape the mental health training provided in school psychology programs and in district professional development programs.

You are being asked to be part of this study because you are a practicing school psychologist whose primary employment is in a school setting. We would like you to be a participant in this study, regardless of the amount of time you currently spend providing mental health services. Your decision to participate in this study is completely voluntary and you are free to withdrawal at any time without penalty.

Participation in the study involves completing the enclosed questionnaire and returning it in the enclosed envelope within **three weeks**. The survey will only take 12-15 minutes to complete and we have provided you with a postage-paid envelope to use in returning the survey. A returned survey will be considered consent to participate in the study.

As a small token of our appreciation, five people who return completed questionnaires will be randomly selected to receive a \$50.00 Visa gift card. In order for us to provide these awards, a code number has been included on the return envelope. Please note that data will be reported only in aggregate form and findings may be published; importantly, the responses of individuals will be treated in the strictest confidence. When a questionnaire is returned, it will immediately be separated from the envelope, so that the individual respondent cannot be identified.

Thank you in advance for your time and assistance with this research project. If you have any questions or concerns about the project, please feel free to contact us at the numbers and emails listed below. We also invite you to contact us if you would like to obtain the results of the study.

Appendix B: (Continued)

Thank you so much for your participation.

Sincerely,

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