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SUICIDE PREVENTION: SUICIDE LITERACY AND ITS IMPACT ON HELPING INTENTIONS

by

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A Dissertation

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Abstract

Suicide is currently classified as a public health crisis due to the number of people that die by suicide each year. The majority of those that that are contemplating suicide disclose their thoughts to family and friends before mental health professionals. Non-mental health professionals can receive suicide prevention training in order to bolster their general understanding of suicide, otherwise known as suicide literacy. However, to date, there exists no research that has demonstrated a link between an individual's level of suicide literacy and their intention to help someone at risk of suicide. To this end, we examined the association between suicide literacy and intention to help a person at risk of suicide. Due to the fact that demographic characteristics can impact many factors surrounding suicide, the demographic characteristics that predict suicide literacy were also examined. Suicide literacy was assessed using the Literacy of Suicide Scale which is a 26-item scale that encompasses the various aspects of suicide. Participants were also presented with a 13-item helping intentions measure that examines their likelihood to help someone experiencing varying levels of suicide risk. The helping intentions measure if further broken down into three subscales that are considered recommended helping actions (talking/listening, risk assessment, and encouraging professional help) and one non-recommended subscale. When examining the association between suicide literacy and a combination of the three levels of suicide risk, results indicated that there was a strong positive correlation between suicide literacy and the talking/listening subscale and the encouraging professional help subscale. There was also a strong negative association between suicide literacy and the non-recommended helping actions. With regards to demographic characteristics, identifying as a transgender woman or as a cisgender man uniquely predicted suicide literacy. The various implications on research, practice, and prevention efforts are discussed.

Introduction

Each year, suicide claims the lives of so many Americans that public health experts have deemed it a public health crisis (Schuck et al., 2019). Suicide accounts for approximately 48,000 deaths each year in the United States alone, ranking it as the 10th leading cause of death across all age groups and the 2nd leading cause of death among individuals between the ages of 10 and 34 (Centers for Disease Control & Prevention, 2018). Alarmingly, suicide deaths currently account for more than double the number of deaths by homicide each year (Centers for Disease Control & Prevention, 2018). Moreover, far more individuals attempt suicide or seriously contemplate suicide than die by suicide; conservative estimates state that roughly 1.4 million Americans attempted suicide in 2019, 3.5 million individuals made a suicide plan, and 12 million seriously considered suicide (Substance Abuse and Mental Health Services Administration [SAMHSA], 2020).

Not only can suicide attempts have a lasting impact on an individual's emotional and physical well-being, but they can also have significantly detrimental impacts on the victim's family, friends, and community. Following a suicide, researchers have found that the victim's family and friends may experience shock, anger, guilt, various mental health concerns, or thoughts of suicide themselves (Chapman & Dixon-Gordon, 2007). Aside from the significant emotional and psychological toll, suicide also results in a considerable economic strain. Economists estimate that suicide deaths cost the economy roughly $70 billion each year (Centers for Disease Control & Prevention [CDC], 2018).

It is important to note that there are significant differences in suicide risk across demographic groups (race, gender, sexual orientation, etc.). For example, Indigenous American individuals have the highest suicide rates among all ethnic groups, whereas Black Americans

have the lowest rate (Ivey-Stephenson, 2017). Men die by suicide at a much higher rate than women; however, women attempt suicide at higher a rate (Centers for Disease Control & Prevention, 2018). This may be explained by the fact that men tend to use more lethal means of suicide like firearms, while women tend to use less lethal means such as pills or poison (Centers for Disease Control & Prevention, 2018). LGBTQ individuals are also at a significantly increased risk for suicide when compared to non-LGBTQ individuals (Grossman & D'Augelli, 2007). However, some evidence suggests that due to their increased level of risk, increased exposure to others' suicide, and community emphasis on suicide prevention, LGBTQ individuals may be more knowledgeable regarding suicidality than their non-LGBTQ peers (Marshal et al., 2011).

The alarming suicide statistics notwithstanding, suicide is a preventable phenomenon (Mann et al., 2005). Regrettably, many individuals who attempt suicide never access mental health services (Hunt et al., 2006). However, many who contemplate suicide disclose their suicidal ideation to their friends or family, making these individuals an important first line of defense (Houston et al., 2001). Notably, these individuals often are not mental health professionals and thus are not clinically trained to address suicidality. Suicide prevention programs, which are often at the forefront of suicide prevention efforts, aim to teach the general public how to identify and effectively intervene with individuals at risk for suicide and are among the most powerful methods of addressing the problem of suicide (Platt & Niederkrotenthaler, 2020).

Suicide Prevention and Suicide Literacy

Suicide prevention programs are frequently referred to as "gatekeeper" trainings because non-mental health professionals who complete these trainings are viewed as important

gatekeepers against suicide. Gatekeeper trainings refers to a plethora of evidence-based suicide prevention programs that, although differing in scope and focus, aim to increase individuals' knowledge regarding suicide, skills, and self-efficacy in assessing and effectively responding to suicidality (Quinnett, 1995). Among all of the gatekeeper trainings, Question, Persuade, and Refer (QPR) created by Dr. Paul Quinnett (1995) is perhaps the most popular and well-researched program (QPR Institute, 2017). QPR consists of a one hour professionally led training program that aims to teach participants how to effectively ask at-risk individuals about their suicidal thoughts, persuade them to seek professional help, and refer them to appropriate mental health resources (Samuolis et al., 2020). However, QPR and training programs like it do not train participants on how to assess an individual's means or plans for suicide, which are essential parts of the suicide risk assessment procedures that mental health professionals engage in. A significant body of literature has demonstrated the efficacy of the QPR program. For example, several studies have found that participants who completed QPR had significant increases in their knowledge surrounding suicidality and in their self-efficacy (Cross et al., 2011; Wyman et al., 2008). The QPR program has enough empirical support to be listed on the Substance Abuse and Mental Health Services Administration's (SAMSAH) National Registry of Evidence-Based Programs and Practices (NREEP) (Samuolis et al., 2020). One of the primary focuses of all gatekeeper training programs is to increase participants' knowledge surrounding suicidality, a concept frequently referred to as suicide literacy.

Suicide literacy refers to an understanding of the four facets of suicidality: warning signs and symptoms, risk factors, causes, and treatment and prevention (Batterham et al., 2013). Research has shown that a low level of suicide literacy is associated with a decreased likelihood of accurately recognizing suicidal ideation in others. (Batterham et al., 2013). Another study

found that those with no previous gatekeeper training demonstrated a low level of suicide literacy, only scoring slightly better than random chance (53.7%) on a suicide literacy measure (Oliffe et al., 2016). In contrast, several studies have found that gatekeeper programs are effective at significantly increasing participants' suicide literacy (Cross et al., 2011; Matthieu et al., 2008). It is apparent that suicide literacy is an important concept with regards to suicide prevention efforts; however, there is a significant gap in the literature regarding the association between suicide literacy and helping intentions toward someone at risk for suicide. Interestingly, suicide literacy (as it's currently defined), like suicide prevention trainings, does not include assessing for means or plans for suicide, it only focuses on the aforementioned facets

Helping Intentions

Examining helping intentions and helping behaviors is partially rooted in the Theory of Planned Behavior (TPB). The TPB posits that an individual's attitude regarding a specific behavior, the norms surrounding that behavior, and perceive behavioral control to perform said behavior are all factors that result in helping intentions becoming helping behaviors (Ajzen, 1991). Attitude towards a behavior refers to whether the behavior is subjectively valued to be a negative or positive behavior whereas norms refer to whether there exists societal pressure to engage in a specific behavior or not (Ajzen, 1991). Perceived behavior control refers to whether an individual believes they have the necessary resources to perform a specific behavior and whether or not they believe it to be easy or difficult. These three factors influence helping intentions which are highly correlated with helping behaviors. The TPB has shown that helping intentions can accurately predict a wide array of behaviors including drinking, smoking, substance use, utilization of health services, and many others (Fishbein & Ajzen, 2010). It is important to examine helping intentions because individuals may not have any experience with

actually offering help to an individual struggling with suicidal ideation; in lieu of that experience, gauging helping intentions is a reasonable alternative. Furthermore, several studies have found that helping intentions predicted helping behaviors (Rossetto, Jorm, and Reavley, 2016; Yap & Jorm, 2012). Research has also demonstrated that helping intentions are an effective predictor of whether individuals will engage in helping behaviors with regards to suicidal individuals (Aldrich, 2015).

Although there is a significant gap in the literature examining the association between suicide literacy and helping intentions towards those struggling with suicidal ideation, related research exists. This related research may serve as a framework with which to examine this problematic gap in the literature. Nicholas and colleagues (2020) examined the associations between the endorsement of suicide myths and helping intentions towards those with suicidal ideation. The authors found that belief in suicide myths and the effect on helping intentions were confusing and inconsistent. For example, belief in the myth that suicide happens without warning was strongly associated with greater intentions to engage in helpful suicide assessment behaviors (Nicholas et al., 2020). The authors of the study were unsure what to make of this seemingly counterintuitive association. On the other hand, they also found that the myth that asking someone about their suicidal ideation will cause them to consider suicide as an option had a strong negative association with helping intentions, which makes more intuitive sense than their other findings (Nicholas et al., 2020). The rationale for the Nicholas and colleagues' study was that many suicide prevention programs focus heavily on disproving suicide myths as a way to increase intention to help those at risk of suicide (Schurtz, Cerel, and Rodgers, 2010). The authors correctly noted that this approach of debunking myths was guided by the assumption that belief in suicide myths could affect helping intentions. Because this assumption had not been

examined, the authors researched the relationship between suicide myths and helping intentions. It is important to note that suicide myths are only one aspect of suicide literacy; therefore, it is worthwhile to broaden the scope by examining the association of suicide literacy as a whole with helping intentions when there is a risk of suicide. This may be even more necessary considering Nicholas and colleagues' (2020) mixed findings.

Demographic Characteristics

While belief in suicide myths is only one facet of suicide literacy, several studies have found demographic differences in the endorsement of suicide myths. One study also found that men, non-native English speakers, and older individuals endorsed belief in significantly more suicide myths than others (Nicholas et al., 2020). Other studies have also found that age and gender consistently predicted endorsement of suicide myths (Till et al.,2008; Voracek et al., 2008). It is possible that belief in suicide myths may indicate a broader lack of suicide literacy, but no studies have examined whether significant differences exist regarding suicide literacy between demographic groups. A better understanding of the association between suicide literacy and demographic characteristics can allow for more targeted suicide prevention efforts. For example, if older individuals consistently display lower levels of suicide literacy, it may be more worthwhile to develop prevention efforts targeted at older individuals.

Current Study

The current study aimed to broaden the scope of the Nicholas et al. (2020) study by examining the association between suicide literacy and helping intentions. The study focused on answering the following research questions by testing the following hypotheses:

- **RQ1:** Is there an association between suicide literacy and intention to help a person at risk of suicide?

- **H1:** Suicide literacy will be positively associated with intention to help a person at risk of suicide utilizing the recommended helping actions (risk assessment, talking/listening, and encouraging professional help).

- **RQ2:** Does the combination of demographic characteristics (sex, gender, age, sexual minority status) predict suicide literacy? If so, which demographic characteristics uniquely predict it?
    - **H2:** Sexual minority status and transgender gender identity will predict suicide literacy. The other demographic characteristics would not be significant predictors of suicide literacy.

Methods

Procedures and Participants

Participants were recruited solely using Amazon Mechanical Turk. Data were collected using a Qualtrics survey containing the consent form, the various instruments used in this study, and a debrief form. Participants were first presented with the informed consent form that includes information on the purpose of the study, description of the study, potential risks/benefits of participating in the study, and confidentiality information. In order to be eligible to participate in this study, participants had to be at least 18 years of age and currently residing in the United States. No other inclusion or exclusion criteria was used for this study. Once participants consented to participate in this study by clicking "yes", they were redirected to complete the remainder of the study, including the measures that make up this study (Demographic Survey, Literacy of Suicide Scale, Helping Intentions measure, and Social Desirability Scale). The order in which participants were presenting with the Literacy of Suicide Scale and the Helping Intentions measures was randomized to avoid influencing the participants responses in any way. The measures also included attention checks to filter out participants who were responding in an inattentive or random manner. A short social desirability measure was also utilized in order to examine whether participants were responding in societally desirable ways for the purpose of presenting themselves in a positive light. Once participants completed these measures, they were redirected to a study debrief form. Due to the nature of this study, this debrief form included information on how to access mental health resources and also included the contact information for several suicide prevention hotlines. At the end of the study, participants were provided with a code to enter into Mechanical Turk in order to receive their compensation of $1.00 for participating in this study. On average, it took participants approximately 7 minutes to complete

the study in its entirety. Compensation was based on minimum wage and other studies utilizing Mechanical Turk.

596 individuals completed the study in its entirety. However, 174 participants were removed from the final sample for a combination of either failing attention checks or completing the study far too quickly suggesting random response. Five minutes was used as an appropriate cut-off but it should be noted the vast majority of those removed completed the study between 60-120 seconds. Also, 20 participants were removed from the sample due to demographic characteristics not aligning. For example, a majority of those 20 participants removed stated they identified as transgender women but also indicated their sex assigned at birth was female (not male or intersex). The final sample consisted of 402 participants. 86% of the sample were between the ages of 24-38, with the average age being 34. 75.9% identified as cisgender men, (n = 305), 19.7% identified as cisgender women (n = 79), 1% identified transgender men (n = 4), 2.5% identified as transgender women (n = 10), 0.7% identified as non-binary (n = 3), and 0.2% (n = 1) of participants in this sample gender identity did not fit into any of these categories. 80.1% (n = 322) of the sample were assigned male at birth and 19.9% (n = 80) were assigned female at birth. With regards to sexual orientation, 54.2% (n = 218) identified as straight, 0.7% (n = 3) identified as gay, 2% (n = 8) identified as lesbian, 42.8% (n = 172) identified as bisexual, and 0.2% identified as pansexual. With regards to race, 94% identified as White, 2.2% identified as Black, 0.7% identified as Hispanic, 0.7% identified as East Asian, and 2.2% identified as Native American.

Measures

Demographic Survey. Participants completed a 9-item demographic survey including items assessing their age, gender identity, sexual orientation, racial identity, whether they have received a mental health diagnosis in the past, whether they have received suicide prevention training and whether any of their family members or friends has attempted or died by suicide. See appendix A for a full list of the items included in this measure.

Literacy of Suicide Scale (LOSS). To assess suicide literacy, participants completed the 26-item Literacy of Suicide Scale Calear et al., (2012). This scale measures on the four domains of suicide literacy outlined by Jorm (2000): "(a) signs and symptoms, (b) causes of the nature of suicidality, (c) risk factors, and (d) treatment and prevention" (Batterham et al., 2013). All of the items are answered as "True, False, or I don't know". Correct responses were scored as "1" and incorrect response (including "I don't know") were scored as "0". Thus, participants' suicide literacy scores were the sum of all their correct responses, meaning the higher the score the higher the level of suicide literacy. This scale was validated using item response theory rather than classical testing theory. Therefore, factor analysis was not performed, and internal consistency was not examined. Item response theory (IRT) was used to validate this scale as items from this scale have correct and incorrect answers (Calear et al., 2012). The authors of the scale used IRT to identify items that had the "strongest discrimination of the underlying literacy construct" (Calear et al., 2021, p. 3). Furthermore, they used IRT to avoid items that had poor discriminate validity. They also utilized a $p < .01$ for inclusion of items into the scale to avoid marginally predictive items. The Cronbach's alpha for the current sample = .86.

Helping Intentions. In order to assess helping intentions offered to others, participants were randomly presented with one of three possible vignettes that detailed an example of

someone experiencing varying levels of suicide risk. These vignettes were first used in a study examining helping intentions (Jorm et al., 2005). See appendix B for the vignettes in their entirety. These vignettes vary based on level of risk (distressing event only-low risk, indirect communication of suicide risk-moderate risk, and direct communication of suicide risk-high risk). Participants were then asked to answer on a 5-point Likert scale ranging from very unlikely to very likely on their likelihood of engaging in 13 specific helping actions. These helping actions are divided into four subscales: *Talking/listening, risk assessment, encouraging professional help, and non-recommended actions.* Nine of the helping actions were classified as helpful actions by expert consensus (Nicholas et al., 2018). The four remaining helping actions were classified as non-recommended actions and were derived the "Mental Health First Aid Guidelines for Suicidal Thoughts and Behaviors" (Mental Health First Aid Australia, 2014). With regards to the sample, the internal consistency for each of the four subscales are as follows: talking and listening $\alpha = .75$, risk assessment $\alpha = .79$, encouraging professional help $\alpha = .75$, and non-recommended actions $\alpha = .83$.

Marlowe–Crowne Social Desirability Scale (MC–SDS). The short form version of this scale consists of 13 items (e.g., "I almost never feel the urge to tell someone off"). All items are responded to using a true or false format. This scale demonstrated strong internal consistency (Kuder-Richardson 20 = .80) and good one month test-retest reliability ($r = .88$) (Weihs et al., 2000). This scale has been translated into many languages and normed on various populations. It also correlated with other measures of social desirability like the Edwards' Social Desirability Scale (.26). See Appendix F for the scale in its entirety.

Data Analysis

In order to analyze hypothesis 1 (suicide literacy will be positively associated with intention to help a person at risk of suicide),) a correlation analysis was utilized. Correlational analyses are used when examining the existence/strength of a relationship between two variables. The suicide literacy score provided by the Literacy of Suicide Scale was the first variable and helping intentions as measured by the Helping Intentions measure was the second variable. Lastly, in order to analyze hypothesis 2 (Male sex, identifying as a cisgender man, older age will be negatively associated with suicide literacy. Sexual minority status and transgender gender identity will be positively associated with suicide literacy) the relationship between suicide literacy and demographic characteristics was examined using multiple regression. Since this research question is focused on examining whether the effects of each predictor variable (various demographic characteristics) on the criterion variable (suicide literacy), these variables were examined at the same time using simultaneous regression (Heppner & Heppner, 2004). In order to make the predictor variables continuous dummy coding was used when necessary.

Results

Exploratory Analyses

Prior to analyzing the primary research questions, exploratory analyses were conducted. Descriptive/frequency analyses were run to determine the following information. The mean suicide literacy score across the sample was 14.45 (SD = 3.5) which is only slightly better than chance (53%). While not part of the primary analyses, participants were also asked whether they had ever received suicide prevention training, been diagnosed with a mental illness, or whether they had ever had a family member or friend attempt or die by suicide. This information was gathered in order better understand our sample and conduct exploratory analyses to explore how prior training, experiences with mental illness, or personal exposure to suicide may impact individuals suicide literacy or helping intentions. 68.2% (n = 274) of the sample had received suicide prevention training in the past, while 31.8% (n = 128) had not. It should also be noted that those with prior suicide prevention training only performed slightly better when compared to those who did not receive training (56% compared to 53%). 65.2% (n = 262) had received a mental health diagnosis and 34.8% (n = 140) had not. 68.7% (n = 276) have had a family or friends attempted or died by suicide. See Table 1 for a summary of the above. Correlation analyses were used in order to determine the relationship between suicide literacy, prior suicide prevention training, having a mental health diagnosis, and exposure to suicide (family or friends attempted or died by suicide). There was a strong positive correlation between prior suicide prevention training and having a mental health diagnosis ($r = .801$, $n = 402$, $p < .001$). There was also a strong positive correlation between prior suicide prevention training and exposure to suicide ($r = .597$, $n = 402$, $p < .001$). Interestingly, there was no significant correlation between suicide literacy and prior suicide prevention training ($r = -.098$, $n = 402$, $p = .060$) but there was

a strong negative correlation between suicide literacy and having a mental health diagnosis (r = -.202, n = 402, p < .001). Furthermore, there was a negative correlation between suicide literacy and exposure to suicide (r = -.116, n = 402, p = .020).

Table 1

Suicide Prevention Training, Mental Health Diagnosis, and Exposure to Suicide

Question	Yes	No
Have you received training on suicide prevention?	68%	32%
Have you ever received a mental health diagnosis?	65%	35%
Have any of your family or friends attempted or completed suicide?	68%	32%

Correlational analyses were used in order to examine the relationship between participant's social desirability (the degree to which they would like to present themselves in a societally positive manner) with important variables in this study like suicide literacy and the four helping intentions subscales. There was no significant correlation between social desirability and suicide literacy (r = .083, n = 402, p = .097). There was also no significant correlation between social desirability and the talking/listening (r = .028, n = 402, p = .026), the risk assessment (r = .019, n = 402, p = .710), encouraging professional help (r = .002, n = 402, p = .968), or the non-recommended helping actions subscales (r = .038, n = 402, p = .873). While scores on social desirability measures cannot be used to interpret individual participants responses, they can indicate what areas social desirability bias may play a factor.

Research Question 1

Research question 1 examined whether an associated exists between suicide literacy and intention to help a person at risk of suicide. Suicide literacy was assed using the LOSS score (the sum of participants correct responses which range between 0-26). Helping intentions were assessed using the helping intentions measure which consists of three vignettes detailing varying levels of suicide risk (low, moderate, and high). The helping intentions measure is divided into four subscales: Talking and listening, encouraging professional help, risk assessment, and non-recommended actions. When examining the association between suicide literacy combining the three vignettes with varying levels of suicide risk, there was a strong positive correlation between suicide literacy and the talking/listening subscale ($r = .371$, $n = 402$, $p < .001$) and the encouraging professional help subscale ($r = .178$, $n = 402$, $p < .001$). There was also strong negative correlation between suicide literacy and the non-recommended helping actions ($r = -.257$, $n = 402$, $p < .001$). These findings are consistent with the hypothesis that suicide literacy would be positively correlated with intention to engage in the recommended helping actions and negatively correlated with the non-recommended helping actions. Inconsistent with the hypothesis, there was no significant correlation between suicide literacy and the risk assessment subscale ($r = -.024$, $n = 402$, $p = .637$). The correlations between suicide literacy and intention to engage in helping actions were also examined based on each distinct level of suicide risk (low, moderate, or high risk).

When presented with a low level of suicide risk, there was a strong positive correlation between suicide literacy and the talking/listening subscale ($r = .365$, $n = 146$, $p < .001$). However, there was no significant correlations between suicide literacy and the risk assessment, encouraging professional, and non-recommended helping actions subscales ($r = -.102$, $n = 146$, p

= .221; $r = .120$, $n = 146$, $p = .148$; $r = -.045$, $n = 146$, $p = .587$). When presented with a moderate level of suicide risk, there was a strong positive correlation between suicide literacy and the talking/listening subscale ($r = .460$, $n = 120$, $p < .001$). There was also a positive correlation between suicide literacy and encouraging professional help subscale ($r = .225$, $n = 120$, $p = .014$). There was a strong negative correlation between suicide literacy and non-recommended actions ($r = -.286$, $n = 120$, $p = .002$). Similar to the low risk group, there was no significant correlation between suicide literacy and the risk assessment subscale ($r = .057$, $n = 120$, $p = .535$). When presented with the high level of suicide risk, there was a strong positive correlation between suicide literacy and the talking/listening subscale ($r = .286$, $n = 136$, $p < .001$). There was also a positive relationship between suicide literacy and the encouraging professional help subscale ($r = .220$, $n = 136$, $p = .010$). There was a strong negative correlation between suicide literacy and non-recommended actions subscale ($r = -.393$, $n = 136$, $p < .001$). Lastly, there was no significant correlation between suicide literacy and the risk assessment subscale ($r = .035$, $n = 136$, $p = .684$). See Tables 2-4 for a summary of the correlational analyses by suicide risk level.

Table 2

Correlations Analyses for Low Suicide Risk Vignette

	1	2	3	4	5
1.Suicide Literacy	—	.36**	-.10	.12	-.04
2. Talking and Listening	.36**	—	.52**	.66**	.56**
3. Risk Assessment	-.10	.52**	—	.62**	.70**
4. Encouraging Profess. Help	.12	.66**	.62*	—	.71**

5. Encouraging Non-Recommended	-.04	.56**	.70*	.71*	—

*p < .05, **p < .001, n = 146

Table 3

Correlations Analyses for Moderate Suicide Risk Vignette

	1	2	3	4	5
1. Suicide Literacy	—	.46**	.06	.22*	-.29**
2. Talking and Listening	.46**	—	.51**	.59**	.20*
3. Risk Assessment	.06	.51**	—	.58**	.22*
4. Encouraging Profess. Help	.22	.59**	.58**	—	.36**
5. Encouraging Non-Recommended	-.29**	.20*	.22*	.36*	—

*p < .05, **p < .001, n = 120

Table 4

Correlations Analyses for High Suicide Risk Vignette

	1	2	3	4	5
1. Suicide Literacy	—	.29**	.03	.22*	-.39**
2. Talking and Listening	.29**	—	.58**	.68**	.26**
3. Risk Assessment	.03	.58**	—	.62**	.37**

4. Encouraging Profess. Help	.22*	.68**	.62**	—	.42**
5. Encouraging Non-Recommended	-.39**	.26**	.37**	.42**	—

$^{*}p < .05$, $^{**}p < .001$, $n = 136$

Research Question 2

Research question 2 examined whether the combination of demographic characteristics (sex, gender, sexual orientation, and age) predicts suicide literacy and if so, which demographic characteristics uniquely predicts it. It was hypothesized that transgender gender identity and sexual minority status would predict suicide literacy, while the other demographic characteristics would not. To examine this research question a multiple regression analysis was utilized. Appropriate tests of multivariate normality, homoscedasticity, linearity, residual scatterplots, and multicollinearity were used and all appropriate assumptions were met. Suicide literacy acted as the criterion variable, while the aforementioned demographic characteristics were the predictor variables. The results of the regression indicated that combination of the demographic characteristics (sex, gender, sexual orientation, and age) significantly predicted suicide literacy, $F(4, 397) = 8.237$, $p < .0001$, $R^2 = .077$. The results showed that age ($\beta = .041$, $t = 1.70$, $p = .08$) and sex assigned at birth ($\beta = -.912$, $t = -1.78$, $p = .07$) were both not statistically significant predictors of suicide literacy. Due to gender identity having multiple levels as a variable, dummy coding was utilized. Cisgender men were coded as 1, cisgender women were coded as 2, transgender men were coded as 3, transgender women were coded as 4, and non-binary individuals were coded as 5. The results showed that identifying as a cisgender man uniquely predicted suicide literacy ($\beta = -1.418$, $t = -3.50$, $p < .001$). Results also showed that identifying as

a transgender woman ($\beta = 6.492$, $t = 6.01$, $p < .001$) also uniquely predicted suicide literacy. Identifying as a cisgender woman ($\beta = .613$, $t = 1.45$, $p = .15$), transgender man ($\beta = 3.892$, $t = 2.30$, $p = .02$), or non-binary ($\beta = 3.558$, $t = 1.83$, $p = .07$), other ($\beta = -2.108$, $t = -.62$, $p = .53$) were all not statistically significant predictors of suicide literacy.

Discussion

Purpose of the Study

Each year in the United States, roughly 45,000-50,000 individuals die by suicide (Centers for Disease Control & Prevention [CDC], 2019). Alarmingly, conservative estimates show that approximately 1.4 million Americans attempt suicide each year (Substance Abuse and Mental Health Services Administration [SAMHSA], 2020). Suicide risk significantly differs based on demographic characteristics. For example, men are at an increased risk of dying by suicide when compared to women, whereas women are far more likely to attempt suicide than men. (Centers for Disease Control &Prevention [CDC], 2018). American Indians and Alaska Natives have the highest rate of death by suicide among any racial group in the U.S., whereas African Americans have the lowest. (Centers for Disease Control &Prevention [CDC], 2018). Elderly individuals are more of a risk of dying by suicide than younger individuals (Centers for Disease Control &Prevention [CDC], 2018). Lesbian, gay, bisexual, transgender, and queer (LGBTQ) individuals are a significantly higher rate of dying by suicide when compared to heterosexual/cisgender individuals (Grossman & D'Augelli, 2007 and Marshal et al., 2011).

The majority of those struggling with suicidal ideations disclose these thoughts to friends or family members (Coombs et al., 1992; Rich et al., 1988). It is highly unlikely that these friends or family members are trained mental health professionals, meaning that they may be ill-equipped to effectively respond to someone who discloses suicidal ideation. However, a significant portion of suicide prevention trainings focus on training individuals already in health-related fields, with very little focus on training the general public (Ferguson et al., 2018). Even when non-mental health professionals are trained in suicide prevention, the majority of these trainings focus on increasing participants' suicide literacy. Unfortunately, there exists a gap in

the literature regarding whether increasing an individual's suicide literacy is associated with their intentions to actually help someone that is at risk of suicide literacy. This study aimed to begin to address this gap in the literature by exploring two primary research questions (RQ1) Is there an association between suicide literacy and intention to help a person at risk of suicide? (RQ2) Does the combination of demographic characteristics (sex, gender, age, sexual minority status) predict suicide literacy? If so, which demographic characteristics uniquely predict it?

Research Question 1

Correlational analyses were conducted in order to examine the association between suicide literacy and helping intentions. Suicide literacy was explored using the validated Literacy of Suicide Scale (Calear et al., 2021) which produced a score ranging from 0-26 (the higher the score, the higher the level of literacy). Helping intentions were examined using a measure that consists of three suicide risk vignettes (low, moderate, and high) followed by 13 Likert items asking participants to rate their likelihood of engaging in helping behavior. The helping intentions items are divided into four distinct subscales: Talking and listening, risk assessment, encouraging professional help, and non-recommended helping actions. It was hypothesized that suicide literacy will be positively associated with intention to help a person at risk of suicide utilizing the recommended helping actions (talking/listening, risk assessment and encouraging professional help). It stands to reason that possessing a larger knowledge base regarding the various aspects of suicide including warning signs/symptoms, risk factors, causes of suicide, and proper treatment/prevention may translate into an increased intentions to help someone at risk of suicide. When examining the association between suicide literacy and helping intentions combining the three levels of suicide risk (low, moderate, and high), there was a strong positive correlation between suicide literacy and the talking/listening subscale and the encouraging

professional help subscale. There was also a strong negative correlation between suicide literacy and the non-recommended helping actions. These findings are consistent with the postulated hypothesis. As previously mentioned, the majority of suicide prevention trainings aim to increase participants level of suicide literacy but no study (that we are aware of) to date has empirically examined whether there exists a relationship between suicide literacy and intentions to help someone at risk of suicide. Examining this relationship is essential as several studies have established that helping intentions predict helping behaviors (Yap & Jorm, 2012; Rossetto, Jorm, and Reavley, 2016). As such, the finding that there exists a strong positive correlation between suicide literacy and several of the recommended helping actions (talking/listening and encouraging professional help) and a strong negative correlation with the non-recommended helping actions is encouraging. However, there was no significant correlation between suicide literacy and the risk assessment subscale, potentially suggesting that an increase or decrease in suicide literacy does not impact an individual's intentions to engage in risk assessment. The risk assessment subscale consists of three items (1) "Ask the individual if they are considering suicide" (2) "Ask the individual if they have the means (for suicide)" and (3) "Ask the individual if they have a plan (for suicide)". There are a number of potential explanations for the lack of a significant relationship between suicide literacy and risk assessment and there are interesting implications for how this may impact suicide prevention training in the future. This finding may be explained by the fact that, as it currently stands, the concept of suicide literacy does not adequately encapsulate risk assessment. Suicide literacy and the suicide prevention trainings are focused on warning signs/symptoms, risk factors, causes of suicide, and treatment and prevention rather than risk assessment which is generally considered the purview of trained mental health professionals (Batterham et al., 2013). While it is undeniable that the actions found

in the risk assessment subscale is an essential part of assessing for risk and keeping the individual safe, it could be argued these actions could be bypassed all together if one engaged in the actions found in the encouraging professional help subscale (help them make an appointment with a mental health professional, go with them to the appointment, or call a crisis line). So it is particularly encouraging that the results showed a strong positive correlation between suicide literacy and the encouraging professional help subscale. Furthermore, a higher level of suicide literacy was also strongly negatively correlated with engaging in the non-recommended helping actions (making morally based statements about suicide, telling them you know exactly how they feel, and "guilt tripping the individual"). It appears that focus of suicide prevention programs (i.e. increasing suicide literacy) is appropriate as the findings of this study indicate that higher levels of suicide literacy are statistically correlated with an increase in intentions to engage in the recommended actions when helping someone at risk of suicide.

It should be noted that the results discussed so far have been a combination of the varying levels of suicide risk. In order to examine whether there were any differences in the relationship between suicide literacy and helping intentions when presented with varying levels of suicide risk, each level of risk was examined in isolation. First, roughly a third of the sample was presented only with the vignette that corresponds to a low level of suicide risk. There was a strong positive correlation between suicide literacy and the talking and listening subscale. Interestingly, there was no significant correlations between suicide literacy and the risk assessment, encouraging professional, and non-recommended helping actions subscales. While no specific hypotheses were made regarding each specific level of suicide risk, this finding makes intuitive sense. Unlike with the moderate and high levels of risk, non-mental health professionals who are presented with someone experiencing a low level of suicide risk, may not

even recognize that said individual may be at risk of suicide at all. Thus, it stands to reason that they may not engage in any of the recommended helping actions other than talking and listening to the individual. Similar to the findings when examining the combination of the levels of suicide risk, when presented with a moderate or high level of suicide risk, there were positive (in some cases strong) correlations between suicide literacy and the talking/listening and encouraging professional help subscales. There was also a strong negative correlation between suicide literacy and the non-recommended helping actions subscale for both moderate and high risk groups. Lastly, there was no significant relationship between suicide literacy and the risk assessment subscale for either group. The fact that the lack of a statistically significant relationship between suicide literacy and risk assessment was consistent across all levels of risk indicates that future suicide prevention efforts should incorporate risk assessment in their training protocols for non-mental health professionals. Non-mental health professionals, irrespective of their level suicide literacy, may feel unprepared or not confident in their ability to effectively engage in recommended helping actions found in the risk assessment subscale. It may even be worthwhile to expand the definition of suicide literacy to include information regarding risk assessment in order to better research this interaction.

Research Question 2

Research has consistently shown that members of the LGBTQ community are at a significantly higher level of risk when compared to their heterosexual and cisgender counterparts (Grossman & D’Augelli, 2007; Marshal et al., 2011). Given their increased level of risk, specifically examining their level of suicide literacy is especially important as the findings regarding whether they have significantly higher or lower levels of suicide literacy could impact future suicide prevention efforts targeted to the LGBTQ community. Multiple regression was

utilized to examine whether the combination of demographic characteristics (sex, gender, age, sexual minority status) predict suicide literacy. It was hypothesized that sexual minority status and transgender gender identity would significantly predict suicide literacy while the other demographic characteristics would not. This hypothesis was partially supported as gender identity was a significant predictor of suicide literacy but sexual orientation was not. The results showed that a combination of the demographic characteristics predicted suicide literacy and that gender identity specifically predicted suicide literacy while the other demographic characteristics did not. It should be noted that while a combination of the demographic characteristics did in fact predict suicide literacy the R^2 was quite low, meaning that a low amount of the variance was explained by the model. While sexual orientation did not uniquely predict suicide literacy, the hypothesis was partially supported as gender identity uniquely predicted suicide literacy. Within group differences with regards to gender identity were also explored and it was found that identifying as a transgender woman or a cisgender man uniquely predicted suicide literacy, while the other gender identity groups did not. The finding for transgender women could be explained by the fact that, even when compared with other non-cisgender gender identities, transgender women are at a significantly higher risk of dying by suicide (Hoffman, 2014). This increased risk could result in an increased exposure suicide among transgender women which could then translate to an increased level of suicide literacy due to their lived experiences. This line of reasoning could also be true for cisgender men as they are the single largest demographic group that dies by suicide year in the United States (Centers for Disease Control & Prevention [CDC], 2021). These findings could have significant implications with regards suicide prevention efforts, especially those specifically designed for at risk populations. For example, lower levels of suicide literacy have been associated with a likelihood of recognizing suicidal ideation in others

(Batterham et al., 2013). Since it has been established that LGBTQ individuals are at a higher risk of suicide, it is imperative that suicide prevention efforts focus on increasing their level of suicide literacy. This is particularly important as LGBTQ individuals are likely to interact with other LGBTQ individuals and the majority of those struggling with suicidal ideations disclose those thoughts first to friends and family, rather than trained mental health professionals (Coombs et al., 1992; Rich et al., 1988).

Additional Findings

The mean suicide literacy score across the sample was 14.45, only slightly better than chance (53%). While this is not uncommon as other studies have found similar results (Oliffe et al., 2016), this is nonetheless may be cause for concern as the importance of suicide literacy has been readily established in the literature. Furthermore, it brings into question how effective current suicide prevention trainings are at developing an individual's suicide literacy since those in the sample who had prior training (68% of the sample) demonstrated only slightly better suicide literacy than those who had not (56% compared to 53% mean suicide literacy score, respectively). Interestingly, there was also no significant correlation between suicide literacy and prior training. These results should be interpreted with caution as participants were not asked how long ago they received the suicide prevention training or what the training entailed.

Limitations and Future Research

There are several limitations in this current study that should be addressed before interpreting the results. This study aimed to examine the differences in suicide literacy across demographic categories, particularly with regards to LGBTQ individuals, but lacked a significant amount of LGBTQ participants. For example, only 18 participants (4%) identified with a gender identity other than cisgender. Only 12 participants identified as gay, lesbian, or pansexual,

limiting our ability to interpret the data pertaining to these groups of participants. Furthermore, bisexual participants (42.8%) were significantly overrepresented in this sample, suggesting that with regard to sexual orientation, this sample is not representative of the U.S. population as a whole. This sample was also very homogeneous with regards to race with 94% of participants identifying as white. These limitations can be addressed in future research by specifically recruiting LGBTQ and racially diverse sample that is better representative of the U.S. Due to the lack of prior research in this area, the focus of this study was also quite narrow limiting the ability to make interpretive statements regarding the results or their implications for practice and research. Future research into this topic could be benefited by broadening the scope of the information gathered with regards to the demographic measure. For example, demographic data like disability status, specific mental health diagnosis, experiences with mental health treatment could be gathered as these all could have an impact on risk for suicide and potentially even on suicide literacy or helping intentions. This broadening of scope could also serve to develop the theoretical base of this area of literature as none currently exists. Research should be rooted in theory, however, this study (like many others in this area) is largely atheoretical (Van Orden et al., 2010). Future research could also aim to broaden the scope of suicide prevention efforts by incorporating effective methods for teaching participants to engage in risk assessment as that is currently not encompassed by the concept of suicide literacy which is the main focus of current suicide prevention trainings.

Conclusion

Suicide is a public health crisis that affects thousands, if not millions, of people in the United States each year (Centers for Disease Control & Prevention [CDC], 2021). While there have been commendable efforts in recent years to empirically study suicide, there still exist significant

gaps in the literature. This study aimed to address a small portion of the gaps in the literature by examining the association between suicide literacy and helping intentions. The research questions explored in this study may be a good starting point from which future literature could develop. These findings may also help to inform future suicide prevention efforts. For example, if future research supports the finding that suicide literacy is strongly associated with some recommended helping actions, then those developing and disseminating suicide prevention trainings could strengthen their focus during these trainings to increase participants suicide literacy. Several studies, including this one, have found that non-mental health professionals do not exhibit high levels of suicide literacy. As mentioned, one of the primary goals of suicide prevention training programs are to increase participants suicide literacy, so it may be worthwhile to empirically examine how effective our current suicide prevention training efforts are at developing suicide literacy. For example, a majority (68%) of participants in this sample had prior suicide prevention training, yet they only performed slightly better than chance (53%) on the suicide literacy measure. Considering this finding, it may be time to examine how effective suicide prevention efforts are at increasing literacy. Additionally, it would also be beneficial to examine whether suicide literacy translates to effective helping actions. Lastly, it is imperative that future research continues to examine non-mental health professionals in conjunction with the topic of suicide because it is apparent that they can act as an important first line of defense against the public health crisis that is suicide.

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APPENDIX A: DEMOGRAPHIC SURVEY

- **Q1 How old are you?**
  - Fill in age
- **Q2 What gender do you identify with?**
  - Cisgender Man
  - Cisgender Woman
  - Transgender Man
  - Transgender Woman
  - Non-Binary
  - Please fill in gender identity if different from above
- **Q3 What is your sex assigned at birth?**
  - Male
  - Female
  - Intersex
  - Please fill in if different from above
- **Q4 What sexual orientation do you identify with?**
  - Straight
  - Gay
  - Lesbian
  - Bisexual
  - Pansexual
  - Please fill in sexual orientation if different from above
- **Q5 What is your ethnicity?**

- White
- Black
- Latino
- Hispanic
- East Asian
- South Asian
- Middle Eastern
- Native American
- Hawaiian/Pacific Islander
- Multi-race
- Please fill in race if different from those listed above.

- **Q6 Language Spoken at Home?**
  - English
  - Language other than English
- **Q7 Have you received training on suicide prevention?**
  - Yes
  - No
- **Q8 Have you ever received a mental health diagnosis?**
  - Yes
  - No
- **Q9 Have any of your family or friends attempted or completed suicide?**
  - Yes
  - No

APPENDIX B: LITERACY OF SUICIDE SCALE

	True	False	Don't know
1. Nothing can be done to stop people from making the attempt once they have made up their minds to kill themselves	☐	☐	☐
2. If assessed by a psychiatrist, everyone who suicides would be diagnosed as depressed	☐	☐	☐
3. Seeing a psychiatrist or psychologist can help prevent someone from suicide	☐	☐	☐
4. Most people who suicide are psychotic	☐	☐	☐
5. Only experts can help people who want to suicide	☐	☐	☐
6. There is a strong relationship between alcoholism and suicide	☐	☐	☐
7. People who talk about suicide rarely kill themselves	☐	☐	☐
8. People who want to attempt suicide can change their mind quickly	☐	☐	☐
9. Talking about suicide always increases the risk of suicide	☐	☐	☐
10. A person who has made a past suicide attempt is more likely to attempt suicide again than someone who has never attempted	☐	☐	☐
11. Media coverage of suicide will inevitably encourage other people to attempt suicide	☐	☐	☐
12. Not all people who attempt suicide plan their attempt in advance	☐	☐	☐

	True	False	Don't know
13. People who have thoughts about suicide should not tell others about it	☐	☐	☐
14. Very few people have thoughts about suicide	☐	☐	☐
15. People who are anxious or agitated have a higher risk of suicide	☐	☐	☐
16. Most people who suicide are younger than 30	☐	☐	☐
17. Men are more likely to suicide than women	☐	☐	☐
18. People with relationship problems or financial problems have a higher risk of suicide	☐	☐	☐
19. Most people who suicide don't make future plans	☐	☐	☐
20. If you asked someone directly ''Do you feel like killing yourself?'' it will likely lead that person to make a suicide attempt	☐	☐	☐
21. A suicidal person will always be suicidal and entertain thoughts of suicide	☐	☐	☐
22. A person who suicides is mentally ill	☐	☐	☐
23. A time of high suicide risk in depression is at the time when the person begins to improve	☐	☐	☐
24. Motives and causes of suicide are readily established	☐	☐	☐
25. Most people who attempt suicide fail to kill themselves	☐	☐	☐
26. Those who attempt suicide do so only to manipulate others and attract attention to themselves	☐	☐	☐

Note: Bold items = short form (12 items). Items 1, 2, 4, 5, 7, 9, 11, 13, 14, 16, 19, 20, 21, 22, 24, 26 are false

APPENDIX C: HELPING INTENTIONS VIGNETTES

- Distressing events only vignette:
  - "Imagine Morgan is someone you know well. You have noticed that Morgan has been looking unusually sad and miserable for the last few weeks. They look tired all the time, and they tell you they've been having trouble sleeping nearly every night. They are also very withdrawn, talking very little at work and avoiding social situations. When you ask them about what is going on, Morgan tells you that they and their partner have separated, and they are having financial problems."
- Indirect verbal suicide communication vignette (same as the distressing events only vignette but also includes the following):
  - "Morgan says they feel they'll never be happy again and believes their family would be better off without them."
- Direct verbal suicide communication vignette (same as the distressing events only vignette but also includes the following):
  - "Morgan says they feel they'll never be happy again and believes their family would be better off without them. You run into a friend of Morgan's. He says that Morgan told him they feels desperate and have been thinking of ways to end their life."
- Ask the individual how they are feeling

1. Very unlikely
2. Unlikely
3. Neutral
4. Likely
5. Very likely

- Listen to the individual in a nonjudgmental manner
    1. Very unlikely
    2. Unlikely
    3. Neutral
    4. Likely
    5. Very likely
- Ask the individual how you can help them
    1. Very unlikely
    2. Unlikely
    3. Neutral
    4. Likely
    5. Very likely
- Ask the individual if they are considering suicide
    1. Very unlikely
    2. Unlikely
    3. Neutral
    4. Likely
    5. Very likely
- Ask the individual if they have the means (for suicide)
    1. Very unlikely
    2. Unlikely
    3. Neutral
    4. Likely

5. Very likely

- Ask the individual if they have a plan (for suicide)

1. Very unlikely
2. Unlikely
3. Neutral
4. Likely
5. Very likely

- Help the individual make an appointment with a mental health professional

1. Very unlikely
2. Unlikely
3. Neutral
4. Likely
5. Very likely

- Going with the individual to said appointment

1. Very unlikely
2. Unlikely
3. Neutral
4. Likely
5. Very likely

- Helping them call a suicide crisis hotline

1. Very unlikely
2. Unlikely
3. Neutral

4. Likely
5. Very likely

- Trying to solve whatever problems are causing the individual to be suicidal
  1. Very unlikely
  2. Unlikely
  3. Neutral
  4. Likely
  5. Very likely
- Tell the individual you know exactly how they are feeling
  1. Very unlikely
  2. Unlikely
  3. Neutral
  4. Likely
  5. Very likely
- Showing the individual that suicide is morally wrong
  1. Very unlikely
  2. Unlikely
  3. Neutral
  4. Likely
  5. Very likely
- Telling the individual how much it would hurt their friends and family if they were to kill themselves
  1. Very unlikely

2. Unlikely
3. Neutral
4. Likely
5. Very likely

APPENDIX D: INFORMED CONSENT

Thank you for considering participating in this study.

Please read the information below carefully and, if you agree to participate, hit "Yes, I consent to participate in this study" to begin the study. Please note that you must be at least 18 years of age at the time of this study to give consent to participate in this study. Due to the sensitive nature of this topic, this study may be triggering for some individuals, if that is the case for you, please make sure you take care of yourself and utilize mental health resources as needed. Here are several resources that can be utilized either in person or over the phone:

- **National Suicide Prevention Lifeline 1-800-273-8255 (Available 24/7)**
- **National Suicide Prevention Lifeline Chat https://suicidepreventionlifeline.org/chat/ (Available 24/7)**
- **List of International Suicide Prevention Lifelines: https://www.opencounseling.com/suicide-hotlines**

Purpose of the Study:

To examine the relationship between suicide literacy (general knowledge about suicide) and helping intentions.

Description of the Study:

This online survey should take approximately 10-15 minutes to complete. You will be asked to respond to some questions about yourself, asked to read and respond to a short vignette, and answer questions regarding your knowledge about suicide.

Possible Risks:

Due to the sensitive subject matter, it is possible that this study may be triggering for some individuals. While reading about suicide does not cause people to become suicidal, it can be uncomfortable for some individuals and potentially cause emotional pain. If your participation in this study causes you emotional pain, please prioritize your mental health and take a break or discontinue your participation at any time.

As with any internet study, a breach of confidentiality is risk, but your name will not be linked with your survey responses, so the risk of a breach of confidentiality is very small.

Possible Benefits:

Participation in this study will likely improve your knowledge regarding suicide. At the end of the study, you will be provided information regarding common suicide myths and facts. Participants will also be compensated $1.00 using the Mechanical Turk system for their participation.

Confidentiality:

As with any form of communication over the Internet, there is exists some risk regarding a loss of confidentiality. You do not need to indicate your name anywhere on the survey or identify yourself in anyway. We do ask for some demographic information (age, gender, sexual orientation etc.), which will help us better understand the nature of different groups of people and examine trends in the data for people with diverse backgrounds. It is highly unlikely that these demographic items would enable someone to narrow down the identity of any participants, but we will take steps to protect the confidentiality of all participants to minimize this risk. For example, all information regarding the study including data will be kept on a secure and password-protected computers. When we report the study's results, we will only discuss trends among groups of students. We will never report the responses of any single participant.

Opportunities to Question:

Any questions regarding this study may be directed to: Salman Ibrahim (smbrahim@memphis.edu) or his dissertation chair, Dr. Sara Bridges (sbridges@memphis.edu). Any questions regarding your rights as a research participant or research-related concerns may be directed to the University of Memphis Research Compliance office 901-678-2705

Opportunities to Withdraw at Will:

If you decide now or at any point to stop participating, you are free to do so at no penalty to you. You are free to skip specific questions.

Opportunities to be Informed of Results:

The results of this study will be available by May 2023. If you wish to be informed of the results, please contact Salman Ibrahim at smbrahim@memphis.edu, and he will send you a summary report when that information is available. In addition, the results from this study may be published in a psychology journal. If this study is published, participants in this study would be identified only by demographics and not anything identifiable.

If you wish, you may print a copy of this consent screen for your records.

If you agree to participate in this study, please hit "Yes, I consent to participate in this study" to begin the study.

APPENDIX E: STUDY DEBRIEF

Thank you for participating in this survey! You have now completed all the questions.

In recent years, suicide has become a public health crisis. Suicide has become the second-leading cause of death among youth in the United Stated. While this trend is alarming, there is hope. Research has shown that 50-70% of individuals struggling with suicidal thoughts, talk to family or friends about their suicidal thoughts. However, many people do not have an adequate understanding of the various aspects of suicidality (otherwise known as suicide literacy). It is this lack of suicide literacy that results in people believing suicide myths. Research has also shown belief is suicide myths has a negative impact on an individual's intentions to help a suicidal person. Prior to this study, the impact of suicide literacy (general knowledge of suicide) on intentions to help someone at risk of suicide.

This study first examined participants' knowledge regarding suicide by asking participants to answer "True", "False", or "I Don't Know" to 26 general statements regarding suicide. Then participants were asked to read a vignette about an individual at risk for suicide. This study is designed to help us better understand the effect of suicide literacy on helping intentions.

If you are struggling with suicidal thoughts the National Suicide Prevention Lifeline (1-800-273-8255) to talk to a trained professional. Please feel free to contact me (smbrahim@memphis.edu) if you have any questions about this study. You may also contact UofM's Research Compliance office (901-678-2705) if you have any questions about your rights as a participant.

APPENDIX F: SOCIAL DESIRABILITY QUESTIONNAIRE

Marlowe-Crowne Social Desirability Scale – Short Form C (M-C SDS Form C; Crowne & Marlowe, 1960; Reynolds, 1982)

Directions: Please mark the answer to every question in the way that fits you best.

T = True F = False
1. It is sometimes hard for me to go on with my work if I am not encouraged.
2. I sometimes feel resentful when I don't get my way.
3. On a few occasions, I have given up doing something because I thought too little of my ability.
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.
5. No matter who I'm talking to, I'm always a good listener.
6. There have been occasions when I took advantage of someone.
7. I'm always willing to admit it when I make a mistake.
8. I sometimes try to get even rather than forgive and forget.
9. I am always courteous, even to people who are disagreeable.
10. I have never been irked when people expressed ideas very different from my own.
11. There have been times when I was quite jealous of the good fortune of others.
12. I am sometimes irritated by people who ask favors of me.
13. I have never deliberately said something that hurt someone's feelings.