Summer 2021

Campus Gatekeeper Trainings: An Analysis of Question, Persuade, Refer (QPR) and SafeTALK

Gabrielle M. Ramsey-Wilson
Old Dominion University, gsout003@odu.edu

CAMPUS GATEKEEPER TRAININGS: AN ANALYSIS OF QUESTION,

PERSUADE, REFER (QPR) AND SAFETALK

by

Gabrielle M. Ramsey-Wilson
B.S. May 2018, Averett University

A Thesis Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
Requirements for the Degree of

MASTER OF SCIENCE

PSYCHOLOGY

OLD DOMINION UNIVERSITY
August 2021

Approved by:

Cassie Glenn (Director)

Matt Judah (Member)

Miguel Padilla (Member)

ABSTRACT

CAMPUS GATEKEEPER TRAININGS: AN ANALYSIS OF QUESTION,
PERSUADE, REFER (QPR) AND SAFETALK

Gabrielle M. Ramsey-Wilson
Old Dominion University, 2021
Director: Dr. Cassie Glenn

Suicide prevention gatekeeper trainings seek to equip learners with knowledge about suicide, skills to recognize suicide risk and intervene, and awareness of referral resources. Although these trainings are widely used, research is limited on their utility and impact on increasing intent to intervene in a suicide crisis. The current study aimed to evaluate two gatekeeper trainings, SafeTALK and Question, Persuade, Refer (QPR), on a college campus using a pre-test/post-test design to examine this gap in the literature and provide evidence to help shape gatekeeper trainings in the future. Because the theory of planned behavior has been demonstrated to be an effective framework for understanding an individual's intention to intervene with someone at risk of suicide (Aldrich, 2015), the current study has been guided by this framework. Positive increases in attitudes about intervening, subjective norms, perceived behavioral control (PBC), and intention to intervene were found across both trainings. All variables were found to significantly predict intention to intervene in the overall model; however, only change in PBC predicted change in intention to intervene when controlling for other predictors. Training outcomes did not differ by type of training. An exploratory effect was found suggesting that positive attitudes about intervening increased only for participants who knew someone who died by, or attempted, suicide. Future research is needed to better understand

gatekeeper training outcomes in larger, more diverse samples, settings (e.g., workplace, school,

etc.), types of trainings, and related variables (e.g., exposure to suicide, occupation, gender, etc.).

This thesis is dedicated to my dad, without you – none of this would be possible. I often wish that you could be here to see it all, but I know you're up there somewhere watching and wondering why I'm getting all teary-eyed while writing this. Thank you for always supporting my dreams and showing me unconditional love while you were able. Thinking of you always – I love you.

ACKNOWLEDGMENTS

Immeasurable appreciation and deepest gratitude for the help and support are extended to the following persons who, in one way or another, have contributed to making this study possible.

Jerron Ramsey-Wilson, my husband – you have been the best support that I could ever ask for throughout this. You have never failed to support me professionally, regardless of the circumstances, since the day we met. For all the days of reading my flashcards off to me, helping me with projects, reading through my papers, waiting for me in the parking lot after my classes were over on Tuesdays after you just drove 2 hours to get to Averett… Thank you for the endless moments, and for always pushing me to my limits because of your faith in my abilities – regardless of my own. You are phenomenal and I love you so.

Danielle Dominguez, my forever friend – this would not be possible without you. All of the countless nights of undergrad studying, working under Exit light glow when the power went off in the library just because finals weren't canceled, all the bricks that built the foundation from the ground up to get here. Our calls back and forth now that we're in two different master's programs – rooting for each other but still too far away to help like we used to daily. I miss you always, and will never forget our memories, or anytime of ours really. You are one of my absolute favorite people in life.

Mom, for all of the nights you stayed up with me to help study as a kid; for all the running around to cheerleading and clubs and school trips while still making sure my homework was done; for the funds to get my bachelor's degree that supported the foundation for this project, thank you. I love you more than words could ever describe. Wish we could send this to Heaven for Dad to read.

Dr. Cassie Glenn, we sometimes talk about how many changes have been made among the grant personnel since its start, but how it's always for the better as that person is getting a great new opportunity. I'm so glad that you got the opportunity to come to Old Dominion and become the grant P.I., as well as my mentor. You have shown me nothing but kindness, all while sharing your skills and knowledge with me to help me along the way. I am forever grateful.

Dr. Matt Judah, when I first began reaching out to professors at Old Dominion, you were one of a few that responded to tell me that you had very few spots open. But then you reached back out after I applied and gave me an opportunity to work on this amazing project and with the best grant team. I thank you endlessly for that, and for your guidance throughout this entire project.

Lee & Lynn, without a doubt you two were my backbone working throughout this entire project. If it weren't for you two being there to study with and learn the course material that related to making this study possible… to make it possible for me to be able to apply myself in this way… who knows what would've happened. Love y'all always.

TABLE OF CONTENTS

Page

LIST OF TABLES

INTRODUCTION

Within the United States, suicide rates have risen 35% from 1999 to 2018, resulting in it becoming the 10th leading cause of death (CDC WISQARS, 2018; Hedegaard et al., 2020). In 2018 alone, approximately 6,211 suicides were reported across individuals aged 15-24, as well as 8,020 suicides reported across ages 25-34 (CDC WISQARS, 2018). College students are particularly at risk as suicide has emerged as the 2nd leading cause of death among college-aged adults (CDC WISQARS, 2018; National Mental Health Association & the Jed Foundation, 2002). The literature demonstrates increased levels of stress and mental health issues across college campuses as being associated with increased likelihood of suicidal ideation, suicide attempts, and non-suicidal self-injury (NSSI; Eisenberg et al., 2013; Liu et al., 2019). Risk factors for suicide, such as low socioeconomic status, low social support, and high levels of environmental stressors have been noted as being more prevalent among young adults in college and linked to increased suicidality and NSSI (Hunt & Eisenberg, 2010; Liu et al., 2019). With the prevalence of suicide and suicide risk factors among college students, effective prevention and intervention efforts are needed to address suicide-related crises on campuses.

Gatekeeper Trainings

To aid in suicide prevention on college campuses, a variety of trainings have been used to equip "gatekeepers" with knowledge and skills to recognize others at risk for suicide and to intervene. A gatekeeper is anyone who is in a position to recognize a person at risk for suicide and to refer them to professional help (Burnette et al., 2015). By this definition, everyone is a potential gatekeeper. Suicide prevention trainings that focus on gatekeepers are known as gatekeeper trainings. Two of the most widely used gatekeeper trainings are SafeTALK, provided by LivingWorks; and Question, Persuade, Refer (QPR), provided by the QPR Institute

("SafeTALK", 2019; Quinnett, 2007). SafeTALK and QPR work to increase suicide-related knowledge, to reduce stigma and negative attitudes about suicide, and to increase skills in assisting those at risk for suicide through professional referrals (Burnette et al., 2015).

Gatekeeper trainings share much in common, yet they differ in pedagogical approach. Each training varies in its emphasis on specific information, the trainer's implementation, duration, use of role-plays, and other features such as videos shown, or activities completed. Aside from QPR and SafeTALK trainings, other gatekeeper trainings include the Signs of Suicide (SOS) and Campus Connect, and Ask, Care, & Escort (ACE) (SPRC/AFSP Best Practices Registry, 2013; Singer et al., 2019). These trainings vary in the populations they are directed towards (e.g., military, student, general public, etc.), the duration (e.g., 2.5 hours, 4 hours, etc.), and area of emphasis (e.g., encourage asking questions, educate on risk factors, etc.). Although each gatekeeper training has unique features, they share the same objectives (Burnette et al., 2015). The current study examined QPR and SafeTALK specifically, based on campus and community organizations providing trainings to faculty, staff, and students in conjunction with a university grant seeking to maximize suicide prevention training. These trainings will be discussed in more detail later in the paper.

Theory of Planned Behavior (TPB)

The theory of planned behavior (TPB) has been used as a framework for conceptualizing gatekeeper training outcomes by considering individual behaviors, attitudes, and willingness (i.e., intention) to intervene (Aldrich et al., 2018). Focused on behavior and one's ability to exert control over behaviors during specific situations, TPB outlines how behavioral intentions and actual behaviors are influenced by other factors. This theory is centered around the notion that behavior is dependent upon motivation and individual capability (Ajzen, 1985). Furthermore,

TPB examines how attitudes, subjective norms, and perceived behavioral control influence

behavioral intent, which then influences the actual behavior that is performed; this relationship is

theorized to be moderated by perceived behavioral control (Ajzen, 1991; See Figure 1). As

described in previous research, the TPB can be a useful tool when examining health

interventions and their overall effectiveness, based on individual attitudes and willingness to

engage in certain behaviors (Aldrich, 2015).

Figure 1.

Theory of Planned Behavior (Ajzen, 1991).
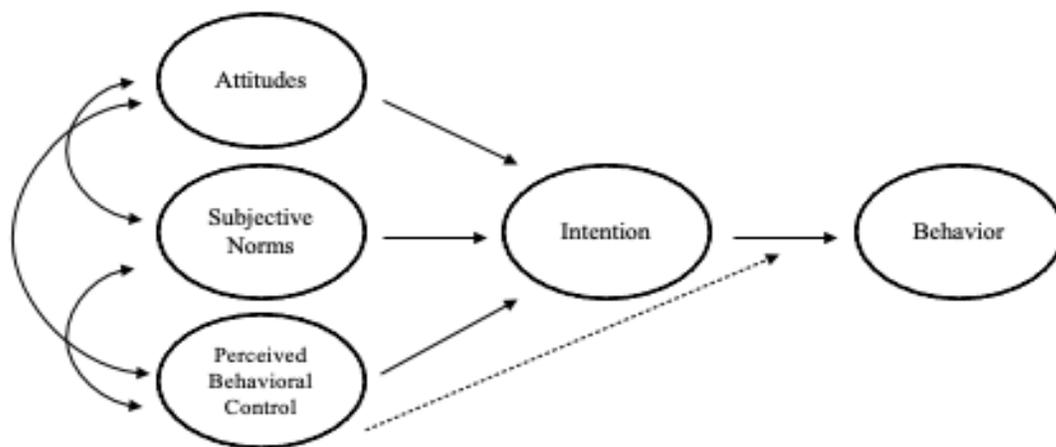
Behavioral Attitudes. This portion of the TPB describes an individual's internal attitudes

towards any given behavior. Individual attitudes are often influenced by the world around us,

resulting in the interaction between subjective norms and attitudes. This opinion towards a

certain behavior can be either positive or negative, resulting in the influence of attitude on intention, and therefore on actual behavior (Ajzen, 1991).

Subjective Norms. Although behavior is often viewed as being rooted in individual choices, societal influences should not be overlooked. This component of the TPB describes an individual's perception of social pressures and norms, and how the behaviors of others can affect personal behaviors (Ajzen, 1985). Here, how much an individual believes that they should perform a certain action is based upon the actions and opinions of others. One's environment, including norms, influences intended and actual behavior (Ajzen, 1991).

Perceived Behavioral Control. This factor outlined in the TPB refers to an individual's perception of their capability to perform a specific action based on its difficulty. As behaviors vary, so does the level of difficulty it takes to perform them. Changes in perceived difficulty result in changes in perceived behavioral control, attitudes, and intention, ultimately affecting the likelihood of actual behavior (Ajzen, 1991).

Intention. This construct, as described in the TPB, refers to an individual's motivation to perform, or not perform, a given behavior. Behavioral intention is influenced by other components of the TPB model, including attitudes, subjective norms, and perceived behavioral control. Together, these factors determine intent to engage in a behavior (i.e., willingness, effort, etc.), which then affects actual performance, and control over, the behavior (Ajzen, 1985).

Application of TPB to Gatekeeper Trainings

Research conducted on gatekeeper trainings has shown positive outcomes with respect to components of the TPB model. These outcomes include increased positive attitudes about suicide, decreased stigma across a variety of populations and settings, and increased self-efficacy regarding intervention behaviors (Cimini et al., 2014; Burnette et al., 2015; Kerr et al., 2018;

Wyman et al., 2008). Although research on the effectiveness of gatekeeper trainings is limited (Burnette et al., 2015), studies have looked at components of the TPB as outcomes of gatekeeper trainings.

When approaching the topic of gatekeeper trainings, which promote positive attitudes and behaviors surrounding suicide and individuals in crisis, the TPB may be applied to conceptualize outcomes. In relation to gatekeeper trainings, it is important to note that these trainings are in place to increase an individual's *intention* to aid someone suspected to be having thoughts of suicide. Based on this, the TPB can aid in understanding factors that influence individual intention to intervene when faced with someone at risk of suicide (Aldrich, 2015; Aldrich et al., 2018).

Behavioral Attitudes. Studies have supported gatekeeper trainings as affecting positive change in attitudes about intervening. One study found that participants had more positive attitudes about intervening, aligning with discussion of behavioral attitudes within the TPB, following a QPR training (Aldrich et al., 2018). In a study of 76 university hospital employees, a one-hour gatekeeper training demonstrated positive changes in attitudes towards intervening with someone having thoughts of suicide (Cross et al., 2010). Other studies examining the effectiveness of gatekeeper trainings have reported increases in positive beliefs about the effectiveness of suicide prevention techniques (Indelicato et al., 2011; Wyman et al., 2008).

Subjective Norms. Research on gatekeeper trainings supports that they work to sustain and increase positive subjective norms regarding suicide crisis intervention. In one study of college faculty/staff and students, there were increases in positive subjective norms following the completion of a QPR training (Aldrich et al., 2018). A second study examined adults working with at-risk youth. The study found increases in positive subjective norms following a gatekeeper

training, as well as maintenance of positive social norms from pre- to post-training and 3-month post-training timepoints (Hangartner et al., 2019).

Perceived Behavioral Control. Studies have shown that comfortability with intervention behaviors results in increased intention to intervene. For example, participants have reported increased confidence in having conversations about suicide (Indelicato et al., 2011; Kerr et al., 2018) as well as increased intention to employ suicide prevention strategies such as "Question, Persuade, Refer" or "Tell, Ask, Listen, KeepSafe" conversation techniques post-training, in comparison to pre-training intention/behavior measures (Kerr et al., 2018). In another study, university faculty/staff and students showed increased intention to intervene and comfort with intervening during a crisis situation after they completed an audience-specific gatekeeper program (Cimini et al., 2014). Other studies assessing the effectiveness of gatekeeper trainings have found similar results, reporting increases in self-efficacy to intervene following the completion of a training (Burnette et al., 2015; Cerel et al., 2012; Cross et al., 2010; Matthieu et al., 2009).

Intention to Intervene. Studies examining the effectiveness of gatekeeper trainings have found that gatekeeper trainings increase intention to intervene with someone who is suicidal. In one study, university faculty/staff and students showed increased intention to intervene during a crisis situation after they completed an audience-specific gatekeeper training (Cimini et al., 2014). Participants in other studies have reported increased intention to employ suicide prevention strategies such as "Question, Persuade, Refer" or "Tell, Ask, Listen, KeepSafe" conversation techniques post-training, in comparison to pre-training intention/behavior measures (Indelicato et al., 2011; Kerr et al., 2018).

According to the TPB, individuals who hold positive attitudes about a specific behavior, recognize it as socially normal and accepted, and perceive that they can perform the behavior, will have increased willingness and intention to perform the behavior itself (Ajzen, 1985; Aldrich et al., 2018). Continuing with this framework, individuals who hold positive attitudes and reduced stigma (i.e. increased positive behavioral attitudes) towards intervening with someone having thoughts of suicide, who see this intervention behavior as positive and socially accepted (i.e. increased positive subjective norms), and who perceive that they have the resources and knowledge to perform the behavior (i.e. perceived behavioral control) would then demonstrate increased intention to perform intervention behaviors. Gatekeeper trainings, such as SafeTALK and QPR, align with constructs of the TPB by working to develop positive attitudes, reduce stigma, and provide individuals with the resources and communicative tools necessary to intervene (Aldrich, 2015; Aldrich et al., 2018).

To understand how best to optimize gatekeeper trainings, it is important to examine differences across training implementation that may impact the outcomes. Research has found that gatekeeper trainings are most effective when they are part of an ongoing, long-term suicide prevention and education program (Walrath et al., 2015). Additionally, gatekeeper trainings have been measured to have the most positive outcomes when they are longer in duration to allot more time for behavioral rehearsal through role-play practice to improve upon gatekeeper intervention techniques and comfortability with intervening (Cross et al., 2011; Garraza, et al., 2019). To further understand gatekeeper training effectiveness from the standpoint of TPB, differences in commonly used gatekeeper trainings such as QPR and SafeTALK need to be understood.

SafeTALK

      SafeTALK training, offered by the company LivingWorks, is a gatekeeper program that aims to teach participants how to recognize signs of suicide, intervene in a crisis situation, and connect those having thoughts of suicide to better trained mental health resources within the community (SPRC/AFSP Best Practices Registry (BPR), 2013; "SafeTALK", 2019). The title of the training, SafeTALK, stands for "Suicide Alertness for Everyone" (SAFE); "Tell, Ask, Listen, KeepSafe" (TALK) ("SafeTALK", 2019). The TALK portion of the acronym acts as a guide for what to do when engaging with an individual who is having thoughts of suicide. This training lasts for approximately 3 hours and involves a variety of techniques such as PowerPoint presentation on suicide statistics and prevention, talk/lecture style teaching by a certified trainer, and role play interactions among participants in a classroom setting ("SafeTALK", 2019).

      Evaluations of the outcomes of SafeTALK trainings demonstrate that individuals who complete this gatekeeper training display increased awareness of suicide risk within their communities, knowledge about suicide and crisis, and increased willingness to intervene (Turley, 2018). For example, Oliver et al. (2015) reported that those completing a SafeTALK training had increased knowledge of the topic of suicide and referral resources available, confidence to intervene during crisis, and more frequent use of intervention strategies. Another study, in Australian high school students, examined the effectiveness and acceptability of the training at pre-, post-, and 4-weeks after completion (Bailey et al., 2017). This analysis of SafeTALK found that students reported increased knowledge of suicide, confidence about intervening, and willingness to approach and talk to individuals who may be at risk following the completion of the training (Bailey et al., 2017). Eynan (2014) assessed the effectiveness of the training employees of the Toronto Transit Commission in response to high rates of suicidal behaviors

involving the Toronto subway system. Results from this study demonstrated increases in positive attitudes toward and beliefs about suicidal individuals, as well as increases in knowledge of suicide and intervention strategies (Eynan, 2014).

Although many studies have reported SafeTALK as effective, there are limitations and gaps in the research. Many of the studies examining SafeTALK lack a control group and used small sample sizes (Bailey et al., 2017; Wilson & Neufeld, 2017; Eynan, 2014). Some studies reported non-significant changes in knowledge, attitudes, and intention to intervene at post-training and follow-up evaluation points (Bailey et al., 2017; Wilson & Neufeld, 2017). Additionally, there is limited theoretically based research that has been conducted on gatekeeper trainings. Although some researchers have examined trainings like QPR using some, or all, components of the TPB (Aldrich, 2018; Aldrich et al., 2018; Aldrich et al., 2014; Burnette et al., 2015; Cerel et al., 2012), literature that examines these trainings using theory is still limited. These limitations have restricted conclusions about SafeTALK and in generalizing those conclusions across different populations (e.g., schools, workplace, military, etc.). Overall, it is difficult to draw conclusions about the effectiveness of this training at increasing intervention behaviors and preventing suicide due to minimal research and the lack of consistency across current literature in conclusions regarding increases in gatekeeper training outcomes (Kutcher et al., 2017).

Question, Persuade, Refer (QPR)

QPR is another commonly used gatekeeper training. Participants are trained to appropriately "question at-risk individuals in order to determine suicide intent/desire, persuade a person to agree to seek help, and refer a person to appropriate resources" (SPRC/AFSP Best Practices Registry (BPR), 2013; Quinnett, 2007). Early recognition, intervention, referral, and

professional assessment/treatment are important factors that are highlighted within QPR (Quinnett, 2007). The classroom style version of QPR lasts for approximately 2 hours and involves PowerPoint presentation on suicide statistics and prevention, lecture style teaching by certified trainers, and role play scenarios among participants (Quinnett, 2007).

Previous research found that participants of QPR trainings acquire increased knowledge of suicide and factors that convey risk and resilience to suicide, intervention techniques, and resources for referral (Aldrich et al., 2018; Wyman et al., 2008; Tompkins & Witt, 2009). In one study completed among faculty, staff, and students at a university campus, it was found that participants reported improved factors aligning with the TPB, including attitudes towards intervening, subjective norms, perceived behavioral control, and intention to intervene with a suicidal individual following the completion of a gatekeeper training (Aldrich et al., 2018). This analysis demonstrates how various factors play a role in increasing specific behaviors (i.e., intervention); moreover, results demonstrate how QPR can directly impact these factors, leading to changed behavior (Aldrich et al., 2018).

Using a large sample of Georgia high school and middle school staff and students, Wyman et al. (2008) examined the impact of QPR. Results of this study demonstrated the training to be effective at moderately impacting knowledge of QPR techniques and suicide resources, of engaging in gatekeeping behaviors, and of communicating with individuals who are suicidal (Wyman et al., 2008). Similar to this, another study examined the effectiveness of QPR in Veterans Health Administration staff (Matthieu et al., 2009). Conclusions drawn from the pre-, post-, and follow-up data demonstrated a medium effect for declarative knowledge about suicide/suicide prevention and for self-efficacy, following the completion of the training.

Although these data can be interpreted as showing that QPR is effective at increasing

TPB preconditions for intervention behaviors, the studies are not without limitations. Results on

this topic include small to medium effect sizes and are often difficult to generalize due to the

specificity of the population being studied (i.e., high school and middle school students and staff,

health administration staff). Moreover, the literature is limited in the sense that it relies heavily

on self-report data, rather than observed intervention behaviors (e.g., Tompkins & Witt, 2009).

Other limitations of research on QPR effectiveness include high attrition rates (e.g., Aldrich et

al., 2018), the use of poorly supported measures (e.g., Wyman et al., 2008), and small sample

sizes (e.g., Matthieu et al., 2009). Similar to that of SafeTALK research, the limitations of

research on QPR result in an inadequate understanding of the training due to some studies

finding little to no effect post-training and minimal research on the topic being theoretically

based. In conclusion, further research on the topic is needed to develop a more comprehensive

understanding about gatekeeper training effectiveness. The current study will utilize the

previously discussed factors of the TPB to develop a better understanding of how individual

factors (i.e., attitudes, subjective norms, perceived behavioral control, and intention) can be

impacted by SafeTALK and QPR trainings.

Current Study

Based on increasing suicide rates, a need has been demonstrated for effective suicide

prevention training within the United States, particularly among college student populations.

Gatekeeper trainings provide knowledge of suicide, its risk factors, and mental health referral

resources, while also working to reduce stigma and increase intervention and prevention

behaviors. As these trainings grow in number, it is important to understand their impact and

effectiveness. For example, QPR trainings are shorter in length than SafeTALK, but both include

role-play scenarios and live audiovisual, lecture style PowerPoint presentations. While the overarching aims of these trainings are similar, there are differences across the training implementation that have yet to be examined regarding their ability to increase suicide prevention and crisis intervention. However, current literature on the topic provides minimal scientific support of gatekeeper program effectiveness.

To work towards developing a better understanding of the effectiveness of QPR and SafeTALK, the present study will examine pre/post training self-report data on individual attitudes, subjective norms, perceived behavioral control, and intention to intervene. The following hypotheses will be examined:

H1. It is hypothesized there will be significant increases in positive attitudes about suicide intervention following the completion of QPR or SafeTALK.

H2. It is hypothesized that there will be significant increases in positive social norms associated with suicide intervention following the completion of QPR or SafeTALK.

H3. It is hypothesized that there will be significant increases in perceived behavioral control associated with suicide intervention following the completion of QPR or SafeTALK.

H4. It is hypothesized that there will be significant increases in intention to intervene with someone facing a suicide crisis following the completion of QPR or SafeTALK.

H5: It is hypothesized that attitudes, subjective norms, and perceived behavioral control will predict participant intention to intervene following the completion of QPR or SafeTALK.

The following research question will be examined:

RQ1. Are there significant differences in attitudes about suicide intervention, subjective norms associated with intervention, perceived behavioral control associated with intervention, and intention to intervene in a suicide crisis by previous suicide exposure (no previous exposure/known someone who died by suicide or attempted suicide)?

RQ2. Are there significant differences in attitudes about suicide intervention, subjective norms associated with intervention, perceived behavioral control associated with intervention, and intention to intervene in a suicide crisis by gatekeeper training (QPR or SafeTALK)?

METHODOLOGY

Participants

The study sample was drawn from faculty, staff, and students (both graduate and undergraduate) at a large Southeastern college, Old Dominion University (ODU). Eligible participants included adult (i.e., at least 18 years old) members of the university community who participated in a gatekeeper training who had not previously completed a QPR or SafeTALK training. Based on relevant literature reporting, on average, medium to large effect sizes, power analyses using G Power (version 3.1) were conducted to determine sample size using the appropriate recommended effect size for the main hypotheses including $f^2 = .15, .35$ (Cohen, 1988) for H1-4 and $d = .50, .80$ (Cohen, 1969) for H5. After running one-tailed, a priori power analyses for both the linear multiple regression and paired samples t-tests, an approximate sample size of 20-43 was determined to be necessary to achieve power of .80 to detect medium-large hypothesized effects expected from previous literature. From 2019-2020, 71 participants were recruited from QPR and SafeTALK trainings. Missing data was addressed using listwise deletion, resulting in 6 participants being excluded. Some participants had previously completed either a QPR or SafeTALK training, resulting in 5 more participants being excluded. The final sample consisted of 60 participants.

Of the total sample, 24 participants completed SafeTALK, and 36 participants completed QPR. Fifty-three participants (88%) knew someone who died by, or attempted, suicide prior to completing the training. Nineteen (32%) participants identified as male, 39 (65%) identified as female, and 2 (3%) identified as other (transgender, non-binary). Within the sample, roles at ODU included 13 (22%) Staff/Administration, 13 (22%) Graduate students, 12 (20%) ODU Police staff, 11 (18%) Undergraduate students, 6 (10%) Faculty, and 3 (5%) other (alumni,

community member, 2+ roles). Forty (67%) participants identified their race/ethnicities as White/Caucasian, 13 (22%) identified as Black/African American, 2 (3%) identified as Asian/Asian American, 1 (2%) identified as Hispanic/Latino/Spanish Origin, and 4 (7%) identified as two or more. Forty-two (70%) participants identified as straight, 16 (27%) identified as part of the LGBTQIA+ community (Lesbian, Gay, Bisexual, Questioning, or Asexual), and 2 (3%) participants preferred no label. Participants ranged from 18-61 years of age, with the sample having a mean age of 32.

Measures

Participants were provided with a packet containing questionnaires to be completed immediately before and after the gatekeeper training. The pre-training questionnaire also included a series of items to assess demographics, previous exposure to others' suicide, and previous gatekeeper training.

Background Information. This section consists of 12 items and asks for information about the participant's background information. Information includes age, role at ODU, gender, ethnicity, race, military status, sexual orientation, whether one has known anyone who has died by suicide or engaged in NSSI, and previous gatekeeper training experience. These items were only included in the pre-training questionnaire packet.

Stigma Toward Gatekeeper Behaviors Scale (STGBS; Aldrich, 2017). This is a 14-item set of bipolar word options used to complete the statement "Intervening with a suicidal person would be…." Participants are instructed to select a point on a scale from 1 to 5 between the bipolar word options. This measure was adapted from a subset of items in the Willingness to Intervene (WIS) questionnaire, with a Cronbach's α of 0.76 (Aldrich, 2017). Within the current sample, the STGBS had a Cronbach's α of 0.74 pre-training and 0.77 post-training.

Subjective Norms Scale (SNS; Aldrich et al., 2014). This scale consists of 12 items and analyzes individual perception of social norms and pressures to perform/not perform a behavior. Response options are distributed on a 5-point Likert scale (ranging from "Strongly disapprove to Strongly approve"). This measure was also adapted from a subset of items in the Willingness to Intervene (WIS) questionnaire, with a Cronbach's α of 0.91 (Aldrich et al., 2014). Within the current sample, the SNS had a Cronbach's α of 0.91 pre-training and 0.94 post-training.

Gatekeeper Behavior Scale (GBS; Albright et al., 2016). The GBS consists of 11 items that work to assess 3 subscales: preparedness, likelihood, and self-efficacy. Item responses are distributed on a Likert scale with varying word choices: "Very low to Very high (1-5)", "Very unlikely to Very likely (1-4)", and "Strongly disagree to Strongly agree (1-4)". Data from the likelihood subscale was not utilized in data analyses for this study, as intention to intervene will be represented by the Likelihood to Intervene Scale (Tompkins & Witt, 2009). The measure was found to have high internal consistency and reliability, with a Cronbach's α of 0.93 (Albright et al., 2016). Within the current sample, the GBS had an overall Cronbach's α of 0.92 pre-training and 0.94 post-training. The Preparedness subscale had a Cronbach's α of 0.87 pre-training and 0.92 post-training, and the Self-Efficacy subscale had a Cronbach's α of 0.89 pre-training and 0.88 post-training. The current study will utilize both preparedness and self-efficacy subscales to represent Perceived Behavioral Control; combined, these subscales had a Cronbach's α of 0.91 pre-training and 0.93 post-training.

Likelihood to Intervene Scale (LI; Tompkins & Witt, 2009). This scale is made up of 6 items rated on a scale of 1-5. Each item indicates how likely the participant is to engage in various behaviors that are linked to suicide prevention, with higher scores meaning higher

likelihood to engage in intervention behavior. Within the current sample, the LI had a Cronbach's α of 0.83 pre-training and 0.77 post-training.

Procedures

The proposed study was approved by ODU's Institutional Review Board in September 2019. At the beginning of both QPR and SafeTALK trainings, an overview of the study was provided. Participants were issued verbal information about the study. Following this brief introduction, participants were told about the procedures of the study, including the completion of informed consent prior to the completion of questionnaires both before and after the training. Each individual participating in the training was given a packet containing the questionnaires; those who opted to participate in the study then signed the Consent form and completed the pre-training questionnaire.

The first questionnaire included a background information section to collect demographics and pre-training measures to assess variables of interest. After the completion of either the QPR or SafeTALK lecture and role-play training, participants completed post-training measures to again assess variables of interest. The second questionnaire included mostly identical items, but with the subtraction of demographics items and the addition of two items to evaluate the training. Following the completion of each training, and of all study materials (i.e., informed consent, pre-training measures, post-training measures), participants were verbally debriefed. Furthermore, they were provided with print copies of informed consent and debriefing forms for their own record.

Data Analysis

To test hypotheses, post-training and corresponding pre-training measures were compared with *t*-tests to determine whether the training resulted in changes in attitudes as

indicated by the STGBS (H1), subjective norms as indicated by the SNS (H2), perceived behavioral control as indicated by the preparedness and self-efficacy subscales of the GBS (H3), and intention to intervene as indicated by the LI (H4). A regression analysis was used to assess the effect of TPB components, measured with the STGBS, SNS, and GBS subscales, in predicting intention to intervene, measured by the LI (H5). Following evidence of an association between PBC and intention to intervene, a follow-up regression was conducted with the preparedness and self-efficacy subscales of PBC predicting intention to intervene. To test the research questions, each TPB variable was examined using a 2 (Group) $\times$ 2 (Time: Pre/Post Training) mixed ANOVA. For RQ1, Group consisted of previous suicide exposure (yes, no). For RQ2, Group referred to type of gatekeeper training attended (QPR, SafeTALK). Prior to all analysis, data were visually examined using histograms of relevant variables, and outliers were examined using boxplots. Post-training attitudes data was found to be normally distributed while post-training subjective norms, PBC, and intention data were not. A natural log transformation was used for variables that were found to be normally distributed. After transformation, skewness for all variables was within appropriate range of -3 to 3 (Hair et al., 2010; Byrne, 2010); kurtosis for all variables was within appropriate range of -10 to 10 (Hair et al., 2010; Byrne, 2010).

Prior to examining the regression (H5), change scores were calculated by subtracting pre-training score from post-training score for each variable to examine change in each construct as a predictor of change in intention to intervene. The assumption of normally distributed residuals was examined using a Predicted-Probability (P-P) Plot of the DV. The assumption of homoscedasticity was visually examined using a Scatterplot of Standardized Residuals by Standardized Predicted Values. To examine the assumption of independence, Durbin-Watson

values were assessed (appropriate range from 1.50-2.50; Field, 2009). To examine the

assumption of no multicollinearity, tolerance (appropriate value > .1; Tabachnick et al., 2007)

and VIF (appropriate value < 10; Hair et al., 1995) collinearity diagnostics were examined. All

change score variables were found to be normally distributed and homoscedastic; however, two

extreme outliers were found within subjective norms and attitudes change score data. A 90%

winsorization led to the subjective norms outlier (z = 4.35) being set to the 95th percentile (9.95)

and the attitudes outlier (z = -4.31) being set to the 5th percentile (-3.95).

Results

Hypotheses 1-4. As hypothesized, results demonstrated significant positive changes in

attitudes about suicide intervention (H1), subjective norms (H2), PBC (H3), and intention to

intervene (H4), consistent with findings of previous research (Aldrich et al., 2014; Aldrich et al.,

2018; Bailey et al., 2017; Burnette et al., 2015; Cross et al., 2010; Wyman et al., 2008). Paired-

sample *t* tests revealed more positive scores at post-training than at pre-training for all TPB

components (*p* < .001; see Table 1).

Table 1.
Components of the Theory of Planned Behavior from Pre- to Post-Training

	Pre-Mean	Pre-SD	Post-Mean	Post-SD	*df*	Effect Size (*d*)
Attitudes	51.67	6.77	55.12	7.00	59	.50***
Subjective Norms	53.72	6.10	55.65	5.61	59	.32***
Perceived Behavioral Control (PBC)	29.90	5.83	36.13	4.31	59	1.22***
Intention to Intervene	23.50	4.65	27.52	2.58	59	1.07***

****p* < .001

Hypothesis 5. Based on previous research (Aldrich, 2015; Aldrich et al., 2018), it was expected that the TPB components (attitudes, subjective norms, PBC) would significantly predict participant intention to intervene. The multiple regression model testing this hypothesis was significant, $F(3, 56) = 12.81$, $R^2_{adj} = .38$, $p < .001$, with approximately 38% of variance in change in intention to intervene being accounted for. See Table 2. PBC predicted intention to intervene, B=.49, $p < .001$, but neither attitudes nor subjective norms significantly predicted intention. A follow-up regression with the PBC subscales predicting intention to intervene revealed that both self-efficacy, B= .56, $p= .003$, and preparedness, B= .35, $p= .008$, uniquely predicted intention to intervene.

Table 2.
Components of the Theory of Planned Behavior Predicting Intention to Intervene

	R^2_{adj}	t	Unstandardized			Standardized
			B	SE	95% CI	Beta (β)
Intention to Intervene	.38					
Attitudes		1.81	.13	.07	[-.01, .28]	.19
Subjective Norms		-1.73	-.19	.11	[-.41, .03]	-.19
Perceived Behavioral Control (PBC)		6.11***	.49	.08	[.33, .66]	.67
Intention to Intervene	.33					
Self-Efficacy		3.09*	.56	.18	[.20, .92]	.37
Preparedness		2.74*	.35	.13	[.20, .61]	.33

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

Research Question 1. A 2 (suicide exposure, no suicide exposure) $\times$ 2 (pre-test, post-test) mixed ANOVA was used for each of the TPB components. There was no main effect of group for any of the ANOVAs (all ps > .09). A positive main effect of time was found for all TPB

components (all ps < .001) except attitudes (See Table 3). While no main effect of group or time was found for attitudes, a significant interaction of time and group was found, $F(1, 58) = 11.88$, $p = .001$. To understand the interaction, differences in pre- and post-test scores were examined within each group using pairwise comparisons. Participants who knew someone who attempted and/or died by suicide showed a significant increase ($p < .001$) in positive attitudes about intervention after training ($M = 56.08$, $SD = 6.30$) compared to before training ($M = 51.68$, $SD = 7.06$). Those who did not know someone who attempted and/or died by suicide did not show a significant change ($p = .34$) in positive attitudes about intervening after training ($M = 47.86$, $SD = 8.28$) compared to before training ($M = 51.57$, $SD = 4.31$).

  Research Question 2. A 2 (QPR, SafeTALK) × 2 (pre-test, post-test) mixed ANOVA was used for each of the TPB components. All ANOVAs demonstrated significant positive main effects of time (all ps < .05). However, there was no significant effect of group, nor were there any significant interactions. See Table 4.

Table 3.

Components of the Theory of Planned Behavior Predicting Intention to Intervene by Suicide Exposure Group

	$df_{between}$	df_{within}	F	Partial η^2
Attitudes				
Group	1	58	2.97	.05
Time	1	58	.08	.00
Group × Time	1	58	11.89***	.17
Subjective Norms				
Group	1	58	.37	.01
Time	1	58	1705.62***	.97
Group × Time	1	58	.33	.01
Perceived Behavioral Control (PBC)				
Group	1	58	2.67	.04
Time	1	58	474.16***	.89
Group × Time	1	58	2.64	.04
Intention to Intervene				
Group	1	58	.56	.01
Time	1	58	451.25***	.89
Group × Time	1	58	.51	.01

*** $p < .001$

Table 4.

*Components of the Theory of Planned Behavior Predicting Intention to
Intervene by Gatekeeper Training Group*

	$df_{between}$	df_{within}	F	Partial η^2
Attitudes				
Group	1	58	.12	.00
Time	1	58	17.204***	.23
Group $\times$ Time	1	58	.113	.00
Subjective Norms				
Group	1	58	1.84	.03
Time	1	58	3955.26***	.99
Group $\times$ Time	1	58	1.854	.03
Perceived Behavioral Control (PBC)				
Group	1	58	.54	.01
Time	1	58	1181.83***	.95
Group $\times$ Time	1	58	.584	.01
Intention to Intervene				
Group	1	58	.12	.00
Time	1	58	1093.9***	.95
Group $\times$ Time	1	58	.113	.00

***p < .001

DISCUSSION

The goal of the current study was to assess suicide gatekeeper training outcomes in a Theory of Planned Behavior (TPB) framework. This study aimed to determine the impact of gatekeeper trainings on TPB components impacting behavioral intention to intervene when an individual is identified as being at risk of suicide. In general, results support the effectiveness of gatekeeper trainings at creating significant changes in TPB variables. All TPB components were found to increase from pre- to post-training, consistent with past literature demonstrating positive change in these variables (Aldrich, 2018). Controlling for other TPB components, PBC was identified as the only component that predicted changes in intention to intervene. Changes in both subcomponents of PBC, self-efficacy and preparedness, were found to be unique predictors of change in intention to intervene. These findings are consistent with literature that have found that while all TPB components significantly predicted intention to intervene, PBC is the strongest predictor of intention post-training when controlling for the other components (Aldrich, 2015; Aldrich et al., 2018), as well as past studies that have demonstrated increases in self-efficacy and preparedness post-training (Litteken & Sale, 2018; Matthieu et al, 2009; Tompkins et al., 2010). On the other hand, these findings differ from past literature utilizing the TPB that have found subjective norms significantly predicted intention to intervene, or approached significance, when controlling for other components (Aldrich, 2015; Aldrich et al., 2018). Results from the current study contribute to the literature by identifying PBC as a primary component of the TPB that is uniquely associated with intention to intervene. This may indicate that future gatekeeper trainings could potentially be modified to focus more on increasing PBC specifically, or that new trainings that are centered around promoting PBC should be designed, to ensure that these trainings maximize intention to intervene.

Group analyses were completed to examine exploratory research questions regarding differences in TPB outcomes by previous suicide exposure and training type. While only exploratory, these questions were relevant and important to this study's aim of addressing gaps in the literature regarding knowledge of these group differences as they relate to gatekeeper training outcomes. TPB components were not found to differ by training type (QPR/SafeTALK) from pre to post training. Although there were no differences by training type, differences were seen in attitudes based on exposure to suicide or attempted suicide. Analyses suggested that positive attitudes significantly increased post-training only for those with previous suicide exposure, not for those without. Although these research questions were only exploratory, these findings can be compared to past literature in which previous suicide exposure was found to approach significance in predicting intention to intervene (Aldrich, 2015) and contrasted with others in which previous suicide exposure or personal suicide attempts did not significantly impact intention to intervene (Aldrich, 2018). Future research should seek to examine these differences across larger, equal samples to further examine the potential impact of previous suicide exposure and training type on TPB outcomes and potential interactions among variables.

The current study was theoretically guided by the TPB (Ajzen, 1985) creating a better support framework for conclusions to be drawn from. Utilizing the TPB allowed for a better conceptualization of outcomes relating to gatekeeper trainings. Because these trainings are in place to increase an individual's intention to aid someone suspected to be having thoughts of suicide, the TPB can aid in understanding how these factors uniquely impact individual intention to intervene when faced with someone at risk which is then anticipated to increase actual behavior. Past literature on the topic of gatekeeper training outcomes is not often based on theory, further demonstrating the need for researchers to examine this topic from a theoretical

lens that is effective at measuring intention and behavior. Future research could examine gatekeeper training outcomes through other models such as social cognitive theory (Bandura, 1986), social-ecological model (McLeroy et al., 1988), or theory of reasoned action (Fishbein & Ajzen, 1975) that acknowledge a variety of potential impacting factors (e.g., impact of observing other's actions, relationship, community, etc.) and are effective at evaluating health interventions, to further examine outcomes from other theoretical lenses.

SUMMARY

Practical Implications

Based on results of the current study, it may be worthwhile to further examine differences in trainings that place emphasis on PBC, specifically promoting self-efficacy and preparedness, to determine if these trainings lead to further increases in intention to intervene. As it was identified as a primary component of the TPB associated with increasing intention to intervene, emphasizing aspects of trainings that increase PBC by promoting feelings of being in control over intervention behaviors may further increase participants perception that they are capable and prepared for intervening if faced with someone at risk of suicide. Although change in PBC has been identified here as a primary predictor of increasing intention, previous literature has demonstrated that intervention methods focusing on all components of the TPB may be ideal for increasing intention and behavior change long-term (Montanaro et al., 2018). On the other hand, Ajzen (2006) recommends that if interventions are to be centered around a specific component of the TPB, it should be around the component accounting for the most change in intention – in this case, PBC. Future trainings may better increase intention to intervene by utilizing methods that have been demonstrated to directly impact PBC such as increasing skills through advising and demonstrating to individuals how to perform a behavior (e.g., demonstrating conversation strategies to use when talking to someone who is suicidal) or persuading individuals that they can successfully perform the behavior by decreasing self-doubts (Steinmetz et al., 2016). Additionally, findings regarding the impact of previous suicide exposure on attitudes suggest that gatekeeper trainings may affect individuals differently depending on their prior experience with suicide. Additional research is needed to better understand what factors may moderate gatekeeper training outcomes, such as gender or role within the

population/community, and to understand how training types may best be suited to different populations. Although no differences were seen comparing QPR and SafeTALK, this may suggest that the type of training that is implemented is dependent on other considerations such as access, time availability, and preference for differences in format. Future literature should take these considerations into account when examining outcomes, as they may be impacted by the type of training offered. In general, findings of the current study demonstrate the effectiveness of gatekeeper trainings at improving variables related to increasing intention to intervene with someone thought to be suicidal. This demonstrates the importance of providing these trainings to populations where this type of awareness and skill set is often needed, such as schools, healthcare settings, and workplaces. A variety of other important outcomes of gatekeeper trainings were not considered in this study, therefore future research should seek to understand other variables that could differentially impact training outcomes. These findings may be helpful in attempts to further develop and refine gatekeeper trainings to focus on components that best predict intention to intervene.

Limitations and Future Research

The current study is not without limitations. First, the current research sample did not include a control group or random assignment. As a result of a control group not being utilized, it is possible that post-training outcomes could be impacted by factors such as fatigue, test-repetition, or demand characteristics. This was not possible as the study was funded by a grant seeking to maximize suicide prevention training. Future research should include comparison to a randomized control group in which participants are randomly assigned to complete either a gatekeeper training or a training unrelated to suicide prevention to eliminate potential threats to validity, impact of other variables, and increase strength of conclusions drawn. The current study

had a relatively small sample size in comparison to related studies in the literature (e.g., $N = 367$; Aldrich, 2015), but met minimum sample requirements (20-43) based on power analyses conducted to detect medium-large hypothesized effects expected from previous research. To increase generalizability and power for significance testing as well as decrease variability and biases, future research should seek to recruit as large a sample as possible for analyses. Due to the sample size, research questions assessed in the current study examined small and unequal group sizes. This unfortunately results in limited confidence in results of the research questions. Future research should focus on recruiting large and equal group sizes to better assess group comparisons between suicide exposure and training type, coupled with comparisons of the experimental group to a randomized control group as previously discussed. Additionally, the sample was made up of university faculty/staff and students, limiting the generalizability of conclusions outside of college campuses. The sample was not racially and ethnically diverse, further limiting conclusions in these populations. Future research should assess training outcomes in a variety of samples such as healthcare, workplace, etc. that are diverse in race/ethnicity, gender, and organizational role. Another limitation includes that measures utilized within the current study were entirely self-report, leaving open the opportunity for potential response biases. Future research examining the effects of gatekeeper trainings should utilize behavioral data in combination with, or in place of, self-report data in addition to implementing a randomized control group 1to increase confidence in conclusions and limit potential order effects.

Conclusions

Overall, results from the current study support gatekeeper trainings as effective for increasing participant attitudes, norms, and PBC related to intervening as well as increasing

intention to intervene itself. While it was expected that changes in all TPB components would significantly predict changes in intention to intervene, PBC was found to be the only significant predictor after controlling for the others, with both self-efficacy and preparedness being significant predictors of change in intention in the follow-up analysis. This finding is consistent with results of previous research in which participants belief about their resources available and ability to intervene increased post-training (Aldrich et al., 2018). Additionally, preliminary results limited by small and unequal group size indicate that changes in attitudes about intervening may depend on whether learners have known someone who attempted suicide. Future research is needed to determine if this finding is replicable and if so, to better understand it.

In sum, results from the current study builds on prior research by suggesting that suicide prevention gatekeeper trainings are associated with an increase in intention to intervene with someone in a suicide crisis. This change is uniquely predicted by a change in perceived behavioral control. These findings are important to the implementation of gatekeeper trainings on college campuses.

REFERENCES

Albright, G. L., Davidson, J., Goldman, R., Shockley, K. M., & Timmons-Mitchell, J. (2016). Development and validation of the gatekeeper behavior scale. *Crisis*, *37*(4), 271-280.

Aldrich, R. S., Harrington, N. G., & Cerel, J. (2014). The willingness to intervene against suicide questionnaire. *Death studies, 38*(2), 100-108.

Aldrich, R. S. (2015). Using the theory of planned behavior to predict college students' intention to intervene with a suicidal individual. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 36*(5), 332–337.

Aldrich, R. S. (2017). Suicide prevention: college students' intention to intervene. *Archives of suicide research, 21*(3), 403-412.

Aldrich, R. S., Wilde, J., & Miller, E. (2018). The effectiveness of QPR suicide prevention training. *Health Education Journal, 77*(8), 964–977.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (11-39). Springer, Berlin, Heidelberg.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*, 179–211.

Ajzen, I. (2006). Behavioral interventions based on the theory of planned behavior.

Bailey, E., Spittal, M., Pirkis, J., Gould, M., & Robinson, J. (2017). Universal Suicide Prevention in Young People: An Evaluation of the SafeTALK Program in Australian High Schools. *Crisis, 38*(5), 300–308.

Bandura A (1986) Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

Burnette, C., Ramchand, R., & Ayer, L. (2015). Gatekeeper training for suicide prevention: A theoretical model and review of the empirical literature. *RAND Health Quarterly*, *5*(1).

Byrne, B. M. (2010). Structural equation modeling with AMOS: Basic concepts, applications, and programming. New York: Routledge.

Calear, A. L., Batterham, P. J., & Christensen, H. (2012). The Literacy of Suicide Scale: Psychometric properties and correlates of suicide literacy. *Unpublished manuscript*.

Cerel, J., Padgett, J. H., Robbins, V., & Kaminer, B. (2012). A state's approach to suicide prevention awareness: Gatekeeper training in Kentucky. *Journal of Evidence-Based Social Work*, *9*(3), 283-292.

Cimini, M. D., Rivero, E., Bernier, J., Stanley, J., Murray, A., Anderson, D., … Bapat, M. (2014). Implementing an audience-specific small-group gatekeeper training program to respond to suicide risk among college students: A case study. *Journal of American College Health, 62*(2), 92–100.

CDC WISQARS. (2018). Ten leading causes of death by age group.

Cohen, J. (1969). *Statistical power analysis for the behavioural sciences*. New York: Academic Press.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, New Jersey: Lawrence Erlbaum As- sociates.

Cross, W., Matthieu, M., Cerel, J., & Knox, K. (2010). Proximate outcomes of gatekeeper training for suicide prevention in the workplace. *Suicide and Life-Threatening Behavior*, *37*(6).

Cross, W., Seaburn, D., Gibbs, D., Schmeelk-Cone, K., White, A. M., & Caine, E. D. (2011). Does practice make perfect? A randomized control trial of behavioral rehearsal on suicide prevention gatekeeper skills. *Journal of Primary Prevention, 32*, 195–211.

Eisenberg, D., Hunt, J., & Speer, N. (2013). Mental health in American colleges and universities: variation across student subgroups and across campuses. *The Journal of nervous and mental disease*, *201*(1), 60-67.

Eynan, R. (2014). *Preventing Suicides in the Toronto Subway System: A program Evaluation* (Publication No. 3667063) [Doctoral dissertation, University of Toronto]. ProQuest Dissertations Publishing.

Field, A. (2009). *Discovering statistics through SPSS: (and sex and drugs and rock'n'roll).* SAGE Publications.

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research.* Reading, MA: Addison-Wesley.

Garraza, L. G., Kuiper, N., Goldston, D., McKeon, R., & Walrath, C. (2019). Long-term impact of the Garrett Lee Smith youth suicide prevention program on youth suicide mortality, 2006–2015. *Journal of Child Psychology and Psychiatry, 60*(10), 1142–1147.

Hair, J., Black, W. C., Babin, B. J. & Anderson, R. E. (2010) Multivariate data analysis (7th ed.). Upper Saddle River, New Jersey: Pearson Educational International.

Hair, J. F. Jr., Anderson, R. E., Tatham, R. L. & Black, W. C. (1995). Multivariate Data Analysis (3rd ed). New York: Macmillan.

Hangartner, R. B., Totura, C. M. W., Labouliere, C. D., Gryglewicz, K., & Karver, M. S. (2019). Benchmarking the "Question, Persuade, Refer" program against evaluations of established suicide prevention gatekeeper trainings. *Suicide and Life-Threatening Behavior, 49*(2), 353-370.

Hedegaard H., Curtin S.C., & Warner M. (2020). Increase in suicide mortality in the United States, 1999–2018. NCHS Data Brief, no 362. Hyattsville, MD: National Center for Health Statistics.

Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health*, *46*, 3–10.

Indelicato, N.A., Mirsu-Paun, A., & Griffin, W.D. (2011). Outcomes of a suicide prevention gatekeeper training on a university campus. *Journal of College Student Development 52*(3), 350-361.

IPEDS Data Feedback Report 2018. (2018), 1–15.

Kerr, S., Martin, C., & Fleming, M. (2018). Preventing suicide; nurse education and the occluded issue of gender. *Nurse Education in Practice, 32*, 58–63.

Kutcher, S., Wei, Y., & Behzadi, P. (2017). School- and community-based youth suicide prevention interventions: Hot idea, hot air, or sham? *The Canadian Journal of Psychiatry, 62*(6), 381–387.

Litteken, C., & Sale, E. (2018). Long-term effectiveness of the question, persuade, refer (QPR) suicide prevention gatekeeper training program: lessons from Missouri. *Community mental health journal*, *54*(3), 282-292.

Liu, C. H., Stevens, C., Wong, S. H., Yasui, M., & Chen, J. A. (2019). The prevalence and

predictors of mental health diagnoses and suicide among US college students:

Implications for addressing disparities in service use. *Depression and anxiety*, *36*(1), 8-

17.

Matthieu, M., Chen, Y., Schohn, M., Latinga, L., & Knox, K. (2009). Educational preferences

and outcomes from suicide prevention training in the Veterans Health Administration:

One-year follow-up with healthcare employees in upstate New York. *Military*

Medicine, *174*(11), 1123–1131.

McLeroy KR, Bibeau D, Steckler A, et al. (1988) An ecological perspective on health promotion

programs. *Health Education Quarterly 15*(4): 351–377.

Mitchell SL, Kader M, Darrow SA, et al. (2013) Evaluating question, persuade, refer (QPR)

suicide prevention training in a college setting. *Journal of College Student Psychotherapy*

27, 138–148.

Montanaro, E. A., Kershaw, T. S., & Bryan, A. D. (2018). Dismantling the theory of planned

behavior: evaluating the relative effectiveness of attempts to uniquely change attitudes,

norms, and perceived behavioral control. *Journal of behavioral medicine, 41*(6), 757-770.

National Mental Health Association & The Jed Foundation. (2002). Safeguarding your students

against suicide: Expanding the safety network. Alexandria, VA: Author.

Oliver, P., Spee, K., Akroyd, S., & Wolfgramm, T. (2015). *Evaluation of the Suicide Prevention*

Gatekeeper Training Programmes. New Zealand: Ministry of Health.

SafeTALK. (2019, October 25). Retrieved December 4, 2019, from

https://www.livingworks.net/safetalk.

Singer, J. B., Erbacher, T. A., & Rosen, P. (2019). School-based suicide prevention: A framework for evidence-based practice. *School Mental Health, 11*, 54–71.

SPRC/AFSP Best Practices Registry (BPR). (2013, July). "Comparison Table of Suicide Prevention Gatekeeper Training Programs." Retrieved from http://www.sprc.org/sites/default/files/migrate/library/SPRC_Gatekeeper_matrix_Jul2013update.pdf.

Steinmetz, H., Knappstein, M., Ajzen, I., Schmidt, P., & Kabst, R. (2016). How effective are behavior change interventions based on the theory of planned behavior?. *Zeitschrift für Psychologie*, *224*(3), 216-233.

Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). *Using multivariate statistics* (Vol. 5, pp. 481-498). Boston, MA: Pearson.

Tompkins, T., & Witt, J. (2009). The short-term effectiveness of a suicide prevention gatekeeper training program in a college setting with residence life advisers. *The Journal of Primary Prevention, 30,* 131–149.

Turley, B. (2018). SafeTALK Literature review: An overview of its rationale, conceptual framework, and research foundations. *LivingWorks Education Inc*.

Quinnett, P. (2007). QPR gatekeeper training for suicide prevention: The model, rationale and theory. QPR Institute, 1–38.

Walrath, C., Garraza, L. G., Reid, H., Goldston, D. B., & McKeon, R. (2015). Impact of the Garrett Lee Smith youth suicide prevention program on suicide mortality. *American Journal of Public Health, 105*(5), 986–993.

Wilson, B., & Neufeld, E. (2017). The SafeTALK suicide training: An evaluation of attitudes and actions among medical students. *Journal of the Royal Medical Society, 24*(1), 4–16.

Wyman, P. A., Brown, C. H., Inman, J., Cross, W., Schmeelk-Cone, K., Guo, J., & Pena, J. B. (2008). Randomized trial of a gatekeeper program for suicide prevention: 1-year impact on secondary school staff. *Journal of Consulting and Clinical Psychology, 76*(1), 104–115.

STIGMA TOWARD GATEKEEPER BEHAVIORS SCALE (STGBS; ALDRICH, 2017)

Intervening with a suicidal person would be…

		1	2	3	4	5	
1.	Worthless	☐	☐	☐	☐	☐	Valuable
2.	Beneficial	☐	☐	☐	☐	☐	Harmful
3.	Not regrettable	☐	☐	☐	☐	☐	Regrettable
4.	Bad	☐	☐	☐	☐	☐	Good
5.	Forgivable	☐	☐	☐	☐	☐	Not Forgivable
6.	Negative	☐	☐	☐	☐	☐	Positive
7.	Useful	☐	☐	☐	☐	☐	Useless
8.	Unpleasant	☐	☐	☐	☐	☐	Pleasant
9.	Not Scary	☐	☐	☐	☐	☐	Scary
10.	Possible	☐	☐	☐	☐	☐	Impossible
11.	Stressful	☐	☐	☐	☐	☐	Not Stressful
12.	Frightening	☐	☐	☐	☐	☐	Not Frightening
13.	Uncomfortable	☐	☐	☐	☐	☐	Comfortable
14.	Easy	☐	☐	☐	☐	☐	Difficult

SUBJECTIVE NORMS SCALE (SNS; ALDRICH ET AL., 2014)

		Strongly Disapprove (1)	Disapprove (2)	Undecided (3)	Approve (4)	Strongly Approve (5)
1.	What do you think **your closest friends** would think of you seeking help for a suicidal person?	☐	☐	☐	☐	☐
2.	What do you think **your family** would think of you seeking help for a suicidal person?	☐	☐	☐	☐	☐
3.	What do you think **people at ODU** would think of you seeking help for a suicidal person?	☐	☐	☐	☐	☐
4.	What do you think **people in your community** would think of you seeking help for a suicidal person?	☐	☐	☐	☐	☐
5.	What do you think **your closest friends** would think of you suggesting that a suicidal person see a counselor on campus?	☐	☐	☐	☐	☐
6.	What do you think **your family** would think of you suggesting that a suicidal person see a counselor on campus?	☐	☐	☐	☐	☐
7.	What do you think **people at ODU** would think of you suggesting that a suicidal person see a counselor on campus?	☐	☐	☐	☐	☐
8.	What do you think **people in your community** would think of you suggesting that a suicidal person see a counselor on campus?	☐	☐	☐	☐	☐

9.	What do you think **your closest friends** would think of you <u>talking to a suicidal person about suicide</u>?	☐	☐	☐	☐	☐
10.	What do you think **your family** would think of you <u>talking to a suicidal person about suicide</u>?	☐	☐	☐	☐	☐
11.	What do you think **people at ODU** would think of you <u>talking to a suicidal person about suicide</u>?	☐	☐	☐	☐	☐
12.	What do you think **people in your community** would think of you <u>talking to a suicidal person about suicide</u>?	☐	☐	☐	☐	☐

GATEKEEPER BEHAVIOR SCALE (GBS; ALBRIGHT ET AL., 2016)

How would you rate your preparedness to:	Very low (1)	Low (2)	Medium (3)	High (4)	Very high (5)
1. Recognize when a student's behavior is a sign of psychological distress	☐	☐	☐	☐	☐
2. Recognize when a student's physical appearance is a sign of psychological distress	☐	☐	☐	☐	☐
3. Discuss with a student your concern about the signs of psychological distress they are exhibiting	☐	☐	☐	☐	☐
4. Motivate students exhibiting signs of psychological stress to seek help	☐	☐	☐	☐	☐
5. Recommend mental health support services (such as the counseling center) to a student exhibiting signs of psychological distress	☐	☐	☐	☐	☐

Please rate your likelihood to do the following behaviors:	Very unlikely (1)	Unlikely (2)	Likely (3)	Very likely (4)
6. How likely are you to discuss your concerns with a student exhibiting signs of psychological distress?	☐	☐	☐	☐
7. How likely are you to recommend mental health/ support services (such as the counseling center) to a student exhibiting signs of psychological distress?	☐	☐	☐	☐

Please rate how much you agree/disagree with the following statements:	Strongly disagree (1)	Disagree (2)	Agree (3)	Strongly agree (4)
8. I feel confident in my ability to discuss my concern with a student exhibiting signs of psychological distress	☐	☐	☐	☐
9. I feel confident in my ability to recommend mental health support services to a student exhibiting signs of psychological distress	☐	☐	☐	☐
10. I feel confident that I know where to refer a student for mental health support	☐	☐	☐	☐
11. I feel confident in my ability to help a suicidal student seek help	☐	☐	☐	☐

LIKELIHOOD TO INTERVENE SCALE (LI; TOMPKINS & WITT, 2009)

Please rate how likely you are to do the following behaviors with a person who is at risk of suicide:

		Not likely at all (1)	(2)	(3)	(4)	Very likely (5)
1.	Raise the question of suicide with them	☐	☐	☐	☐	☐
2.	Want to get more information about their plan	☐	☐	☐	☐	☐
3.	Encourage them to get help	☐	☐	☐	☐	☐
4.	Call a crisis line (e.g., 911) to get help	☐	☐	☐	☐	☐
5.	Go with them to get help (e.g., hospital, mental health center, counselor)	☐	☐	☐	☐	☐
6.	Encourage them to talk about their problems and wish to die	☐	☐	☐	☐	☐

VITA

GABRIELLE RAMSEY -WILSON

250 Mills Godwin Life Sciences Building
Norfolk, VA 23529
(434) 917-1440, gsout003@odu.edu

EDUCATION

Old Dominion University – Norfolk, VA   **August 2019 – Current**
Master of Science: Psychology
    Research Focus: Suicide Prevention and Intervention,
    Gatekeeper Training Outcomes, Suicide on College Campuses

Averett University – Danville, VA   **May 2018**
Bachelor of Science: Psychology
    Concentrations: Clinical & Counseling, Biological, Integrative Health
    Minor: Sociology

PROFESSIONAL EXPERIENCE

Graduate Research Assistant – Norfolk, VA   **July 2019 – Current**
ODU Emotion Research and Psychophysiology Lab: 2019-2020
ODU Youth Risk and Resilience Lab: 2020-2021

Grant Project Coordinator – Norfolk, VA   **August 2019 – Current**
ODU Garrett Lee Smith (GLS) Campus Suicide Prevention Grant

Registered Behavior Technician (RBT) – Danville, VA   **July 2018 – July 2019**

QUALIFICATIONS

Certified Gatekeeper   **2020**
Trained in Question, Persuade, Refer (QPR) and SafeTALK

Dialectical Behavior Therapy (DBT) Crisis Intervention Skills   **2021**

PUBLICATIONS

Hager, N. M., Cramer, R. J., Kaniuka, A. R., Vandecar-Burdin, T., Badger, N., Holley, A. M., ... & Judah, M. R. (2021). An Evaluation of the Core Competency Suicide Prevention Training Program for University Health Service Providers. *Journal of College Student Psychotherapy*, 1-17. DOI: 10.1080/87568225.2021.1911726