TEACHER PERCEPTIONS OF YOUTH SUICIDE: KNOWLEDGE AND OPINIONS OF SUICIDE AND PERCEIVED SELF-EFFICACY IN THE IDENTIFICATION OF STUDENTS AT RISK FOR SUICIDE

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BY

WHITNEY APPLEBY B.S.

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DEDICATION

To all those who have been or who will be affected by suicide, may this research help to further our understanding and ability to prevent such tragedy among our youth.

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I would first and foremost like to thank my dear husband, Aaron Appleby, for his unfailing love, support, and commitment to me as I have followed by dreams. I have no doubt that this path would have been much more difficult if I had to walk along this journey without you. There is no one I would have rather had by my side through all of this! In addition, I would like to thank my incredible parents who always encouraged me to set the bar high and be the best I could be. To my sister, who shared her home with me as I lived away from my own to complete internship, I don't know how I could have made it through without you. The list of additional family and friends who have supported me throughout this journey are too numerous to list by name, and for that, I am immensely grateful. I feel so blessed to be encouraged and loved by so many… without you I would not be at this point today.

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Above all else, thank you to my Lord and Savior, Jesus Christ. May I always use the gifts and talents with which you have given me to bring you glory.

ABSTRACT

WHITNEY APPLEBY

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The purpose of this study was to examine public school teachers' perceptions and understanding of youth suicide. Specifically, this study aimed to determine the extent of teachers' knowledge of youth suicide, attitudes toward suicide, level of perceived importance in their role in identifying youth at risk for suicide, and sense of self-efficacy in identifying suicidal youth. Furthermore, this research examined the relationship between these variables using a hierarchical regression. A multiple analysis of variance was employed to determine whether or not primary and secondary school teachers exhibit differences in their knowledge of youth suicide, stigmatizing attitudes toward suicide, and sense of self-efficacy in identifying suicidal youth, after controlling for the extent to which they believe identifying suicidal youth is part of their role as a teacher.

Results of this study revealed public school teachers believe they play an important role in assisting with the identification of students who are suicidal. On a measure of knowledge of suicide, teachers scored, on average 63% correct. Teachers

commonly endorsed suicide as a reckless and selfish act. A measure of self-efficacy revealed that teachers generally do not feel confident in their ability to identify a suicidal student and endorsed difficulty asking a student if he or she is suicidal. Teachers endorsed feeling more confident consulting with a school counselor or colleague to identify students at risk for suicide or referring a student at risk of attempting suicide to a school counselor. Teachers' self-efficacy in identifying and intervening with suicidal youth was predicted by their level of previous exposure to suicide, their knowledge of suicide, and the extent to which they view their role in identifying students at risk for suicide as important. Stigmatizing attitudes toward suicide was not related to teachers' sense of self-efficacy. Lastly, teachers who endorsed higher levels of importance in their role in identifying students at risk for suicide experienced higher levels of overall self-efficacy than those who indicated lower levels of importance. No significant difference was observed between primary and secondary school teachers' attitudes toward suicide, knowledge of suicide, or self-efficacy.

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CHAPTER I

INTRODUCTION

"What I'm worried about is the number of missed opportunities that must happen in schools because of our ignorance of mental health…" (teacher quoted in Rothí, Leavey, & Best, 2008, p. 1221). In a recent study examining school teachers' perceptions of their role in the mental health needs of youth, this teacher and many others spoke to the significant gap between the push for teachers to assist school children with mental health needs and the limited training and resources they receive in this domain. Following the 2012 deadly school shooting at Sandy Hook Elementary in Newtown, Connecticut, President Barack Obama urged educators to help identify children experiencing mental illness and work together with appropriate school staff to find help for these children to receive psychological treatment (Adams, 2013). One clear example of the push for teachers' involvement in school mental health prevention and intervention is in the area of youth suicide.

There is a push for teacher involvement in suicide prevention given prevalence rates. Nearly every two hours, a young person takes his or her own life (Drapeau & McIntosh, 2015). For every teen who commits suicide, there are 400 teens who report attempting suicide (Cutler, Glaeser, & Norberg, 2001). The issue of suicide, among both youth and adult populations, is described as a national public health crisis as it ranks as a leading cause of death for all age groups. As a result of this crisis, suicide prevention

efforts have recently become a national focus, especially as it relates to suicide among youth. Schools, a logical environment for youth suicide preventative efforts due to the amount of time young people spend in public and private education facilities, have been strongly encouraged or required by federal, state, and local entities to engage in suicide prevention and intervention (Whitney, Renner, Pate, & Jacobs, 2011). Many states now require that school personnel complete suicide prevention training to equip them with improved skills for identifying youth who are at risk for attempting suicide and help teachers refer the students to appropriate mental health professionals.

Despite the significant, although encouraging, push for teachers to play an active role in mental health prevention and intervention in the schools, little is known about teachers' perceptions of this additional role they must take as educators. Qualitative research indicates that while teachers are willing to function as gatekeepers to mental health services in the schools, teachers as a whole do not feel adequately prepared for the role (Rothí et al., 2008). In addition to being underprepared, teachers also report a great deal of frustration and confusion as they are expected to assist students in these areas, yet somehow must cope with these challenges and find resources from the community to fulfill this role expectation with little guidance (Graham, Phelps, Maddison, & Fitzgerald, 2011).

Even less is known about teachers' beliefs surrounding their role in suicide prevention efforts in schools. Gould, Greenberg, Velting, and Shaffer (2003) report that studies have demonstrated that educators are invested in assuming responsibility for

functioning as gatekeepers to mental health services for students who are suicidal. In a qualitative study of school staff perspectives on the topic of suicide prevention, nearly all interviewed participants agreed that teachers had greatest access to identifying students at risk for suicide through either direct observation or through student self-report (Nadeem et al., 2011). However, in one of the few studies of its kind, King, Price, Telljohann, and Wahl (1999) reported that only 9% of high school health teachers believed they could identify a suicidal student. As the expectations for teachers to play this role have increased, recent research indicates their perceived confidence in their abilities to do so remains weak (Hatton, 2014).

Teachers' limited perceived self-efficacy for identifying and intervening with suicidal youth may be associated with their lack of education on the topic of suicide. A review of required coursework for bachelor level degrees in education across four major U.S. public universities revealed that not a single degree plan required teachers to take a class involving the social and emotional development of learners or any other form of class likely to address the topic of suicide. Although there has been much effort to increase our understanding of suicide in the community, surprisingly few studies have evaluated teachers' knowledge of suicide. In general, teachers appear to possess limited knowledge on the topic (Crawford & Caltabiano, 2008; MacDonald, 2004; Scouller & Smith, 2002). Additionally, the attitudes and opinions of teachers surrounding suicide, including the extent to which they may or may not hold stigmatizing attitudes of suicide, have yet to be examined. The stigma associated with mental illness is often perpetuated

as a result of lack of education on the subject; therefore, it is plausible that if teachers possess such negative attitudes, their desire to assist suicidal students could be negatively impacted (Overton & Medina, 2008).

Purpose and Rationale of the Study

Significant gaps are present in the literature on the role of teachers in the prevention of youth suicide. Of these gaps, the most apparent is the absence of data on elementary teachers' role in suicide prevention. Although suicide among elementary-age youth is considered rare, it can be argued that if research is completed to address the prevention of youth suicide in the schools, it should function to reach all age groups affected by such a tragedy. Secondly, no single study appears to address teachers' underlying beliefs, knowledge, and feelings of self-efficacy in relation to youth suicide and its prevention. This lack of research is alarming given the expectation that teachers play a significant role in suicide prevention. This research seeks to examine the attitudes teachers hold surrounding suicide, including but not limited to the extent to which they hold stigmatizing attitudes of suicide. In addition, teachers' perceived self-efficacy in identifying and assisting suicidal youth and their knowledge of suicide were evaluated. Finally, these variables were explored in relationship to one another and in relationship to the grade level taught by the teacher and teachers' perceived level of importance of their role in identifying suicidal youth in the schools.

Research Questions

This study explored the following research questions: (1) How important of a role do teachers believe they play in identifying students who are suicidal? (2) What are teachers' levels of knowledge of suicide, attitudes toward suicide, and perceived self-efficacy in identifying and intervening with suicidal youth? (3) What is the relationship, if any, between teachers' levels of responsibility in identifying students who are suicidal, levels of knowledge of suicide, attitudes toward suicide, and perceived self-efficacy in identifying and intervening with suicidal youth? (4) Do primary and secondary school teachers exhibit different levels of knowledge of suicide, attitudes toward suicide, and perceived self-efficacy in identifying and intervening with suicidal youth, after controlling for their perceived level of importance of their role in identifying students who are suicidal?

Definition of Terms

Key terms used throughout this dissertation are defined as follows:

Gatekeeper: An individual "trained to identify persons at risk of suicide and refer them to treatment or support services as appropriate" (Mental Health America of Texas, 2012, p. 21).

Intervention: Action taken with the intent of improving the state of person's functioning or behavior. In regards to suicide intervention, is it the act of referring a suicidal person, once identified, to a trained mental health professional or assisting the person with finding treatment and/or support resources.

Postvention: Suicide prevention measures that are implemented following a completed suicide intended to reduce the likelihood that others will engage in a suicide attempt (Mental Health America of Texas, 2012).

Prevention: Action intended to reduce the likelihood of a behavior or circumstance. Regarding suicide prevention, it is the collective efforts of individuals, groups, and organizations aimed at reducing the likelihood that a person will attempt suicide.

Self-efficacy: An individual's belief in his or her capacity to successfully perform a task (Bandura, 1977). In this paper, the term specifically refers to a teacher's confidence in his or her ability to identify a student at risk of attempting suicide and directing them to resources for treatment.

Stigma: A complex term involving the negative attitudes and feelings about, and/or behaviors directed towards, a person or collective group who do not fit into the social norm due to mental illness and/or suicidal behavior (Overton & Medina, 2008; Penn & Martin, 1998).

Suicidal behavior: The "spectrum of activities related to thoughts and behaviors that include suicidal thinking, suicide attempts, and completed suicide" (Mental Health America of Texas, 2012, p.21).

Suicidal ideation: "Thoughts of harming or killing oneself" (Bridge, Goldstein, & Brent, 2006, p. 372).

Suicide: “A fatal self-inflicted destructive act with explicit or inferred intent to die” (Bridge et al., 2006, p. 372).

Suicide attempt: “A potentially self-injurious behavior with a nonfatal outcome, for which there is evidence that the person intended to kill himself or herself” (Mental Health America of Texas, 2012, p. 21).

CHAPTER II

LITERATURE REVIEW

In the U.S., suicide is the third leading cause of death in children between the ages of 10 and 19 (Centers for Disease Control and Prevention [CDC], 2010). Suicide presents a unique risk in this population as children often possess a more limited understanding of the lethality of suicidal acts due to cognitive immaturity and minimal regulation of emotional reactivity during suicidal episodes (Pfeffer, 2001). Many theories attempt to help explain why people make the decision to take their own lives; one of the most recently researched is Thomas Joiner's interpersonal-psychological theory of suicide behavior. This theory states that suicide attempts result from the developed desire to die coupled with the increased ability to do so (Joiner, 2009). The desire for death develops when the presence of two psychological states are present in a person: the belief that one is a burden to those around them and a low sense of belongingness. When combined with acquired capability (a reduction in the sensation of pain and reduced fear of death), a person may follow through with a suicide attempt.

The public school setting is arguably a domain in which suicide prevention efforts are likely to reach a significant amount of youth. A large majority of children spend approximately 6,000 hours a year engaged in school, assuming the average public school year length of 36 weeks in the U.S. During this time, a child is taught by one or more teachers, all of whom have a lasting impact on the academic, social, and emotional

development of the child. Considering these facts, one can argue that teachers play a substantial role in the identification of youth at risk for suicide. In an article calling all teachers to recognize their important role in reducing youth suicide, Fisher (2006) clearly argued that government funds are not enough to address the tragedy that is suicide among youth, but rather, classroom teachers' and school administrators' participation in such effort is crucial and necessary for change. He notes that adolescents likely do "not know their school nurse, social worker, or nurse very well;" yet "they often trust a teacher and reveal their problems to him or her first," making it imperative that teachers "provide students with an opportunity to seek and receive the help they need as they negotiate the trials, tribulations, and triumphs of adolescence" (Fisher, 2006, pp. 785-786).

Youth Suicide

Epidemiology

The Youth Risk Behavior Survey (YRBS), conducted by the Center for Disease Control and Prevention (CDC) is one of the largest and most representative samples of U.S. youth suicidal behaviors (CDC, 2013). The most recent data from the YRBS indicate during the 12 months before their completion of the survey, 17% of U.S. high school students seriously considered attempting suicide, 13.6% made a serious plan about how they would attempt suicide, 8% attempted suicide one or more times, and 2.7% had made a suicide attempt that required serious medical intervention from a doctor or nurse as a result of injury, poisoning, or overdose. Although the survey data for middle school students was not available across the U.S., individual examination of data from the states

who participated indicate epidemiology generally similar to the data of high school students. Of the 16 states for which data was available, 5.1% to 12.3% of U.S. middle school students reported trying to kill themselves (CDC, 2013).

Age. While suicide is one of the leading causes of death in young people, it is generally considered rare in comparison to older age groups. In 2013, the rate of suicide among children ages 5 to 14 was 1 in 100,000, the highest rate for this age group in the past 10 years (Drapeau & McIntosh, 2013). The likelihood of suicide increases from childhood to adolescence and continues to increase until the late 20's, generally plateauing during middle adulthood (Heron, 2015). While these rates typically remain constant, suicide rates for white males in the US increase significantly during older adulthood, a population that accounted for 23.4 % of deaths by suicide in the US in 2013 (Drapeau & McIntosh, 2013).

Gender. In the United States, suicide rates vary greatly by gender. Although suicidal ideation and attempts are more common among females, males are significantly more likely to complete suicide (Gould et al., 2003). In 2013, across all age groups the rate of suicide per 100,000 people was 20.6 for males compared with 5.7 for females (Drapeau & McIntosh, 2013). This pattern of suicide outcomes across gender in the U.S. has largely been attributed to the lethality of the method of suicide chosen by males and females. In general, males often select more lethal suicide attempt methods such as by firearm or suffocation/hanging than females (Bridge et al., 2006). Some suicidologists hypothesize that females select methods of suicide that are less likely to disfigure the face

or head, based on deep-rooted gender theories and repeated findings that females who do select firearms as a method of suicide rarely shoot themselves in the face or head, a stark contrast to their male counterparts (Callanan & Davis, 2011). As a result, their methods are less likely to result in a completed suicide.

Race and ethnicity. Some of the most concerning prevalence rates of suicide are those of Native Americans. Native Americans represent a variety of diverse tribes across the U.S. The Native American suicide rate is the highest among all ethnic groups in the country with 17.48 suicides per 100,000 people (CDC, 2014). The Native American population is often plagued with extreme poverty, unemployment, and high rates of alcoholism (Horwitz, 2014). Suicide rates among Native American youth have recently become of significant concern, especially among those living on reservations. Native American youth suicide rates are 2.2 times higher than their same age peers of other races, and suicide rates among this population are highest among 15 to 19 year olds (CDC, 2005).

Suicide rates among White Americans are higher than those of African American youth, a difference that is lessening due to a recent increase in suicide among young African American males (Gould et al., 2003; Joe, Canetto, & Romer, 2008). The historically lower rates of suicide among African Americans may be facilitated by culture, such as the commonly held religious beliefs that suicide is an unpardonable sin, the communal properties of an extended family network, and the role of the elderly as an important member of the family group (Range et al., 1999). Asian Americans have some

of the lowest suicide rates in the nation after African Americans and rates are especially low among Asian American youth (Drapeau & McIntosh, 2013). Asian culture is primarily collectivist in nature, and suicide would generally be seen as selfish or even disrespectful to the other members of the family unit (Range et al., 1995). Among Asian American youth, parent-child conflict served as a significant risk factor for suicidal behavior, and low levels of acculturation and a difficult parent-child relationship were predictive of suicidality (Lau, Jernewall, Zane, & Myers, 2002). These findings are reflective of the general collectivist nature of Asian American culture such that social-emotional difficulties may develop in Asian American youth who may bring shame or disappointment to their families.

Sexual orientation. Sexual orientation and suicide has recently been studied extensively as the rates of suicidal behavior among youth who identify as a sexual minority, including lesbian, gay, bisexual, or transgender (LGBT), have become increasingly concerning. The rates of suicide attempts across sexual minority youth are significantly higher than among heterosexual youth (Hong, Espelage, & Kral, 2011). In comparison with 8% of heterosexual youth, 45% of sexual minority youth attempted suicide in 2005 (Child Welfare League of America, 2009). It is not sexual orientation in itself that leads to this increased likelihood of suicide, but rather, risk factors that are often unique to those of sexual minorities. Some LGBT-specific risk factors include more frequent and violent victimization as compared to victimization experienced by other youth, minority stress that often results from gender nonconformity or atypicality,

the coming out process and rejection following coming out, and minimal satisfying relationships with other sexual minority youth (Russell, 2003).

Consistent with their heterosexual counterparts, LGBT youth are heavily impacted by general risk factors including symptomatology of depressive and conduct disorders, impulsivity, and hopelessness. In addition to general risk factors, Mustanski and Liu (2013) found that of LGBT-specific risk factors, an earlier age of first same-sex attraction and victimization based on sexual orientation were strongly associated with a lifetime suicide attempt history. Social support from parents was found to be an important protective factor that significantly reduces lifetime suicide attempts among LGBT youth (Mustanski & Liu, 2013). In addition, social atmospheres and school climates that are supportive of sexual minority youth can serve as a protective factor for suicidal behavior among this population (Hatzenbuehler, Birkett, Wagenen, & Meyer, 2014).

Risk and Protective Factors

Personal characteristics.

Suicide-specific factors. A history of a previous suicide attempt is one of the strongest predictors of suicide completions among youth and adults (Bridge et al., 2006; Gould et al., 2003). Similarly, a history of suicidal ideation is associated with an increased likelihood of an attempt. The lethality of the method of suicide chosen is also largely associated with an increased risk of a completed suicide. Among U.S. youth, the leading methods of completed suicide are firearms, hanging, and poisoning (Drapeau &

McIntosh, 2013). When evaluating the long-term outcomes and risk for completed suicide in youth, adolescents with a history of multiple suicide attempts strongly predict future completed suicide, more so than single attempters and those with suicidal ideation only (Miranda et al., 2008). In addition, multiple attempters were also associated with a greater desire to die as a result of their attempt than single attempters and those with ideation only. Such findings suggest that gaining information about one's intent to die and their history of the presence and frequency of suicide attempts is crucial when identifying youth at risk for suicide.

Psychopathology. Psychopathology is one of the most well-documented risk factors for suicide in youth and adults. Estimates of the presence of at least one psychiatric disorder among youth suicide victims range from 60% in young children to 90% in adolescents (Brent, Baugher, Bridge, Chen, & Chiappetta,1999; Gould et al., 2003). Depressive disorders are among the most prevalent in adolescent suicide victims and are correlated with suicidality both with and without comorbid psychiatric disorders (Sanchez & Lee, 2001; Tuisku, Pelkonen, Karlsson, Kiviruusu, & Ruutu 2006). Substance abuse, often comorbid with depressive disorders, is also highly associated with youth suicide attempts and an increase in the medical lethality of the attempt (Gould et al., 2003; O'Brien & Berzin, 2012).

In addition to depression and substance use, pediatric bipolar disorder is associated with suicidal behaviors. In a recent review of the literature for pediatric bipolar disorder and suicide risk, Hauser, Galling, and Correll (2013) found the following

epidemiology of suicidal ideation and attempts across 14 studies: 57.4% of clients indicated having suicidal ideation in the past, 50.4% of clients were currently experiencing suicidal ideation, 21.3% indicated having attempted suicide in the past, and 25.5% recently attempted suicide. Most alarming, this meta-analysis of suicidal behaviors among youth with bipolar disorder yielded only one study addressing targeted intervention for suicidal ideation and attempts among youth with bipolar disorder.

Recently, researchers have begun examining the prevalence of suicidality in youth diagnosed with Attention Deficit-Hyperactivity Disorder (ADHD). In a meta-analytic review of the literature, Mayes et al. (2015) reported 15.8% of children with ADHD (with or without comorbid disorders/psychopathology) experienced suicidal ideation and 5.5% reported having attempted suicide. Youth with ADHD and comorbid sadness or Oppositional Defiant Disorder (ODD) were significantly more likely to experience suicidal ideation and attempt suicide. When both sadness and ODD were present, children with ADHD were 11 times more likely to make a suicide attempt than youth with ADHD alone. These findings are consistent with the literature that indicate a strong relationship between suicidal behavior and the presence of disruptive disorders and aggression in youth (Foley, Goldston, Costello, & Angold, 2006).

Biological factors. Although the neurobiological underpinnings of suicide have been researched in adult populations, little work has evaluated this area in pediatric suicidality. Like many other psychological disorders and dysfunctions, there does not appear to be one single neurobiological mechanism involved in the development or

maintenance of suicidal behavior. The most common neurobiological contributors of suicide that have been identified in the literature include abnormalities in the serotonergic system and related dysfunction in the prefrontal cortex.

Abnormalities in the serotonergic system are the most apparent biological contributors to suicidal behavior. Serotonin is a neurotransmitter in the brain with 14 identified receptors, many of which have been implicated in various psychological disorders, including depression and anxiety (Furczyk, Schutova, Michel, Thome, & Büttner, 2013). Research on the relationship of the serotonergic system and suicide has arrived at the consensus that suicide attempters generally experience decreased levels of serotonin, independent of psychiatric diagnosis (Mann, 2012; Mann, Brent, & Arrango, 2001). Many of the dysfunctions in the serotonergic system are specific to certain areas in the brain. van Heeringen et al. (2003) found that the binding potential of the 5-HT2a receptor in the prefrontal cortex was significantly decreased in adults who had been admitted to a psychiatric facility after attempting suicide compared to a healthy control group. Additionally, this decreased binding potential was negatively correlated with feelings of hopelessness and avoidance of harm in subjects who attempted suicide. These findings suggest that the 5-HT2a receptor in the prefrontal cortex may result in specific behavioral symptoms associated with suicide. While less is known about this relationship in pediatric populations, Pandey and colleagues (1997; 2002) conducted a variety of post-mortem studies with adolescent suicide completers and report findings similar to those reported for adults.

Family characteristics.

Parental history of psychopathology and suicide. Risk for suicide among youth is significantly heightened for those with a parental history of suicidal behaviors and psychiatric illness. Odds of suicide attempts among offspring with a parental history of suicide attempts are nine times higher than for children without a parental history of suicide, even after controlling for psychopathology (Lieb, Bronisch, Höfler, Schreier, & Wittchen, 2005). Some researchers have suggested that suicidality may in some way be genetic, partly explained by the genetic predisposition for serotonergic dysfunction associated with an increased likelihood for depression and other affective disorders (Mann et al., 2001). However, twin studies indicate that the heritability of suicidal behavior extends beyond the heritability associated with psychiatric disorders (Mann et al., 2001). In addition to heritability, it is plausible that parents with psychiatric disorders and suicidality may demonstrate unhealthy methods of coping with their own stress as well as use harsh or inconsistent parenting behaviors that place their children at increased risk for developing affective disorders, thus increasing their offspring's risk for suicide (Wagner, Silverman, & Martin, 2003).

Parent-child relationships and family dynamics. Although research has evaluated the impact of suicide on a suicide victim's surviving family members, there has been less examination of the impact of family relationships on the suicidal youth prior to the attempt or completed suicide. This is likely due to the common perception that suicide is a phenomenon unique to the individual and risk factors are typically viewed as

individualistic in nature. Some of the extant research has focused on family structure and influence on youth suicide. Suicide completers are significantly more likely to have resided with non-intact families of origin, a finding that researchers attribute to the increased prevalence of parental psychopathology among parents who are divorced or separated (Bridge et al., 2006; Gould et al., 2003).

There is evidence to support that conflict in the parent-child relationship is related to increased suicidal tendencies in youth. Using psychological autopsy methodology, Brent et al. (1999) found parent-child conflict was a factor in youth suicide. Among youth who had completed suicide, parent-conflict was more prevalent among younger youth (< 16 years old) than older youth (>16 years old). In contrast, suicide among the older youth group was more commonly associated with conflicts within personal romantic relationships. Another study found that while parent-child conflict was associated with increased suicidal ideation among adolescents, this relationship was mediated by self-derogation (Shagle & Barber, 1993).

Whereas family conflict is a risk factor, intact family support has repeatedly been reported to function as a protective factor for youth suicide. Children and adolescents who live among families who foster belongingness and positive interactions are less likely to experience a diminished desire to live and social and emotional support from family may prevent youth from resorting to an attempt in the presence of ideation (Sharaf, Thompson, & Walsh, 2009). Liu (2005) further evaluated the parent-child relationship influence on suicidal ideation among youth and suggest that the effect of the

relationship was gender specific. Female adolescents with a close relationship with their father served as a protective factor for serious suicidal ideation after controlling for stage of adolescence and racial or ethnic background. Moreover, after controlling for the relationship with fathers, relationship quality with mothers exerted little to no additional influence on the reduction of suicidal ideation of female adolescents. Only a weak effect of closeness of relationship with fathers was exerted on the suicidal ideation of young males; however, these findings were specific to early adolescence. It appears that as young men move through adolescence, they desire greater independence and may be less concerned about their relationships with and approval from their fathers. Although the findings for young males and their closeness of relationship with their mothers was similar to that of their fathers during early and mid-adolescence, late-adolescence males' relationship with their mothers becomes a significant protective factor against suicidal ideation.

Environmental characteristics.

Exposure to trauma and stress. The exposure to trauma throughout childhood has been well documented across the literature as a factor in the development of suicidal behavior. In a retrospective study, Séguin, Renaud, Lesage, Robert, and Turecki (2011) evaluated the life trajectory of youth and young adults who had committed suicide compared to a control group to identify life events and adversity that defined suicide profiles. Their findings demonstrated that early life adversity, predominately neglect and sexual abuse, as well as overall cumulative adverse life events were greater for children

and young adults that had committed suicide. It was also noted that those in the suicide group appeared to fall into two distinct subgroups, those who experienced greater burden of adversity experienced earlier in life (45% of the suicide group) and those who experienced later-onset of adversity (55% of the suicide group). Overall, suicidal youth and young adults had greater exposure to life adversity and comorbid disorders than those in the control group.

Hadland et al. (2012) evaluated the relationship between childhood trauma and suicide attempts in street youth, a marginalized group that are at high-risk for suicide. They found that childhood trauma, while present in many of the interviewed youth with or without suicidal behavior, was strongly associated with the likelihood of future suicide attempts even after controlling for confounding variables. Specifically, of those interviewed who had attempted suicide in the past six months, 54% had experienced physical abuse and 35% had experienced sexual abuse compared to 40% and 25%, respectively, in their non-suicide attempting counterparts. Similarly, King et al. (2001) reported that youth ages 9 to 17 who had attempted suicide or experienced suicide ideation had significantly greater stressful life events, poorer quality family environments, and engaged in greater amounts of risk behaviors (e.g., drug and alcohol use, physical fighting, and sexual activity) than those who had not attempted. Additionally, compared to a non-suicide attempt control group, adolescents with a history of a recent suicide attempt reported significantly greater numbers of recent stressful life events (Mathew & Nanoo, 2013). These findings indicate that exposure to trauma and

stress increase the likelihood for suicidality in youth, especially among those with additional suicide risk factors.

Exposure to suicide and suicide contagion. One of the most recent discussions related to communal influences on suicidality is the phenomenon of cluster suicides. Suicide clusters are defined as "a group of suicides or suicide attempts, or both, that occur closer together in time and space than would normally be expected in a given situation" (CDC, 1988, p. 1). There are two primary categories of suicide clusters: mass clusters and point clusters. Mass clusters involve the occurrence of cluster suicides after media or publication discussing suicide or fictional suicide has been prevalent. Point clusters, also referred to as space-time clusters, are groups of suicides or suicide attempts that occur in unusually high numbers within small geographical locations (Haw, Hawton, Niedzwiedz, & Platt, 2013). The medical term contagion is used to describe the effect of suicide and suicide attempts on subsequent suicides of others (Zenere, 2009). Suicide is passed to others not by biological methods as observed in infectious illness, but rather, through direct or indirect social contact with the information regarding the experience of a suicide (Haw et al., 2013). This phenomenon, while present across various populations, is most commonly observed among adolescents and young adults and is believed to play a role in approximately 60% of all suicides among this population (Cox et al., 2012).

Of particular concern among youth is exposure to suicide through the media. Historically, an increase in suicide attempts and completions often follows the reporting of a suicide in the news (Gould, Jamieson, & Romer, 2003). Gould, Jamieson, et al.

(2003) reported a substantial potential for suicide exposure through the 10 most popular U.S. newspapers, such as *USA Today* and *The New York Times*. In 1988 alone, these 10 newspapers reported a total of 972 stories reporting suicides, 60.3% of which were listed within the first 9 pages of the newspaper, and 57.4% of which included the phrase "suicide" in the headlines. Suicidologists and organizations such as the National Association of School Psychologist (NASP) have strongly advocated for greater education surrounding the reporting practices for suicide for journalists and reporters have developed extensive resources for suicide postvention procedures to reduce the likelihood of the contagion effect of suicide among youth (Weekley & Brock, 2004).

Youth Suicide Prevention Efforts

Efforts focused on preventing suicide in the United States are in the stage of infancy in comparison to the age-old history of suicide. While evidence of suicide completion dates back for centuries, suicide prevention efforts in the U.S. first made their appearance in 1958 with the opening of the first suicide prevention center located in Los Angeles, California (U.S. Department of Health and Human Services [HSS], 2012). In 1967, the National Institute of Mental Health (NIMH) established the Center for Studies of Suicide Prevention and shortly after followed the founding of the American Association of Suicidology (AAS) in 1968. These first efforts for the prevention of suicide in the U.S. were the product of a small group of clinicians who tirelessly devoted their time and energy for the purposes of better understanding suicide and helping those who experienced suicidal behaviors (HHS, 2012).

A dramatic increase in resources and research in the area of suicide prevention in the U.S. became available in the 1980s. The most notable of these was the specification for the need to address suicide prevention among U.S. youth presented by the U. S. Department of Health and Human Services' publication *Report of the Secretary's Task Force on Youth Suicide*. The nation began noticing the increasing rates of youth suicide and what little was being done to counter these sharp increases in the intentional mortality of the nation's young people. As a result, multiple organizations began to address suicide and youth suicide prevention head-on. At a national level, youth suicide prevention began to be addressed as a serious public health priority in the *Surgeon General's Call to Action to Prevent Suicide* (1999), *the National Strategy for Suicide Prevention: Goals and Objectives for Action* (2001), the *Institute of Medicine's Reducing Suicide: A National Imperative* (2002), and the *President's New Freedom Commission in Mental Health* (2002) (Garrett Lee Smith Memorial Act, 2004).

In October of 2004, the Garrett Lee Smith (GLS) Memorial Act was signed into law. This act provided federally funded grants for the implementation of suicide prevention programs in communities across states, tribes, and territories in the U.S. (Garrett Lee Smith Memorial Act, 2004). Grants were also awarded to post-secondary institutions and psychology and mental health clinics. A key focus of the GLS Memorial Act was to provide communities with additional resources for suicide prevention, especially among youth populations, while also promoting additional research on the practices involved in suicide prevention. Data collection regarding the effectiveness and

quality of the prevention programs were mandated for the organizations who received the grants.

The National Strategy for Suicide Prevention (NSSP), a document originally introduced in 2002 as a call to action for suicide prevention in the U.S., was updated and revised in 2012 by the U.S. Surgeon General and the National Action Alliance for Suicide Prevention (HHS, 2012). Within this document, the authors express concern that while significant improvement has been made in the area of suicide prevention research and resources in the U.S., the nation is continually experiencing a period of suicide increase. This updated National Strategy provides 13 goals and 60 objectives that have been modified and updated based on the recent advances made in the area of suicide prevention. Four priority areas were selected after an assessment and review of the current research and needs: (1) addressing health care reform and the inclusion of suicide prevention practices in the private sector, (2) altering health care systems to promote the reduction of suicide, (3) improving the public conversation surrounding suicide and its prevention, and (4) improving surveillance data for suicidal behaviors by increasing their quality, timeliness, and usefulness.

In regards to the prevention of suicide in youth populations, the NSSP emphasizes the importance of suicide prevention in the schools and youth-serving organizations through Objective 5.2 which states, "Encourage community-based settings to implement effective programs and provide education that promote wellness and prevent suicide and related behaviors" (HSS, 2012, p. 42). Schools are called to ensure students have access

to mental health and counseling services, that school staff are trained to recognize the risk factors and signs of suicidal behavior in their student and refer appropriately, and that core suicide prevention materials are integrated into relevant curricula.

Many states are realizing the imperative for suicide education among school staff, as is recommended by the NSSP. As of June 2015, the American Foundation for Suicide Prevention (AFSP) reported that 7 states currently require annual mandated training in suicide prevention for school personnel (AFSP, 2015; see table 1). This number has increased to 8 in September of 2015, as Texas passed the Jason Flatt Act in memory of Jonathan Childers requiring the annual training of all new and existing district school employees in the area of suicide prevention using an evidence-based program (AFSP, 2015). Seventeen states require state mandated suicide prevention training, however, this training is not required on an annual basis. Finally, 14 states simply encourage the providing of suicide prevention training for school staff members.

Table 1

State Laws on Suicide Prevention Training for School Personnel

State Law Requirement	States
State Mandated Training, Annual	Alaska, Georgia, Kentucky, Louisiana, Nebraska, North Dakota, Tennessee, Texas
State Mandated Training, Not Annual	Arkansas, Connecticut, Illinois, Indiana, Maine, Maryland, Massachusetts, Mississippi, New Jersey, Ohio, Pennsylvania, South Carolina, Utah, Washington, West Virginia, Wyoming
State Encourages Training	Alabama, Arizona, California, Colorado, Florida, Michigan, Minnesota, Montana, Nevada, New York, Oklahoma, Rhode Island, Virginia, Wisconsin

Note. Adopted from AFSP (2015)

Efficacy of School-Based Youth Suicide Prevention Efforts

Early research in the area of youth suicide prevention focused on increasing suicide awareness among young people at school in order to assist students in identifying peers at risk for attempting suicide and to encourage self-disclosure for youth who were suicidal (Gould, Greenberg et al., 2003). These curriculum-based programs target students as a key referral source for their peers at risk for suicide and function to increase suicide awareness among youth. However, efficacy reports of such programs have been mixed, and it appears that while curriculum-based programs demonstrate increased knowledge about suicide, the programs are limited in their ability to alter the affective states of those likely to attempt suicide (Whitney et al., 2011). These findings have resulted in a shift in prevention efforts toward targeting alternative school-based

strategies for suicide prevention such as screenings and gatekeeper training (Gould, Greenberg et al., 2003).

Screening. Direct screening of youth in the school setting is one of the most well-researched yet time-intensive youth suicide prevention efforts provided in the schools. Screening using self-report measures completed by adolescents themselves function as a method to identify potentially suicidal students in order to provide them with effective services. Many of the screening measures used for these purposes are questionnaires designed to elicit information from students regarding symptoms of depression, substance use and abuse, and information regarding suicidal ideation and attempts (Gould, Greenberg et al., 2003). In their review of suicide screening measures for adolescent suicide prevention, Peña and Caine (2006) identified seven efficacious and psychometrically sound screening tools: the Columbia Suicide Screen (CSS), Risk of Suicide Questionnaire (SIQ), Suicidal Ideation Questionnaire JR (SIQ-JR), the Diagnostic Predictive Scales (DPS), Suicide Risk Screen (SRS) and the Suicide Probability Scale (SPS), with the most commonly used scales being the SRS and the SIQ (Joe & Bryant, 2007).

Despite strong support in the literature for the efficacy of school-wide screening in the reduction of youth suicide (Gould, Greenberg et al., 2003), the list of concerns associated with screenings is quite long. One of the most common concerns expressed by school personnel is the belief that presenting students with questions about suicide will inherently increase their suicidality (Joe & Bryant, 2007). However, research has

indicated that exposure to suicide-related content does not increase the likelihood of a suicide attempt (Gould et al., 2005). In addition, school principals consider school-wide suicide screening efforts the least acceptable method of suicide prevention in the schools, most notably due to their belief that screening procedures have the most implementation barriers, and of these implementation barriers, the likelihood of parent disapproval was reported as the most significant concern (Whitney et al., 2011). Finally, while suicide screening often results in few false negatives, it typically elicits many false positives (i.e., students who rate themselves as being at greater risk for suicide than they currently are; Gould, Greenberg et al., 2003). This finding illustrates a significant barrier to the implementation of suicide-screening in the schools; results of a screening may reveal a greater number of students at 'high-risk' requiring an increase in the resources needed with limited availability of such resources (Hallfors et al., 2006). Overall, while screening measures may reveal strong psychometrics and promising results in the identification of youth at risk for suicide, such procedures cannot be successful if the barriers to implementation are not overcome (Peña & Caine, 2006).

Gatekeeper training/In-service training. School staff in-service trainings addressing the topic of suicide are often referred to as gatekeeper training and are designed to provide the opportunity for educators to increase awareness of youth suicide and how educators can work together for prevention. In comparison to other methods of suicide prevention in the schools, gatekeeper trainings currently have underdeveloped research support primarily due to the lack of application of rigorous research methods

(Whitney et al., 2011). However, gatekeeper trainings are quickly becoming more common as an increasing number of states require or encourage suicide prevention training for educators and other school staff (AFSP, 2015). Rather than targeting students as the gatekeepers for referrals as addressed through curriculum-based models, gatekeeper trainings focus on the educator's role in the identification of students at-risk for suicide and their ability to initiate appropriate referrals.

Based on data from the most recent YBRS, the likelihood that educators will encounter students with suicidal behaviors is high, as nearly 2 out of every 10 high school students experience suicidal ideation and nearly 1 out of every 10 high school students have attempted suicide one or more times (CDC, 2013). Although increasing educators' understanding of suicide does not appear to increase the likelihood of students seeking help from their teachers, such training may provide valuable information for teachers to increase the likelihood that they will reach out to students whom they believe may be at risk for suicide (Wyman et al., 2008).

One of the most commonly used and recommended gatekeeper trainings applied in the educational setting is the Question, Persuade, and Refer training (QPR). QPR is listed as an evidenced-based suicide prevention program through the National Registry of Evidence-based Practices and Policies (NREPP; Quinette, 2013). The developer of QPR, Paul Quinnett, equates QPR training to cardio pulmonary resuscitation (CPR) training which emphasizes the "Chain of Survival" method to save a person in cardiac arrest. This method requires four steps that, when implemented correctly, significantly increase

the likelihood of survival for the victim. Similarly, QPR identifies four steps that ensure increased success for the prevention of suicide: (1) Recognizing the warning signs for suicide presented by a student in a timely manner, (2) Intervening as soon as possible for a student displaying warning signs by asking the student about suicidal behavior, persuading them to seek help, and providing referrals for where the student may seek assistance, (3) Referring the student to a mental health professional as soon as warning signs for suicide are observed, and (4) Ensuring the student at risk for suicide quickly accesses the professional assessment and treatment he or she is needing (Quinette, 2013). The training focuses on the key components identified in the name of the training, Question, Persuade, and Refer, and is aimed at assisting gatekeepers with the four steps described above. The gatekeeper is taught the warning signs of suicidal behavior in an effort to increase the identification of youth who are at risk who can then be explicitly questioned about suicidality. The gatekeeper is then trained to persuade the suicidal individuals to seek professional help. Finally, the gatekeeper learns how to effectively make a referral for treatment and continue engaging with the suicidal person to ensure they actually follow-through with the referral (Quinnett, 2013).

Research indicates gatekeeper trainings such as QPR increase faculty and staff members' perceived level of knowledge surrounding youth suicide, their feelings of self-efficacy regarding their ability to prevent youth suicide, and their knowledge of services to which to refer suicidal youth (Keller et al., 2009; Wyman et al., 2008). Both teachers and school counselors have reported the trainings as being helpful and beneficial for

increasing their confidence in addressing students at risk for suicide (Reis & Cornell, 2008). Reis and Cornell (2008) found that counselors demonstrated higher levels of suicide knowledge and greater referrals of at-risk students than did teachers. This suggests that increased knowledge surrounding the topic of suicide may be linked to increased confidence in questioning and referring students for suicidal behavior, as counselors also demonstrated greater referrals of at-risk students compared to teachers. These findings are consistent with other research showing that teachers with higher baseline levels of suicide knowledge are more likely to make referrals than teachers with less suicide knowledge following gatekeeper trainings (Wyman et al., 2008). As a result, one may conclude that increasing teachers' knowledge about suicide and suicide prevention may build their confidence in identifying at-risk youth and result in greater referrals for such youth. Lastly, teacher in-service and gatekeeper trainings are more widely accepted by school principals than other methods of suicide prevention training as they are perceived as having less barriers for implementation and less likelihood of parental disapproval (Whitney et al., 2011).

Teachers as Gatekeepers for Suicide Prevention

As it has been shown thus far, research, public policies, and mental health providers strongly advocate that teachers play a crucial role in identifying and intervening with children at risk for suicide. The remaining review of the literature addresses factors associated with teachers' provision of suicide prevention strategies including their attitudes and opinions surrounding suicide and their role in the prevention of suicide,

teachers' general knowledge of youth suicide, and their perceived self-efficacy as it relates to the identification and referral of suicidal youth. It is argued that these areas must be evaluated before the efficacy of suicide prevention efforts among educators can be fully understood.

Teacher Attitudes and Opinions Surrounding Suicide and Prevention

Little research has addressed how teachers view suicide and their role in its prevention. Furthermore, research evaluating opinions and attitudes surrounding suicide among various members of the community has largely focused on scale development for these constructs rather than the implications of how the perception of suicide may impact preventative efforts. Without an understanding of the perspectives of teachers on the matter, suicide prevention efforts aimed at training teachers to function as gatekeepers in the schools may be lacking a fundamental component of how to better equip teachers through suicide trainings.

Using measures such as the Suicide Opinions Questionnaire (SOQ) and the Attitudes Toward Suicide questionnaire (ATTS), researchers have sought to evaluate the attitudes and opinions toward suicide across various occupations. Unfortunately, this work has important limitations including questionable psychometric support for constructs within the scales, limited attention to U.S. populations, and predominate focus on the identification of medical professionals' perceptions of suicide (Anderson, Lester, & Rogers, 2008; Anderson & Standen, 2007; Domino, Moore, Westlake, & Gibson, 1982; Kodaka, Inagaki, & Yamada, 2011; Kodaka, Inagaki, Postuvan, & Yamada, 2013).

Fortunately, a measure of attitudes and opinions of suicide with more impressive psychometric qualities, known as the Stigma of Suicide Scale (SOSS), was recently developed. However, this scale has yet to be used to examine the opinions and attitudes of teachers (Batterham, Calear, & Christensen, 2013a; P. Batterham, personal communication, February 10, 2015).

One of the first studies to address a suicide opinion profile for teachers indicated that teachers believed they played an important role in the prevention of suicide but they held low ratings of perceived self-knowledge regarding suicide prevention (Gostelow, 1990). In an examination of trainee teachers' opinions surrounding suicide, Wastell and Shaw (1999) found a high prevalence of endorsement for suicide as an impulsive and attention-seeking act, as well as viewing suicide as a cry for help. Trainee teachers also endorsed suicide as being associated with mental illness and were not likely to endorse suicide as morally reprehensible action or an act reflecting reduced religious values. The authors called for further research examining how these underlying beliefs impact the behavior of teachers (i.e., whether or not they intervene for the purpose of suicide prevention).

In a study including a small population of Turkish teachers (N=57), teachers acknowledged suicide as an important topic to be discussed (Öncü, Sykan, İhan, & Sayil, 2008). Surprisingly, they also endorsed higher levels of preparedness and motivation to prevent suicide than general practitioners and medical students; however, this finding may be due to the type of teachers included in the study. Only guidance teachers, a group

of teachers employed in Turkish school systems for the purpose of assisting students with psychological and behavioral concerns, were included in the study and these individuals may possess greater awareness of suicide and suicide prevention than regular teachers.

More recently, the topic of attitudes and opinions regarding suicide has shifted to researching attitudes associated with the stigma of suicide (Batterham et al., 2013a). It has been argued that by addressing stigma the research is better uncovering 'attitudes' surrounding suicide, as attitudes toward suicide have been previously measured using scales lacking a consistent factor structure (Rozatkar, 2014). Stigma is defined as "a set of negative and often unfair beliefs that a society or group of people have about something" or "a mark of shame or discredit" (Stigma, 2015). In a thorough literature review addressing the stigma of mental illness, Overton and Medina (2008) explain how individuals with mental illness experience various forms of stigmatization as a result of their disability. The authors argue that one way this stigma held by society, as well as by mental health practitioners, can be mitigated is through education. By sharing factual information about mental illness, reductions in commonly held incorrect belief about mental illness may occur. In addition, exposure to individuals with mental illness may further reduce stigmatizing attitudes held by the community.

Similar to mental illness, those with suicidal behaviors also experience stigmatization (Scocco, Castriotta, Toffol, & Preti, 2012). Despite this fact, research examining stigma as a component of 'attitudes' about suicide has primarily occurred within the past decade in countries outside of the US. Using the SOSS, Batterham and

colleagues (2013a) found that frequency of stigmatizing attitudes was relatively low in an Australian university sample. In a follow-up study evaluating the correlates of suicide stigma and literacy in the Australian community, Batterham et al. (2013b) discovered no statistically significant differences in attitudes of suicide stigma than in the university sample, although 25% of participants selected "irresponsible" or "cowardly" as appropriate descriptors of those who attempt suicide. The community sample was, however, significantly more likely to glorify suicide than the sample of university students and faculty. These findings represent the extent of the current literature on the stigmatizing attitudes held by everyday people. Currently, there is no research known to the current author specifically examining teachers' adherence to stigmatizing attitudes towards suicide.

The lack of research on teachers' attitudes and opinions about suicide is alarming given there has been a significant shift in the roles required of teachers across U.S. schools. Teachers are expected to fill an increasing number of roles, and pertinent to the topic of youth suicide, teachers are often asked to identify and assist with the emotional and behavioral needs of their students. However, despite increasing legislation, policies, and in-service training, teachers still often receive limited training aimed at developing this skill set. Given these training limitations, teachers are often left to rely on past experience or to consult with other staff, such as the counselor or school psychologist. Despite this lack of training, some research has indicated that teachers report taking ownership in their role of identifying students at risk for suicide (King et al., 1999). In

contrast, a qualitative study utilizing focus groups and interviews with teachers and other school staff revealed a common theme: many of the teachers reported knowing other teachers who seem to feel strongly that identifying and intervening with at risk students is beyond the scope of their job (Nadeem et al., 2011). One teacher reported having a colleague with this mindset, "You know, I am a teacher. That is why I got into this profession. I am going to close my door from 8 to 3. Don't bother me. I know my subject well, and I am going to teach it" (Nadeem et al., 2011, p. 216). It is plausible that those with a more invested interest in assisting suicidal students are those that are also more willing to give of their time for survey completion in research.

Teacher Knowledge of Suicide

Although most surveyed teachers are invested in identifying and intervening with suicidal youth, they often report feeling unprepared to deal with the emotional difficulties and mental health concerns of their students (Rothí et al., 2008). This finding is not surprising due to the significant lack of education that teachers receive to address mental health concerns in the classroom (Freedenthal & Breslin, 2010). Unlike the limited research addressing attitudes and opinions of teachers on the topic of suicide, more research has been devoted to evaluating teachers' knowledge of suicide and associated risk factors. Researchers such as Leane and Shute (1998) and Scouller and Smith (2002) expressed concerns that the gatekeeping potential of teachers is largely compromised by their significant deficits in knowledge of suicide. Without the knowledge required to

identify students at risk for suicide, the good intentions and willingness of teachers to assist such students is likely of little benefit.

The deficit in teacher knowledge of suicide has largely been evidenced through research completed with Australian samples. Scouller and Smith (2002) discovered secondary teachers answered a suicide knowledge questionnaire, the Adolescent Suicide Behavior Questionnaire (ASBQ), with 59% accuracy compared to 71% accuracy of general physicians. Significant variability across content domains was noted for teachers. They were significantly more uninformed about the potential risk factors for adolescent suicide than they were about the demographics and statistics, precipitating factors, and warning signs of suicide. Teachers' exposure to suicide education was strongly associated with increased knowledge scores. Despite teachers' own perceptions of their knowledge surrounding suicide as being low (34%), Crawford and Caltabiano (2008) found that New Queensland secondary teachers possessed slightly higher actual knowledge on the ASBQ then previously described study with average knowledge scores of 69%. They exhibited a wide range of variability across content areas with deficits in the areas of risk factor knowledge, precipitating factors, and warning signs. Similarly, a survey of elementary and secondary teachers in Canada revealed average correct knowledge of suicide scores on the Expanded Revised Facts on Suicide Quiz of 63%, only slightly greater odds than chance (MacDonald, 2004).

The majority of the extant research has focused on international samples, and little information is available regarding knowledge of suicide among teachers in the U.S.

Canadian and U.S. psychology undergraduate students' demonstrated generally high levels of suicide knowledge with average scores of 82.8% and 81.8%, respectively (Leenaars & Lester, 1992). Segal (2000) reported findings from young adult college students and older adults in the U.S. indicating that while both groups demonstrated low knowledge of suicide on the Revised Facts on Suicide Quiz, older adults held greater misconceptions about suicide.

One of the few studies addressing U.S. teachers' knowledge of suicide indicated that both special education and regular education teachers struggled to accurately identify symptoms of suicidal behavior from vignettes of hypothetical adolescents (Hamrick, Goldman, Sapp, & Kohler, 2004). Pre-intervention data from a gatekeeper training implemented in a Georgia school district suggested that school staff experienced low self-evaluations of knowledge, however, this was merely their perceptions of their knowledge rather than a measure of actual knowledge (Wyman et al., 2008). Finally, a survey of secondary teachers in Iowa revealed some familiarity with research-identified risk factors for suicide when asked to select from an available list which factors they believed contributed to youth suicide attempts/completion (Westefeld, Kettmann, Lovmo, & Hey, 2007). Their study revealed that teachers are generally uniformed about high school suicide and strongly advocate for the need for research evaluating educators' knowledge of suicide as they are "an often neglected group in the discussion of adolescent suicide" (Westefeld et al., 2007, p.33).

Significant gaps are present in the literature regarding teachers' knowledge and understanding of suicide. While efforts have been made to address the topic, much of the research is limited to findings in Australia and other international locations. As teachers are expected and encouraged to serve as gatekeepers for suicide prevention, not only by the schools in which they function but also by governing laws present in some states (Mental Health of America of Texas, 2012), it is disheartening that such little research has evaluated the current knowledge of U.S. teachers as they work to fulfill this vital effort for prevention.

Teachers' Self-Efficacy in Suicide Prevention

The construct of self-efficacy is rooted in Bandura's social learning theory. In contrast to self-esteem, which emphasizes a positive evaluation of oneself, self-efficacy is the belief in one's own competency or ability to achieve at a task or situation (Grabowski, Call, & Mortimer, 2001). Successfully completing a task increases one's sense of self-efficacy, subsequently increasing the likelihood that the person will persist with the objective in the future (Gurvitch & Metzler, 2009). While engaged in the task, efforts and success attainment are internally evaluated. When one is successful, these internal attributes manifest in the form of self-efficacy and influence future behavior by reducing defensive behaviors that might be associated with failure or disbelief in oneself. In addition, observing others engaging successfully in an activity as a contributor to internal perceived self-efficacy (Bandura, 1977).

Addressing self-efficacy in the context of teachers' role in suicide prevention is valuable as "people initiate and persist in activities that they feel capable of conducting successfully and tend to avoid those which they feel unable to carry out" (Grabowski et al., 2001, p.164; Bandura, 1977). In applying self-efficacy to the situation of identifying and intervening with suicidal students, teachers must believe in their ability to successfully achieve the desired outcome or else they will have little motivation to work toward achieving the desired goal, especially in the face of challenges. As suicide is a topic that often makes others uncomfortable, teachers must overcome this challenge by believing in their ability to intervene in order for them to be successful suicide prevention gatekeepers.

In a pivotal study addressing teachers' self-efficacy associated with suicide prevention, King et al. (1999) found that only 1 in 10 high school health teachers felt they could identify a student at risk of attempting suicide. An evaluation of the same teachers' perceived self-efficacy pertaining to intervention with suicidal students indicated that approximately half of teachers believed they could talk with other teachers or counselors for assistance with identifying students at risk. Less than half believed they could ask a student if he or she is suicidal or effectively offer support to a suicidal student (41% and 42%, respectively). Only 18% of the surveyed teachers felt they could talk to the parent of student to help determine whether or not the student is at risk of attempting suicide.

In addition to addressing high school health teachers' perceived self-efficacy in the identification and intervention of students at-risk for suicide, King et al. (1999) also

evaluated the extent to which teachers' believed their efforts would actually make a difference and reduce the chance that the student will commit suicide. Approximately half of teachers (53%) reported that by recognizing a student at risk of suicide, talking with teachers and counselors to help determine if a student is suicidal, offering support to a suicidal student, or referring a student to a school counseling would reduce the likelihood of the student attempting suicide. Only 26% of teachers believed that asking a student if he or she is suicidal would reduce the chance of the student attempting suicide. Together, the findings from this study indicate that teachers' demonstrate weak self-efficacy in suicide prevention efforts and that even if they were able to effectively complete the preventative tasks, no more than half believed those measures would reduce the chance of a student attempting suicide.

Few other studies have evaluated the self-efficacy of teachers in their suicide prevention and intervention efforts. Self-efficacy of school personal has been observed to increase after involvement in QPR suicide prevention training; however, these ratings were based on a three-item efficacy questionnaire and represent the extent of published articles on the subject (Tompkins, Witt, & Abraibesh, 2010; Wyman et al., 2008). In an unpublished dissertation, Jacobs (2013) recognized the significant gap in the literature addressing teachers' perceived self-efficacy in working with suicidal youth. The dissertation focused on the development of a new scale, Self-Efficacy of Suicide Procedures (SEOSP). Findings from 109 teachers' completion of the SEOSP highlighted strong psychometrics of the new scale, as well as higher perceived self-efficacy scores

among teachers with greater experiences with suicidal students and more hours of professional development.

As documented in this review of the literature, efforts toward preventing youth suicide by incorporating suicide prevention trainings in the school setting have largely increased. This shift is the result of years of dedicated professionals who devoted their time advocating for increased measures focused on reducing the number of suicides of young people in the U.S. Despite these efforts, there is little research addressing the attitudes, knowledge, and self-efficacy of teachers who are being asked to serve as gatekeepers for suicide prevention in the schools. The guiding motivation behind this dissertation is to establish a clearer and more thorough understanding of teachers' beliefs and functioning in these areas, which may assist in the development of better prevention programs designed to help equip teachers with the task of identifying and intervening with suicidal youth.

CHAPTER III

METHOD

In this chapter, an overview of the methodology for this study is discussed. The overarching design of the study is reviewed, including participant selection, survey development and structure, and the basic procedures utilized for the study. Lastly, the statistical analyses and methods of data management are examined.

Participants

Selection

Survey responses were elicited from primary and secondary (Kindergarten through 12th grade) public school teachers in the U.S. Participants were required to be currently employed in a teaching position to participate in the study. Teachers were recruited using two methods. First, the study was posted on social media networking sites, such as Facebook, requesting the participation of teachers. Snowball sampling was employed such that the respondents were encouraged at the end of the survey to invite fellow teachers to participate. Second, teachers were recruited at the school district level. Two Texas school districts, referred to here under the pseudonyms District A and District B, agreed to allow the survey to be distributed to principals within the district. Select principals then chose to share the survey with their employed teachers. Information about the demographics of these districts is listed below. Multiple attempts were made to invite districts within the states of Oregon, Utah, Georgia, and Pennsylvania to establish a more

diverse sample of teachers; however, responses were not provided by any of the districts within these states.

District A. District A is located in a suburb of Houston, Texas and serves approximately 12,500 students. As of 2014, students of District A were predominately of Caucasian ethnicity (63.5%), followed by Hispanic (30.9%), African American (2.1%), two or more ethnicities (2%), Asian (0.8%), and Native American (0.7%). Approximately 40% of students were classified as Economically Disadvantaged.

District B. District B, a small district located outside of Dallas, Texas, had approximately 4,000 students enrolled in 2014. The breakdown of student ethnicity in 2014 indicates the following: Caucasian (58.5%), Hispanic (26.8%), African American (7.1%), two or more ethnicities (4.6%), Asian (2.4%), American Indian (1.1%) and Pacific Islander (0.2%). Approximately 41% of students in District B were classified as Economically Disadvantaged.

Characteristics

A total of 152 teachers participated in the online survey. A majority of the teachers surveyed were currently employed as educators in the state of Texas (79.6%). The breakdown of additional states represented in the data can be found in Table 2. Of the 152 respondents, 89.5% were female and 10.5% were male. The majority of respondents identified as White/Caucasian (85.5%), while 9.2% identified as Hispanic, 3.9% as Black/African American, .7% as Asian/Pacific Islander, and .7% as Other as one participant identified as being of mixed race. Respondents predominately held either a

bachelor's degree (57.9%) or a master's degree (40.1%), while .7% held an education specialist's degree, .7% held a doctoral degree, and .7% were classified as Other. The teachers ranged in age from 22 to 67. The number of years each participant has been employed as a teacher ranged from 0 years (currently employed as a first-year teacher) to 33 years. The majority of participants were currently employed as a teacher for secondary grade levels (grades 6 -12; 60.5%), while the remaining were currently employed in primary grade levels (grades Kindergarten – 5; 39.5%).

Table 2

Descriptive Statistics: Categorical Demographic Variables

Variable	Frequency	Percentage
Gender		
Female	136	89.5%
Male	16	10.5%
Other	0	0%
Race/Ethnicity		
White/Caucasian	130	85.5%
Hispanic	14	9.2%
Black/African American	6	3.9%
Asian/Pacific Islander	1	.7%
Other	1	.7%
Education Level		
Bachelor's Degree	88	57.9%
Master's Degree	61	40.1%
Education Specialist's Degree	1	.7%
Doctoral Degree	1	.7%
Other	1	.7%
Grade Currently Teaching		
Secondary (6 – 12)	92	60.5%
Primary (K – 5)	60	39.5%

(continued)

Table 2 (continued)

Variable	Frequency	Percentage
State Currently Employed		
Texas	121	79.6%
Arkansas	4	2.6%
Illinois	4	2.6%
Oklahoma	4	2.6%
Missouri	3	2.0%
Colorado	3	2.0%
California	2	1.3%
Florida	1	.7%
Kansas	1	.7%
Michigan	1	.7%
New Mexico	1	.7%
New York	1	.7%
North Carolina	1	.7%
Ohio	1	.7%
Oregon	1	.7%
Pennsylvania	1	.7%
South Carolina	1	.7%
Tennessee	1	.7%

n = 152

Table 3

Descriptive Statistics: Continuous Demographic Variables

Variable	Mean	Range	*SD*
Age	36.36	22.00 – 67.00	10.13
Number of Years Teaching[a]	9.84	0 – 33.00	7.36

n = 152
n[a] = 141

Procedures

This study received approval from the Texas Woman's University Institutional Review Board. Participants were invited to participate in an online survey through

PsychData©, a secure, online survey generator ideal for social science researchers. Respondents were provided with a consent form outlining the purpose of the survey, as well as identifying any risks or limits to confidentiality involved in completing the survey. After reviewing the consent form, respondents selected whether or not they were interested in completing the study by selecting "agree" or "disagree." Respondents who selected "agree" were directed to proceed with the study. Those who did not agree were routed to the end of the survey. The consent form used for this study can be found in Appendix A.

Respondents were first asked if they are currently employed in a teaching position in a public school setting in the United States. Those who were not currently employed in a teaching position were thanked for their time and routed to the end of the survey. Participants who met the said criteria were routed to begin the survey. Demographic items were presented first. The remainder of the survey consisted of the short form of the Literacy of Suicide Scale (LOSS), the full Stigma of Suicide Scale (SOSS), and the Efficacy Expectations of Adolescent Suicide subscale, all of which are described in detail below (Batterham et al., 2013a; Batterham et al., 2013b; King et al., 1999). The order of presentation of the SOSS and the Efficacy Expectations of Adolescent Suicide subscale were randomized to reduce the chance of order effects. Finally, participants were given the option of providing any additional personal opinions or experiences related to the topic of youth suicide prevention in the schools through an open-ended question.

Measurement of Variables

Demographic Variables

Demographic information was obtained from participants including age, gender, race/ethnicity, education level, geographic location of school of employment, number of years teaching, grade level currently being taught by the participant, level of exposure to suicide, and prior attendance in suicide training.

Age. Participants were asked to provide a numerical value to indicate their current age.

Gender. Gender was examined using the following question: "What is your gender?" The respondent selected one of four possible responses, "Female," "Male," "Other," or "I prefer not to disclose." Those who select "Other" were given the opportunity to provide a more specific response if they were interested.

Race/Ethnicity. To address race/ethnicity, respondents selected from the following options: African American, Asian, Hispanic, White, Other (please specify).

Education level. Participants indicated their highest educational degree earned by selecting from one of the following options: "Bachelor's degree," "Master's degree," "Education Specialist's degree," "Doctoral degree," or "Other (please specify)."

Location of school of employment. This demographic question requested participants to select the state in which they are currently employed from a dropdown

menu of all 50 states in the U.S. Teachers were also asked to indicate their current school district, if willing.

Number of years teaching. The educators being surveyed were asked to provide the number of years they have been directly involved in teaching youth.

Education level of employment. The following question was located with the demographic questions of the survey to address the current education level at which the respondent is currently teaching: "Which of the following grade levels are you **currently** teaching?" Respondents were given the opportunity to select the grade level they are currently teaching from a list of options including all grades from Kindergarten to 12th grade.

Exposure to suicide. Exploration of teachers' familiarity with and exposure to suicide was assessed first by examining teachers' personal exposure outside of the context of the school setting. A 10-level multiple-choice question requiring teachers to identify their greatest level of exposure to suicide was utilized. Teachers were asked to select from (0) no exposure, (1) observing suicide in a movie or television show, (2) viewing a documentary or training on suicide, (3) colleague attempted or died by suicide, (4) provided services to someone who attempted or died by suicide, (5) acquaintance attempted or died by suicide, (6) relative attempted or died by suicide, (7) close friend attempted or died by suicide, (8) lived with someone who attempted or died by suicide, (9) or respondent attempted suicide (Batterham et a., 2013b). Higher ratings correspond with greater levels of exposure.

Suicide training exposure. Teachers' exposure to suicide was also examined by their educational training on suicide and experience with student suicide with the following questions, adapted from King et al. (1999): "Have you attended any in-service trainings offered to teachers and staff at your school on youth suicide in the past 5 years?" and "Have you attended any form of training on your own in the area of youth suicide in the past 5 years (i.e., outside conferences, online trainings, etc.)?"

Opinions regarding youth suicide in the schools. At the end of the survey, participants were provided an open-ended area to provide any personal thoughts/feedback/experiences associated with the topic of youth suicide and teachers' role in helping identify and assist with prevention for students who may be suicidal. Responses to some of these items are included in the discussion session.

Primary Variables

Teacher perceptions of role in youth suicide prevention. Educators provided their opinions regarding the importance of their role as a teacher in the prevention of youth suicide in the schools by answering the following question: "As a teacher, how important is your role in identifying students who are suicidal?" Participants selected from four available answer choices: "Not at all important (it is not my role or responsibility)," "Not that important," "Important," or "Very important (it is very much part of my role or responsibility)." Those who selected "Not at all important" were provided a follow up question: "In the school setting, whose role do you believe it is to identify students who may be suicidal?"

Attitudes toward suicide. Teachers' attitudes toward suicide were measured using the Stigma of Suicide Scale (SOSS; Batterham et al., 2013a). The SOSS was designed to assess the general community's attitudes toward "typical" instances of suicide rather than evaluate areas such as attitudes toward suicide among individuals with terminal illness or ritual suicide, topics commonly found in other scales intended to measure attitudes surrounding suicidal behavior. Unique to the SOSS is its focus on stigmatizing attitudes toward individuals who die by suicide. The SOSS was selected for the purpose of this study due to this unique quality and for its impressive psychometric qualities (Cronbach $\alpha = 0.90$) and feasibility of administration in comparison to other measures of attitudes toward suicide, such as the Suicide Opinion Questionnaire (SOQ; Domino et al., 1982). While it is the most widely used measure of attitudes of suicide, the SOQ is lengthy, containing 100 items addressing a vast range of areas that extend beyond the scope of this study, such as the role of religion and the right to die as factors of attitudes toward suicide. More concerning, the original 15-factor structure and additional proposed two-, five-, and eight-factor structures all lack empirical support, and reliability and validity are notably fair at best (Anderson et al., 2008).

The SOSS consists of 58 one or two word descriptor items rated on a 5-point Likert scale with the following instructions: "Using the scale below, please rate how much you agree with the descriptions of people who take their own lives (suicide). In general, people who suicide are …" (Batterham et al., 2013a). Developed and validated in Australia, the SOSS employs wording intended to reduce the stigmatizing language

surrounding suicide, such as stating “people who suicide” rather than “people who commit suicide.” While this phrasing is common among suicide research in Australia, the specific phrase “people who suicide” has not been commonly adopted in the United States. For this reason, the wording of the instructions was altered for the purpose of this study to say, “ In general, people who die by suicide are …” This alternative phrasing is listed as appropriate and non-stigmatizing according to Beaton, Forster, and Maple (2013), while also more likely to be familiar to the target population in this study.

Three clear factors assessing how negatively community members view suicide were derived from an exploratory principal components factor analysis of the SOSS: Stigma, Isolation/Depression, and Normalization/Glorification, all of which showed strong internal consistency (Cronbach αs = 0.95, 0.88, and 0.86, respectively; Batterham et al., 2013a). The three-factor model accounted for 36% of the total variance. In addition to the full scale, a short form of the scale (SOSS-SF) was developed by selecting items that loaded most strongly to each factor. The final SOSS-SF consists of 16 items that load onto the three factors at 0.67 – 0.83, with the three factors accounting for 59% of the total variance. Cronbach αs for the Stigma, Isolation, and Normalization factors were 0.88, 0.80, and 0.78, respectively, with an overall scale α of .70. Overall, findings for both the SOSS and the SOSS-SF indicate robust psychometric qualities. The full version of the SOSS were utilized for the purpose of this study. Cronbach αs were calculated for each of the subscales of the SOSS for the current sample yielding the following: Stigma = .96, Isolation = .87, Normalization = .86. Three separate scores are

provided on the SOSS, one for each subscale (stigma, isolation/depression, normalization/glorification). Each score is calculated based on the mean of all items within the subscale providing mean scores ranging from one to five for each subscale, with higher scores indicating higher stigma, greater attribution to isolation/depression, or greater normalization/glorification.

Knowledge about suicide. Teachers' general knowledge regarding suicide was measured using the Literacy of Suicide Scale (LOSS) developed by Calear, Batterham, & Christensen (2014a). The LOSS is a 26-item scale measuring knowledge of suicide across four domain areas: (1) signs and symptoms, (2) causes/nature of suicidality, (3) risk factors, and (4) treatment and postvention, based on the mental health literacy framework proposed by Jorm (2000). Responses for the LOSS are provided on a 3-point scale indicating whether the item is "true" or "false," or the respondent could select "I don't know." Item responses are summed together providing a total score, with correct ("true") responses assigned a score of 1 and incorrect responses ("false" and "I don't know") assigned a score of 0. The total score (number of items scored correct out of 26 items) was then converted to a percentage (i.e., 80% accuracy) with 100% indicating all items were answered correctly. Higher scores on the LOSS indicate greater suicide literacy.

The LOSS contains 13 items from the Revised Facts on Suicide Quiz (RFOS), developed by Hubbard and McIntosh (1992) with remaining items developed by Calear, Batterham, & Christensen (2014a) after extensive literature review. While commonly

used as a measure of knowledge of suicide, the RFOS is often used as an informal measure rather than for the purposes of research, and as a result, there is a lack of information regarding the psychometric properties of the quiz (Voracek, Tran, & Sonneck, 2008). The LOSS was validated using Item Response Theory (IRT) due to the dichotomous nature of the responses as either correct or incorrect (Calear et al., 2014a). Using the IRT as a method of determining test items with the greatest discrimination of the underlying literacy construct, Calear et al. (2014a) applied a stringent criterion of $p < 0.01$ for the inclusion of test items. In addition, a short form of the scale, the LOSS-SF, consists of 12 of the items from the LOSS, and it was developed using two to four items within each literacy construct with the largest chi-square value in the IRT model analysis.

Self-efficacy in identifying and intervening with suicidal students. Teachers' perceived self-efficacy in identifying and intervening with suicidal students was measured using the Efficacy Expectations for Adolescent Suicide subscale, developed by King, Price, Telljohan, and Wahl (1999). The subscale consists of six items rated by teachers using a seven-point Likert scale (1 = strongly agree, 7 = strongly disagree). Items were developed after extensive review by national experts on suicide and self-efficacy for the establishment of face and content validity. Validated with a sample of 228 high school health teachers, the Efficacy Expectations subscale yielded strong internal consistency reliability ($\alpha = 0.84$). Reliability of the subscale for the current sample revealed similar findings ($a = 0.81$). Items on the scale addressed the extent to which teachers believed they could identify and intervene with students at risk of

attempting suicide. Although the items were originally intended for the purpose of evaluating adolescent suicide, the wording of the items refers only to "students" rather than specifying "adolescents." For this reason, the items remained unchanged for the purpose of this study. Finally, averaging the scores obtained from the six items on the Efficacy Expectations subscale created an overall Self-Efficacy score.

Procedures for Data Analysis

Data analysis was conducted using the latest version of SPSS, a commonly used statistical software package. Due to minimal amounts of missing data, composite scores for the subscales of the SOSS, the LOSS, and the Efficacy Expectations subscale were derived from the use of all available data. In the case of missing data for an entire composite score, each statistical test was completed using list-wise deletion of missing responses. List-wise deletion is the process of removing from the statistical analysis any cases with missing data (Meyers et al., 2008). Across all research questions, any relevant qualitative responses provided by participants were evaluated to augment statistical findings.

Research Question One: Teacher Perceptions of Role in Suicide Prevention

To answer the first research question, "How important of a role do teachers believe they play in identifying students who are suicidal?" descriptive statistics of the survey results for the question, "As a teacher, how important is your role in identifying students who are suicidal?" were evaluated. The frequency of teachers who indicated

"Not at all important," "Not that important," "Important," or "Very important" was provided.

Research Question Two: Teachers' Knowledge of Suicide, Attitudes Toward Suicide, and Self-Efficacy

The second research question, "What are teachers' levels of knowledge of suicide, attitudes toward suicide, and perceived self-efficacy in identifying and intervening with suicidal youth?" was addressed by running the descriptive statistics and reporting the mean, range, and standard deviation for the LOSS, the subscales on the SOSS, and the Efficacy Expectations subscale. Additional information was provided about stigmatizing attitudes by examining participants' responses to individual items on the SOSS Stigma subscale. LOSS scores were broken down by accuracy groups (i.e., 80% - 90% accuracy; 90% - 100% accuracy), and the corresponding percentage of respondents who scored within each range was reported. Regarding the Efficacy Expectations subscale, item analysis was completed to evaluate the percentage of participants who endorsed either strongly disagreeing (selecting either a 1 or a 2 on the 7-point Likert scale) or strongly agreeing (selecting either a 6 or a 7 on the 7-point Likert scale) with each item.

Research Question Three: The Relationship between Teachers' Perceived Level of Importance in Identifying Suicidal Youth, Knowledge of Suicide, Attitudes toward Suicide, and Self-Efficacy

To address the third research question, "What is the relationship, if any, between teachers' levels of importance of their role in identifying students who are suicidal, levels

of knowledge of suicide, attitudes toward suicide, and perceived self-efficacy in identifying and intervening with suicidal youth?" a hierarchical regression was conducted. The dependent variable was teachers' perceived self-efficacy in identifying and intervening with suicidal youth (total Efficacy Expectations subscale score). The independent variables included teachers' level of importance of their role in identifying students who are suicidal, teachers' knowledge of suicide (overall LOSS score), teachers' stigmatizing attitudes towards suicide (SOSS Stigma subscale score), and teachers' level of exposure to suicide.

The use of a hierarchical regression allowed the researcher to evaluate the relationship between the primary variables, while also considering the impact of selected demographic variables. In order to conduct the hierarchical regression, the independent variables were analyzed in two steps. During the first step, the demographic variable of level of exposure to suicide was entered into the regression equation. The second step included teachers' level of importance of their role in identifying youth who are suicidal, teachers' knowledge of suicide, and teachers' stigmatizing attitudes towards suicide.

Research Question Four: Grade Level Differences Across Primary Variables

The fourth research question, "Do primary and secondary school teachers exhibit different levels of knowledge of suicide, attitudes toward suicide, and perceived self-efficacy in identifying and intervening with suicidal youth, after controlling for their perceived level of importance of their role in identifying students who are suicidal?" was examined using a two way between-subjects multivariate analysis of variance

(MANOVA). The independent variable, level of education being taught, was coded into a dichotomous variable (i.e., primary versus secondary). Educators currently teaching Kindergarten through 5th grade were coded as primary education teachers while those teaching 6th grade through 12th grade were coded as secondary education teachers. This coding is consistent with the organization of education in the United States, despite that they sometimes vary at the district level (U. S. Department of Education, 2008). The second independent variable, teachers' perceptions of their responsibility in identifying students at risk, was also coded into a dichotomous variable, Important and Very Important, based on participants responses to the survey question, "As a teacher, how important is your role in identifying students who are suicidal?" A review of responses revealed only three participants identified their role as a teacher in identifying students who are suicidal as "Not that important," while no participants endorsed that their role was "Not at all important." As a result, these participants were omitted from the analysis and the remaining new dichotomous variable including the remaining two groups, those who selected their role as "Important" or "Very important."

CHAPTER IV

RESULTS

The purpose of this section is to describe the results of this study after completing the statistical analyses described in Chapter III. Information about participant demographics for suicide-related variables is provided first. Following this information, a summary of the primary analyses used to answer each research question is provided.

Preliminary Analysis

Descriptive Statistics

To gain additional information about the sampled population's level of exposure to the topic of suicide, descriptive statistics were calculated for suicide-specific demographic questions addressing previous exposure to suicide and attendance at suicide training. Descriptive statistics revealed that teachers' level of exposure to suicide ranged significantly. Nearly 5% of the sample indicated they had personally made at least one suicide attempt at some point in their life. A total of 61.2% endorsed having an acquaintance, relative, close friend, or someone with whom they lived who made a suicide attempt or died by suicide. Only one participant endorsed not having any exposure to suicide or suicide-related material. Additional information about the breakdown of levels of suicide exposure can be found in Table 4.

In addition, participants provided information about their attendance at suicide trainings within the past five years. The majority of teachers (64.5%) indicated they had

attended an in-service training on youth suicide offered by their school or school district, while 34.2% had not. In contrast, only 16.4% of teachers endorsed having attended training on youth suicide on their own, such as attendance at a conference or an online webinar, while 82.9% had not. A total of 26.3% of teachers answered no to both questions, indicating they likely have not attended any form of training on the topic of youth suicide in the past five years.

Table 4

Descriptive Statistics: Suicide-Related Demographic Variables

Variable	Frequency	Percentage
Level of Exposure to Suicide*		
No exposure to suicide	1	.7%
Observed suicide in movie or television show	15	9.9%
Watched a documentary/training on suicide	27	17.8%
Coworker/colleague attempted/died by suicide	4	2.6%
Provided services to someone who attempted/died by suicide	5	3.3%
Acquaintance attempted/died by suicide	37	24.3%
Relative who attempted/died by suicide	26	17.1%
Close friend who attempted/died by suicide	20	13.2%
Lived with someone who attempted/died by suicide	10	6.6%
I have attempted suicide	7	4.6%
Attended in-service training on youth suicide offered by school/district in past 5 years		
Yes	98	64.5%
No	52	34.2%
Unsure	2	1.3%
Attended training on youth suicide on own in the past 5 years		
Yes	25	16.4%
No	126	82.9%
Unsure	1	.7%

n = 152

** = items are listed in order of least exposure to greatest exposure*

Analysis of Research Question One

Descriptive statistics were completed to determine the extent to which teachers view their role in identifying students who are suicidal as important (see Table 5). In general, most teachers surveyed believe their role in identifying students who are suicidal is either important (29.6%) or very important (67.8%). Only 2% of teachers endorsed their role in identifying students who are suicidal as not that important and no one endorsed that their role in identifying suicidal students is not at all important. One teacher preferred not to answer.

Table 5

Descriptive Statistics: Teacher Perceived Role in Identifying Suicidal Youth

Variable	Frequency	Percentage
Level of Importance of Role in Identifying Suicidal Youth		
Not at all important (Not my role or responsibility)	0	0%
Not that important	3	2%
Important	45	29.6%
Very important (Very much a part of my role or responsibility)	103	67.8%
I prefer not to answer	1	.7%

n = 152

Analysis of Research Question Two

In addition to evaluating the extent to which teacher's view their role in identifying suicidal youth as important, the researcher also sought to explore teachers' overall knowledge of youth suicide, teachers' attitudes toward suicide, and teachers' sense of self-efficacy in identifying suicidal youth and engaging in efforts to prevent

youth suicide. Descriptive statistics were completed to assess overall scores in these areas. Table 6 summarizes the findings for the overall scores for each area.

Table 6

Teachers' Knowledge of Suicide, Attitudes Towards Suicide, and Self-Efficacy in Identifying and Intervening with Suicidal Youth

Variable	*n*	Mean	Range	Possible Range	*SD*
Knowledge about Suicide[a]	134	63.46	0 – 92.31	0 – 100.00	17.21
Attitudes Toward Suicide[b]	143				
Stigma		2.41	1.00 – 4.97	1.00 – 5.00	.67
Isolation/Depression		4.20	2.50 – 5.00	1.00 – 5.00	.49
Glorification/Normalization		2.29	1.00 – 5.00	1.00 – 5.00	.60
Self-Efficacy[c]	146	4.82	1.83 – 6.83	1.00 – 7.00	1.05

[a] Literacy of Suicide Scale
[b] Stigma of Suicide Scale
[c] Efficacy Expectations Subscale

Regarding teachers' knowledge of suicide, the mean score on the LOSS was a 63%, indicating the percentage of questions answered correctly. The highest score obtained on the LOSS was a 92.31%, while the lowest score obtained on the LOSS was a 0%. To provide additional information about teachers' performance on this questionnaire, scores were broken down by percentage of questions answered earned correctly (see Table 7). Approximately 16% of the teachers who completed the LOSS answered less than 50% of the questions correctly. The most commonly received score ranged from 60% and 80% (n = 71). Only 2.2% of participants scored a 90% or higher.

Table 7

Teacher Knowledge of Suicide: Breakdown of Scores on the LOSS

Score Group	Frequency	Percentage
0 – 10%	3	2.2%
10 – 20%	0	0%
20 – 30%	2	1.5%
30 – 40%	9	6.7%
40 – 50%	8	6.0%
50 – 60%	21	15.7%
60 – 70%	35	26.1%
70 – 80%	36	26.9%
80 – 90%	17	12.7%
90 – 100%	3	2.2%

n = 134

Teachers' attitudes toward suicide were measured using the Stigma of Suicide Scale (SOSS). The scale includes three subscales areas: Stigma, Isolation/Depression, and Glorification/Normalization. Scores on each of the subscales reflect the level of endorsement of items for that subscale (with a score of five being the highest). Overall, respondents' mean score on the Stigma subscale was 2.41. A review of the individual items with the greatest level of endorsement revealed teachers more commonly endorsed suicide as reckless (*M*=3.23) and selfish (*M*= 3.12) (see Table 8). The Isolation/Depression subscale evaluates the extent to which one believes suicide is characterized by isolation, loneliness, and poor mental health. Respondents' mean score on the Isolation/Depression subscale was 4.20, indicating this belief about those who die by suicide was quite common among the teachers in this sample. Finally, teachers' responses on the Glorification/Normalization subscale yielded a mean of 2.29.

Table 8

Top 5 Most Endorsed Items on the SOSS Stigma Subscale

Item	Percent Endorsed
Reckless	41.4%
Selfish	40.8%
Attention-seeking	31.3%
Hurtful	28.3%
Cowardly	25.7%

n = 152

Teachers' perceived self-efficacy regarding their ability to identify and effectively intervene with suicidal youth was evaluated using the Efficacy Expectations subscale. The overall self-efficacy score (see Table 6) reflects the degree to which participants feel they are capable of identifying and helping youth who may be suicidal, with high scores (seven being the highest possible score) indicating greater levels of self-efficacy. Overall, respondents reported a mean self-efficacy score of 4.82.

In an effort to more thoroughly evaluate the areas in which teachers feel more or less confident addressing these issues, an examination of participants' responses to the individual items of the scale was completed. Table 9 provides a review of the percentage of respondents who either Strongly Disagreed (a 1 or 2 on a 7-point Likert scale) or who Strongly Agreed (a 6 or 7 on a 7-point Likert scale) to each item. Teachers appear to feel most confident in their ability to refer students who are at risk of attempting suicide to the counselor (74.3%) and in their ability to consult with teachers or counselors at their school to help them determine if a student is at risk of attempting suicide (50.7%). While 23.6% of teachers feel they can ask a student at risk of attempting suicide if he/she is

suicidal, nearly one in four teachers endorsed they did not feel they could do this. Finally, only 9.2% of teachers endorsed strongly agreeing that they believe they could recognize a student at risk of attempting suicide, while 7.9% felt strongly that they could not identify a student a risk of attempting suicide.

Table 9

Efficacy Expectations Subscale: Item Analysis

Item	Mean	*SD*	Strongly Disagree[c]	Neutral[d]	Strongly Agree[e]
I believe I can recognize a student at risk of attempting suicide	4.27	1.14	7.9%	79%	9.2%
I believe I can talk with teachers and counselors at my school to help determine whether or not a student is at risk of attempting suicide[a]	5.56	1.31	1.3%	42.7%	50.7%
I believe I can talk with the parent(s) of a student to help determine whether or not the student is at risk of attempting suicide	4.27	1.62	17.8%	54.6%	23.7%
I believe I can ask a student at risk of attempting suicide if he/she is suicidal	4.06	1.82	21%	51.4%	23.6%
I believe I can effectively offer support to a student at risk of attempting suicide[a]	4.55	1.63	12.5%	52%	30.2%
I believe I can refer a student at risk of attempting suicide to a school counselor[b]	6.23	1.14	2.7%	19.2%	74.3%

n = 146, [a]*n = 144,* [b]*n = 145*

[c] Strongly Disagree = 1 or 2 on a 7-point Likert scale

[d] Neutral = 3, 4, or 5 on a 7-point Likert scale

[e] Strongly Agree = 6 or 7 on a 7-point Likert scale

Analysis of Research Question Three

Prior to conducting the hierarchical regression, a review of the relevant statistical assumptions for this multivariate statistical analysis was completed. A review of scatterplots suggested the assumptions of linearity, homoscedasticity, and normality were all met (Field, 2009). The independent variables were not highly correlated; therefore, the assumption of no perfect multicollinearity was met. No extreme univariate outliers were present and a review of Mahalanobis distance indicated no extreme multivariate outliers (Meyers et al., 2006).

A two step hierarchical multiple regression was conducted to evaluate the relationship between teachers' overall perceived self-efficacy in identifying and assisting suicidal youth and teachers' level of knowledge of suicide (Knowledge), how important they view their role in the identification process for suicidal students (Importance), and the level of stigmatizing attitudes held about suicide (Stigma) while controlling for the suicide-related demographic factor of teachers' personal exposure to suicide or suicide-related material (Exposure). Exposure was entered into the first step of the hierarchical regression. Knowledge, Importance, and Stigma were entered into the second step of the analysis.

Regression results are summarized in Table 10. The hierarchical regression revealed that Exposure, the variable entered in Step One, was a significant positive contributor in the regression model the F (1,132) = 11.00, p <.001, R^2 = .08 and

accounted for 8% of the variance in Self-Efficacy. When additional variables were added into the analysis during Step Two, the results were again significant F (4,129) = 7.46, $p <$ .001, $R^2 = .19$. The addition of the additional variables included in Step Two explained 19% of the variance in Self-Efficacy; a 10% increase in comparison to Step One. However, a review of the influence of each independent variable revealed only Exposure ($p < .01$), Knowledge ($p < .01$), and Importance ($p < .05$) were statistically significant positive contributors to the dependent variable, Self-Efficacy. According to these findings, Stigma was not a statistically significant predictor of Self-Efficacy.

Table 10

Summary of Hierarchical Regression of Self-Efficacy in Identifying and Assisting Suicidal Youth

Variable	R^2	ΔR^2	*B*	*SE B*	β	*t*-value
Step 1	.08***	.08				
Exposure			.13	.04	.28	3.32***
Step 2	.19***	.10				
Exposure			.12	.04	.26	3.26***
Stigma			.04	.13	.03	.31
Knowledge			.02	.01	.27	3.30***
Importance			.46	.17	.21	2.63**

Note. $N = 152$; *$p < .05$, **$p < .01$, *** $p < .001$

Analysis of Research Question Four

A between-subjects MANOVA was performed to determine if a significant difference in teachers' level of self-efficacy, knowledge of suicide, and levels of stigmatizing attitudes was present when comparing primary and secondary school teachers and the extent to which they view their role in identifying suicidal youth as

important versus very important. No significant interaction was found between grade level taught (i.e., primary or secondary) and level of importance (i.e., important or very important), Wilks' Λ=1.0, $F(3,126) = .15$, $p > .05$, Partial $\eta^2 = .00$ (see Table 11). There was a significant main effect for level of importance, Wilks' Λ=.93, $F(3,126) = 3.39$, $p < .05$, Partial $\eta^2 = .08$ (see table 11), albeit a small effect size was observed. Specifically, level of importance significantly affected teachers' level of self-efficacy, $F(3,126) = 6.61$, $p < .05$, Partial $\eta^2 = .05$, but did not significantly impact teachers' level of knowledge of suicide, $F(3,126) = .12$, $p > .05$, Partial $\eta^2 = .00$, or their levels of stigmatizing attitudes toward suicide, $F(3,126) = 2.26$, $p > .05$, Partial $\eta^2 = .02$ (see Table 12). Teachers who viewed their role in identifying youth who are suicidal as very much important experienced higher levels of overall self-efficacy in identifying and assisting suicidal youth (M = 4.99, *SD* = 1.04) than teachers who viewed their role as important (*M* = 4.47, *SD* = 1.02). In addition, there was not a significant effect of grade level taught (primary versus secondary) on teachers' levels of self-efficacy, knowledge of suicide, and levels of stigmatizing attitudes, Λ=.97, $F(3,126) = 1.81$, $p > .05$, Partial $\eta^2 = .03$ (see Table 13). No post hoc procedures were required for this analysis as both independent variables were measured at only two levels.

Table 11

Multivariate Analysis of Variance Results

Independent Variables	Wilks' Λ	*F*	*df*	*Error df*
Grade Level	.97	1.18	3	126
Importance	.93	3.39*	3	126
Grade Level * Importance	1.0	.15	3	126

Note. *$p < .05$, **$p < .01$, *** $p < .001$

Table 12

Means and Standard Deviations of Dependent Variables by Importance

	Important		Very Important			
Dependent Variables	M	*(SD)*	M	*(SD)*	*F*	*p*
Knowledge	64.78	*(16.13)*	63.13	*(17.81)*	.12	.73
Stigma	2.26	*(.73)*	2.46	*(.65)*	2.26	.14
Self-Efficacy	4.47	*(1.02)*	4.99	*(1.04)*	6.61**	.01

Note. *$p < .05$, **$p < .01$, *** $p < .001$

Table 13

Means and Standard Deviations of Dependent Variables by Grade Level

	Primary		Secondary			
Dependent Variables	M	*(SD)*	M	*(SD)*	*F*	*p*
Knowledge	62.84	*(16.50)*	64.17	*(17.95)*	.44	.51
Stigma	2.54	*(.57)*	2.30	*(.73)*	3.39	.07
Self-Efficacy	4.87	*(1.03)*	4.82	*(1.09)*	.00	.98

Note. *$p < .05$, **$p < .01$, *** $p < .001$

Table 14

Means and Standard Deviations of Dependent Variables by Importance and Grade Level

	Important				Very Important					
	Primary		Secondary		Primary		Secondary			
Dependent Variables	M	*(SD)*	M	*(SD)*	M	*(SD)*	M	*(SD)*	*F*	*p*
Knowledge	62.05	*(18.38)*	66.56	*(14.64)*	63.13	*(16.00)*	63.14	*(19.25)*	.43	.51
Stigma	2.40	*(.57)*	2.16	*(.81)*	2.60	*(.57)*	2.36	*(.70)*	.00	.97
Self-Efficacy	4.44	*(1.09)*	4.49	*(.99)*	5.02	*(.97)*	4.96	*(1.11)*	.07	.79

Note. **p* < .05, ***p* < .01, *** *p* < .001

CHAPTER V

DISCUSSION

This study sought to better understand public school teachers' perceptions of youth suicide and their perceived role in suicide prevention in the schools. A review of the current literature on youth suicide, suicide prevention in the schools, and various topics associated with teachers' perceptions of youth suicide was presented. In addition, details of the current study and its methodology were discussed. Finally, a summary of findings was reported in the previous chapter. This remaining chapter highlights the implications of the findings of this research study for both research and practical purposes and provides a discussion of the findings in light of the current available literature on this topic. Lastly, a review of the strengths and limitations of the study are provided.

Summary of the Findings

Impact of Teachers' Perceived Level of Importance of Their Role in Identifying Suicidal Youth

In general, teachers largely endorsed the belief that their role in identifying youth who are suicidal is important or very important. This finding is valuable because it emphasizes that many teachers, despite a preexisting high workload, believe they play an important role in preventing youth suicide in the schools by assisting with the identification of at-risk students (King et al., 1999; Rothí et al., 2008). Qualitative

responses provided voluntarily by participants at the end of the survey echoed this view. One such participant commented, "We see these students more than anyone else, and it is our responsibility to ensure their wellbeing. Imagine how many lives could be saved if all educators were aware, involved, and took action when it is needed."

If teachers' perceive suicide prevention as an important part of their role as a teacher, they may be more likely to desire the training needed to help them effectively intervene and assist suicidal students in getting the help they need. This notion was also emphasized in the qualitative responses provided by teachers at the end of the survey. Some teachers commented on their desire to have more training provided by their district in the area of suicide prevention: "Our schools need better support for teachers, parents, and students on suicide prevention," and "After taking this survey, I will ask my district to provide professional development in this field as I feel very unprepared to help youth who are contemplating suicide."

Teachers' reported levels of self-efficacy were significantly influenced by their level of endorsement of the importance of their role in identifying suicidal youth. Specifically, those teachers who believed their role in identifying students who are suicidal was very important displayed significantly higher levels of self-efficacy than those who only viewed their role as important. This suggests that the more a teacher takes responsibility for playing an active role in youth suicide prevention, the more confident they likely feel in identifying the youth who may be suicidal. It is possible this relationship results from their personal desire to gain more information about the topic,

causing teachers to attend additional trainings or do their own research, and thus, feel more confident in their ability to make a difference based on their increased knowledge. This idea is consistent with previous research, which found that attendance at suicide trainings increased teachers' perceived knowledge surrounding youth suicide, their sense of self-efficacy regarding their ability to prevent youth suicide, and their knowledge of services to which to refer suicidal youth (Keller et al., 2009; Wyman et al., 2008).

Both primary and secondary school teachers indicated similar levels of endorsement of the importance of their role in identifying suicidal youth. This was a unique finding as this study was the first of its kind, known to the researcher, to evaluate primary school teachers' perceptions of their role in suicide prevention. Despite the rare occurrence of completed suicide among children in primary grades, primary school teachers appear to view their role in identifying suicidal youth as an important part of their job as an educator (Drapeau & McIntosh, 2013).

Teachers' Attitudes Toward Suicide

Few studies have examined teachers' attitudes and opinions of suicide. This is the first known study that specifically examined the level of stigmatizing attitudes and opinions held by public school teachers regarding the topic of suicide. Results suggest teachers hold moderate levels of stigmatizing attitudes. In comparison to their likelihood of endorsing stigmatizing attitudes, teachers were more likely to endorse suicide as an act associated with isolation and depression, and less likely to endorse suicide as a behavior that is normal or a behavior that should be glorified (i.e., an act of bravery or courage).

Previous research found that trainee teachers commonly endorsed suicide as an impulsive and attention-seeking act (Gostelow, 1990); however, this is the extent of the previous literature on the topic. These dated findings do appear similar to those found in this study. A review of specific stigmatizing items revealed that teachers most commonly endorsed suicide as an act that is Reckless, Selfish, and Attention-Seeking. The level of stigmatizing attitudes toward suicide did not appear to differ significantly between primary and secondary school teachers or between teachers who endorse their role in identifying suicidal youth as important and very important. In addition, these attitudes were not predictive of teachers' sense of self-efficacy in identifying youth at risk of suicide.

Teachers' Knowledge of Suicide and Exposure to Suicide

Previous, albeit limited, research has suggested teachers' scores on measures examining their knowledge of suicide are mediocre at best. On various suicide knowledge questionnaires, secondary teachers' accuracy rates are reported as falling between 50% and 70% (Crawford & Caltabiano, 2008; Scoullar & Smith, 2002). In addition, teachers have reported feeling unprepared to deal with the emotional difficulties and mental health concerns of their students (Rothí et al., 2008). Findings from this study yielded similar results. The average accuracy rate on the LOSS scale was 63%. While this score cannot be directly compared to the previous assessments of knowledge described above, as they are different measures, it generally appears that knowledge of suicide among teachers remains low.

The importance of increasing teachers' knowledge about suicide was a significant finding of this study. Level of knowledge of suicide was the most significant predictor of teachers' perceived self-efficacy in identifying and intervening with students at risk for suicide. This finding supports the notion that by increasing teachers' knowledge of suicide, likely through trainings and seminars, teachers experience increased confidence in their ability to identify, work with, and refer suicidal youth. Interestingly, significant differences were not observed between primary and secondary school teachers. In addition, level of knowledge did not significantly differ between teachers' who identified their role in identifying suicidal youth as important and those who endorsed it as very important.

Similarly, teachers' level of exposure to suicide or suicide related content was a significant predictor of their sense of self-efficacy. Regression analysis revealed this relationship was positive such that high levels of exposure to suicide were associated with higher levels of self-efficacy. Logically, this finding makes sense based on the fact that exposure typically increases one's familiarity with the situation at hand. When more familiar with a particular situation, one's comfort level with addressing future situations that are similar is likely to increase. The measure of exposure was structured such that higher levels of exposure were associated with more personal experiences with suicide, such as living with someone who attempted or died by suicide or personally attempting suicide. It is possible that this personal experience with suicide is more predictive of self-

efficacy than merely having attended training or having watched a documentary on suicide (all of which are low-exposure items on the survey question examining exposure).

Teachers' Self-Efficacy in Suicide Prevention Efforts

The only known published study to address teachers' self-efficacy as it relates to youth suicide and suicide prevention outside of the context of evaluating suicide training outcomes was conducted by King et al. in 1999. Results from that study were greatly concerning, as only 9% of teachers strongly believed they could recognize a student at risk of attempting suicide. A major limitation of this study was the solicitation of only high school health teacher's responses. Just as concerning were the findings for the current study, which evaluated both primary and secondary school teachers' sense of self-efficacy in identifying suicidal youth. Only 9.2% of the present sample believed they could identify a student at risk of attempting suicide.

Fortunately, many of the surveyed teachers reported greater confidence in their ability to seek guidance from other teachers and their school counselor(s) to help determine if a child is at risk or to refer an at-risk student to the school counselor. However, it is possible that although teachers view these as possible options, many may not believe that referring to their counselor will make a difference and thus may not actually implement these actions. This notion was present in many qualitative responses provided by teachers at the end of the survey. As one teacher stated, "One of the problems in education today is that the counselors never have time to counsel. I know the counselors are too busy and don't know my kids, so it is up to me to lend a helping

hand when I get the opportunity." Another teacher stated, "Our counselor and principal seem to fluff it off," referring to the topics of depression, suicide, and bullying." Finally, another teacher directly stated that the counselor at his/her school is someone "to whom I would not send any student." Therefore, while self-efficacy scores were greater for these items, it is unknown whether teachers are actually engaging in consultation with their school counselors for these students who may be at risk for attempting suicide.

Nearly 1 in 4 teachers strongly agreed they could either contact the parent of a student or talk to the student to help determine if the child was at risk for attempting suicide. However, these were also the items most highly endorsed as strongly disagree, indicating may be the areas of greatest difficulty for teachers. This particular finding is concerning given that directly asking a student if he or she is suicidal is one of the highest recommended strategies for anyone seeking to determine if a person is thinking about taking their life by suicide. Unfortunately, many individuals continue to believe the common myth that talking about suicide increases the likelihood that someone thinking about attempting suicide will make an attempt (Gould et al., 2005). One teacher's commentary stated, "If we were educated more on how to talk with students, I think we could be even more effective! … Teachers are often told not to talk about it directly with a student and send them to the counselor instead … I'm not sure if that's the best approach." Through programs such as QPR training, teaching educators how to directly ask students if they are suicidal may need to be an area of focus for school-based suicide prevention trainings, while also emphasizing the importance of referring children to the

appropriate mental health resources rather than keeping that knowledge to oneself (Quinette, 2013).

One of the overarching goals of this research was to evaluate the factors associated with teachers' sense of self-efficacy in identifying youth who are suicidal and effectively intervening to prevent suicide in youth at risk for suicide. As has been mentioned throughout this chapter, teachers' sense of self-efficacy in identifying suicidal students and intervening to prevent suicide was predicted, first and foremost, by their level of knowledge surrounding the topic of suicide. In addition, teachers' level of exposure to suicide and their level of endorsement of the importance of their role in identifying youth who are suicidal also predicted their self-efficacy. Gender, ethnicity, and level of stigmatizing attitudes of suicide were not predictive of teachers' level of self-efficacy.

Limitations of the Study

There are a variety of limitations associated with the sample characteristics, sample size, methodology, and measures presented in this study. First and foremost, limited diversity was represented in this sample in the areas of participant characteristics and their state of current employment. Despite efforts to obtain a nationally representative sample of public school teachers in the U.S., the majority of participants were currently employed as teachers in the state of Texas. As a result, while the results may be considered generalizable to teachers in the state of Texas, it is not certain that the findings of this study are generalizable to teachers throughout the U.S.

Regarding participant characteristics, a large majority of the participants in this study identified as female. While this was expected given that the field of education is largely female-dominated, the breakdown of gender in this study was more extreme than the national breakdown. According to the most recent data available from the National Center for Education Statistics (2013), during the 2011-2012 school year, 76% of U.S. public school teachers identified as female compared to the nearly 90% who identified as female in this study. In regards to race/ethnicity, the majority of participants (85.5%) identified as Caucasian. While this does suggest limited diversity of the current sample, it appears generally consistent with the national breakdown of race/ethnicity for public school teachers in the U.S. During the 2011-2012 school year, 81.9% of U.S. teachers identified as White/Caucasian (National Center for Education Statistics, 2013).

Another limitation to the present study is sample size. Although the sample size in this study was sufficient for implementation of the selected multivariate statistics, a larger sample size may have allowed for a wider range of response patterns and allowed for increased generalizability of the findings. A larger sample size may also have allowed for greater detection of differences across primary and secondary school teachers and their endorsed level of role importance in identifying suicidal youth, as evaluated in Research Question Four. As the majority of participants identified their role in identifying suicidal youth as important or very important, the researcher was unable to examine differences between those teachers who viewed their role as not important versus important. Rather, the few participants (n = 3; see Table 5) who identified their

role as not important were omitted from the analysis and differences were only examined for participants who reported their role as important versus very important. A greater sample size may have produced a greater range of response patterns and allowed the researcher to examine differences in those participants who did not endorse their role in identifying suicidal youth as important rather than omitting their responses.

Limitations associated with the measures selected for use in this study are also present. Although the psychometrics associated with the SOSS scale are impressive, current publications using these scales have only occurred with Australian populations and have not been examined for teachers. It is possible that cultural differences in attitudes toward suicide are present and thus the scale may not capture the full nature of U.S. teachers' attitudes toward suicide. In addition, the Efficacy Expectations subscale and demographic items associated with involvement in training on youth suicide that were utilized in this survey were adopted from a rather dated study (King et al., 1999). Survey items that were researcher developed, such as the question pertaining to teachers' endorsement of the level of important of their role in identifying suicidal youth, lack validation and reliability information.

Although increased self-efficacy influences future behavior by reducing defensive behaviors that may reduce the likelihood that a person attempts a particular behavior, improved self-efficacy does not provide a guarantee that individuals will follow through with the behavior they believe they can complete. In this circumstance, while this study greatly expands the literature on teachers' sense of self-efficacy in suicide prevention

efforts, it does not measure the actual behaviors that teachers may engage in to prevent suicide in the school. For example, if teachers' feel strongly they can effectively refer students to a school counselor when they are at risk for attempting suicide, it does not necessary mean they will follow through with this action. This is a limitation of the study that should be strongly considered, as the results do not indicate the actual behaviors for suicide prevention in which teachers may engage.

Finally, an additional limitation of this study was the use of an online survey format to elicit responses from participants. While the use of technology increases the ease and ability to reach a variety of participants, it also significantly reduces the researcher's control over the sample (Gravetter & Forzano, 2012). It is also possible that the use of subjective measures on the survey influenced a socially desirable response bias, a tendency for participants to respond in a way that is deemed acceptable in the eyes of others rather than providing a response truly reflective of their own feelings (Grimm, 2010). The overarching topic addressed in this study, the topic of suicide, is generally considered sensitive. In an effort not to appear biased on such a sensitive topic, it is possible that teachers responded in a socially desirable manner. This may be especially true for teachers' responses on items requiring them to endorse their attitudes or opinions surrounding suicide, such as the SOSS scale and the question addressing their attitudes toward their role in identifying suicidal youth.

Implications for the Practice of Psychology in the Schools

The research findings from this study yield helpful information when considering how schools develop and manage their efforts toward suicide prevention. This research strongly supports the notion that teachers may lack the necessary knowledge about suicide to help them effectively prevent it (Leane & Shute, 1998; Scouller & Smith, 2002; Wyman et al., 2008). In addition, qualitative information provided by teachers suggest that they desire to feel more knowledgeable and effective in suicide prevention and they view their role in identifying students who are at risk for suicide as important. Taken together, these findings greatly support the need to provide high-quality trainings to educators on the topic of youth suicide. In addition, the findings indicate this training should include developing teachers' knowledge and skill regarding how to directly ask a student if he or she is experiencing thoughts of suicide, as this was rated as an area of low self-efficacy for teachers.

The findings also demonstrated that exposure, knowledge, and perceived level of importance predicted teachers' sense of self-efficacy. By promoting a school culture that works diligently to have open conversation about this challenging topic and that strongly emphasizes teachers' role in recognizing mental health concerns of their students, as well as providing high quality trainings to improve teachers' knowledge of suicide, school leaders may be able to improve the self-efficacy of their staff and improve their efforts toward preventing suicide (National Association of School Psychologists, 2010). This change in school culture may require the continued efforts and encouragement of the

school psychologist or counselor to advocate for increased mental health trainings for teachers by sharing these findings with and further educating school administrators.

Implications for Future Research

Replicating this study with a larger and more diverse sample may yield more significant findings. Specifically, seeking a more nationally representative sample would allow results to be more generalizable to U.S. public school teachers. The insignificant findings, particularly those associated with the differences in suicide-related variables between primary and secondary school teachers, may be further investigated with a larger sample size. In addition, it would be interesting to compare teachers' level of stigmatizing attitudes toward suicide to the level of stigmatizing attitudes of the general population.

Future research should consider the use of more direct methods of examining how teachers' might respond to situations involving students at risk of attempting suicide. The use of sample vignettes of a suicidal student could be employed to ascertain if teachers' would accurately identify the student as at risk for suicide, as well as gauge teachers' responses to getting the student the help they may need. While examining teachers' sense of self-efficacy in identifying students at risk of suicide is helpful due to the likelihood that such self-efficacy promotes improved preventative behaviors (i.e., being able to identify a student at risk for suicide, referring a student at risk for suicide to the school counselor), it does not fully evaluate the actual behavior in which the teacher would engage.

Strengths of the Study

One of the greatest strengths of this study is the expansion of the literature on a substantially under-researched topic. Little to no research has previously examined public school teacher's perspectives on the topic of youth suicide; however, the role teachers can play in youth suicide prevention is arguably substantial and valuable. By examining teachers' attitudes, knowledge, and sense of self-efficacy associated with the topic of youth suicide, researchers can begin to determine the areas that should be targeted in suicide prevention trainings for teachers. This was the first known study to comprehensively examine teachers' attitudes toward the topic of suicide. It was also the first known study to investigate teachers' perceived self-efficacy in identifying suicidal youth and effectively intervening to prevent youth suicide since the year 1999 in a context not associated with suicide prevention training outcomes.

The inclusion of primary school teachers is also a significant strength of this study. Of the little available research regarding teachers' perceptions and knowledge of youth suicide, only secondary school teachers have been included in such research. This study was the first of its kind to elicit information from teachers in grades Kindergarten through fifth grade. While the rates of completed suicide among youth during the primary school years is extremely rare, these children may still experience suicidal ideation that goes unreported due to their age. In addition, preventative efforts would benefit from identifying the students at risk for developing suicidal behaviors during their primary school years to reduce the likelihood of suicide attempts later in life.

The use of the SOSS in the survey also functioned as a strength in this study. Previously, attitudes and opinions on the topic of suicide have commonly been measured using scales such as SOQ. This scale, while widely used, has been critiqued for is lengthiness and poor factor structure (Domino et al., 1982; Anderson et al., 2008). In addition, the SOSS is the first scale of its kind to address participant level of endorsement of stigmatizing attitudes held about suicide and contributed to the uniqueness of this study.

Conclusion

The current study sought to explore teachers' perceptions of youth suicide and examined the relationship between teachers' endorsed level of importance of their role in identifying students who are suicidal, levels of knowledge of suicide, attitudes toward suicide, and perceived self-efficacy in identifying and intervening with suicidal youth. In addition, differences in teachers' knowledge of suicide, stigmatizing attitudes toward suicide, and self-efficacy were examined as a function of grade level taught (primary versus secondary) and level of importance of role in identifying suicidal youth (important versus very important). It was discovered that the majority of teachers' believe their role in identifying youth who are at risk for attempting suicide is an important component of their job as an educator. In addition, statistically significant differences in teachers' level of self-efficacy in identifying and intervening with suicidal youth were evident as a function of the level of importance teachers endorsed. No significant differences were observed in suicide-related variables between primary and secondary school teachers.

The researcher also found that teachers' level of exposure to suicide, knowledge of suicide, and level of importance in their role in identifying suicidal youth were all predictive of teacher's overall self-efficacy in suicide prevention efforts.

Although substantial research is needed to further explore the areas in which suicide prevention trainings can be improved for educators, this study provides solid evidence of the need for public school teachers to improve their knowledge of youth suicide to better develop their sense of self-efficacy. It is the hope of the researcher that by increasing these areas in public school teachers, teachers can more effectively assist in the prevention of youth suicide through the relationships they build with students in the schools. In addition, this research provides guidance for suicide prevention training programs to determine the areas to best target when educating teachers about youth suicide. One teacher's response to this research survey was this: "I feel as though I am instrumental in preventing suicide, but I am not sure what to do." It is imperative that mental health professionals, including counselors, school psychologists, and any other relevant members of the field, fight and advocate for helping teachers gain the necessary skills they desperately desire to help save the lives of young people.

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APPENDIX A

Consent Form

TEXAS WOMAN'S UNIVERSITY

CONSENT TO PARTICIPATE IN RESEARCH

Title: Teacher Perceptions of Youth Suicide: Knowledge, Opinions, and Perceived Self-Efficacy in Identifying Students at Risk

Investigator: Whitney Appleby ……..wbammel@twu.edu [redacted]

Advisor(s): Kathy DeOrnellas, PhD……...kdeornellas@twu.edu 940/898-2315

Lisa Rosen, PhD ……..lrosen@twu.edu 940/898-2301

Explanation and Purpose of the Research

You are being asked to participate in a research study that is being conducted by Whitney Appleby to fulfill the completion of her doctoral dissertation at Texas Woman's University. The purpose of this research is to evaluate teachers' knowledge and opinions related to youth suicide and their sense of self-efficacy in the process of identifying and assisting students who may be at risk for suicide. You have been asked to participate in this study because you are a public school teacher that is currently employed teaching children in Kindergarten through 12th grade.

Description of Procedures

As a participant in this study, you will be asked to spend approximately 15 to 20 minutes of your time completing a survey administered in an online format. The survey will include questions about your experience with suicide training, your familiarity with a variety of factors surrounding suicide in youth populations, and your level of comfort in identifying and working with children who may be at-risk for suicidal behavior. Your

responses to the questions will be anonymous. The responses received from this survey will be aggregated with hundreds of other responses and will not be analyzed on an individual basis. In order to be a participant in this study, you must currently be a teaching in an elementary or high school setting.

Potential Risks

This survey will ask you questions about your understanding of facts surrounding youth suicide. The survey will also ask questions about how you feel about yourself as an agent of identifying and helping students who are at risk of suicide. As suicide can be a very difficult topic, a possible risk in this study is discomfort with the questions you are asked. If you are someone who has had close personal experience with suicide, these questions could potentially elicit greater discomfort than for others. If you become tired or upset you may take breaks as needed. You may also terminate the survey at any time if you feel that you cannot continue. If you feel you need to talk to a professional about your discomfort, the following website may assist you in finding a psychologist using the psychologist locator tool sponsored by the American Psychological Association: http://locator.apa.org/.

Another risk in this study is loss of confidentiality. Confidentiality will be protected to the extent that is allowed by law. The questions in the study will not ask you to provide any specific personal identifying information. The results of your survey will be stored on the database provided by the online survey host and later aggregated into a document stored by the researcher in an electronic format. Only the researcher, her

advisor, and any research assistants will have access to the data that is produced from the study. The results of the study will be reported in a dissertation and may also be reported in scientific magazines or journals but your name or any other identifying information will not be included.

The researchers will try to prevent any problem that could happen because of this research. You should let the researchers know at once if there is a problem and they will help you. However, TWU does not provide medical services or financial assistance for injuries that might happen because you are taking part in this research.

Participation and Benefits

Your involvement in this study is completely voluntary and you may withdraw from the study at any time. Your participation in this study will aid our understanding of how public school teachers view and understand suicide among youth populations. The hope is that this research will improve the suicide prevention efforts in public education and ultimately help save the lives of youth who are suicidal. If you would like to know the results of this study, a link at the end of the survey will take you to a separate survey asking you to provide your contact information. Your contact information will not be linked with your survey in order to protect the confidentiality of your individual responses.

Questions Regarding the Study

You may print this consent form for your record or in the event that you need to contact the researchers at any time. If you have any questions about the research study

you should ask the researchers; their phone numbers are at the top of this form. If you have questions about your rights as a participant in this research or the way this study has been conducted, you may contact the Texas Woman's University Office of Research and Sponsored Programs at 940-898-3378 or via e-mail at IRB@twu.edu.

Please indicate your willingness to participate in this research study:

c I have read the above information and AGREE to participate in this study.

c I have read the above information and DO NOT AGREE to participate in this study.

APPENDIX B

Teacher Perceptions of Youth Suicide Survey

TEACHER PERCEPTIONS OF YOUTH SUICIDE SURVEY

1. Are you currently employed as a public school teacher in the United States (currently teaching any youth in Kindergarten through 12th grade)?
    - Yes
    - No
2. What is your age? _____
3. What is your gender?
    - Female
    - Male
    - Other: _____
    - I prefer not to disclose
4. What is your race/ethnicity?
    - Black/African American
    - Asian/Pacific Islander
    - Hispanic
    - White/Caucasian
    - Other (please specify): _____
5. What is your education level (highest degree earned)?
    - Bachelor's degree
    - Master's degree
    - Education Specialist's degree

- Doctoral degree
- Other (please specify): _____

6. In what state are you currently teaching?
    - <Drop down menu of all 50 states available in online format of survey>
7. Please provide the name of the district in which you are currently teaching:

    _____
8. How many years have you been teaching youth? _____
9. Which of the following grade levels are you **currently** teaching? (If teaching more than one grade level, please select all that apply currently).
    - <Drop down menu of grade levels Kindergarten through 12th will be available in online format of survey>
10. Have you attended any in-service training(s) offered to teachers and/or staff at your school/district on youth suicide in the past 5 years?
    - Yes
    - No
    - Unsure
11. Have you attended any form of training on your own on youth suicide in the past 5 years (i.e., outside conferences, online webinars, etc.)?
    - Yes
    - No
    - Unsure

12. As a teacher, how important is your role in identifying students who are suicidal?
    - Not at all important (it is not my role or responsibility)
        i. In the school setting, whose role do you believe it is to identifying students who may be suicidal? _____
    - Not that important
    - Important
    - Very important (it is very much part of my role or responsibility)
13. Please read each of the following statements carefully. After you have read all the statements below, select **all** of the statements that best depict your exposure to suicide.
    - I have not had any exposure to suicide or suicide-related material
    - I have observed suicide in a movie or television show
    - I have watched a documentary or attended a training about suicide
    - My coworker or colleague attempted or died by suicide
    - I have provided services to someone who attempted or died by suicide
    - An acquaintance attempted or died by suicide
    - I have a relative who attempted or died by suicide
    - I have a close friend who attempted or died by suicide
    - I lived with someone who attempted or died by suicide
    - I have attempted suicide.

Using the scale below, please rate how much you agree with the descriptions of people who take their own lives (die by suicide).

In general, people who die by suicide are …

	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
14. Alienated	□	□	□	□	□
15. Arrogant	□	□	□	□	□
16. Attention-seeking	□	□	□	□	□
17. Barbaric	□	□	□	□	□
18. Brave	□	□	□	□	□
19. Broken	□	□	□	□	□
20. A burden	□	□	□	□	□
21. Committed	□	□	□	□	□
22. Cowardly	□	□	□	□	□
23. Cruel	□	□	□	□	□
24. Cut-off	□	□	□	□	□
25. Dedicated	□	□	□	□	□
26. Depressed	□	□	□	□	□
27. Disconnected	□	□	□	□	□
28. Disturbed	□	□	□	□	□
29. An embarrassment	□	□	□	□	□
30. Evil	□	□	□	□	□
31. Failures	□	□	□	□	□
32. Fearless	□	□	□	□	□
33. Hurt	□	□	□	□	□
34. Hurtful	□	□	□	□	□
35. Ignorant	□	□	□	□	□
36. Immoral	□	□	□	□	□
37. In pain	□	□	□	□	□
38. Irresponsible	□	□	□	□	□
39. Isolated	□	□	□	□	□
40. Lazy	□	□	□	□	□
41. Lonely	□	□	□	□	□
42. Lost	□	□	□	□	□
43. Miserable	□	□	□	□	□
44. Motivated	□	□	□	□	□

45. Noble	□	□	□	□	□
46. Pathetic	□	□	□	□	□
47. Powerful	□	□	□	□	□
48. Punishing others	□	□	□	□	□
49. Rational	□	□	□	□	□
50. Realistic	□	□	□	□	□
51. Reckless	□	□	□	□	□
52. Sad	□	□	□	□	□
53. Selfish	□	□	□	□	□
54. Senseless	□	□	□	□	□
55. Shallow	□	□	□	□	□
56. Shameful	□	□	□	□	□
57. Strange	□	□	□	□	□
58. Strong	□	□	□	□	□
59. Stupid	□	□	□	□	□
60. Trapped	□	□	□	□	□
61. Understandable	□	□	□	□	□
62. Unfair	□	□	□	□	□
63. Unforgivable	□	□	□	□	□
64. Unhappy	□	□	□	□	□
65. Unjustifiable	□	□	□	□	□
66. Unnatural	□	□	□	□	□
67. Useless	□	□	□	□	□
68. Vengeful	□	□	□	□	□
69. Violent	□	□	□	□	□
70. Weak	□	□	□	□	□
71. Withdrawn	□	□	□	□	□

Please indicate to what extent you agree or disagree with each of the following statements:

72. I believe I can recognize a student at risk of attempting suicide.

1						7
Strongly Disagree	2	3	4	5	6	Strongly Agree

73. I believe I can talk with teachers and counselors at my school to help determine whether or not a student is at risk of attempting suicide.

1						7
Strongly Disagree	2	3	4	5	6	Strongly Agree

74. I believe I can talk with the parent(s) of a student to help determine whether or not the student is at risk of attempting suicide.

1						7
Strongly Disagree	2	3	4	5	6	Strongly Agree

75. I believe I can ask a student at risk of attempting suicide if he/she is suicidal.

1						7
Strongly Disagree	2	3	4	5	6	Strongly Agree

76. I believe I can effectively offer support to a student at risk of attempting suicide.

1						7
Strongly Disagree	2	3	4	5	6	Strongly Agree

77. I believe I can refer a student at risk of attempting suicide to a school counselor

1						7
Strongly Disagree	2	3	4	5	6	Strongly Agree

Please read the following statements and indicate whether you think they are true or false:

	True	False	Don't Know
78. Nothing can be done to stop people from making the attempt once they have made up their minds to kill themselves	□	□	□
79. If assessed by a psychiatrist, everyone who dies by suicide would be diagnosed as depressed	□	□	□
80. Seeing a psychiatrist or a psychologist can help prevent	□	□	□

someone from attempting suicide			
81. Most people who die by suicide are psychotic	□	□	□
82. Only experts can help people who want to die by suicide	□	□	□
83. There is a strong relationship between alcoholism and suicide	□	□	□
84. People who talk about suicide rarely kill themselves	□	□	□
85. People who want to die by suicide can change their mind quickly	□	□	□
86. Talking about suicide always increases the risk of suicide	□	□	□
87. A person who has made a past suicide attempt is more likely to attempt suicide again than someone who has never attempted	□	□	□
88. Media coverage of suicide will inevitably encourage other people to attempt suicide	□	□	□
89. Not all people who attempt suicide plan their attempt in advance	□	□	□
90. People who have thoughts about suicide should not tell others about it	□	□	□
91. Very few people have thoughts about suicide	□	□	□
92. People who are anxious or agitated have a higher risk of suicide	□	□	□
93. Most people who die by suicide are younger than 30	□	□	□
94. Men are more likely to die by suicide than women	□	□	□
95. People with relationship problems or financial problems have a higher risk of suicide	□	□	□
96. Most people who die by suicide don't make future plans	□	□	□
97. If you asked someone directly "Do you feel like killing yourself?" it will likely lead that person to make a suicide attempt	□	□	□
98. A suicidal personal will always be suicidal and entertain thoughts of suicide	□	□	□
99. A person who dies by suicides is mentally ill	□	□	□
100. A time of high suicide risk in depression is at the time when the person begins to improve	□	□	□
101. Motives and causes of suicide are readily established	□	□	□
102. Most people who attempt suicide fail to kill themselves	□	□	□
103. Those who attempt suicide do so only to manipulate others and attract attention to themselves	□	□	□

104. If you are interested, please take a moment to provide any personal thoughts/feedback/experience on the topic of youth suicide and teachers' role in helping identify and assist with prevention for students who may be suicidal.

_____

_____

_____

APPENDIX C

IRB Approval Letter

Institutional Review Board
Office of Research and Sponsored Programs
P.O. Box 425619, Denton, TX 76204-5619
940-898-3378
email: IRB@twu.edu
http://www.twu.edu/irb.html

DATE: February 9, 2016

TO: [redacted]
Psychology & Philosophy

FROM: Institutional Review Board (IRB) - Denton

Re: *Exemption for Teacher Perceptions of Youth Suicide: Knowledge and Opinions of Suicide and Perceived Self-Efficacy in the Identification of Students at Risk for Suicide (Protocol #: 18898)*

The above referenced study has been reviewed by the TWU IRB (operating under FWA00000178) and was determined to be exempt from further review.

If applicable, agency approval letters must be submitted to the IRB upon receipt PRIOR to any data collection at that agency. Because a signed consent form is not required for exempt studies, the filing of signatures of participants with the TWU IRB is not necessary.

Although your protocol has been exempted from further IRB review and your protocol file has been closed, any modifications to this study must be submitted for review to the IRB using the Modification Request Form. Additionally, the IRB must be notified immediately of any adverse events or unanticipated problems. All forms are located on the IRB website. If you have any questions, please contact the TWU IRB.

cc. [redacted]
Graduate School