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The Impact Of Implicit Attitudes On Behavioral Intentions To Prevent Suicide

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THE IMPACT OF IMPLICIT ATTITUDES ON
BEHAVIORAL INTENTIONS TO PREVENT SUICIDE

by

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This dissertation, submitted by Julio Brionez in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

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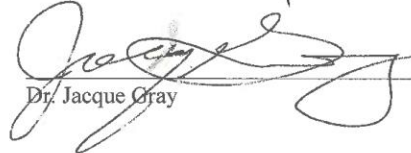Dr. Rachel Navarro, Chairperson

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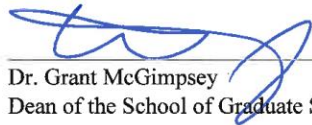Dr. Ashley Hutchison

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This dissertation is being submitted by the appointed advisory committee as having met all the requirements of the School of Graduate Studies at the University of North Dakota and is hereby approved.

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                                                Julio Brionez

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For Tracy

Abstract

The suicide rate in the United States of America continues to climb despite national strategies to reduce it (Centers for Disease Control and Prevention & National Center for Health Statistics, 2016; U.S. Department of Health and Human Services (HHS) Office of the Surgeon General & National Action Alliance for Suicide Prevention, 2012). What the strategies lack is mechanisms to target implicit attitudes (IAs) about suicide. This omission is important as IAs have been effective at predicting future suicide attempts (Nock et al., 2010). This study used an implicit association test of attitudes to suicide (IAT-SUICIDE) to examine IAs to suicide using sympathy and stigma word pairings. The IAT-SUICIDE compared reaction times of participants to images of suicide attempts with stigma or sympathy word pairings (e.g., suicide + bad or suicide + sad). Six other measures were used in this study to assess (a) attitudes toward suicide (b) attitudes to people who die or attempt suicide (c) knowledge of suicide prevention and risk factors (e) intent to prevent suicide by asking or referring (e) exposure to suicide (f) depression symptomology. Adults (*N*=111) from 32 states took part in this study. Results show IAs to suicide significantly affected explicit attitudes to suicide in two domains (incomprehensibility, sympathy). Additional findings showed exposure to suicide significantly affected knowledge of suicide prevention and risk factors. Results show necessity for prevention education for people with implicit stigma and low to no exposure to suicide. Limitations to the study, areas for improvement, and directions for future research are discussed.

CHAPTER I

INTRODUCTION

This chapter will briefly present a rationale for the proposed study that investigates if positive or negative implicit attitudes (IAs) predict explicit behavior intentions toward people at risk for suicide. To begin, the research problem will be delineated by highlighting a brief history of attitudes toward suicide. Then, the focus will turn to what type of IAs adults may have toward suicide attempts and how IAs relate to explicit attitudes and behavioral intentions to prevent suicide. This will be followed by a brief review the history of suicide prevention efforts in the United States of America, in addition to limitations of these efforts. Current research about suicide prevention will then be reviewed, including the limitations of current suicide prevention measures. The purpose of the proposed study along with its potential findings and implications then will underscore its potential significance. This chapter will conclude with the proposed study's delimitations and a listing of often used terms.

Research Problem

Stigmatizing attitudes toward people who die by suicide impact help-seeking intentions for suicidality (Batterham, Calear, & Christensen, 2013a). Stigmatizing or negative attitudes toward people who die by suicide are not necessarily a new phenomenon. An earlier study noted attitudes toward suicide have historically been negative in Western Societies (Stillion & Stillion, 1999). These types of attitudes had been shaped partly by Christian proclamations of

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suicide being akin to the Sixth commandment (Thou shalt not kill). Jewish law does not apply

the Sixth commandment of "Thou shall not kill" to suicide (Jacobs, 1995). However, Judaism

condemns suicide, and Jewish doctrine says an individual does not have the right to wound their

body much more take their own life (Bailey & Stein 1995; Gearing & Lizardi, 2009; Schwartz &

Kaplan 1992). Reverberations of the attitudes are seen in extreme views of people who died by

suicide such that they were viewed as a committing a triple crime: murder, treason, and heresy

(Farberow, 1975). As the act of suicide was prosecuted, its punishment became common both

for the deceased and for his or her family in parts of the world. For example, during the sixth

and seventh centuries in Rome, the Catholic Church denied funeral rites to suicide completers

(Jamison, 1999). In the same period, Jewish tradition forbade suicide and required that buried

the dead in isolated parts of cemeteries so as not to bury "the wicked next to the righteous

(Jamison, 1999, p. 14)."

A shift in beliefs about and attitudes toward suicide occurred in the 19th and 20th

century's as more psychological and sociological conceptualizations of suicide took place. A

contribution to the shift from the condemnation of suicide was the publication of Émile

Durkheim's (1897) book, *Le Suicide/Suicide*. His text gave insight into suicide as an act to

study, and not just condemn. He used sociological methods to understand suicide as an

individual phenomenon and offered data to help predict who would be act risk for suicide (e.g.,

suicide as the result of mental illness). Another contribution to the shift to understanding rather

than condemning suicide was the emphasis has been placed on mental health from a

psychological perspective. For example, Freud wrote in Mourning and Melancholia (1917) that

suicide results when anger, harbored by the id toward some outside force, is turned inward upon the ego. Freud further hypothesized that suicide could result from the superego becoming "a pure culture of the death (Freud, 1923, p. 52)." Freud's statement, along with the framework posited by Durkheim, alluded a shift toward understanding suicide rather than condemning it or persons who died by the act.

The attitudinal shift also let to paradigm change in the research. Early research on attitudes toward suicide found men and women had distinct views of the act and those who died by suicide. Male and female participants rated people who completed suicide as more masculine and potent than non-completers of suicide (Linehan, 1973). The distinct way in which men and women viewed suicide led to more research designed to understand gender differences in attitudes toward suicide (Marks, 1988; Wellman & Wellman, 1986).

Overarching results from the endeavors showed that women tended to view those who died by suicide as normal people who were affected by mental illness, while men tended to view those who died by suicide as not normal. Men also reported they would avoid talking to someone about suicide of fear that such action might precipitate suicide, while women reported more willingness to do so (Wellman & Wellman, 1986). Research from Australia showed males had more negative attitudes and less knowledge about suicide than women (Batterham, Calear, & Christensen, 2013a). Findings showed less exposure to suicide (ETS), older age, male gender, less education, and culturally diverse backgrounds were associated with poorer knowledge; while younger age, male gender, and culturally diverse backgrounds were associated with more

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stigmatizing attitudes toward people who die by suicide (Batterham, Calear, & Christensen, 2013a).

While research into explicit attitudes toward suicide is valuable, it ignores the usefulness of implicit automatic reactions of stigma and negative attitudes toward people who consider suicide. IAs are defined as the positive or negative evaluations of some concept (i.e., a person, place, thing, or idea) outside of our conscious awareness (Project Implicit, 2011). IAs toward certain objects or concepts have been shown to affect one's explicit behavior toward the object or concept (Fazio & Olson, 2014). Additionally, earlier research showed that IAs are difficult to control, fake, or capture with standard self-report measures (Cunningham, Nezlek, & Banaji, 2004; Rüsch, Todd, Bodenhausen, Weiden, & Corrigan, 2009).

There is not, yet, studies which assess IAs toward people who attempt suicide. Nor are there any implicit measures of attitudes toward suicide or those who attempt with positive or negative connotations (e.g., "bad" or "sad"). However, Nock et al., (2010) showed the value of an implicit association test (IAT) in assessing attitudes of those who had attempted suicide. In this study, participants who had recently attempted suicide completed an IAT to measure the valence of their implicit attitude to life or death. Nock and colleagues surmised scores from their IAT was effective in predicting who would try suicide again. Based on their findings, authors emphasized the validity of their measure and noted the high specificity of the IAT made it especially useful when combined with other measures to predict suicidal behavior. Founded upon the knowledge of Nock and colleagues, the current study plans to effectively measure

implicit attitudes toward suicidal behavior, combined with other measure, and examine intent to prevent suicide.

By identifying IAs, including stigma, which may exist in the community, this study will offer support for targeted programming to increase intentions to prevent suicide and reduce stigma (Corrigan & Penn, 1999; Jorm et al., 2003). Such programs may incorporate psychoeducational interventions, such as public exposure to people who have a contemplated suicide or mass media campaigns promoting the warning signs of suicide and the prevention of suicide (Corrigan & Penn, 1999; Jorm et al., 2003).

Combined with the lack of information about IAs, and the extent to which attitudes toward suicide effect intent to prevent suicide, the goal of this study is to gain new information. This current information will, ideally, consist of clearer measures of attitudes toward suicide obtained from implicit and self-report (explicit) measures of attitudes toward suicidal behavior used in this study. With a clearer understanding, another goal of this study is to find barriers to suicide prevention, and gain information useful information about those prepared to engage in prevention measures, like asking about suicide in response to warning signs.

Suicide Prevention Efforts

Concentrated efforts to prevent suicide in the United States of America began in 1958 with the establishment of the first suicide prevention center in Los Angeles, California (U.S. Department of Health and Human Services (HHS) Office of the Surgeon General & National Action Alliance for Suicide Prevention, 2012). This center consisted of a small group of dedicated clinicians interested in better understanding suicide and its prevention. Further efforts

to prevent suicide continued nationally and have included research, education, clinical interventions, and a national call to action.

The first national call to action to prevent adult suicide was published by the U.S. surgeon general in 1999 (U.S. Public Health Service, 1999). At the time, the suicide rate of adults was 13.6 per 100,000 people (i.e., per capita) with a total of 28,162 lives lost to acts of intentional harm. This call to action led to the creation of the first National Strategy for Suicide Prevention [U.S. Department of Health and Human Services (HHS), 2001]. The strategy first set out to develop national framework to prevent suicide by increasing awareness, intervention, and methodology (AIM) to prevent suicide. The AIM framework sought to broaden the public's awareness of suicide and its risk factors. Additionally, the framework enhanced services and programs in clinical care settings to advance the science of suicide prevention (U.S. Public Health Service, 1999). Two years later a new national strategy was launched by a combination of national organizations, the scientific community, and peers. This strategy was the first to integrate the suicide prevention work of all groups at national, state, and local levels.

The 2001 National Strategy for Suicide Prevention was based on a framework to increase awareness in the public about suicide prevention, enhance service and programs for suicide prevention, and advance the science of suicide prevention through research on effective programs and treatments (U.S. Department of Health and Human Services, 2001). Efforts to increase awareness consisted of an aim to increase the number of states in which public information campaigns designed to increase public knowledge of suicide prevention reach at least 50 percent of the State's population. The enhancement of service and programs for suicide

prevention included the goal to increase the proportion of States with comprehensive suicide prevention plans that coordinate across government agencies, involve the private sector, and support plan development, implementation, and evaluation in its communities.

Efforts to advance the science of suicide prevention through research included the goal to develop one or more training and technical resource centers to build capacity for States and communities to implement and evaluate suicide prevention programs. Despite the collective efforts of the 2001 national strategy, the number of suicide deaths in America increased 36% from 1999 to 2014 (Centers for Disease Control and Prevention & National Center for Health Statistics, 2016). The increases were so widespread that they lifted the nation's suicide rate to 13 per 100,000 people, the highest since 1986 (Tavernise, 2016).

Given the continued increases in suicide, the national suicide prevention strategy was updated in 2012. The updates were said to reflect advances in suicide prevention research and practice during the past decade (U.S. HHS Office of the Surgeon General & National Action Alliance for Suicide Prevention, 2012). The strategy also added new knowledge on groups at increased risk, evidence of the effectiveness of suicide prevention interventions, and an increased recognition of the value of comprehensive and coordinated prevention efforts. The 2012 strategy included a goal to implement research-informed communication efforts designed to prevent suicide "by changing knowledge, attitudes, and behaviors (pp. 32-33)."

This was an effort to promote changes in the environment. Such changes were hypothesized to support suicide prevention and reduce biases and prejudices associated with suicide (p. 32). However, two years after the implementation of the 2012 national strategy, the

suicide rate in America increased 5% (Centers for Disease Control and Prevention & National Center for Health Statistics, 2016).

Despite collective efforts to prevent suicide nationally, the rate of deaths continues to rise. It appears each effort focused on explicit knowledge, attitudes, and behaviors, as means to prevent suicide, yet have not included an emphasis on IAs of adults toward suicide and people at risk for suicide. National strategies have not used IAs in prevention strategies. This omission ignores the value of IAs and their role in attitude formation, behavior intention, and action (Goodall & Slater, 2010). Understanding IAs toward suicide and those at risk for suicide may be useful in the creation of public education targeted at those inherently unwilling to prevent a suicide due to stigmatized attitudes toward the behavior. Thus, the proposed study examines the role of IAs toward suicide and those at risk for suicide on adults' willingness, or lack thereof, to prevent suicide (i.e., behavioral intentions).

Research Studies on Suicide Prevention

Current suicide prevention research includes the effectiveness of pharmacotherapy, psychotherapy, means restriction, and gatekeeper education to prevent suicide. Research into the impact of pharmacotherapy was conducted through a systematic literature search to identify all randomized controlled trials of selective serotonin reuptake inhibitors (SSRIs) indexed on Medline between 1967 and June 2003 (Fergusson et al., 2005). Seven hundred and two trials were analyzed and results found a significant increase in the odds of suicide attempts (odds ratio 2.28, 95% confidence) for patients receiving SSRIs compared with placebo. A secondary study using Food and Drug Administration (FDA) summary reports of the controlled clinical trials for

nine modern FDA-approved antidepressants provided data for comparing rates of suicide (Khan, Khan, Kolts, & Brown, 2003).

Findings from this study of 48,277 depressed patients who took part in the trials did not support either an overall difference in suicide risk between antidepressant- and placebo-treated depressed subjects in controlled trials or a difference between SSRIs and either other types of antidepressants or placebo. Results from each study's analysis suggest that use of antidepressants had negligible effect on suicide rates in clinical trials reviewed. Conversely, studies using pharmacotherapy do not typically discuss implicit reactions or attitudes toward suicide by self or others and their impact on suicidal ideation along with suicide attempts or completions. Given the potential for implicit bias against people contemplating suicide, this study proposes the need of an IAT which may measure such biases. It is hoped that the IAT developed for this study will serve as a tool to assess and control for people who hold implicit stigma toward participants in a drug trial to prevent suicide. By controlling for the presence of barriers to care, like stigma in care workers, the IAT may enhance drug trials efficacy by reducing the potential for patients to be negatively influenced by stigma.

Studies testing the efficacy of psychotherapy showed promise in the reduction of suicidal behavior through cognitive therapy, dialectical behavior therapy, and brief psychodynamic interpersonal therapy (Guthrie, Kapur, & Mackway-Jones, 2002; Linehan et al., 2006). A randomized control trial of cognitive therapy for adults who attempted suicide resulted in a significantly lower reattempt rate when compared to a control group (Brown et al., 2005). Participants were also 50% less likely to reattempt suicide than participants in the usual care

group. Authors concluded that cognitive therapy was effective in preventing suicide attempts for adults who recently attempted suicide.

Specific to dialectical behavior therapy (DBT), a two-year randomized control trial (and one year follow up) found the treatment was associated with decreased hospitalization for suicide ideation (Linehan et al., 2006). Additionally, the DBT treatment participants had lower medical risk across all suicide attempts and had few hospitalizations or psychiatrist emergency visits. At follow up patients maintained treatment gains, with authors saying DBT was effective in reducing suicide attempts (Linehan et al., 2006).

A randomized control trial testing the efficacy of brief psychodynamic interpersonal therapy to reduce suicidal ideation, depressive symptoms, patient, satisfaction with treatment, and self-reported later attempts at self-harm was conducted with adults who had deliberately poisoned themselves and presented to the emergency department of a teaching hospital (Guthrie et al., 2001). Results from this trial were that participants who received treatment, compared to those who received treatment as usual (e.g., physician assessment and/or referral to outpatient care) had a significantly greater reduction in suicidal ideation at six months follow up. Additionally, treatment participants were more satisfied with their treatment and were less likely to report repeated attempts to harm themselves at follow up (Guthrie et al., 2001). Findings from the above psychotherapy treatment studies show effective reduction in suicidal ideation and future attempts. Such interventions may be complemented using IAs of the support network of persons who are undergoing therapy. The combination of a supportive environment free of

implicit bias and efficacious therapy may further reduce the rate of suicidal ideation and future attempts.

Studies of the impact of means restriction of suicide found that restricting access to lethal methods decreases suicides by those methods (Mann et al., 2005). An example of research about means restriction included the impact of the Brady Handgun Violence Prevention Act (Ludwig & Cook, 2000). The act set up a nationwide requirement that licensed firearms dealers observe a waiting period and start a background check for handgun sales in the United States.

An analysis of vital statistics data in the United States for 1985 through 1997 from the National Center for Health Statistics compared to the firearm homicide and suicide rates per 100,000 adults (≥ 21 years and ≥ 55 years) and proportion of homicides and suicides resulting from firearms were calculated by state and year. Researcher data suggested changes in rates of homicide and suicide for treatment and control states were not significantly different, except for firearm suicides among persons aged 55 years or older. Authors said the estimated association between the Brady Act treatment and gun suicide rates among persons aged 55 years and older is equal to about 6% of the gun suicide rate among this age group in the control states after the Brady Act had become law. Means restriction in this case showed an efficacious use of legislation to reduce suicide using firearms, the highest means for suicide nationally (CDC/National Center for Health Statistics, 2016).

The reduction of suicide by the restriction of means can be supplemented with further information about views in the local environment of suicide and of those who contemplate suicide. The combination of knowledge of one's bias toward suicidal behavior as a bad or sad

act prior to buying a firearm (or other means) may help in the reduction of suicide in those who hold implicit biases toward suicide and people who attempt suicide.

Another form of prevention is through education using programs to increase knowledge of warning signs, such as Question, Persuade, Refer (QPR; QPR Institute, 2011). Three studies were conducted to test the efficacy of QPR to assess participant knowledge about suicide and Gatekeeper self-efficacy (i.e., the ability to prevent suicide; Cross et al., 2011; Matthieu, Cross, Batres, Flora, & Knox, 2008; Wyman et al., 2008). Results found that nonclinical personnel and peers receiving QPR training had increases in declarative and perceived knowledge about suicide. Further, all participants had higher gatekeeper self-efficacy scores relative to scores before training. Meaning those who received QPR training felt efficacy in their ability to intervene with an individual at risk for suicide. The impact of gatekeeper training in the local community for peers to prevent suicide is a key finding which may receive help from the use of IAs toward suicide.

Those who receive said training espoused efficacy in their ability intervene in a suicide. Complementing this training with added information about implicit biases toward suicide and suicidal behavior pre- and post-training would be a helpful addition to outcome research of QPR training. It may be that those who respond well and are effective in their use of QPR training do not carry underlying biases toward suicide while those who do not respond well to training (or do not get training) hold implicit biases toward suicide and those who attempt suicide. Understanding how implicit biases affect one's desire to receive suicide prevention education and enact training when necessary is a fundamental basis for this study.

Purpose of the Study

Current U.S. national strategies work to prevent suicide by reducing biases and prejudices associated with suicide, and aim to create a supportive environment. However, the strategies do not discuss implicit (unconscious) biases and prejudices toward people contemplating suicide nor how to change biases, if they exist. Further, there is not an implicit measure of attitudes concerning suicide or people who attempt (Teachman, Wilson, & Komarovskaya, 2006). Thus, the aim of the proposed study is to accurately assess IAs toward suicidal behavior to figure out what impact said biases may have upon explicit attitudes and behavior. Given that current research of attitudes toward suicidal behavior has been limited to explicit measures, this research will offer new, and potentially vital, information about the implicit public perception of suicide (Batterham, Calear, & Christensen, 2013a).

IAs will be captured using a new IAT. The IAT requires one to classify images they view using keyboard strokes. The current IAT, called the IAT-Suicide, consists of images and words. The images are of persons attempting suicide or receiving chemotherapy. The words consist of groups of stigma-bad words and sympathetic-sad words. Participants will classify each image with bad words (e.g., shallow) or sad words (e.g., dejected). The speed at which the person responds will decide their association and attitude toward persons attempting suicide or receiving chemotherapy.

Those who more rapidly classify suicidal behavior as bad (not sad) will make up the stigma group – IA-ST. Participants who more rapidly classify suicidal behavior as sad will make up the sympathy group – IA-SY. This author hypothesizes the IA-ST will be made up of those

with implicit-stigmatized views of people who attempt suicide. In comparison, it is hypothesized the IA-SY will be those with implicit-sympathy of people who attempt.

Alike to Nock and Colleagues (2010), this study will combine an IAT with instruments which assess explicit attitudes toward suicide (Attitude toward Suicide Scale) and those who attempt it (Stigma of Suicide Scale-Short Form). Other factors of interest are intent to prevent suicide by knowing the signs of suicide, asking about suicide, and referring to a resource which will be measured using self-report instruments (Literacy of Suicide Scale; Gatekeeper Scale).

Hypotheses

1. The IA-ST group will endorse more negative explicit attitudes toward suicide, namely stigma, and resignation than the IA-SY group, while the IA-SY group will endorse more positive explicit attitudes toward suicide, namely sympathy, suicide as normal, and incomprehensible than the IA-ST group.

2. The IA-ST will report less knowledge of suicide prevention compared to the IA-SY.

3. The IA-ST will report less intention to ask about suicide compared to the IA-SY.

4. The IA-ST will report less intention to refer to a resource compared to the IA-SY.

5. Higher exposure to suicide will be correlated with IA-SY.

Significance of the Study

As stated previously, current research has focused on suicide prevention through pharmacotherapy, psychotherapy, gatekeeper education, and means restriction. While each focus is valued, each negates the importance of the support environment of the person at risk for suicide. The current study will focus on people in the support environment of persons at risk for

suicide by examining their underlying IAs toward suicide attempts and people who attempt suicide.

By examining attitudes outside of conscious awareness, this research builds upon earlier work which focused on explicit attitudes toward suicide attempts and death (Batterham, Calear, & Christensen, 2013b; Renberg & Jacobsson, 2003). Results from this research showed stigma as a primary factor of attitudes toward suicide. Also, stigma attitudes toward suicide have been correlated with less suicide prevention literacy (i.e., knowledge of signs and symptoms, causes of the nature of suicidality, risk factors, and treatment and prevention).

Additionally, with its focus on IAs, this study seeks to bypass conscious valence toward suicide. A conscious awareness of one's attitude may be filtered to appear more socially desirable (Goodall & Slater, 2010). This type of filtering is common; however, it may create a situation in which an individual does not express one's true attitude or belief about an object or topic (Fazio & Olson, 2014).

Delimitations

The data collection period for this study will be June 1, 2016 – April 1, 2017. The location for data collection will be in cities across the United States of America. Participants will be adults (18-years-old).

Definition of Terms

Attitude.   An attitude is your evaluation of some concept (person, place, thing, or idea; Project Implicit, 2011).

Implicit attitude.   Implicit attitudes are positive and negative evaluations that occur outside of our conscious awareness and control (Project Implicit, 2011).

Explicit attitude.   A person's conscious views toward people, objects, or concepts.   That is, the person is aware of the feelings he or she holds in a certain context (Project Implicit, 2011).

Informal support.   The various kinds of aid a person receives from individuals in their social network (McLeigh, 2013).

Informal supports.   Help-sources, such as friends and family (Wilson & Deane, 2010).

Formal support.   Services offered by professionals belonging to institutions (e.g., schools, churches, and social services; McLeigh, 2013).

Stigma.   Disgrace associated with a particular circumstance, quality, or person (Knowles, ed., 2006).

Suicide attempt.   The intentional act of injuring or harming oneself with the intent to die by suicide (Centers for Disease Control and Prevention, 2015).

Suicide.   Death caused by self-directed injurious behavior with any intent to die as a result of the behavior (Centers for Disease Control and Prevention, 2015).

Suicide Ideation.   Thinking about, considering, or planning suicide (Centers for Disease Control and Prevention, 2015).

Suicide Survivor. The family and friends of those who complete suicide (Sudak, Maxim, &

Carpenter, 2008).

CHAPTER II

LITERATURE REVIEW

Chapter II will consist of a review of literature about three principal areas, as follows; (a) implicit attitudes, (b) explicit attitudes toward suicide, and (c) behavior intentions to prevent suicide. First, this chapter will examine the MODE model, which illustrates the potential impact of three types of attitude to behavior processes, including the automatic (implicit) attitude to behavior process, on behavior intentions toward others. Following the model review, the chapter review literature explaining IAs and research illustrating their impact on informal supports behavior intentions toward individuals with mental illness. This section of the chapter will then find and review research using the IAT as a test capable of measuring IAs.

Next, this chapter will examine research investigating explicit attitudes toward suicide and/or suicide attempts. This review will include research on positive (i.e., sympathetic) and negative (i.e., stigmatized) explicit attitudes by North-American informal supports (e.g., friends) toward suicide or suicidal behavior. Next, a review of recent literature illustrating explicit stigma toward those who die by suicide by informal supports outside of the United States of America will be included. This section will close with a description of the impact of local norms on attitudes toward suicide.

This chapter will end with a review of literature concerning behavior intentions to prevent suicide. Behavior intentions to prevent suicide, in this study, are (a) the ability to recognize warning signs and risk factors of suicide, (b) to ask about suicide in response to warning signs, (c) to refer an individual to a suicide prevention resource.

Taken together, this literature will illustrate the impact IAs on the intent to prevent suicide. This literature is important for this study as it gives evidence to the notion that implicit reactions to suicidal behavior affect intentions to prevent suicide.

A Model of Attitude to Behavior Processes

IAs are attitudes outside of an individual's conscious awareness (Project Implicit, 2011). Implicit evaluations, per Fazio (1990), are precursors of explicit external behaviors. He said explicit behaviors come from spontaneous or deliberative means. Fazio described this in his theory Motivation and Opportunity as Determinants (MODE) of behavior. Per the MODE model, there are three types of attitude to behavior processes: (a) automatic, (b) mixed, and (d) deliberative.

The first attitude to behavior process, automatic, occurs when there is a strong link between the object and evaluation in memory (Fazio, 1986). The link is so strong the evaluation comes without deliberation. Without conscious deliberation, automatic attitudes have the highest capacity to influence behavior (Fazio & Olson, 2014).

The second attitude to behavior process, mixed, occurs when an individual is motivated to deliberate on an automatically activated process (Fazio, 1990). Once motivated, the individual

gives a purposeful evaluation of the situation and automatic process. The motivation to deliberate the automatic process occurs when the person thinks the consequences of their behavior are high.

The third attitude to behavior process, deliberative, is solely contemplative. It is a process that "does not originate with an automatically-activated attitude (Goodall & Slater, 2010, p.3)." The deliberative process occurs when an individual does not have a strong connection to the situation or object. Without a strong connection, the person does not normally give an automatic attitude to behavior. Additionally, the individual is more likely to act in a deliberative and planned manner.

Per the MODE model, each process (i.e., automatic, mixed, and deliberative) is dependent on the attitude being recalled from memory. Fazio (1986) states attitudes can be activated from several situational cues (e.g., exposure to the object) when the object-evaluation link is strong enough. This possibility is the basis for Fazio's attitude-to-behavior MODE model (1990).

The MODE model suggests that automatic reactions occur without conscious deliberation and have the highest capacity to influence behavior. Automatic reactions are what IATs measure using reactions time. Each reaction time determines the strength of automatic associations between two (contrasted) target and attribute concepts (Greenwald, McGhee, & Schwartz, 1998). Therefore, the MODE model's supposition that automatic reactions provide the highest capacity to estimate future behavior fits this study well as it is an aim of this study to figure out the impact of automatic attitudes (reactions) on behavior intentions to prevent suicide.

Automatic Attitude to Behavior Process. Fazio said early tests of the MODE model concern the "likelihood automatic attitude activation varied as a function of the associative strength between the attitude object and the individual's evaluation of the object (Fazio, 1990, pp. 3-4)." Thus, the strength of attitudes correlated with response speed to a query of an object (Fazio, Sanbonmatsu, Kardes, & Powell, 1986). Results from this task found the speed at which participants rated the target object (anchovies) with the target adjective (disgusting) correlated with an automatic attitude of participants evaluating anchovies as disgusting.

Fazio et al. (1986) showed support for automatic evaluations in three experiments. In each experiment, participants' evaluations of items (e.g., animals, foods, and social groups) were faster in response trials when target objects were paired with target adjectives that were congruent with their appraisal of the object (e.g., good, or bad). Participant response times were slower when target objects (e.g., animals, foods, and social groups) were paired with adjectives incongruent to the participant's appraisal (e.g., good, or bad) of the target object. Based on these findings, Fazio and colleagues concluded that attitudes could be automatically activated and that the strength of the object-evaluation association determines the likelihood of such automatic activation.

More recently, Goodall and Slater (2010) found automatic attitudes informed behaviors, like willingness, toward objects and actions related to said objects. In this study, Goodall, and Slater tasked participants to view commercial messages for four brands of beer. Participants who reported more positive automatic-attitudes toward beer on an automatic- attitude measure were more willing to take part in games aligned with alcohol use (e.g., beer pong). These

researchers also noted participants who held positive automatic-attitudes toward beer were more open to high risk scenarios (i.e., driving under the influence of alcohol). When automatically-activated attitudes toward alcohol were, positive participants were less inclined to engage in low risk scenarios (e.g., not driving under the influence of alcohol). Goodall and Slater said their attempts to learn attitudinal effects advertisements were successful when using an implicit measure of automatically activated attitudes and unsuccessful when using explicit measures (Goodall & Slater, 2010, p. 636).

Considering the impact of automatically-activated attitudes toward high risk behavior one wonders what the impact of automatically-activated attitudes toward other types of high risk behavior, for example violent behavior. Interestingly, in their research, Widman & Olson (2013) tested the potential for automatically activated attitudes toward rape to serve as a unique predictor of sexual assault. Using the MODE model as the foundation for their research, Widman and Olson asserted men's attitudes toward rape were expected to have an automatic element. Results from this experiment found automatic attitudes toward rape were significantly related to the frequency of sexual assault in two samples of men. Widman and Olson noted automatic rape attitudes were a "robust indicator of sexual assault" that added unique, significant, variance explaining sexual assault perpetration beyond traditional self-reported rape attitudes (p. 820). This example of the automatic-attitude to behavior process shows automatic attitudes can act as a view into evaluations of one's past behavior and current attitude by men towards women.

Another aspect of the automatic-attitude to behavior process is its impact on behavior towards people based on race. Previous research showed automatically-activated racial attitudes have the capacity to shape behavior intentions towards people based on their race (Dunton & Fazio, 1997; Fazio & Hildren, 2001; Fazio, Jackson, Dunton, & Williams, 1995; Olson & Fazio, 2004; Towles-Schwen & Fazio, 2003). Specifically, in these studies, automatically-activated attitudes by White participants, toward black people, were shown to predict levels of expected comfort in interracial social circumstance. Comparatively, Towles-Schwen and Fazio (2006) found automatically-activated racial attitudes informed how well interracial roommate pairings would fare based on responses from White participants toward Black individuals.

In addition to attitudes toward people based on race is the recognition of automatically activated attitudes toward people based on their mental health. For example, in their work, Rüsch, Corrigan, Todd, & Bodenhausen (2010) examined the potential for automatically-activated attitudes toward people diagnosed with schizophrenia. This research was based on the idea that overt negative biases may be shifted into subtle, "yet harmful ways (p. 34)." Results from this study found members of the public endorsed automatic evaluations of persons with schizophrenia were related to shame and anger. Researchers posited this finding offered evidence that automatic reactions were particularly relevant for spontaneous affective reactions toward mental illness. Thus, it may also be possible similar responses may be held toward people who engage in suicidal behaviors due to causal link between schizophrenia and suicide (Özlem & Salih Saygın, 2011).

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Taken together, research concerning automatically activated attitudes toward objects, race, mental illness, and risky or aggressive behavior has demonstrated the impact of attitudes upon behavior intentions as well as actual behavior (Dunton & Fazio, 1997; Fazio & Hildren, 2001; Fazio, Jackson, Dunton, & Williams, 1995; Fazio, Sanbonmatsu, Kardes, & Powell, 1986; Goodall & Slater, 2010; Olson & Fazio, 2004; Rüsch, Todd, Bodenhausen, & Corrigan, 2010; Towles-Schwen & Fazio, 2003; Towles-Schwen & Fazio, 2006; Widman & Olson, 2013; Özlem & Salih Saygın, 2011). Earlier research supports the notion of automatic attitude to behavior process proposed by the MODE model. However, given an individual has the motivation and opportunity to challenge an automatic attitude, it is possible to change their behavior based on conscious deliberation. The notion of automatic attitudes having impact on other types of behavior lends evidence to the hypotheses of this study that implicit biases toward suicide will affect explicit behaviors and intentions to prevent suicide.

Mixed Attitude to Behavior Process. Seeing a suicide in progress, may trigger a mixed attitude to behavior process since the act is more likely to occur rapidly. The speed at which a suicide attempt takes place may not allow for time to deliberate and makes an automatically activated process more probable. However, this study intends to assess IAs toward suicide on intentions to act.

Fazio (1990) argued that highly consequential behaviors are likely to motivate a person to make reasoned and deliberate analyses. For the attitude-to-behavior relationship to be deliberative in nature, an opportunity to deliberate on the activated attitude must also occur.

Given a person has the proper motivation and opportunity to reflect and deliberate on a new course of action, then that person can override their automatically activated biases or attitudes.

Recognizing a person is uncharacteristically and habitually isolating themselves from social situations is an example of situation in which deliberation of an automatic attitude can occur. Whereas it is possible an individual may react in an automatically activated fashion and ignore the person, the individual also may choose another path of action if they are motivated to do so. This motivation can be informed by the strength of the relationship or the recognition of the behavior as a warning sign of suicide (i.e., isolation from friends and family; American Foundation for Suicide Prevention, 2016). Appraising a behavior as a warning sign may be a factor that motivates an individual to deliberate on the behavior. This potential deliberation may cause a shift from an automatically activated attitude to a mixed attitude toward a highly consequential behavior.

Two examples of deliberation have been put forth (Jones, Olson, & Fazio, 2010; Olson & Fazio, 2006). Each study showed the effect of deliberation as a mediator of an automatic process. The process of slowed deliberation has the potential to counteract maladaptive attitude toward objects and toward characteristics of people (Olson & Fazio, 2004). Olson and Fazio (2006) found it was possible to re-author explicit attitudes toward others based on their skin color, and said "White participants' evaluation of Black (persons) [represented a] change in their judgment (Olson & Fazio, 2006, p. 429)." Moreover, Kawakami, Dovidio, Moll, Hermsen, & Russin (2000) denoted the potential to shift automatic or IAs toward people who engage in behavior found to be negative. In their work, authors examined automatic reactions to racial

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prejudice by violent actors who portrayed Neo-Nazi skinheads. After education, which

promoted understanding and racial harmony the participant's automatic reactions toward the

actors changed. This finding suggests with education and added time to deliberate it is possible

to shift automatic attitudes toward people who engage in suicide attempts or other behaviors

which people may have at one time found objectionable (Cross et al., 2011; Matthieu, Cross,

Batres, Flora, & Knox, 2008; Rudman, Ashmore, & Gary, 2001; Wyman et al., 2008).

Deliberate Attitude to Behavior Process. Deliberate attitudes are ones in which

individuals consciously deliberate about the costs and benefits of an attitude, action, and attitudes

toward alternative behaviors (Ajzen & Fishbein, 1980). This deliberative process is known to

require effort to process information before action takes places (Fazio & Olson, 2014; Holland,

Verplanken, & Knippenberg, 2003). The possibility of a person deliberating on the pros and

cons of an attitude toward suicide may hold potential for that same person to question implicit

biases or reactions toward suicide. This type of questioning may give the necessary time for a

person to contemplate how they would react toward someone who talks about suicide. It is

possible after education (i.e., QPR) and deliberation a person may respond to a person asking

about suicide with a helpful response, for example asking, "are you thinking about suicide?"

Such deliberation, again, may change the nature of an interaction based on careful deliberation of

and action toward a person at risk for suicide.

An example of this deliberation and its impact on action was given by Armor & Taylor

(2003). In their work, Armor and Taylor examined the effect of deliberative thinking on

participants' desire to act and engage in a play activity. Authors said they planned to examine

how a deliberative mindset may change the behavior of participants on a decision to act or take no action. In their discussion, Armor & Taylor noted results showed the effects of deliberative thinking could extend to influence behavior. Further they posited actions would be more aggressively pursued "once deliberation [was] over (p. 93)."

Their hypothesis gives support for the idea of concentrated efforts to promote certain types of behavior. Yet, the action of deliberate attitude change appeared to have three types of action, to either reinforce, strengthen, or supplant the attitude. In terms of reinforcing or strengthening attitudes, Wojcieszak (2011), in her work, examined attitudes toward sexual minorities. She engaged participants in focus groups about stories involving sexual minority rights, for example banning gay and lesbian teachers. Results from her study found established attitudes became stronger and more polarized.

Those with moderate attitudes became firm in their beliefs, yet were not polarized for or against rights for sexual minorities (e.g., banning homosexuals from teaching). The supplanting of attitudes was found in a study by Marteache (2012). Her research focused upon the reformation and attitudinal shift of beliefs about sex offenders. Results from her study showed that when given the opportunity, participants who engaged in a deliberative process had the capacity to shift their attitude toward sex offenders to a different valence or viewpoint. Each study gives support for the suggestion that deliberation can shift attitudes toward behaviors and viewpoints (Armor & Taylor, 2003; Marteache, 2012; Wojcieszak, 2011).

Summary

Examinations of the MODE model's three attitude to behavior processes, automatic, mixed, and deliberative, demonstrated the impact of each process on behavior intentions toward objects, social views, and behavior toward people (Armor & Taylor, 2003; Goodall & Slater, 2010; Fazio, 1990; Fazio & Hilden, 2001; Olson & Fazio, 2004; Rudman, Ashmore, & Gary, 2001; Widman & Olson, 2013). The brief overview on the MODE model was intended to give further insight into attitudes which are either spontaneous automatically-activated attitudes (i.e., implicit) or deliberative (i.e., explicit).

The MODE model proposed that IAs are capable of guiding behavior in the event the individual does not actively reflect upon his or her attitude (Fazio, 1986). Once an attitude (positive or negative) is activated, it acts as the lens through which an individual views situational objects (e.g., a person who had tried suicide). Fazio (1986) hypothesized that the resulting attitude is a biased perception that is consistent with the valence of the implicit attitude. This results in a spontaneous attitude-to-behavior process in which individuals do not deliberate on their decisions or engage in a reasoned process. In such situations, an opportunity for a person to deliberate may not exist because of the nature of the situation (i.e., being upset by an item). This impulsive process is the basis for this study's examination of IAs.

The MODE models proposition of attitudes that are either automatically-activated attitudes or deliberative offers insight into this study's intention to assess the impact of automatically activated attitudes. Based on the MODE model it is likely that automatically activated biases toward suicidal behavior will enact biased behavior toward those engaging in

suicidal behavior (i.e., stigmatizing the at-risk person). Alternatively, the MODE model states

mixed or deliberative processes results in an individual contemplating automatic reactions and

potentially behavior. This piece of information informs this study by showing a scenario in

which a participant holds an implicit bias toward persons at risk for suicide yet reports explicit

sympathy toward those who die by suicide. It is possible a participant, in the time between the

IAT and explicit measure, will have contemplated their automatic reaction and responds later

with a more deliberate attitude or behavior intention. Either scenario gives information about

potential findings for this study.

Implicit Attitudes

The automatic-attitude to behavior process cited in the MODE model enacts attitudes that

are automatically activated. Automatically activated attitudes, which run in an unconscious and

non-deliberative manner, are also known as implicit attitudes (IAs; Petty, Fazio, & Briñol, 2009).

IAs have been cited as manifested actions or judgments under the control of automatically

activated evaluation, without the performer's awareness of that connection (Greenwald & Banaji,

1995). Comparatively, Jordan, Logel, Spencer, Zanna, & Whitfield (2009) have described IAs

as 'preconscious.' IAs may exist in the conscious mind of an individual yet he or she is not

readily aware of the process that produced it (Jordan, Logel, Spencer, Zanna, & Whitfield, 2009,

p. 255). Despite these variations in the conceptualization of IAs (Greenwald & Banaji, 1995;

Jordan et al., 2009; Petty et al., 2009), for the purposes of this study, the term implicit attitude

will describe positive and negative evaluations that occur outside of our conscious awareness and

control (Project Implicit, 2011).

An example of a measure toward people who attempt suicide and of an implicit attitude toward suicide does not yet exist. This gap in the research of IAs gives support for this study, which aimed to acquire an implicit attitude of adults toward suicide. What affect these positive and negative implicit evaluations have upon suicidal behavior is an untapped area of information and research. There is, however, existing research which has studied IAs toward mental illness, self-injury, and death (which may include suicide) which can guide the current investigation (Kene, 2016; Nock et al., 2010; Teachman, Wilson, & Komarovskaya, 2006). Teachman, Wilson, & Komarovskaya (2006) were the first to study assess IAs toward mental illness. A review of their work, and others which resulted from their findings will follow in the next section.

Implicit Attitudes of Informal Supports toward Mental Illness. This section encompasses IAs of informal supports, people not trained to aid people with mental illness or suicide, professionally (McLeigh, 2013). Research studies using an IAT or implicit attitudes and suicide are new. Teachman, Wilson, & Komarovskaya (2006) were the first to examine IAs of mental illness. Their study offered support for the existence of implicit stigma and sympathy toward persons with a type of illness, like depression. Other research findings about attitudes toward mental illness and implicit stigma show implicit stigma leads to lower quality of life and other poor outcomes (Cheon & Chiao, 2012; Peris, Teachman, & Nosek, 2008; Rüsch, Corrigan, Todd, & Bodenhausen, 2010). Each study shows that IAs are a practical measure of attitudes toward people with mental illness and, potentially, contemplating suicide. Despite a call by Stier

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and Hinshaw (2007) to use IATs and IAs to measures of stigma toward mental illness, there are few other studies that do.

Implicit Association Test (IAT)

Information about the IAT was first published by Greenwald, McGhee, & Schwartz (1998). In this work, participants' implicit evaluations of two concepts (i.e., names of birds and insects) with two attributes (i.e., pleasant, and unpleasant words) gave the foundation for the "evaluative associations that underlie implicit attitudes (Greenwald & Banaji, 1995, p. 6)." IAs were posited by Greenwald and Banaji (1995) to be under the control of automatically activated processes outside of the performer's awareness. Greenwald and colleagues agreed that the purpose of the IAT procedure to measure the underlying automatically-activated attitudes theorized by Fazio et al. (1986).

How the IAT measures IAs is through a five-stage procedure consisting of discrimination tasks described by Greenwald, McGhee, & Schwartz (p. 1465). The first task requires an IAT test taker to discriminate target-concept labels using key strokes to assign each concept to the left or right (e.g., flower and insect). The second task requires an IAT test taker to discriminate associated attributes using key strokes to assign each attribute to the left or right (e.g., good, and bad). The third task requires an IAT test taker to complete a joint task in which they discriminate associated attributes and their associated attributes (e.g., flower-good, and insect-bad). The fourth task requires an IAT test taker to reverse their discriminate target-concept labels using key strokes to assign each concept to the side opposite of the first task. The fifth task requires an IAT test taker to complete a reverse-joint task in which they discriminate

associated attributes and their associated attributes using key strokes to the opposite side of the third task (e.g., flower-bad, and insect-good; see Appendix G for a figure depicting Schematic description and illustration of the IAT as described by Greenwald, McGhee, & Schwartz).

An examination of this procedure was conducted by Greenwald, McGhee, & Schwartz (1998). In this experiment, thirty-two participants (19 female) completed the first IAT procedure using the five-step procedure described above [e.g., (1) first target-concept discrimination, (2) evaluative attribute discrimination, (3) first combined task, (4) reversed target-concept discrimination, and (5) reversed-combined task; Greenwald, McGhee, & Schwartz, (1998). In the second IAT procedure, Greenwald and colleagues said participants did not need added practice and did not ask them to complete the evaluative attribute discrimination step. Participants thus only completed four steps [e.g., (1) first target-concept discrimination, (2) first combined task, (3) re-versed target-concept discrimination, and (4) reversed combined task]. Researchers showed, in their overview, that the first IAT measure of attitude was gained by comparing steps (3) & (5) and the second attitude was obtained by comparing steps (2) & (4).

The aim of the first experiment was to assess the effectiveness of the IAT in measuring IAs. Greenwald, McGhee, & Schwartz denoted the IAT's ability to measure attitudes the "IAT effect (p. 1468)." The IAT effect was obtained by comparing the difference in mean latency between two conditions, compatible conditions (e.g., flower & pleasant) and non-compatible combinations (e.g., insect & pleasant). Results from the first experimental test of the IAT showed more positive IAs toward flowers than insects or toward musical instruments than weapons. In other words, authors said subjects performed faster when pairing flower and

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pleasant combinations than for insect and pleasant combinations. Next, participants performed

faster when pairing musical instrument and pleasant combinations "than for weapon and pleasant

combinations (Greenwald, McGhee, & Schwartz, pp. 1468-1469)." It is the speed at which

participants classify flowers with pleasant words than with insects which is indicative of a more

positive implicit attitude toward flowers than insects.

These underlying IAs, either positive or negative, may then later impact explicit attitudes

toward flowers and insects. To test this, Greenwald, McGhee, & Schwartz (1998) compared IAs

of participants to explicit measures of attitude. The explicit measures in this case were two paper

and pencil tests. In the first measure, participants rated their level of warmness or coldness

toward flowers and insects and musical instruments and weapons on an illustration of

thermometer with words cold or unfavorable, neutral, and warm or favorable, respectively. The

second measure required participants to rate each of the four object categories (i.e., flowers &

insects, musical instruments & weapons) using a set of 5 anchored pairs of opposite words (e.g.,

beautiful-ugly, good-bad).

Participants were instructed to mark in the middle of the range of the pairs if they

considered the words to be irrelevant to the target objects. Correlations between implicit and

explicit attitude measures were each moderate for flowers & insects. Similarly, moderate results

were found between the IAT and two explicit attitude measures of musical instruments and

weapons. Greenwald, McGhee, & Schwartz showed the lack of strong correlation may be

attributed to a divergence in constructs measured by implicit and explicit measures may be the

lack of variability in the general population in the attitudes being assessed about flowers and

insects, meaning most people like flowers and most people dislike insects. Thus, there would be less variability in explicit attitudes of a population toward flowers and insects.

This variability is important to note as this study will attempt to capture the impact of IAs on explicit attitudes and behavioral intentions toward suicide. In this study, IAs will be measured through an IAT which tasks participants to classify images of persons attempting suicide as either bad or sad. The speed of the classification will inform the IAs one holds toward the classified images (See chapter 3 for detail explanation).

Research assessing explicit attitudes toward suicide will be the basis for the next section of this study. Three key features of attitudes toward suicide will be the focus of the next section, positive (i.e., sympathetic) attitudes, negative (i.e., stigmatized) attitudes, and neutral attitudes (i.e., normalizing), respectively.

Explicit Attitudes

Explicit Positive Attitudes toward Suicide by Informal Supports. This section will examine explicit positive (i.e., sympathetic) attitudes toward suicide and suicidal behavior. Sympathetic attitudes toward suicide have been shown to depend on the reason for an attempt. In one study, adult participants were found to be more approving of a suicide when the act was in response to an incurable disease (Sawyer & Sobal, 1987). A second study also found participants to be sympathetic toward suicide if the attempter had been diagnosed with malignant bone cancer as opposed to a diagnosis of depression (Deluty, 1988).

Comparable results were found in a third study which illustrated a continued trend of people being more accepting of a suicide when the act was in response to a terminal illness

(Ingram & Ellis, 1995). In this study, participants perceived those diagnosed with cancer or acquired immune deficiency syndrome (AIDS) with more positive attitudes then those who had schizophrenia. In each of the three examples above, the health of the individual contemplating suicide was a significant factor in attitude toward suicide. Another factor shown to contribute to attitudes toward suicide was gender.

In study examining attitudes toward suicide based on gender, White and Stillion (1988) had college students respond to ten vignettes depicting suicidal behavior. Each vignette depicted an adolescent (i.e., female or male) who experienced a problem (e.g., drugs, guilt, or health) and attempted suicide. Results from this study showed females gave more sympathy than males toward those who were suicidal. White and Stillion noted their experiment found support for a generalized tendency of "women to be more sympathetic [toward suicide], regardless of the situation (p. 364)." In this example, participant sympathy toward suicidality was found to be influenced by the gender of the participants.

Along with gender, another source of impact on explicit attitudes toward suicide is age. People of different ages show changes in their attitude toward suicide (Marks, 1988; Segal, Mincic, Coolidge, & O'Riley, 2004). In a study comparing attitude toward suicide was performed using three age groups of participants [i.e., Young adults (18 to 34 years old), Middle age adults (35 to 60 years old), and Older adults (61 to 90 years old)], Marks (1988) found that young and older adults reported more sympathy toward suicide than middle-age adults. However, in a second study examining just the difference between young adults and older adults,

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Segal, Minic, Coolidge, & O'Riley (2004) found that older participants held significantly more accepting attitudes toward those who attempt suicide than young adults.

The studies above show the impact of a range of factors that impact attitudes toward suicide. Whereas the influences of age, gender, or reason for suicide are not factors of interest for this research, they are included to show the existence of sympathetic attitudes in adults. Such caring attitudes may be the result of underlying feelings of sympathy toward those who attempt suicide. As Fazio (1986) hypothesized, resulting explicit attitudes were biased perceptions consistent with the valence of the implicit attitude. It may be that those who hold explicit sympathy toward suicidal behavior also hold implicit sympathy. Alternatively, those who hold implicit negative (i.e., stigmatized) attitudes toward suicide may hold explicit negative bias toward suicide. The existence of stigmatized explicit attitudes toward suicide will be the focus of the next section of this chapter.

Explicit Negative Attitudes toward Suicide by Informal Supports in North America. The section will review the presence of explicit negative attitudes toward suicide. Stigmatizing attitudes toward suicide will be conceptualized as attitudes which contribute to discrimination (Link and Phelan, 2006). Stigmatizing attitudes effectively and negatively identify, label, stereotype, or discriminate people by another group who exercises power over them (Link and Phelan, 2006). Examples of stigma toward suicide and people afflicted with ideation of suicide has been shown in two separate studies 25 years apart (Kalish, 1966; Lester, 1992). Data from each study states peers will knowingly and consciously put space between themselves and persons who have attempted suicide. Further examples of this type of stigma were noted against

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people who suffer with suicidal ideation and mental illness (Walker, Lester, & Joe, 2006). Stigmatized attitudes toward suicide were also found in a sample of older African-American and European-Americans (Bender, 2000). In this research study, 186 participants responded to an attitude toward suicide scale. Results from this experiment found significant differences in attitudes toward suicide based on race with African-Americans reporting significantly more negative attitudes toward suicide than European-Americans t (185) =14.55, p < .0001.

In each of the three examples listed above people reported their intentions and attitudes to stigmatize and attempt to isolate themselves from a population which is afflicted with a desire to hasten their death. Existence of this attitude gives support for this study which aims to assess the result of stigma and the difference it makes in intentions to support people contemplating suicide.

In addition to Americans, Adults outside of the USA have exhibited negative attitudes toward at-risk populations (Batterham, Calear, & Christensen, 2013a; Chan, Batterham, Christensen, & Galletly, 2014; Emul et al., 2011). Batterham, Calear, & Christensen (2013a) found Australian participants readily associated persons who died by suicide as "weak", "stupid", and "immoral (Batterham, Calear, & Christensen, 2013a, p. 19)." Equivalent results which illustrated suicide stigma were noted in a sample of medical students from Australia where 21% found those who died by suicide were cowards or weak (Chan, Batterham, Christensen, & Galletly, 2014). An even higher level of medical students from Turkey (79% or 234) expressed negative attitudes about living near a person who had attempted suicide. Further 50% of the studies sample said they would not want to be near a person they knew had attempted suicide

(Emul et al., 2011). Together, research findings illustrate a link between stigma and intent to stigmatize populations at-risk for suicide. This decision to act or intention to form an attitude is the basis for this study. Moreover, this study aims to measure explicit attitudes and IAs. Both of which hold the potential to effect beliefs about suicide and intentions to prevent suicide.

Explicit Attitudes toward Suicide by Informal Supports in North America. Other explicit attitudes of interest are (a) suicide as normal (b) suicide as incomprehensible (c) glorification of suicide (d) resignation to suicide. These attitudes are not necessarily sympathetic or stigmatizing, yet are linked to suicide clusters (Abbott & Zakriski, 2014). In their research, Abbott & Zakriski found primary reactions suicide clusters were "to think that suicide is normal but more likely to think of it as incomprehensible (p.668)." Resignation to suicide is of interest due to its prominence of suicide as a means of punishment for oneself "as a kind of symbolism" and "total resignation from life (Tsirigotis, Gruszczynski, & Lewik-Tsirigotis, 2012, p. 206)." The glorification of suicide will also be examined based on its recognition in earlier research as responses which are that suicide is "understandable (Batterham, Calear, & Christensen, 2013b, p. 19)." These research studies point to the necessity to assess for other attitudes of interest given primary explicit attitudes are neither sympathetic nor stigmatizing.

Behavior Intentions to Prevent Suicide

Intentions to prevent suicide have been shown to reduce the likelihood of suicide in three ways; learning the warning signs for suicide; asking about suicide once signs are present; referring to a resource after asking (Mann et al., 2005). The next section of this chapter will offer insight into literature which describe and explain three types of prevention behaviors 1) the

ability to recognize warning signs of suicide, 2) the intention to question about suicide in response to warning signs, and 3) the intention to refer an individual to a suicide prevention resource.

Warning Signs for Suicide. Recognition of the warning signs has been shown to be a valid and useful way to identify suicidal individuals in-person and on the internet (Lester, Gunn, & McSwain, 2011; McSwain, Lester, & Gunn, 2012). The ability of an individual to recall and recognize the signs of suicide will be key in the reduction of suicide since warning signs are especially prevalent in persons with acute suicide risk (McClure et al., 2015). The warning signs for suicide are increased suicidal ideation, substance abuse, purposelessness, anxiety, feeling of being trapped, hopelessness, and desire to withdrawal, anger, recklessness, and mood changes (i.e., IS PATH WARM; American Association of Suicidology, 2006).

Simply reading these warning signs and saying them aloud leads to increased ability to recognize the signs again (Orden et al., 2006). This finding gives support for the idea that stigma will prevent someone from learning how to prevent suicide by learning warning signs. In comparison, a person sympathetic to suicide ideation may be more inclined to learn how to prevent suicide by learning the signs. Knowing and recognizing signs of suicide is a vital element in the path to prevent suicide. Another part is the will to ask about suicide when warning signs are present.

Asking about Suicide. The intention to ask about suicide has been linked with more positive and sympathetic views of suicide (Crawford et al., 2011; Mathias et al., 2012). In comparison, negative views are more likely to be indicative of stigma toward suicide and the

belief of myths about suicide (e.g., asking about suicide gives someone the idea to die by suicide; Batterham, Calear, & Christensen, 2013a; Schurtz, Cerel, & Rodgers, 2010; Smith, Poindexter, & Cukrowicz, 2010; The Samaritans, 2009). Each study adds to the notion that suicide stigma will reduce intentions to prevent suicide by knowing signs of suicide, and asking about suicide. Following intentions to know warning signs, and ask about suicide is the intent to refer an individual to a proper resource.

Refer to an Appropriate Resource. An effective referral of a person at-risk for suicide has been cited as the "ultimate success" of screening strategies to prevent suicide (Gould, Greenberg, Velting, & Shaffer, 2003). The success of this strategy lies in the intention to enact said behavior. This intention prevent suicide by obtaining help requires "considerable effort" on the behalf of informal supports to support families and suicidal individuals (Gould, Greenberg, Velting, & Shaffer, 2003, p. 395).

Efforts on the part of informal supports include directing persons at risk for suicide to professional help, or a formal support, such as a physician or mental health professional (Hoven, Wasserman, Wasserman, & Mandell, 2009; Salvatore, 2010). The effort and intention of informal support gatekeepers to be educated and ready to refer to a proper resource was cited in a large meta-analysis to help reduce suicidal behavior (Mann et al., 2005). Further, Mann et al. called for further efforts to train informal supports as gatekeepers to help reduce suicide.

Preventing Suicide. Taken together, the behavioral intentions to recognize warning signs for suicide, ask about suicide, and refer to an appropriate referral resource represent key elements in a pathway for informal supports to prevent suicide (QPR Institute, 2011). The intention to

engage in these behaviors may be impeded by stigma and resignation toward suicide and persons who attempt suicide. Stigma and resignation inform behavior because they may cause people to think those at-risk for suicide are weak, irresponsible, or hopeless (Batterham, Calear, & Christensen, 2013b). Along with these explicit attitudes I hypothesized adults holding implicit stigma toward suicide and suicidal behavior will be less aware of the signs of suicide, less willing to ask about suicide, and less willing to refer to an appropriate resource.

Ways to reduce stigma (implicit and explicit) and resignation to suicide are public education, and suicide prevention media. Each method's aim is to reduce biases to those at-risk for suicide and support them. With increased knowledge, informal supports are expected to have more knowledge about suicide prevention, and less stigma (Griffiths, Christensen, Jorm, Evans, & Groves, 2004). When people are more literate about ways to prevent suicide, and know it is preventable they are more likely to refer a person to a resource (Galynker, Yaseen, Briggs, & Hayashi, 2015). When prevention education is higher, and attitudes more positive, informal supports are more encouraging and willing to support people showing signs of suicidality (Calear & Batterham, 2014).

Appropriate suicide prevention measures include programs like Question-Persuade- Refer (QPR) or Applied-Suicide-Intervention-Skills-Training (ASIST; LivingWorks Education, 2014; QPR Institute, 2011). Each program educates people on suicide facts and myths, signs, and causes of suicide, and information about suicide prevention resources. Effectiveness of QPR on resident assistants on college campuses, school site staff, parents and other informal supports has been noted by Taub et al. (2013) and Wyman et al. (2008).

Demonstration of QPRs efficacy include higher suicide prevention literacy, more willingness to talk to people, and refer to resources in responses to warning signs. Such programs would be beneficial in parts of the country at high risk for suicide, such as Montana (Rosston, ed., 2013). Making QPR or a similar program available in the mainstream culture in the United States is likely to enhance views of suicide as preventable, decrease suicide stigma, and increase intent to prevent suicide.

Rationale

The rationale for this study are to examine implicit and explicit factors and attitudes connected to suicide, and intent to prevent suicide. Aims for this study are to learn what effect, if any, attitudes toward suicide have on intent to prevent suicide. It is suggested implicit stigma, compared to sympathy, will have a more significant effect on intent to prevent suicide through four hypotheses.

That the IA-ST group will report more explicit stigma, resignation, lower intentions to prevent suicide, compared to the IA-SY group. That the IA-SY group will endorse more explicit attitudes toward suicide, namely sympathy, suicide as normal, and suicide as more incomprehensible than the IA-ST group.

That the IA-ST group will report significantly lower scores on intent to prevent suicide measures (i.e. LOSS-SF, Gatekeeper measures), compared to the IA-SY group. Results are expected to give support for the significant effect of IAs toward suicide, and the negative effects

suicide stigma and resignation have on intent to prevent suicide across three factors: knowledge

of suicide, intent to ask about suicide, and refer to a resource.

CHAPTER III

METHODOLOGY

Chapter three will consist of eight sections; research design, population and sample, sampling procedures, instrumentation, data collection procedures, data analysis, and limitations, respectively. Each section will support the purpose of this study, which is to assess what effect, if any, IAs toward suicide have on behavioral intentions to prevent suicide. This purpose will be carried out by assessing IAs to suicide. IAs to suicide in this study are implicit stigma (IA-ST) or implicit sympathy (IA-SY).

Research Design

A quantitative-descriptive research design was used in this study. This design type was selected to pragmatically find variables that are key to understanding factors which attract or detract peers from preventing suicide. In this study, the variables are implicit and explicit attitudes toward suicidal behavior, and behavioral intentions toward suicidal behavior.

The process of this research is to accurately assess each dependent variable using self-report measures used in recent research to assess for suicide stigma, knowledge of suicide warning signs, the intention to ask about suicide, and the intention to refer someone to a suicide prevention research. In addition, a novel method to assess for IAs toward suicide was used in this study. This method was developed in response to the cited potential for misrepresentation in

self-report measures (Dunnett, Koun, & Barber, 1981; Egloff & Schmukle, 2002). Each variable and measure provided a picture of unconscious and conscious attitudes toward suicide and the desire to prevent suicide using two groupings, a stigma group, and a non-stigma group. Each group has a role to play in the prevention of suicide and this study seeks to learn what each role will be.

    Population and Sample. The target population for this study were adults, 18-years and older who were living in the United States of America (USA). Convenience sampling was used to gain a sufficient sample of adults in the USA in a prompt and cost-effective manner. Adults were the desired section of the population as they represent a sample of the population with a rising suicide rate (Centers for Disease Control and Prevention & National Center for Health Statistics, 2016). Adults also stand for a more practical population to sample from about a topic as sensitive as suicide, compared to minors and children.

      Sampling Procedures. An a priori power analysis was run using GPower version 3.1 which showed the total participant sample size needed for this study was *N=66 (p=.05 d =.5)*. This sample size was based on the desire for a medium effect size and on the nature of the subject matter (i.e., suicide).

Criteria for participants:

1. Be at least 18-years-old.

2. Be a resident of, and living in, the USA.

3. Can read and understand instructions written in English.

4. Have uninterrupted internet access for entirety of survey procedure (35-45 minutes).

5. Complete all procedures.

Based on the desire to protect anonymity, all procedures for this study will be completed on the internet and no identifying information was linked to participant responses. Additionally, internet access potentially could have given an easier route for adults in less populated or outlying areas of the country to take part.

Recruitment. To reach all parts of the country, participants were recruited through national email list-servs, social media advertisements targeted to adults in the USA, and through Amazon Mechanical Turk targeting adults in the USA. Participants were offered $5.00 Amazon gift cards for their participation. Participants from Amazon Mechanical Turk were paid $5.00 for their participation.

Instrumentation

This section will cover instruments used in this study. Each instrument's type, the appropriateness of the instruments, the psychometric properties of the instrument, and how the instrument is administered and scored will be included in this section of the chapter.

Demographics survey. Demographics collected included the participant's gender, age, ethnicity, sexual orientation, spiritual or religious affiliation, frequency of attendance to services linked to spiritual or religious affiliation, and state of residence (see Appendix H).

Implicit Association Test of Attitudes toward Suicide (IAT-Suicide). The IAT of Attitudes toward Suicide (IAT-Suicide) represented the construct of IAs of participants toward suicidal behavior. The IAT-Suicide was inspired by the Arab-Muslim IAT developed by Park, Felix, & Lee (2007). An IAT is a brief computer-administered test that uses reaction times to

measure the automatic mental associations held toward objects or topics. These associations

make up IAs. IAs are positive and negative evaluations that occur outside of our conscious

awareness and control. Based on this study's research questions, to show the impact of IAs, an

IAT was selected to measure underlying attitudes of adults toward suicide.

To find an appropriate valence of attitudes toward suicide using an IAT, a relative

comparison is needed. Thus, in the IAT-Suicide, IAs toward suicide will be compared to

attitudes toward cancer. The IAT-Suicide was created using the Millisecond-Inquisit software

for IAT. The IAT will be administered and scored in keeping with standard IAT procedures

(Greenwald, Nosek, & Banaji, 2003).

Participants completing the IAT-Suicide classified images of individuals attempting

suicide via the Self-Directed Violence Picture System (SDVPS) developed at the Rocky

Mountain MIRECC and images of people receiving chemotherapy (Nazem & Brenner, 2015).

Classification of images occurs when test takers classify the images with attribute items (i.e.,

words). Attribute items for this study will be bad (e.g., shallow) and sad (e.g., gloomy) words.

These items were selected to figure out whether individuals classify suicide attempts as bad or

sad behaviors. This classification is completed in four tasks. Each task increasingly measures a

person's implicit attitude toward IAT objects, or in this case toward images depicting suicide

attempts or cancer.

Task 1 needs a participant to categorize pictures depicting suicide attempts and behaviors

related to cancer. Task 2 needs a participant to categorize bad words (e.g., cruel, unfair,

irresponsible, vengeful, shallow, selfish, immoral, dishonor) and sad words (e.g., sad, unhappy,

broken, lonely, depressed, gloomy, melancholy, dejected). Task 3 needs a participant to categorize pictures depicting suicide with bad words and pictures related to cancer with sad words. Task 4 needs a participant to categorize pictures depicting suicide and sad words and pictures related to cancer with bad words (See Appendix A for schematic illustration).

Given the hypothesized negative attitudes toward suicide, response times are expected to be faster when suicide images are paired with negative descriptors (such as irresponsible) compared to images depicting chemotherapy and negative descriptors. IAT effects will be found by contrasting average response times during each task measured in positive or negative *D*-scores, also known at the IAT effect at measuring valence. A *D* score has a range of -2 to +2. Greenwald, Nosek, & Banaji (2003) denoted the following ranges: 'slight' (.15), 'moderate' (.35) and 'strong' (.65). Participant *D*-scores be calculated using the Millisecond Software and website which houses prominent IATs, in addition to the IAT-Suicide used in this study.

Psychometric properties of IATs about suicide were given by Nock et al. (2010). In their study, Nock et al measured implicit associations about death/suicide in 157 people seeking treatment at a psychiatric emergency department. Results from their study showed significantly stronger implicit association between the pairing of death/suicide and me (the person taking the test) in higher risk individuals compared to those who reported a stronger association between life and me. In their final analysis of their IAT Nock et al. said:

> In a final analysis, we dichotomized scores on the IAT indicating whether each person's score represented an association between death/suicide and me (*D* score > 0) versus life and me (*D* score < 0), to test this theoretically and clinically meaningful cut point.

Patients whose performance revealed a stronger association between death/suicide and

self were significantly more likely to make a suicide attempt after leaving the emergency

department (31.8%) than were those with a stronger association between life and self

(10.1%), $\chi 2(1, N = 91) = 6.02, p < .05$ (p. 514).

The Nock et al. finding offers some support for the notion of IAT's impact on behavior

intentions. While the outcome for their IAT was specific to a suicide attempt, their results show

a strong connection to an attitude toward suicide may affect future behavior, such as preventing a

suicide.

In terms of the current IAT-Suicide, this author conducted a pilot test of the IAT-Suicide

prior to this study submission. In total, 15 participants 18-years-old and older completed the

IAT-Suicide on the Inquisit Millisecond website. Inquisit calculates D scores using an improved

scoring algorithm as described in Greenwald et al. (2003). Error trials are handled by requiring

respondents to correct their responses per Greenwald et al. recommendations (p.214).

Results from this pilot study showed participants held a stronger association (quicker

response) when grouping image + word pairs, suicide + bad, cancer + sad; (e.g., D score = .02).

In comparison, participants reported a weaker association (slower response) grouping image +

word pairs, suicide + sad, cancer + bad, (e.g., D score = -.18). These results, while from a small

sample, show the IAT as effective in measuring implicit reactions to images of suicide and bad

and sad word pairings (or attributes).

Gatekeeper Survey. The Gatekeeper Survey (Wyman et al., 2008) was used in this

study to assess knowledge and behavioral intentions related to recognizing warning signs for

suicide, asking about suicide, and referring to an appropriate referral resource. Wyman et al. (2008) developed this survey to assess the efficacy of a gatekeeper program for youth suicide prevention.

The survey is a self-report measure of attitudes toward suicide and of an individual's behavioral intentions toward secondary school students who may display signs of suicide. The survey uses a combination of Likert-type, true/false, and multiple-choice questions. Each question supports constructs related to suicide prevention, awareness, and knowledge. Construct scales used in this study are: (a) Knowledge of Suicide Warning Signs and Intervention Behaviors; (b) Reluctance to Engage with Suicidal Students; (c) Asking Students About Suicide in Response to Warning Signs; (d) Asking Depressed Students About Suicide; (e) Appropriate Referral of a Suicidal Student; (f) Use of Gatekeeper Behaviors with Suicidal Students; and (g) Knowledge of Institutional Resources for Suicidal Students.

The Knowledge of Suicide Warning Signs and Intervention Behaviors (GK-KNOW) is fourteen multiple-choice items assessing knowledge about suicide risk factors. A respondent's score is the percentage of correct responses. Higher scores show more knowledge about suicide risk factors and prevention (Quinnett, 1999).

The Reluctance to Engage with Suicidal Students (GK-REL) scale is a 9-item scale. Respondents show their level of reluctance to engage with a suicidal student using a 7-point Likert-type scale from 1 (strongly disagree) to 7 (strongly agree). The Reluctance to Engage with Suicidal Students scale is scored by obtaining the mean of score of all scale items for each respondent.

Higher scores show more reluctance to engage with a suicidal student (Cronbach, α ≤ 0.68. Additionally, two items (i.e., items 7, 9) are reverse scored per instructions given by the scale developers.

The Asking Students about Suicide in Response to Warning Signs (GK-ASK) scale is a 4-item scale. Respondents' show how often they asked students about suicide in response to warning signs (e.g., said something about ending their life). GK-ASK items are scored using a 6-point Likert-type scale from 1 (Never) to 6 (N/A). GK-ASK mean scores represent the intent to ask about suicide in response to warning signs, and higher scores show more intent (Cronbach α ≤ 0.93). A respondent may also write down N/A if they did not have the opportunity to engage with a student who expressed a warning sign.

The Asking Depressed Students about Suicide (GK-ASK2) scale is a 2-item scale. Respondents say how often in past 6 months they asked a student about suicidal thoughts when the student said something about ending his or her life or seemed depressed. The scale uses a 6-point Likert-type scale from 1 (Never) to 6 (N/A). The scale is scored by obtaining the mean of score of both scale items. Lower scores show the respondent did not ask about suicide in response to the student saying something about ending their life or seeming depressed (Cronbach, α ≤ 0.77). Respondents may also say N/A if they did not have the opportunity to engage with a suicidal student.

The Appropriate Referral of a Suicidal Student (GK-REF) scale is a 2-item scale in which respondents say how often they took a student identified as being suicidal to a counselor and/or notified referral resources. Items are scored using a 6-point Likert-type scale from 1 (Never) to 6

(N/A). The GK-REF is scored by obtaining the mean of score of all scale items for each respondent. Lower scores show the respondent did not take a student identified as being suicidal to a counselor and/or notified referral resources (Cronbach, $\alpha \leq 0.88$). A respondent may also say N/A if they did not have the opportunity to refer a suicidal student.

The Use of Gatekeeper Behaviors with Suicidal Students (GK-BSS) scale is a 7-item scale in which respondents, who have identified a student as suicidal, state how often they used gatekeeper behaviors (e.g., asked student about suicidal thoughts). GK-BSS items use a 6-point Likert-type scale from 1 (Never) to 6 (N/A). The GK-BSS scores are calculated by obtaining the mean of score of all scale items for each respondent. Lower scores show the respondent did not use Gatekeeper behaviors with a suicidal student (Cronbach, $\alpha \leq 0.93$). Respondents may also say N/A if they did not have the opportunity to engage with a student who was suicidal.

The Knowledge of Institutional Resources for Suicidal Students (GK-KISS) scale is a 4-item scale. Responders state either yes or no to each question about their level of familiarity with suicide prevention plans and resources in their institution (e.g., is there a specific plan for helping students who are contemplating suicide at your school?). The GK-KISS is scored by obtaining the mean of score of yes (1) and no (0) responses (Cronbach, $\alpha \leq 0.74$). All scales will be modified to be generalizable to the public. In terms of survey reliability, Wyman et al. noted "an expert panel reviewed these items for content validity (p. 107)." Permission to change scale items and feedback were obtained from the developers of the instrument.

Stigma of Suicide Scale-Short Form (SOSS-SF). The Stigma of Suicide Scale-Short Form will serve as a measure for the construct of explicit attitudes toward people who attempt or die

by suicide. The SOSS-SF was developed by Batterham, Calear, & Christensen (2013b). Developers said the scale was an effective measure of participant attitudes toward people who die by suicide. The SOSS-SF requires participants to select words they feel stand for their definition of persons who die by suicide. Definitions reflect attitudes of participants that resulted in three factors: (a) stigma, (b) isolation/depression, and (c) glorification/normalization.

Factors were obtained by participants' choice of words representing stigma (e.g., weak), isolation/depression (e.g., lonely), or glorification/normalization (e.g., brave). Each one-word descriptor of a person who dies by suicide is rated on a 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). The subscales of the SOSS-SF are summarized by calculating the mean response to all items on the subscale, ranging from 1 to 5.

The scale was shown to have strong internal consistency in the short form version that will be used in this study (Cronbach $\alpha \leq 0.78$; Batterham, Calear, & Christensen, 2013b). SOSS-SF responses were correlated the Suicide Opinion Questionnaire (SOQ) to assess for convergent validity. Batterham, Calear, & Christensen reported the SOSS-SF was strongly correlated to the SOQ in factors relevant to the three-factor structure of the SOSS-SF. Further, they concluded that the strong associations "indicate convergent validity (2013b, p. 18)."

In terms of administration, the scale will be administered via an online Qualtrics survey. Scale items are rated on a 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly) agree. Responses will be scored and the highest mean score from each factor will be noted as the self-reported attitude of the participant toward those who died by suicide.

Literacy of Suicide Scale-Short Form (LOSS-SF). The Literacy of Suicide Scale was added to this study to serve as a knowledge of suicide prevention construct. The LOSS-SF is a self-report instrument which assesses knowledge of suicide. The LOSS-SF was developed by Calear, Batterham and Christensen (2012). Developers state the scale measures an individual's knowledge of suicide risk factors, signs/symptoms, cause/nature, and treatment/prevention of suicide. Each theme may be impacted by implicit bias toward suicide, therefore its inclusion in this study will lend evidence for the validity of the IAT-suicide and IAs toward suicide.

Psychometric properties of the LOSS-SF are limited as it is made up of correct and incorrect responses. Despite this, developers stated that Item Response Theory (IRT) was used to identify items that had the strongest discrimination of the underlying literacy construct (Calear et al., 2012). In psychometrics, IRT seeks to model the way in which latent psychological constructs manifest themselves in terms of observable item responses; this information is useful when developing, evaluating, and scoring tests (Harvey & Hammer, 1999).

The 12-item short form of the LOSS-SF will be used in the present study. The scale will be presented in on online questionnaire. Participants will respond to each item. Higher numbers correct will result in a higher literacy of suicide score. Less correct will mean a lower literacy score. The score is made up by one's literacy in the LOSS-SF's three literacy themes.

Attitude toward Suicide Questionnaire (ATTS). The Attitude toward Suicide (ATTS) Questionnaire will serve to measure a construct of attitudes toward suicide. The ATTS is a self-report measure of attitudes toward suicide developed by Renberg and Jacobsson (2003). The ATTS was selected based on its capability to measure attitudes and opinions toward suicide

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(Kodaka, Postuvan, Inagaki, & Yamada, 2010). This study will assess attitudes using the 40-item Attitudes section of the ATTS. The choice of the Attitudes section was based this study's aim to learn how IAs may inform external attitudes toward suicide.

In terms of psychometric properties, the ATTS factors was cited as having strong (Cronbach $\alpha \leq 0.86$) to low internal consistency (Cronbach $\alpha \leq 0.38$; Renberg & Jacobsson, 2003). In terms of validity, developers said "obtaining an identical factor model in both 1986 and 1996" based on current ATTS items "gives support for high construct validity (p. 61)." The ATTS will be included in an online response form. Participants will respond to questions concerning one's opinion and attitudes about suicide. Attitude items are scored on a 5-point Likert-type scale from 1 (strongly agree) to 5 (strongly disagree). The subscales of the ATTS were summarized by calculating the mean response to all items on the subscale, ranging from 1 to 5.

Mean scores vary in their translation to attitudes. For example, lower mean scores in the preventability factor show stronger belief that suicide can be prevented. In contrast, higher mean scores in the non-communication factor show more readiness to communicate about suicide when necessary. Based on the 10-factor model of the ATTS, the scoring procedures given by Renberg & Jacobsson (2003) will be used in this study.

Exposure to Suicide Scale. The Exposure to Suicide Scale is a 10-item multiple choice survey. The scale will serve to measure a construct of exposure to suicide (ETS). The scale asks participants to show their level of exposure or contact with suicide. The scale was developed by Batterham, Calear, & Christensen (2013b). Developers based the scale on the Level of Contact

Report (Holmes, Corrigan, Williams, Canar, & Kubiak, 1999). This scale was selected based on its ability to assess an individual's ETS. The scale was also considered appropriate based on its potential to determine the impact of ETS on attitudes, opinions, and behavioral intentions toward suicide. The instruments will be administered online via a Qualtrics survey. Participant responses are scored per their level of exposure to the act of suicide, meaning an attempt or completed suicide. Higher scores show more ETS, for example a score of 7 would mean the participant lived with someone who attempted or died by suicide. A score of 0 would say the participant had no ETS or an attempted suicide. Meaning a person whose sole exposure is threats or contemplations of suicide itself and would score 0.

Patient Health Questionnaire (PHQ-9). The 9-item Patient Health Questionnaire is a self-report measure to assess presence of depression (Kroenke, Spitzer, & Williams, 2001). The measure was added to this study to add robustness to the instrumentation and to serve as a construct of mental health status for participants in a succinct way. The scale developers Spitzer, reported the internal reliability of the PHQ-9 was quite high in practice, with a Cronbach's α of 0.89 in the PHQ Primary Care Study and 0.86 in the PHQ Ob-Gyn Study (2001). In terms of construct validity, Spitzer and colleagues stated there was a strong association between higher PHQ-9 depression severity scores and lower functioning as measured by the Medical Outcomes Study Short-Form General Health Survey (SF-20). Additionally, developers reported pairwise comparisons within between PHQ-9 and SF-20 scale "were highly significant (p. 609)."
The instrument will be added to an online self-report questionnaire via Qualtrics. Higher scores on the PHQ-9 will stand for greater presence of depressive symptomology.

Data Collection Procedures

People interested in participation first responded to Qualtrics survey link, where they gave informed consent and screening questions ensuring each participant met age, residency, and technology requirements. Second, participants completed a demographics questionnaire, and self-report measures (i.e. the SOSS-SF, LOSS-SF, ATTS, Gatekeeper survey, Exposure to Suicide Scale, and the PHQ-9, respectively). Third, participants were routed to the Inquisit website to complete the IAT-Suicide. Fifth, participants were given debriefing information, and choice for an incentive. AMT participants completed the same procedure, however needed to give their AMT ID and participation code at the beginning and end of the procedure.

Data cleaning. Participants with duplicate IP addresses, who incorrectly responded to attention check questions (e.g., selecting the last letter of the alphabet), and who did not complete the IAT were removed from the final sample. Additionally, participants with IAT error rates above 40% and/or unusually fast or slow response times, such as more than 10% trials with latency less than 300 ms were removed, as suggested in prior research with quantitative and IAT data (Peris, Teachman, & Nosek, 2008).

Analyses

Instrument scoring. IAT-suicide effects were obtained by contrasting average response times during each task measured in positive or negative *D*-scores, also known as the IAT effect at measuring valence. A *D* score has a range of -2 to +2. Greenwald, Nosek, & Banaji (2003) denoted the following ranges: 'slight' (.15), 'moderate' (.35) and 'strong' (.65). Participant *D*-scores were given by Millisecond-Inquisit website which houses prominent IATs, in addition to

the IAT-Suicide used in this study. Positive *D* scores stand for implicit stigma. Negative *D* scores stand for implicit sympathy. The SOSS-SF, LOSS-SF, ATTS, Gatekeeper Survey, Exposure to Suicide Scale, and were scored per instructions by authors (Batterham, Calear, & Christensen, 2013b; Calear, Batterham & Christensen, 2012; Renberg & Jacobsson, 2003; Kroenke, Spitzer, & Williams, 2001; Wyman et al., 2008).

Data recording. IAT-Suicide responses and reaction times were recorded on the Millisecond-Inquisit website. Additional measures were recorded on the Qualtrics website. Data was exported for statistical analysis on a local computer housed at the University of North Dakota.

Data analysis. Analyses were run using the Statistical Package for the Social Sciences (SPSS) version 23. IAT scores were measured by millisecond reaction times, which distinguished participant attitudes toward object and attribute pairings, in this case suicide attempts + bad words, physical illness + sad words.

Analyses used in this study were multivariate analysis of covariance (MANCOVA), analysis of covariance (ANCOVA), bivariate correlation, and independent samples T-test. Two MANCOVAs were run for hypotheses 1 and 2. Two ANCOVA were run for hypotheses 3 and 4. Bivariate correlation and an independent samples T-test was run for hypothesis 5. Analyses assessed the impact of the independent variable (IAs toward suicide) on dependent variables (explicit attitudes toward suicide; knowledge of suicide prevention; intentions to ask about suicide; and to refer to a proper resource). Analyses controlled for the effects continuous

variables not of primary interest (e.g., ETS, PHQ-9 score), but believed to co-vary with attitudes

toward suicide.

CHAPTER IV

DATA ANALYSIS

As said previously, current U.S. national strategies to prevent suicide have not assessed the impact of IAs on behavior intentions to prevent suicide. This study sought to examine this gap in the research, and assessed IAs of adults toward suicide using an IAT. Specifically, the study assessed the impact of implicit stigma, compared to implicit sympathy, and hypothesized those who endorsed implicit stigma would report higher levels of explicit stigma, resignation to suicide, less knowledge of suicide prevention, less intention to ask about suicide, and less intention to refer an at-risk person to a resource. Additionally, it was hypothesized higher ETS would be correlated with implicit sympathy toward suicide. This chapter is organized chronologically in terms of the hypotheses 1-5 noted in chapter 1. It first reports sample demographics; then examines each hypothesis described in writing and through tables.

Results

Participants

Participants were recruited through email advertisements, social media advertisements, word of mouth, and Amazon Mechanical Turk (AMT). Two hundred and forty adults took part in this study. After data cleaning one hundred and eleven participants remained. Forty-five participants were Amazon Mechanical Turk Workers.

Demographics. The final sample consisted of 66 females and 45 males. Much of the sample were between 18-44 years (86.5 %). Most participants reported their ethnicity as White or European-American (84.7%), 6.3% reporting being Latino or Hispanic, 3.6% identified as Multiracial, 2.7%, as Asian-American, 1.8% as Middle-Eastern American, and only one person identified as Black or African-American (.9%). Concerning sexuality, most of the sample identified as heterosexual (84.7%). Additionally, most reported a religious or spiritual practice (80.2%), yet reported never attending a spiritual or religious meeting (71.2%). Participants responded from urban (32.4%), suburban (34.3%), and rural (33.3%) communities. In terms of education, most were high school graduates (58.6%), while the remainder reported earning a bachelor's degree or higher (41.4%). In terms of ETS, a majority (69.4%) of the sample reported direct contact with someone who died by or attempted suicide. See table 1 for added demographic data.

Table 1

Demographics by implicit group

Characteristics	Implicit Stigma (*n*=38)	Implicit Sympathy (*n*=73)
	n	*n*
Gender		
Female	19	47
Male	19	26
Age		
18-24	7	29
25-44	27	33
45-64	3	10

Table 1 cont.

65-74	0	1
75 and over	1	0
Sexuality		
Asexual	1	1
Bisexual	3	10
Gay	2	0
Heterosexual	32	62
Ethnicity		
Asian American	1	2
Black or African American	0	1
Latino or Hispanic	2	5
Middle Eastern American	1	1
Multiracial	1	3
White or European American	33	61
Spiritual/Religious Practice		
Agnostic	7	15
Atheist	4	12
Buddhism	1	2
Catholic	7	17
Christian	9	13
Islam	1	0

Table 1 cont.

Judaism	1	1
Lutheran	4	6
Protestant	0	3
Not Listed*	4	4
Spiritual/Religious Meeting Attendance		
Daily	0	1
2-3 times a week	3	3
Once a week	8	17
Never	27	52
Type of Community		
Urban	12	24
Suburban	13	25
Rural	13	24
Highest Education		
High School	20	45
Bachelor's Degree	13	20
Master's Degree	4	6
Doctorate Degree	1	2
Exposure to Suicide		
No exposure	2	4
Observed suicide in a movie or television show	10	11

Table 1 cont.

Watched a documentary on suicide	1	6
Co-worker attempted or died by suicide	1	0
Provided services to someone who attempted or died by suicide	3	5
Acquaintance attempted or died by suicide	6	14
Relative attempted or died by suicide	4	15
Close friend attempted or died by suicide	5	10
Lived with someone who attempted or died by suicide	2	2
I have attempted suicide.	4	6
PHQ-9 Score		
0-4 None-minimal	0	0
5-9 Mild	7	16
10-14 Moderate	18	27
15-19 Moderately Severe	8	15
20-27 Severe	5	11
< 27	0	4

   IAT-Suicide Results. Overall this sample's mean *D* score on the IAT-Suicide is - .17.

The histogram (Fig. 1) shows the distribution is slightly, negatively, skewed showing most

individuals associated "Suicide" with "Sad."
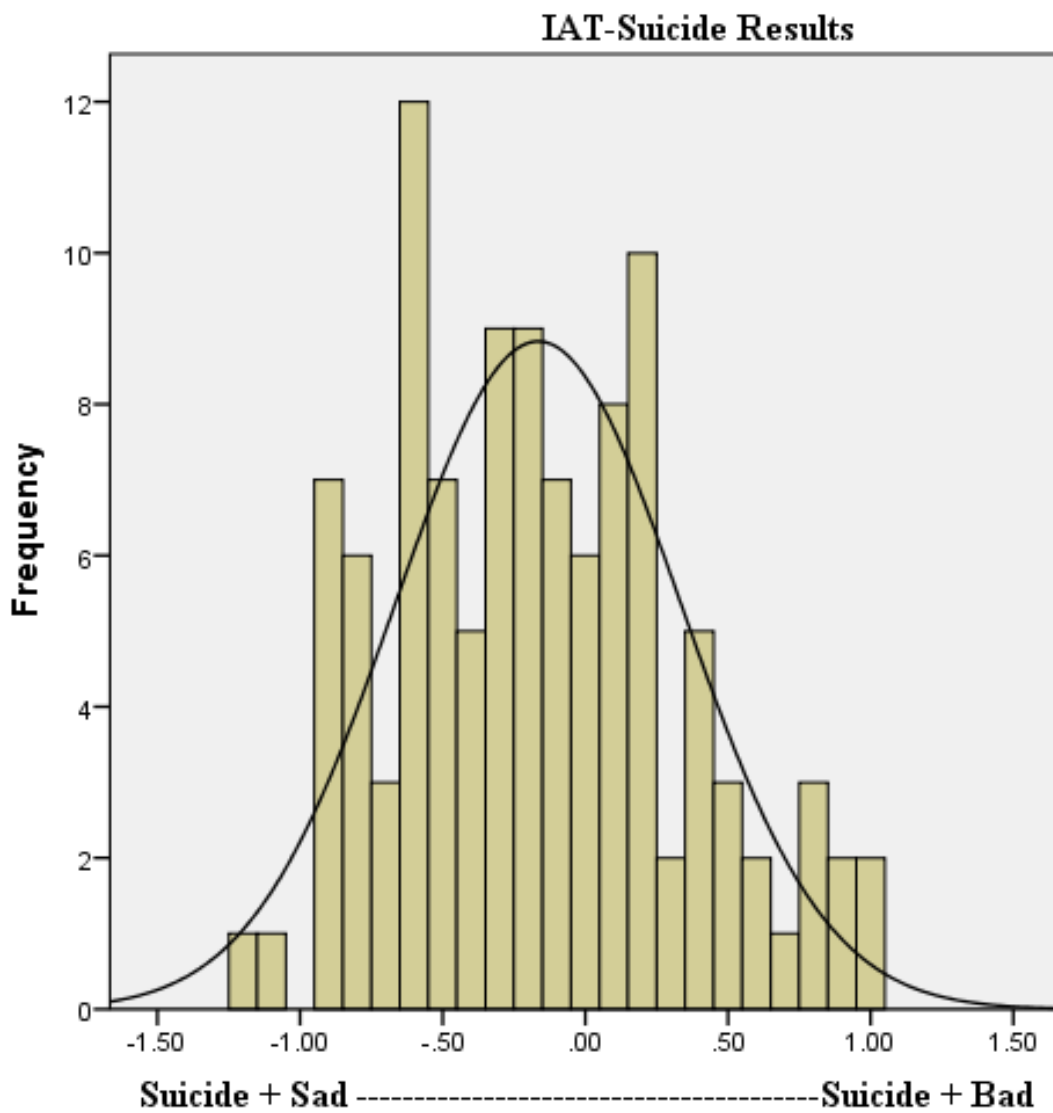

Figure 1. IAT-Suicide D scores.

Hypotheses

Hypothesis 1: *The IA-ST group will endorse more negative explicit attitudes toward suicide, namely stigma and resignation than the IA-SY group. The IA-SY group will endorse more positive explicit attitudes toward suicide, namely sympathy, suicide as normal, and incomprehensible than the IA-ST group.* A one-way Multivariate Analysis of Covariance (MANCOVA) was conducted for hypothesis one. The independent variable, implicit attitudes, included two levels: implicit stigma and implicit sympathy. The dependent variables were explicit attitudes toward suicide, with six domains: sympathy, stigma, glorification, suicide as incomprehensible, suicide as normal, and resignation. The covariates were the participant's ETS and PHQ-9 scores. A preliminary analysis evaluating the homogeneity-of-covariance showed that there were no significant differences, *Box's M* (17.99), *p* >.05.

With the use of Wilks's criteria, the combined DVs were significantly affected by IAs toward suicide [*F* (6, 102) = 2.65, *p* < .05; Wilk's Λ = 0.87, partial η2 =.14]. One of two covariates, PHQ-9 score, significantly affected the combined DV, [*F* (6, 102) = 2.79, *p* < .05; Wilk's Λ = 0.86, partial η2 =.14]. See table 2 for added MANCOVA information.

Table 2
Summary of MANCOVA test for Hypothesis 1

Effect	Λ	F	df1	df2	p
Intercept	.06	272.58	6	102	.00
Exposure to Suicide	.89	2.03	6	102	.07
PHQ-9	.86	2.79	6	102	.02

Table 2
cont.

Implicit Attitude	.87	2.65	6	102	.02

Note. PHQ-9, Patient Health Questionnaire-Nine Item

2. Dependent variable = Explicit Attitudes to Suicide

Between subjects tests showed IAs toward suicide significantly affected two of the six DV domains based on p-value, explicit sympathy [F (1, 107) = 4.33, $p <$ .05; partial η2 =.01] and incomprehensibility [F (1, 107) = 11.88, $p <$ .01; partial η2 =.10]. The four other DV domains, stigma, glorification, suicide as normal, or resignation of suicide were significantly affected by the IV (see table 3).

Table 3
Summary of Tests Between-Subjects Effects for Hypothesis 1

Dependent Variable	F	df1	df2	p	partial η2
SOSS-Stigma	3.38	1	107	.07	.03
SOSS-Glorification	3.55	1	107	.46	.01
SOSS-Sympathy/Isolation	4.33	1	107	.04	.04
ATTS-Incomprehensible	11.88	1	107	.00	.10
ATTS-Normal	1.30	1	107	.26	.01
ATTS-Resignation	.31	1	107	.58	.00

Note. SOSS = Stigma of Suicide Scale-Short Form; ATTS = Attitude Towards Suicide Scale;

(Dependent variable definition(s) below).

2. Dependent variable, SOSS-Stigma toward people attempting or dying by suicide (table 3)

3. Dependent variable, SOSS-Glorification of people attempting or dying by suicide (table 3)

4. Dependent variable, SOSS-Isolation cause people attempting or dying by suicide (table 3)

5. Dependent variable, ATTS-Incomprehensible, incomprehensibility to suicide (table 3)

6. Dependent variable, ATTS-Normal, normalcy to suicide (table 3)

7. Dependent variable, ATTS-Resignation, resignation to suicide (table 3)

Pairwise comparisons showed the IA-ST group endorsed (M=2.25, SE=.12) more explicit stigma than the IA-SY group (M=1.96, SE=.09), however the difference (.29) was not significant. The IA-SY group reported more (M=2.28, SE=.09) glorification of suicide than the IA-ST group (M=2.17, SE=.12), yet the difference was not significant.

Next, the IA-ST group (M= 4.34, SE= .13) endorsed significantly more explicit sympathy than the IA-SY group (M= 4.06, SE= .07). The difference of .27 scale units showed a medium effect (d = .45, r = .22) size. The IA-SY group reported (M=3.14, SE=.09) significantly more incomprehensibility than the IA-ST group (M=2.57, SE=.13). The difference of .57 scale units showed a large effect (d = .72, r = .34) size. The IA-SY group endorsed more (M=2.54, SE=.79) normalcy than the IA-ST group (M=2.38, SE=.11), yet the difference was not significant. The IA-ST group (M=3.40, SE=.16) reported more resignation to suicide than the IA-SY group (M=3.29, SE=.12), yet again this difference was not significant. See table 4 for pairwise comparison and mean score information for each group.

Table 4

Pairwise comparison of implicit groups for Hypothesis 1

Dependent Variable	Implicit Stigma Group (*n*=38) M, SE	Implicit Sympathy Group (*n*=73) M, SE	Difference	Significant Yes/No	*d*	*r*
SOSS-Stigma	2.25, .12	1.96, .09	.29	No	-	-
SOSS-Glorification	2.17, .12	2.28, .09	.11	No	-	-
SOSS-Sympathy/Isolation	4.34, .13	4.06, .07	.27	Yes*	.45	.22
ATTS-Incomprehensible	2.57, .13	3.14, .09	.57	Yes**	.72	.34
ATTS-Normal	2.38, .11	2.54, .79	.15	No	-	-
ATTS-Resignation	3.40, .16	3.29, .12	.11	No	-	-

Note. *$p <.05$; **$p < .01$; (Dependent variable definition(s) below).

2. Dependent variable, SOSS-Stigma toward people attempting or dying by suicide (table 4)

3. Dependent variable, SOSS-Glorification of people attempting or dying by suicide (table 4)

4. Dependent variable, SOSS-Isolation cause of people attempting or dying by suicide (table 4)

5. Dependent variable, ATTS-Incomprehensible, incomprehensibility to suicide (table 4)

6. Dependent variable, ATTS-Normal, normalcy to suicide (table 4)

7. Dependent variable, ATTS-Resignation, resignation to suicide (table 4)

Hypothesis 2: ***The stigma group will report less knowledge of suicide prevention compared to the sympathy group.*** A one-way Multivariate Analysis of Covariance (MANCOVA) was conducted for hypothesis two. The independent variable, implicit attitudes, included two levels: implicit stigma, and implicit sympathy. The dependent variable was

knowledge of suicide prevention with two domains: literacy of suicide, and knowledge of suicide prevention. The covariates were the participant's exposure to suicide and PHQ-9 scores. A preliminary analysis evaluating the homogeneity-of-covariance across groups indicated there were no significant differences as a function of the independent variable, as *Box's M* (1.07) was not significant, $p > .05$.

With the use of Wilks's criteria, the combined DVs, of knowledge of suicide prevention, were not significantly affected by IAs toward suicide, [F (2, 106) = .22, $p > .05$; Wilk's $\Lambda = 0.99$, partial η2 = .00]. Additionally, the combined knowledge of suicide prevention DVs were significantly related to one of two covariates, ETS, [F (2, 106) = 4.50, $p < .05$; Wilk's $\Lambda = 0.92$, partial η2 = .07]. See table 5 for a summary of MANCOVA results for hypothesis 2.

Table 5
Summary of MANCOVA test for Hypothesis 2

Effect	*Λ*	*F*	*df1*	*df2*	*p*	*partial η2*
Intercept	.18	231.82	2	106	.00	.84
Exposure to Suicide	.92	4.50	2	106	.01	.07
PHQ-9	.99	.17	2	106	.83	.00
Implicit attitude	.99	.22	2	106	.79	.00

Note. PHQ-9 Patient Health Questionnaire Nine Item; (Dependent variable definition(s) below).

2. Dependent variable = Knowledge of Suicide Prevention (table 5)

Additional univariate results demonstrated the DV domains, literacy of suicide F (1, 107) = .02, $p > .05$; partial η2 = .00), or knowledge of suicide prevention, F (1, 107) = .36, $p > .05$;

partial η2 = .00, were not significantly affected by IAs toward suicide per Wilks' criterion.

Pairwise comparisons showed knowledge of suicide prevention was not significantly different

between IA groups, see table 6 for more information.

Table 6
Pairwise Comparisons of implicit groups for Hypothesis 2

	Implicit Stigma Group (*n*=38)	Implicit Sympathy Group (*n*=73)		
Dependent Variable	*M, SE*	*M, SE*	Difference	Significant* Yes/No
LOSS-SF	9.16, .30	9.21, .22	.05	No
GK-KNOW	10.37, .25	10.18, .18	.19	No

Note. * = *p* < .05; LOSS-SF, Literacy of Suicide Scale-Short Form; GK-KOR, Gatekeeper

Knowledge of Suicide Risk Factors & Prevention; (dependent variable definition(s) below)

2. Dependent variable, LOSS-SF, literacy of suicide's signs and symptoms, causes of the nature

of suicidality, (c) risk factors, and (d) treatment and prevention (table 6)

3. Dependent variable, GK-KNOW, knowledge of risk factors for suicide (table 6)

   Hypothesis 3: ***The stigma group will report less intention to ask about suicide***

compared to the sympathy group. A one-way analysis of covariance (ANCOVA) was

conducted for hypothesis three. The independent variable, IAs toward suicide, included two

levels: implicit stigma and implicit sympathy. The dependent variable was the intention to ask

about suicide in response to warning signs. Covariates were ETS and PHQ-9 scores. A

preliminary analysis evaluating the homogeneity-of-regression (slopes) assumption showed that

the relationship between the covariate and the dependent variable did not differ significantly as a

function of the independent variable, F (1, 109) = .41, p >.05. The ANCOVA was not

significant, F (1, 107) = .25, p > .05, showing intentions to ask about suicide was not

significantly affected by IAs toward suicide. Further analysis found one of two covariates, ETS,

was significantly and positively related to intentions to ask about suicide, F (1, 107) = 15.21, p <

.01. See table 7 for added ANCOVA information.

Table 7
Summary of ANCOVA test for Hypothesis 3

Source	F	df1	df2	p
Exposure	15.21	1	107	.00
PHQ-9	3.17	1	107	.07
Implicit Attitude	.256	1	107	.61

Note. PHQ-9 Patient Health Questionnaire Nine Item; (Dependent variable definition(s) below)

2. Dependent variable = Intent to ask about suicide in response to warning signs (table 7)

Additional pairwise comparison analyses were run and the intent to ask about suicide did

not differ significantly between IA groups, implicit stigma (*M* = 2.07, *SD* = .19), or implicit

sympathy (*M* = 1.94, *SD* = .14). See table 8 for added information.

Table 8

Pairwise Comparisons of implicit groups for Hypothesis 3

	Implicit Stigma Group (*n*=38)	Implicit Sympathy Group (*n*=73)		
Variable	*M, SE*	*M, SE*	Difference	Significant* Yes/No
GK-ASK	2.07, .19	1.95, .14	.12	No

Note. * = $p < .05$; GK-ASK, Gatekeeper-Asking Students About Suicide in Response to Warning Signs; (Dependent variable definition(s) below)

2. Dependent variable, GK-ASK, intent to ask about suicide in response to warning signs (table 8)

Hypothesis 4: *The stigma group will report less intention to refer to a resource compared to the sympathy group.* A one-way analysis of covariance (ANCOVA) was conducted for hypothesis four. The independent variable, IAs toward suicide, included two levels: implicit stigma, and implicit sympathy. The dependent variable was the participant's intention to refer to an appropriate resource, and the covariates were the participant's ETS and PHQ-9 score. A preliminary analysis evaluating the homogeneity-of-regression (slopes) assumption showed that the relationship between the covariates and the dependent variable, the intent to refer to a prevention resource, did not differ significantly as a function of the independent variable, IAs toward to suicide, $F (1, 109) = .39, p > .05$. The ANCOVA was not significant, $F (1, 107) = .23, p > .05$ showing intentions to refer to a resource were not significantly related to IA group, see table 9 for a summary of ANCOVA results.

Table 9
Summary of ANCOVA test for Hypothesis 4

Source	F	df1	df2	p
Exposure	3.56	1	107	.06
PHQ-9	1.19	1	107	.27
Implicit Attitude	.05	1	107	.81

Note. PHQ-9 Patient Health Questionnaire Nine Item; (Dependent variable definition(s) below)

2. Dependent variable = Intent to refer to a prevention resource (table 9)

An additional pairwise comparison analysis was run and no significant differences were noted for the DV, intent to refer to a prevention resource, between IA groups, implicit stigma (*M* = 2.44, *SE*= .51), or implicit sympathy (*M* = 2.29, *SE*= .36). See table 10 for added information.

Table 10
Pairwise Comparisons of implicit groups for Hypothesis 4

	Implicit Stigma Group (*n*=38)	Implicit Sympathy Group (*n*=73)		
Variable	*M, SE*	*M, SE*	Difference	Significant* Yes/No
GK-REF	2.44, .51	2.29, .36	.15	No

Note. * = *p* < .05; (Dependent variable definition(s) below)

2. GK-REF, Gatekeeper- Intent to refer to a prevention resource (table 10)

Hypothesis 5: *Higher exposure to suicide will be correlated with implicit sympathy toward suicide.* Pearson's correlation between implicit attitudes toward suicide (*M* = -.17, *SD* =

.50) and ETS was not significant, r (111) = .04, p > .05. An independent-samples t-test also was conducted to investigate potential differences in ETS between IA group conditions. There was not a significant difference in ETS between IA groups, implicit stigma (M=5.42, SD = 2.93), or implicit sympathy M=5.70, SD = 2.62; t (109) = .50, p > .05.

CHAPTER V

DISCUSSION

This chapter will provide an overview of current study's findings and hypotheses, The Impact of Implicit Attitudes on Intentions to Prevent Suicide. Within this chapter, information is presented in the following order: (a) a summary of the study, (b) an examination of hypotheses related to the literature, (c) implications for action, (d) limitations, (e) recommendations for future research, and (f) closing remarks and conclusions.

Summary of Study's Findings

The purpose of this study was to gain understanding of what impact, if any, positive and negative IAs made on intentions to prevent suicide. While results from one hundred eleven adults showed IAs significantly affected explicit attitudes overall, incomprehensibility of suicide, and suicide sympathy. No other significant differences were found between implicit groups in their intentions to prevent suicide. Findings suggest suicide prevention psychoeducation is needed for individuals holding implicit stigma and/or with low to no ETS.

Examination of Hypotheses

Hypotheses will be reviewed in ascending order, one to five, with connections to research literature throughout.

Hypothesis 1: The IA-ST group will endorse more negative explicit attitudes toward suicide, namely stigma and resignation than the IA-SY group. The IA-SY group will endorse more positive explicit attitudes toward suicide, namely sympathy, suicide as normal, and incomprehensible than the IA-ST group.

Concerning explicit stigma in IA groups, it was expected the IA-ST group would report significantly higher explicit stigma than the IA-SY group, by p-value. After controlling for ETS and depressive symptoms, there were no significant differences between IA groups in their report of explicit stigma, and this portion of the hypothesis was not supported. My expectation of links between implicit and explicit stigma were based on prior research by Peris, Teachman, & Nosek (2008). In their study, implicit stigma (toward mental illness) was linked to explicit stigma, and lower quality of life. Their results showed IAs to mental illness were related to stigma, and I expected similar results in my study. Moreover, connections between implicit and explicit stigma was found in measures of stigma and other behaviors, like suicide (Cha et al., 2016; Nock et al., 2010; Nock & Banaji, 2007). However, data in this study did not support links between implicit and explicit stigma data.

Concerning explicit sympathy, I expected the IA-SY group to endorse more statistically higher explicit sympathy to suicide than the IA-ST, based in p-value. After controlling for covariates, the IA-ST group reported more explicit sympathy than the IA-SY group. This finding did not support hypotheses. Results were counter to prior suicide research which showed links between positive implicit and explicit attitudes to other behaviors, like suicide and nonsuicidal self-injury (Cha et al., 2016; Cheon & Chiao, 2012; Harrison, Stritzke, Fay, Ellison, & Hudaib, 2014; Kene, 2016). It is also possible that the deliberate processing of participants affected responses when completing explicit measures, like the SOSS-SF. This processing is unlike an automatic response, and enables a person to hold in their automatic biases when answering an explicit measure (Fazio, 1990). IA-ST group participants may have contemplated their responses more carefully on explicit measures and thus gave less stigmatizing responses than the IA-SY group.

I hypothesized the implicit sympathy group (IA-SY) would endorse more incomprehensibility to suicide, compared to the stigma group, as the sympathy group would be less inclined to agree suicide was a reasonable means to an end. After controlling for covariates, the IT-SY group endorsed significantly more explicit incomprehensibility to suicide than the IA-ST group, which supported this portion of the hypothesis. My expectations were in line with findings in the literature linking incomprehensibility of suicide to fewer suicide deaths (Lund, Nadorff, Winer, & Seader, 2016).

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Additionally, findings show the stigma group (IA-ST) endorsed less incomprehensibility to suicide, thus showing the IA-ST were more accepting of suicide. The more acceptance of suicide the more likely it occurs and this finding suggests implicit stigma may be a catalyst for higher suicide risk, and potentially a more normal behavior (Deluty, 1988; Galynker, Yaseen, Briggs, & Hayashi, 2015).

Continuing, my expectation of higher resignation to suicide in the IA-ST group was not supported by the data in this study. This expectation has been seen in research about suicide myths (e.g. talking about suicide increases risk; Schurtz, Cerel, & Rodgers, 2010; The Samaritans, 2009). Likewise, I thought implicit stigma would be found in people who were more resigned to suicide (e.g. the person is incurable and suicide may be their only choice). There is support for this line of thinking given IA research which shows people at higher risk for suicide also align themselves more with death than life (Nock et al., 2010). However, findings in this study did not support links between implicit stigma and resignation to suicide.

Hypothesis 2: The stigma group will report less knowledge of suicide prevention compared to the sympathy group. Concerning knowledge of suicide prevention, I expected the implicit stigma group would report significantly less knowledge than the sympathy group. After controlling for ETS and depressive symptomology, no significant differences in knowledge of suicide prevention (i.e., literacy of suicide prevention, knowledge of risk factors) were found between implicit groups. This finding was not expected given prior research showed explicit stigma was connected to less literacy of suicide prevention (Batterham, Calear, & Christensen 2013a).

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However, results showed a significant (p < .01) effect of ETS on knowledge of suicide prevention. The mean ETS score for this sample ($M = 5.6$) shows most of the sample have had a personal connection to someone who has attempted or died by suicide. Calear, Batterham, & Christensen (2012) stated high ETS may account for a "nuanced effect" and higher literacy overall (p. 415). This effect appears present in this study. For example, literacy scores, using the LOSS-SF, for this sample are 9.16-9.21. The scores were high compared to another set of scores in the literature (e.g., 6.40-8.20; Calear, Batterham, & Christensen, 2012). The high scores show my sample is well versed in knowledge about causes, risk factors, signs, symptoms, and treatments for suicide. Given the sample's high suicide literacy, the non-significant findings are less surprising. It also speaks to the effect of high ETS.

Mean knowledge scores for this study's sample are between 9.81-10.28, and participants answered 72-74% of knowledge questions correct. The findings suggest a moderate level of knowledge about risk factors and prevention across implicit groups. In addition, findings show ETS significantly affected knowledge across implicit groups. It is more likely that personal connection to suicide overrode implicit attitude toward suicide when it came to knowledge about risk factors. Fazio (1990) stated people will deliberate or contemplate a decision if they believe the consequences of their decision significantly impact others. In this case, the high ETS suggests participants had one or more chances to consider the risk factors of suicide in their lives or the lives of others. This consideration and connection to suicide seems to lead to more knowledge, as suggested in the literature (McClure et al., 2015).

Additionally, PHQ-9 scores affected knowledge of suicide. I believe it is possible when person's show increased depressive symptoms they may seek mental health services. Service providers may in turn offer suicide prevention resources, and increase their wherewithal on ways to keep themselves (and potentially others) safe from suicide attempts.

Hypothesis 3: The stigma group will report less intention to ask about suicide compared to the sympathy group. I hypothesized the implicit stigma group would report less intent to ask about suicide than the implicit sympathy group. Findings show there was no significant differences between implicit groups in their intent to ask about suicide after controlling for ETS and depressive symptoms. Compared to scores from the sample in a study by Wyman et al. (2008) (M=2.28), the current sample appears as willing to ask about suicide in response to warning signs (M =2.01).

The fact IAs did not affect willingness to ask is surprising since explicit stigma is linked with harsh views of people at-risk for suicide or who died by suicide (Batterham, Calear, & Christensen, 2013a; Chan, Batterham, Christensen, & Galletly, 2014; Lester, 1992; Tzeng & Lipson, 2004; Wellman & Wellman, 1986). Those harsh views resulted in less desire to be near, or talk to people who attempted suicide, compared to those with sympathetic views to suicide. Findings from my study do not coincide with the literature. One reason may be that intention to ask about suicide was asked on a self-report measure, which is a measure that may be effected by social desirability. In this study, it is possible a participant's response was skewed more toward what the person hopes they would do when they see a person at risk for suicide.

Moreover, the sample's ETS was positively related to participants' intentions to ask about suicide. Results from Batterham, Calear, & Christensen (2013a) show support for this significant finding. In their research, authors noted ETS was connected to "higher [prevention] literacy" and "more attunement to reports of suicide (Batterham, Calear, & Christensen, 2013a, pp. 411-415)." ETS may also be linked to increased suicide prevention education after a suicide, thereby increasing individuals understanding of the importance of asking about suicide. Thus, the significance of ETS appears connected to an understanding of suicide prevention, and more intent to ask to prevent suicide.

Hypothesis 4: The stigma group will report less intention to refer to a resource compared to the sympathy group. -I expected implicit stigma to be linked with less intent to refer to a suicide prevention resource, and hypothesized the IA-ST group would report significantly less intent to refer than the IA-SY group. Results did not support my hypothesis as the implicit groups did not differ on their intent to refer, which resulted in scores ranging 2.29-2.44. The lower scores in this sample appears to show a general resistance to refer to a resource.

Results are in-line with earlier studies which showed suicide stigma negatively impacted the intent to talk, or be near people who attempted suicide (Batterham, Calear, & Christensen, 2013a; Chan, Batterham, Christensen, & Galletly, 2014; Lester, 1992; Tzeng & Lipson, 2004; Wellman & Wellman, 1986). Yet, results from my study showed despite implicit attitude to suicide, neither group had much intent to refer a person to a prevention resource. This lack of intent to refer is not abnormal, given past studies which showed similar low scores on intent to refer by school site staff (e.g. 2.40-2.54; Wyman et al.,2008).

Low intent to refer was also noted in a sample of social work students. In this study, Osteen, Jacobson, & Sharpe (2014) found 77% of their sample did not intend to refer a client or student to a resource when that person was "suicidal (p. 357)." Each finding shows referral of a suicidal individual challenges everyone, thus the non-significant findings in my study appear to reflect the literature.

Hypothesis 5: Higher exposure to suicide will be correlated with implicit sympathy. I posited greater implicit sympathy would lead individuals to talk to those who contemplated suicide, and thereby have more exposure to this group. Comparatively, I expected IA-ST group to be more averse to associating with people at risk for suicide. Findings show higher ETS was not correlated with implicit sympathy, and my hypothesis was not supported.

Findings were counter to past research which showed sympathy toward suicide was linked to more willingness to talk to people at-risk for suicide (Batterham, Calear, & Christensen, 2013a; Gunn & Lester, 2011; Niederkrotenthaler, Reidenberg, Till, & Gould, 2014). Thus, I posited greater implicit sympathy would lead individuals to talk to those who contemplated suicide, and thereby have more exposure to this group. Comparatively, I expected the IA-ST group to be more averse to associating with people at risk for suicide based on research showing links between stigma and a desire to avoid people who had attempted suicide (Lester, 1966, 1992). Despite my expectations, the null finding has some support in the literature (Kene, 2016). Kene, in her study of nonsuicidal self-injury (NSSI), found no significant difference in attitude to NSSI despite exposure to it. It is possible that ETS has many nuanced effects, and no one attitude is connected to it.

Surprises

Implicit bias to suicide did not play a significant difference across explicit variables related to suicide. This was a surprise since much of the implicit stigma was moderate ($\geq$.20) to strong ($\geq$.65), per ranges suggested by Greenwald, Nosek, & Banaji (2003). One potential explanation for the lack of connection between implicit and explicit attitudes toward suicide in the current study is grounded in Fazio's (1990) theory. This theory states that people contemplate explicit behaviors when they assume their intentions are highly consequential. Fazio argued that automatic attitudes are automatic and are not deliberated. Thus, people may hold automatic and implicit stigma when unable to deliberate. Yet, when they were given more time to respond on explicit measures, such as in the current study, people contemplated and deliberated before responding. Time to contemplate and respond may not happen in life when dealing with people who are thinking about killing themselves. In this scenario, automatic or mixed reactions are more likely, thereby allowing implicit bias to suicide play out. Unfortunately, I did not capture automatic attitudes associated with the intention to prevent suicide in this study.

In terms of group differences, the implicit the stigma group endorsed more sympathy and acceptability (less incomprehensibility) of suicide than the sympathy group, with medium ($d =$ .45, r=.22) and large ($d = .72$, $r = .34$) effect size differences respectively. It is possible implicit stigma is a catalyst for a permissive atmosphere to suicide (Lund, Nadorff, Winer, & Seader, 2016). These effect sizes, taken together, show implicit suicide stigma may be a catalyst to explicit attitudes conveying both empathy and acceptability of suicide. Thereby those harboring

implicit stigma may explicitly show an understanding of one's desire to die and acceptance of their desire to attempt suicide, leading to more suicide deaths (Deluty, 1988; Galynker, Yaseen, Briggs, & Hayashi, 2015).

Concerning ETS, the findings in this study show the sample had a high level of ETS. In fact, nine people reported a suicide attempt. This medium to high connection to suicide appears to have affected explicit attitudes, intent to ask about suicide, and knowledge of suicide and prevention. While this finding is surprising, it does make sense in hindsight as the ability of an individual to recall and recognize the signs of suicide is key in prevention in persons with suicide risk (McClure et al., 2015). Given this sample's high connection to suicide it is more likely they have learned the signs of suicide simply by exposure to them in their everyday lives. Despite this, I was surprised to note the significance of ETS and the lack of correlation to implicit sympathy in this sample.

PHQ-9 scores for this sample ranged from mild to severe depression, and reported a mean score of 14. The level of depressive symptomology reported in this sample was unexpected. Further, it seems the increased scores significantly affected attitudes toward suicide and knowledge of suicide. Per findings in this study, connection to depression significantly affects attitudes to suicide and understanding of risk factors. Research on the link between prevention knowledge and PHQ-9 scores is limited since the measure is used to predict future attempts. Yet, Batterham, Calear, & Christensen (2013b) noted when PHQ-9 "indicated depression" literacy scale scores were in the moderate range (p. 412).

Limitations

Three limitations for this study will be discussed, (1) Gatekeeper Measure, (2) IAT-Suicide, and (3) Procedures.

Gatekeeper Measure. Two issues related to the Gatekeeper measure stand out as potential limitations.

First, the survey was the longest instrument used in this study. Its length may be contributed to testing fatigue. The survey could have been shortened by combining repetitive questions. For example, one statement is "I can make appropriate referrals within my school or community for students or people contemplating suicide." Another, "I know service providers in my school or community who can help students or people contemplating suicide." These two statements seem to capture service availability, intent to refer, and could be combined.

Second, many of the Gatekeeper survey items allowed not applicable (N/A) responses, which allows a person to prevent themselves from answering the question. Wyman et al., (2008) also provided instructions to code the N/A responses as 1 or NEVER. It would have made more sense to simply combine the NEVER and N/A responses as one response.

IAT-Suicide. Regarding implicit attitude (IA), this study was an attempt to develop an IAT to assess implicit attitudes toward suicide and people contemplating it. Sensitivity of the IAT-suicide is a concern given the given results from this sample. For example, 6% of the

sample returned 0.00 scores on the IAT-Suicide, showing neither stigma nor sympathy. Increasing the sensitivity on the IAT would, ideally, limit responses showing no valence for or against suicide. A more sensitive IAT could help delineate attitudes toward people at-risk for suicide.

Two suggestions to improve the IAT-Suicide are to change the target images and word pairings. Currently, the target images are of people attempting suicide or receiving chemotherapy. Changing the target images to pair people attempting suicide and people who are not attempting suicide, a more neutral image, may increase the sensitivity to suicide images. A more sensitive IAT in future studies would limit methodological issues and potential ceiling or floor effect in participant responses. Another way is to change target words and remove words with four or more syllables. Doing so may allow for more fluid processing and automatic reaction to images.

Procedures. I did not use counterbalancing for this study. Each participant completed self-report measures, and then the IAT-Suicide. Results may have been negatively affected by order effects on self-report measures, the IAT-suicide, both, or neither. Future versions of this research will use counterbalancing to reduce order effects, balance the order of conditions, and reduce potential internal validity issues, such as instrumentation.

Implications for Practice

This section will include recommendations for practice based on findings from this study in three points. First, results from this study showed implicit stigma was significantly linked

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with the acceptance of suicide. Given these results, people at-risk for suicide may find

themselves at higher risk if they are around people who consider suicide to be an acceptable

means to die. Shifting these attitudes and educating people holding implicit stigma with the idea

that suicide is preventable is recommended. Second, implicit stigma was found across a wide

range of participants from various communities. Results suggest implicit negative attitudes are

widespread, and efforts to reduce implicit stigma are recommended. Third, ETS significantly

impacted literacy of suicide, prevention, and knowledge of risk factors. Data from this study

suggests ETS can be the opening with which to ask people to serve as gatekeepers to prevent

suicide. This connection can be made during follow-ups with survivors of suicide by community

providers who may suggest QPR or ASIST to people personally affected by suicide (Centers for

Disease Control and Prevention, 1998; Varia, Ebin, & Stout, 2014).

Recommendations for Further Research

The rationale for this study was to learn about IAs toward people who attempt suicide

and to determine how IAs affected intent to learn about suicide, knowledge of how to prevent it,

and intentions to prevent suicide. Through the process of conducting the current study, ways of

improving future research associated with IAs toward suicide emerged.

First, the IAT-Suicide is a helpful measure on assessing attitudes toward suicide, however

it can be improved. When I developed the IAT, I did so from advice gained from Dr. Thomas

Joiner who likened suicide stigma to cancer stigma in the 1980s. He went on to say when

attitudes to cancer changed and the intent to prevent cancer became (and is now) very present in

society. From this information, I contrasted images of suicide (attempts) with images of cancer (treatment). Given the emergence of non-significant results, it is possible the IAT was not as sensitive as it could be. Future IATs should use a neutral condition to increase the sensitivity of the IAT-Suicide and improve the measurement of attitudes toward suicide.

Second, the IAT-Suicide was designed to assess automatic attitudes to suicide. The IAT did not assess intent to prevent suicide. Current suicide research using IATs use the measure to assess for intent to attempt suicide. To improve my line of research I will develop another IAT which measures intent to prevent suicide. Combing two IATs which assess attitudes to suicide and intent to prevent suicide will enhance future versions of this research.

Third, recent studies using IATs in researching NSSI and suicide have used multiple IATs, usually three, to give participants more practice. Researchers, typically, test for attitudes using two benign objects like flowers, insects, or bugs. Then, they have participants complete an IAT on NSSI or suicide. In future studies, I will integrate another IAT to give participants more practice before assessing for target objects, like suicide attempts.

Fourth, this study's procedure did not use counterbalancing and each participant completed the self-report measures, and then the IAT-Suicide. Thus, the participant results may have been negatively impacted by order effects on the self-report measures, the IAT-suicide, both, or neither. Future versions of this research will use counterbalancing to reduce order effects and balance the order of conditions.

Fifth, given the studies high ETS and high depressive symptoms, it would be helpful to expand the sample with more participants to delineate what effect, if any, less exposure, and depression would have upon attitudes, knowledge, and intent to prevent suicide.

Sixth, this study's sample was mostly a homogeneous group in terms of ethnicity, sexuality, religion, and age. A concerted effort to get a more representative sample consisting of ethnic and sexual minorities allow this study to generalize to a larger group of people in the US. With a more representative sample, this study could learn more about attitudes, knowledge, and intent to prevent suicide in groups known to be a higher risk for suicide, for example those who identify as a sexual minority (e.g. lesbian, gay).

Finally, the gatekeeper measure was the longest measure in this study. Recently, a gatekeeper behavior scale was created (Albright, Davidson, Goldman, Shockley, & Timmons-Mitchell, 2016). The scale has shown promise to assess preparedness, likelihood, and self-efficacy to prevent suicide. In future studies the gatekeeper behavior scale would be more convenient measure.

Conclusions

While initial findings suggest that IATs can be used to assess implicit attitudes toward suicide, these findings also point to the need to development a more sensitive and effective IAT that can predict intent to intervene when someone is contemplating or attempting suicide.

Second, findings from this study suggest implicit stigma acts as a catalyst to the acceptability of suicide. This association may allude to a pattern of at-risk individuals being

stigmatized by people who sanction suicide as an acceptable means to their end. Changing this

patter, and reducing stigma is imperative to preventing suicide.

Third, ETS significantly impacted knowledge of suicide prevention (i.e., literacy of

suicide prevention, knowledge of risk factors). While not stated in the literature, it is possible

that ETS in everyday life provides opportunities for people to learn the warning signs for suicide

and what causes suicide. It is important to understand how people exposed to suicide learn how

to prevent it.

Fourth, ETS significantly affected intent to ask about suicide. ETS appears to be a

helpful factor; however, I am curious as to why. Perhaps, people with more ETS concern

themselves with its prevention as has been suggested (Abbott & Zakriski, 2014). Another

thought is people exposed to suicide are normalized to it. Normalization to suicide may cause

asking and referring to be a part of everyday life, as shown in earlier research (Hoven,

Wasserman, Wasserman, & Mandell, 2009).

Based on the current study's findings, there is initially evidence that IATs can assess

implicit attitudes concerning suicide and people who attempt it. IATs have not yet been used as

a measure of attitudes with this behavior and findings from this study show implicit biases may

significantly inform outward attitudes to suicide.

Concluding Remarks

This study dealt with a public health issue and personal cause for me. Suicide continues

to increase, and this study brought me close to the behavior and how it impacts others. Findings

from this study show implicit attitudes can help to predict what attitudes exist in the world.

Additionally, it was helpful to note findings suggesting implicit stigma, compared to sympathy, was linked with more acceptability of suicide. This finding offered support for the intent of this study, which is to learn how attitudes affect intentions. Moreover, the effect of exposure on several areas of this research show education about warning signs may be better geared to people with less ETS. Moreover, the high exposure and PHQ-9 scores gave me pause. Given the spread of the sample across varying communities I appreciate more the struggle participants may go through each day with depression and ETS. Personally, I have re-thought my stance on suicide prevention based on recent education I have received. I am still interested in prevention education, research, and therapy to reduce suicide. Yet, education by Marsha Linehan, in a new video series, said she now talks to her clients about developing a life worth living, and not necessarily suicide prevention. Going forward I will move my concentration therapeutically to focus on suicide prevention and developing more tools to build up clients to live a life worth living.

APPENDICES

Implicit Association Test of Attitudes toward Suicide (IAT-Suicide)

Sequence	1	2	3	4	5
Task description	Initial target-concept discrimination	Associated attribute discrimination	Initial combined task	Reverse target-concept discrimination	Reverse combined task
IAT Stimuli	•Cancer (images) Suicide (images)	•Sad Words Bad Words	•Cancer •Sad Suicide• Bad•	Cancer• •Suicide	Cancer• Bad• •Suicide •Sad
Sample Stimuli	•Cancer1 •Cancer2 •Cancer3 •Cancer4 •Cancer5 Suicide1 Suicide2 Suicide3 Suicide4 Suicide5	•Sad •Unhappy •Broken •Lonely •Depressed •Gloomy •Melancholy •Dejected Cruel Unfair Irresponsible Vengeful Shallow Selfish Immoral Dishonor	•Cancer1 •Sad Suicide1• Bad • •Cancer2 •Sad Suicide2• Bad •	Cancer1• Cancer2• Cancer3• Cancer4• Cancer5• •Suicide1 •Suicide2 •Suicide3 •Suicide4 •Suicide5	Cancer1• Bad • Cancer2• Bad • Cancer3• Bad • Cancer4• Bad s• Cancer5• Bad • •Suicide1 •Sad •Suicide2 •Sad •Suicide3 •Sad •Suicide4 •Sad •Suicide5 •Sad

The IAT-Suicide procedure (IAT-S). The IAT procedure is five discrimination tasks (see numbered columns above). Two target concepts (cancer, suicide) and attribute dimensions (sad and bad) are introduced in steps 1 and 2. Categories for each discrimination are assigned to either the left or right side, as shown by the black circles in the third row. These discriminations are combined in step 3 and then recombined in step 5, after reversing response assignments (step 4) for the target-concept discrimination.

SOSS SHORT FORM

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:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
brave	☐	☐	☐	☐	☐
cowardly	☐	☐	☐	☐	☐
dedicated	☐	☐	☐	☐	☐
disconnected	☐	☐	☐	☐	☐
an embarrassment	☐	☐	☐	☐	☐
immoral	☐	☐	☐	☐	☐
irresponsible	☐	☐	☐	☐	☐
isolated	☐	☐	☐	☐	☐
lonely	☐	☐	☐	☐	☐
lost	☐	☐	☐	☐	☐
noble	☐	☐	☐	☐	☐
pathetic	☐	☐	☐	☐	☐
shallow	☐	☐	☐	☐	☐
strong	☐	☐	☐	☐	☐
stupid	☐	☐	☐	☐	☐
vengeful	☐	☐	☐	☐	☐

Appendix C
Literacy of Suicide Scale-Short Form-Short Form
(LOSS-SF; (Calear, Batterham, & Christensen, 2012)

LITERACY OF SUICIDE SCALE (SHORT FORM):

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

	True	False	Don't know
1. If assessed by a psychiatrist, everyone who suicides would be diagnosed as depressed (F)	☐	☐	☐
2. Seeing a psychiatrist or psychologist can help prevent someone from suicide (T)	☐	☐	☐
3. There is a strong relationship between alcoholism and suicide (T)	☐	☐	☐
4. People who talk about suicide rarely commit suicide (F)	☐	☐	☐
5. People who want to attempt suicide can change their mind quickly (T)	☐	☐	☐
6. Talking about suicide always increases the risk of suicide (T)	☐	☐	☐
7. Not all people who attempt suicide plan their attempt in advance (T)	☐	☐	☐
8. People who have thoughts about suicide should not tell others about it (F)	☐	☐	☐
9. Very few people have thoughts about suicide (F)	☐	☐	☐
10. Men are more likely to suicide than women (T)	☐	☐	☐
11. Most people who suicide are psychotic (F)	☐	☐	☐
12. A suicidal person will always be suicidal and entertain thoughts of suicide (F)	☐	☐	☐

Attitudes

The following questions concern your opinion about suicide. Please mark with a cross the alternative that you find is in best accordance with your opinion. There are no 'right' or 'wrong' answers!

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
4. It is always possible to help a person with suicidal thoughts.	☐	☐	☐	☐	☐
5. Suicide can never be justified.	☐	☐	☐	☐	☐
6. Committing suicide is among the worst thing to do to one's relatives.	☐	☐	☐	☐	☐
7. Most suicide attempts are impulsive actions.	☐	☐	☐	☐	☐
8. Suicide is an acceptable means to terminate an incurable disease.	☐	☐	☐	☐	☐
9. Once a person has made up his/her mind about committing suicide no one can stop him/her	☐	☐	☐	☐	☐

10. Many suicide attempts are made because of revenge or to punish someone else. ☐ ☐ ☐ ☐ ☐

11. People who commit suicide are usually mentally ill. ☐ ☐ ☐ ☐ ☐

12. It is a human duty to try to stop someone from committing suicide. ☐ ☐ ☐ ☐ ☐

13. When a person commits suicide it is something that he/she h as considered for a long time. ☐ ☐ ☐ ☐ ☐

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
14. There is a risk of evoking suicidal thoughts in a persons mind if you ask about it.	☐	☐	☐	☐	☐
15. People who make suicidal threats seldom complete suicide.	☐	☐	☐	☐	☐
16. Suicide is a subject that one should rather not talk about.	☐	☐	☐	☐	☐
17. Loneliness could for me be a reason to take my life.	☐	☐	☐	☐	☐

18. *Almost everyone has at one time or another thought about suicide.*

☐ ☐ ☐ ☐ ☐

19. *There may be situations where the only reasonable resolution is suicide.*

☐ ☐ ☐ ☐ ☐

20. *I could say that I would take my life without actually meaning it.*

☐ ☐ ☐ ☐ ☐

21. *Suicide can sometimes be a relief for those involved.*

☐ ☐ ☐ ☐ ☐

22. *Suicides among young people are particularly puzzling since they have everything to live for.*

☐ ☐ ☐ ☐ ☐

23. *I would consider the possibility of taking my life if I were to suffer from a severe, incurable, disease.*

☐ ☐ ☐ ☐ ☐

24. *A person once they have suicidal thoughts will never let them go.*

☐ ☐ ☐ ☐ ☐

Appendix D cont.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
25. Suicide happens without warning.	☐	☐	☐	☐	☐
26. Most people avoid talking about suicide.	☐	☐	☐	☐	☐
27. If someone wants to commit suicide it is their business and we should not interfere.	☐	☐	☐	☐	☐
28. It is mainly loneliness that drives people to suicide.	☐	☐	☐	☐	☐
29. A suicide attempt is essentially a cry for help.	☐	☐	☐	☐	☐
30. On the whole, I do not understand how people can take their lives.	☐	☐	☐	☐	☐
31. Usually relatives have no idea about what is going on when a person is thinking of suicide.	☐	☐	☐	☐	☐
32. A person suffering from a severe, incurable, disease expressing wishes to die should get help to do so.	☐	☐	☐	☐	☐
33. I am prepared to help a person in a suicidal crisis by making contact.	☐	☐	☐	☐	☐

34. *Anybody can commit suicide.* ☐ ☐ ☐ ☐ ☐

35. *I can understand that people suffering from a severe, incurable, disease commit suicide.* ☐ ☐ ☐ ☐ ☐

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
36. *People who talk about suicide do not commit suicide.*	☐	☐	☐	☐	☐
37. *People do have the right to take their own lives.*	☐	☐	☐	☐	☐
38. *Most suicide attempts are caused by conflicts with a close person.*	☐	☐	☐	☐	☐
39. *I would like to get help to commit suicide if I were to suffer from a severe, incurable, disease.*	☐	☐	☐	☐	☐

40. Suicide can be prevented. ☐ ☐ ☐ ☐ ☐

41. Even though you would prefer another way to die, painful circumstances in life might lead to suicidal ideation. How do you estimate the probability that you sooner or later will commit suicide?
☐ I am sure I never will commit suicide.
☐ I hope I will never commit suicide, but I am not absolutely sure.
☐ Under certain circumstances I consider suicide as a possibility.
☐ I consider suicide as a possibility in the future.

42. Every person will sooner or later die. Please indicate which manner of death you would prefer by ranking the alternatives from 1 to 5.
1= prefer most, ..., **5**=prefer least of all.
☐ Illness
☐ Accident
☐ Suicide
☐ Old age
☐ Homicide

43. To what extent do you think suicide should be prevented?
☐ In all cases
☐ In all cases, but with a few exceptions
☐ In some cases yes, in some cases no
☐ Not in any case; if a person wants to commit suicide no one, including medical services, has the right so stop him or her

The Patient Health Questionnaire (PHQ-9)

Patient Name _____ Date of Visit _____

Over the past 2 weeks, how often have you been bothered by any of the following problems?	Not At all	Several Days	More Than Half the Days	Nearly Every Day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed or hopeless	0	1	2	3
3. Trouble falling asleep, staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself - or that you're a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or, the opposite - being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

Column Totals _____ + _____ + _____

Add Totals Together _____

10. If you checked off any problems, how difficult have those problems made it for you to

Do your work, take care of things at home, or get along with other people?

☐ Not difficult at all   ☐ Somewhat difficult   ☐ Very difficult   ☐ Extremely difficult

Appendix F

Exposure to Suicide Scale
(Batterham, Calear, & Christensen, 2013a)

Please read each of the following statements carefully. After you have read all the statements

below, place a check by the statements that best depict your exposure to suicide.

___ (0) Observing suicide in a movie or television show

___ (1) Watched a documentary on suicide

___ (2) Colleague attempted or died by suicide

___ (3) Provided services to someone who attempted or died by suicide

___ (4) Acquaintance attempted or died by suicide

___ (5) Relative attempted or died by suicide

___ (6) Close friend attempted or died by suicide

___ (7) Lived with someone who attempted or died by suicide

___ (8) Lived with someone who died by suicide

___ (9) I attempted suicide

Appendix G
Schematic description and illustration of the implicit association test
(IAT; Greenwald, McGhee, & Schwartz, 1998).

Sequence	1	2	3	4	5
Task description	*Initial target-concept discrimination*	*Associated attribute discrimination*	*Initial combined task*	*Reversed target-concept discrimination*	*Reversed combined task*
Task instructions	● BLACK WHITE ●	● pleasant unpleasant ●	● BLACK ● pleasant WHITE ● unpleasant ●	BLACK ● ● WHITE	BLACK ● ● pleasant ● WHITE unpleasant ●
Sample stimuli	MEREDITH o o LATONYA o SHAVONN HEATHER o o TASHIKA KATIE o BETSY o o EBONY	o lucky o honor poison o grief o o gift disaster o o happy hatred o	o JASMINE o pleasure PEGGY o evil o COLLEEN o o miracle o TEMEKA bomb o	o COURTNEY o STEPHANIE SHEREEN o o SUE-ELLEN TIA o SHARISE o o MEGAN NICHELLE o	o peace LATISHA o filth o o LAUREN o rainbow SHANISE o accident o o NANCY

Figure 1. Schematic description and illustration of the implicit association test (IAT). The IAT procedure of the present experiments involved a series of five discrimination tasks (numbered columns). A pair of target concepts and an attribute dimension are introduced in the first two steps. Categories for each of these discriminations are assigned to a left or right response, indicated by the black circles in the third row. These are combined in the third step and then recombined in the fifth step, after reversing response assignments (in the fourth step) for the target-concept discrimination. The illustration uses stimuli for the specific tasks for one of the task-order conditions of Experiment 3, with correct responses indicated as open circles.

Appendix H
Demographic questionnaire

Please indicate your age.

- Under 18
- 18-24
- 25-44
- 45-64
- 65-74
- 75 and over

Do you live in the United States of America (USA)?

- Yes
- No

What is your gender?

- Male
- Female
- Intersex

What is your sexual orientation?

- Asexual
- Bisexual
- Gay
- Heterosexual
- Lesbian
- Pansexual
- Not listed? (write-in)

Appendix H cont.

What is the best description of your ethnicity?

- Asian American
- Black or African American
- Latino or Hispanic
- Middle Eastern American
- Multiracial
- Native American or Alaska Native
- Native Hawaiian or Pacific Islander
- White or European American
- Not Listed? (write-in)

What is your preferred spiritual or religious practice?

- Agnostic
- Atheist
- Buddhism
- Catholic
- Christian
- Hinduism
- Islam
- Judaism
- Lutheran
- Mormon
- Protestant
- Not Listed? (write-in)

How often do you attend spiritual or religious meetings (e.g. Church, Mass, Pray at Mosque)?

- Daily
- 4-6 times a week
- 2-3 times a week
- Once a week
- Never

Appendix H cont.

What type of community do you live in?

- Urban (city of more than 50,000)
- Suburban (town or area next to a city of 50,000 or more)
- Rural (town of 50,000 or less not next to an urban area)

What is your home state?

- Alabama
- Alaska
- Arizona
- Arkansas
- California
- Colorado
- Connecticut
- Delaware
- Florida
- Georgia
- Hawaii
- Idaho
- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts
- Michigan
- Minnesota
- Mississippi
- Missouri
- Montana
- Nebraska

Appendix H cont.

- Nevada
- New Hampshire
- New Jersey
- New Mexico
- New York
- North Carolina
- North Dakota
- Ohio
- Oklahoma
- Oregon
- Pennsylvania
- Rhode Island
- South Carolina
- South Dakota
- Tennessee
- Texas
- Utah
- Vermont
- Virginia
- Washington
- West Virginia
- Wisconsin
- Wyoming

What is the highest level of education you have completed?

- None
- Elementary
- Middle-School
- High School
- Bachelor's Degree
- Master's Degree
- Doctorate Degree

SURVEY OF KNOWLEDGE, ATTITUDES, & GATEKEEPER BEHAVIORS

FOR SUICIDE PREVENTION IN SCHOOLS

Your candid responses on the following survey will greatly assist us in our attempt to improve school staff's recognition and management of suicide-related behaviors among students. Please record your first, instinctive answer, even if you don't think it is "politically correct." Don't try to think about what your answers "should" be. All responses will be coded by an identifying number only and analyzed in group form so that no personal information is revealed.

Some questions may seem similar to each other or redundant. However, we ask that you answer all questions to help ensure the reliability of the assessment. Thank you for taking the time (estimated at between 15-20 minutes) to complete this survey.

If you have any questions/concerns about this survey, please call.

Your ID Number: _ _ _ _ _ _ _

Today's date:____ / ____ / ____

Section I: Respondent Profile

1. Your Age: _____

2. Gender: [ ] Male   [ ] Female

3. Position:
    [ ] Teacher
    [ ] Administrator (Principal, Assistant Principal)
    [ ] Health, Social Services (Nurse, Counselor, Social Worker)   specify_____
    [ ] Support Services   specify_____
    [ ] Other (specify) _____

4. Please indicate your race/ethnic identity below (you may check more than one):
    [ ] American Indian/Alaska Native
    [ ] Asian or Pacific Islander
    [ ] Black, not of Hispanic Origin
    [ ] Hispanic
    [ ] White, not of Hispanic Origin
    [ ] Other (specify) _____

5. School name: _____
    Length of time in current position at this school: ___years ____months

6. Length of time working in any school: ___years ____months

7. Average number of students you see or work with each week (check one):
    [ ] less than 20
    [ ] 20-39
    [ ] 40-59
    [ ] 60 or more

Appendix I cont.

8. Including yourself, how many teachers and staff at your school have participated in a suicide prevention-training course in the past 6 months *(check one)*:

        [ ] None
        [ ] Few
        [ ] Some
        [ ] Most
        [ ] All
        [ ] Don't know

9. Please consider your relationships with students in responding to the following:

	Never	Seldom	Some-times	Nearly always	Always	N/A
a. Students talk to me about their thoughts and feelings	1	2	3	4	5	6
b. Students come to me for advice and assistance when they are troubled	1	2	3	4	5	6
c. Students turn to me when they are concerned about another student	1	2	3	4	5	6

Section II: Background

1. Before this current school year, how much training about suicide prevention have you had? *(Please check all that apply.)*
        [ ] None
        [ ] Read my institution's protocol
        [ ] Watched a video
        [ ] Attended a lecture or talk
        [ ] Attended a skills-based training or workshop
        [ ] On-line training course
        [ ] Training course on CD-ROM
        [ ] CEU program
        [ ] Other in-depth training (more than 6 hours)
        [ ] Other *(specify)* _____

2. Estimated number of hours of previous suicide prevention training: _____

1. Have you received QPR Gatekeeper suicide prevention training? [ ] Yes [ ] No

    If yes, when? (check one) [ ] Before _____ school year
                          [ ] During _____ school year

    If you were trained during 2005-2006 school year, please indicate which month?:

2. If you were trained <u>before</u> the 2005-2006 school year, have you received a QPR Refresher training? [ ] Yes [ ] No

    If yes, when? [ ] Before _____ school year
               [ ] During _____ school year. Please indicate month?:

Appendix I cont.

3. Please circle the number which best describes how prepared you feel to perform the following:
   (1 = Not prepared; 2 = Minimally prepared; 3 = Slightly prepared; 4 = Moderately prepared; 5 = Fairly well prepared;
   6 = Well prepared; 7 = Quite well prepared)

	Not Prepared					Quite Well Prepared
a. Ask appropriate questions about suicide	1 2	3	4	5	6	7
b. Appropriately respond to disclosures of suicidal thoughts	1 2	3	4	5	6	7
c. Identify suicide indicators based on student history/behavior	1 2	3	4	5	6	7
d. Elicit a commitment not to attempt suicide	1 2	3	4	5	6	7
e. Persuade a student to seek help	1 2	3	4	5	6	7
f. Provide appropriate documentation, when necessary	1 2	3	4	5	6	7
g. Make appropriate referrals	1 2	3	4	5	6	7
h. Appropriately report suicide ideation or attempts	1 2	3	4	5	6	7

4. How much do you feel you now know about the following with regard to students experiencing suicide ideation or attempts?
   (1 = Nothing; 2 = Very Little; 3 = A little; 4 = A moderate amount; 5 = A fair amount; 6 = Quite a bit; 7 = Very Much)

	Nothing					Very Much
a. Reporting requirements for suicide ideation or attempts	1 2	3	4	5	6	7
b. Signs or symptoms of suicide ideation or attempt	1 2	3	4	5	6	7
c. How to provide appropriate documentation	1 2	3	4	5	6	7
d. Referral sources for students	1 2	3	4	5	6	7
e. Relationship between suicide and social issues/problems	1 2	3	4	5	6	7
f. What questions to ask to identify suicide ideation or attempt	1 2	3	4	5	6	7
g. Why a student might not disclose suicide ideation or attempt	1 2	3	4	5	6	7
h. Your role in detecting suicide ideation or attempt	1 2	3	4	5	6	7
i. What to say and not say in discussions with a student	1 2	3	4	5	6	7

Section III: SUICIDE Knowledge. (Questions from QPR Institute, Inc.; some questions are modified for school staff)

1. The great majority of people who think about suicide and want to kill themselves cannot be stopped (circle one):
   a. True
   b. False

2. The number one contributing cause of suicide is (circle one):

   a. Untreated major depressive disorder (a medical illness)
   b. Acute and severe stress
   c. Rejection by a loved one
   d. Alcoholism, especially if the person has recently been diagnosed with terminal cancer.

3. If you intercept a suspected suicidal communication (clue, warning sign, suspicious statement or threat), which of the following questions should be avoided (circle one):

   a. You're not thinking of killing yourself, are you?
   b. Are you thinking about suicide?
   c. Are you feeling so bad you'd like to go to sleep and never wake up?
   d. Have you ever wished you were dead?

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Appendix I cont.

4. The most commonly identified psychological state of those who take their own lives has been found to be *(circle one)*:

      a. Hallucinations
      b. Sadness
      c. Anger
      d. Humiliation
      e. Hopelessness

5. Asking a distressed person if he or she is having thoughts of death or suicide *(circle one)*:

      a. Should never be done, as it may put the idea of suicide in the person's mind
      b. Should only be done by professionally trained persons
      c. May lower the risk of suicide
      d. Should have no effect on the risk for suicide

6. To be effective in preventing suicide, I need to *(circle one)*:

      a. Be able to recognize the warning signs of suicide
      b. Understand what causes most people to become suicidal
      c. Know how to speak frankly about suicide
      d. All of the above

7. People who talk about suicide are only talking and should be ignored, since people who talk about suicide don't do it *(circle one)*.

      a. True
      b. False

8. Since persons in an acute suicidal crisis often feel bad and cannot sleep, 3 to 5 ounces of an alcoholic drink is recommended *(circle one)*.

      a. True
      b. False

9. Suicide affects mostly poor people and those having financial difficulties *(circle one)*:

      a. True
      b. False

10. Which of the following statements is most true *(circle one)*:

      a. Removal of the means of suicide is an important suicide prevention measure
      b. Suicide prevention is best left to the experts
      c. Only doctors should discuss suicide with people who may be thinking about ending their own lives
      d. Drugs and alcohol play only a minor role in suicidal behavior

11. Which of the following is not a possible warning sign of suicide *(circle one)*:

      a. Giving away prized possessions
      b. A sudden interest or disinterest in religion
      c. Talking about suicide
      d. Spending lots of money one doesn't have

Appendix I cont.

12. Which of the following is generally true about students who complete suicide? *(check all that apply)*

        [ ] They have told someone they are thinking about taking their life
        [ ] They have made at least one previous suicide attempt
        [ ] They drink or use drugs
        [ ] They are depressed

13. Which of the following are warning signs that a student may be considering suicide?
(check all that apply)

        [ ] Neglect of his/her studies
        [ ] Sudden happiness after being very unhappy
        [ ] Substance abuse
        [ ] Giving away possessions
        [ ] Withdrawal

14. When talking with a student contemplating suicide you should persuade him/her to: *(circle one)*

        a. Go home and discuss the matter with his/her parents
        b. Consider all the good reasons to stay alive
        c. Go immediately with you to the school counselor for help

Correct answers are:
1. B
2. A
3. A
4. E
5. C
6. D
7. B
8. B
9. B
10. A
11. D
12. ALL (coded as correct if all items were checked)
13. ALL (coded as correct if all items were checked)
14. C (some circled more than one here, we said also correct if selected A and C)

Appendix I cont.

Section IV: Opinions

For each of the following statements, please indicate your response on the scale from "Strongly Disagree" (1) to "Strongly Agree" (7).

Statements	Strongly Disagree		Disagree		Agree		Strongly Agree
1. If a student experiencing thoughts of suicide does not acknowledge the situation, there is very little that I can do to help.	1	2	3	4	5	6	7
2. My workplace encourages me to ask students about thoughts of suicide.	1	2	3	4	5	6	7
3. I can make appropriate referrals within my school for students contemplating suicide.	1	2	3	4	5	6	7
4. I do not have sufficient training to assist students who are contemplating suicide.	1	2	3	4	5	6	7
5. School teachers and staff should not be responsible for discussing suicide with students.	1	2	3	4	5	6	7
6. I feel comfortable discussing suicide issues with my students.	1	2	3	4	5	6	7
7. I don't have the necessary skills to discuss suicide issues with a student.	1	2	3	4	5	6	7
8. If a student contemplating suicide does not seek assistance, there is nothing I can do to help.	1	2	3	4	5	6	7
9. If a student contemplating suicide refuses to seek help, it should not be forced upon him/her.	1	2	3	4	5	6	7
10. A suicide prevention program in my school will give students unwanted ideas about suicide.	1	2	3	4	5	6	7
11. I know service providers in my school who can help students contemplating suicide.	1	2	3	4	5	6	7
12. I am too busy to participate in suicide prevention activities.	1	2	3	4	5	6	7
13. I am aware of the warning signs for suicide.	1	2	3	4	5	6	7
14. A suicide prevention program in my school will send a message to students that help is available.	1	2	3	4	5	6	7
15. I cannot understand why a student would contemplate suicide.	1	2	3	4	5	6	7
16. It is important for school teachers and staff to report identified cases of suicidal ideation to a specified resource.	1	2	3	4	5	6	7
17. I can recognize students contemplating suicide by the way they behave.	1	2	3	4	5	6	7
18. I do not know most students well enough to know when to question them about suicide.	1	2	3	4	5	6	7

Section V: Practice Issues

1. How many times in the last 6 months have you thought a student's behavior might indicate s/he was considering suicide?

   [ ] None
   [ ] 1-2
   [ ] 3-5
   [ ] 6-10
   [ ] 10 or more
   [ ] N/A – do not see students in school

Appendix I cont.

2. How many times in the last 6 months have you thought a student's behavior might indicate s/he was very distressed or depressed?

    [ ] None
    [ ] 1-2
    [ ] 3-5
    [ ] 6-10
    [ ] 10 or more
    [ ] N/A – do not see students in school

3. How many times in the last 6 months have you asked a student whether s/he was considering suicide?

    [ ] None
    [ ] 1 time
    [ ] 2 times
    [ ] 3 times
    [ ] 4 or more times
    [ ] N/A – do not see students in school

4. How many times in the last 6 months have you asked a student about his/her distress or depressed mood?

    [ ] None
    [ ] 1 time
    [ ] 2 times
    [ ] 3 times
    [ ] 4 or more times
    [ ] N/A – do not see students in school

5. How often in the past six months have you asked a student about suicidal thoughts

... when the student:	Never	Seldom	Some-times	Nearly always	Always	N/A
b. said something about ending their life	1	2	3	4	5	6
f. seemed depressed	1	2	3	4	5	6
g. had experienced a traumatic event	1	2	3	4	5	6
h. other: _____	1	2	3	4	5	6
... when you:						
i. had a feeling there was something wrong	1	2	3	4	5	6

[ ] Not applicable – I do not see students in school

6. For every student with suicidal behaviors you have identified in the past 6 months, how often have you:

	Never	Seldom	Some-times	Nearly always	Always	N/A
a. Asked the student about suicidal thoughts	1	2	3	4	5	6
b. Spent some time listening to the student	1	2	3	4	5	6
c. Provided appropriate information	1	2	3	4	5	6
d. Convinced the student to seek help	1	2	3	4	5	6
e. Taken a student to the school counselor/other resource	1	2	3	4	5	6
f. Notified appropriate referral resources	1	2	3	4	5	6
g. Other: _____	1	2	3	4	5	6

Appendix I cont.

7. Is there a specific plan for helping students who are contemplating suicide at your school? *(check one)*

    [ ] Yes, and widely used
    [ ] Yes, and used to some extent
    [ ] Yes, but not used
    [ ] No
    [ ] Unsure
    [ ] Not applicable – I do not see students in school

8. Are you familiar with your school's policies for helping students contemplating suicide? *(check one)*

    [ ] Yes [ ] No [ ] N/A

9. Are suicide prevention student education or resource materials (posters, brochures, etc.) available at your school? *(check one)*
    [ ] Yes, well displayed, and accessed by students
    [ ] Yes, well displayed, but not accessed by students
    [ ] Yes, but not well displayed
    [ ] No
    [ ] Unsure
    [ ] NA – I do not work in a school

10. Do you feel you have adequate referral resources for students contemplating suicide **at your school**?
    [ ] Yes
    [ ] No
    [ ] Unsure
    [ ] NA – I do not work in a school

11. Do you feel you have adequate knowledge of referral resources for students contemplating suicide **in the community**?
    [ ] Yes
    [ ] No
    [ ] Unsure
    [ ] NA – I do not work in a school

12. In the last 6 months, how many students did you personally refer to school counselor or other school official because you were concerned that a student might be suicidal?
    [ ] None
    [ ] 1 student
    [ ] 2 students
    [ ] 3 students
    [ ] 4 or more students
    [ ] N/A – do not see students in school

Thank you for completing this survey.

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