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Assessing Attitudes and Self-Efficacy in Suicide Prevention Gatekeeper Training: The Impact of Lived Experience and Prior Mental Health Education Among College Students

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Abstract

Gatekeeper training is a suicide prevention strategy aimed at providing individuals who frequently interact with those potentially at risk of suicide with the necessary knowledge and skills to recognize signs and offer support. There is limited research exploring the impact of lived experience and prior mental health education on self-efficacy and attitude outcomes. This study aims to fill this gap by investigating how these factors impact self-efficacy and attitudes among college students gatekeepers. Participants (*n*= 652) were mostly female (62%), White (80%), Christian (72%), and straight (90%). Participants were divided into four groups based on different levels of lived experience, and an ANOVA was conducted to examine the impact of lived experience on self-efficacy and attitudes. Additionally, an independent samples t-test was performed to assess the influence of prior mental health education on the outcomes. The major finding was that participants with prior mental health education had significantly higher self-efficacy scores at post-test compared to those without such education. The study highlights the need for continued emphasis on educational interventions, supplemented with strategies aimed at attitude change, to effectively address mental health issues and prevent suicide.

Chapter 1: Introduction

Importance of the Problem

Suicide is a growing social issue that affects not only youth and young adults who die by suicide, but the lives of their family members, friends, and communities. In the United States, suicide was the third leading cause of death among youth between the ages of 15-24 in 2020 (Centers for Disease and Control Prevention [CDC], n.d.). Within this age group, suicide rates increased by 44% from 2001 to 2020. Notably, the last decade witnessed an increase five times greater than the previous one (CDC, n.d.).

College students are especially at risk of suicide due to their transition to living more independently, often away from their primary support systems, coupled with increased access to alcohol and drugs, which may amplify impulsive tendencies (Ash, 2020). In addition, it has been reported that college students experience heightened mental health challenges as they transition to young adulthood, which is a risk factor for suicide (American Psychiatric Association, 2023).

Mental illness in college students has increased by almost 50% since 2013, to the point where between 2020-2021, over 60% of college students met the criteria for at least one mental health problem (Lipson et al., 2022). While there has been a growing trend among college students seeking treatment in the last decade, as documented by Lipson et al. (2022), less than half of those meeting the criteria for a mental health illness reported that they currently receive treatment (Healthy Minds Network, 2023).

The underutilization of treatment among students is reflected in the suicidal disparities within this age group. In 2021, those aged 18 to 25 years exhibited the highest rate of suicide thoughts, plans, and attempts among adults (Substance Abuse and Mental Health Services Administration [SAMHSA], 2021). Due to the increasing rates of death by suicide among

college students coupled with alarming rates of mental health challenges, there has been an increase in empirical support for gatekeeper training as a preventative measure to suicide risk (Wolitzky-Taylor et al., 2020, Breet et al., 2021).

Gatekeeper training is a suicide prevention strategy aimed at providing individuals who frequently interact with those potentially at risk of suicide with the necessary knowledge and skills to recognize signs and offer support (Suicide Prevention Resource Center [SPRC], 2018). Training gatekeepers has been identified as one of the evidence-based strategies for suicide prevention (CDC, 2022), and has been shown to increase participants' knowledge about suicide risk factors, warning signs, self-efficacy, and confidence in helping an individual at risk of suicide (Holmes et al., 2021, Morton et al., 2021).

Training college students to identify and provide help to their vulnerable peers utilizes the power of informal relationships to prevent suicide. This prevention strategy is particularly effective on this group due to their reliance on informal networks for mental or emotional health support. Recent data shows that a higher percentage of college students received help from a friend than from a mental health professional between 2022-2023. Moreover, students were more likely to seek help when encouraged by a friend than by a health professional (Healthy Minds Network, 2023).

Problem Statement

While multiple studies have investigated the outcomes of gatekeeper programs for college students (Muehlenkamp & Quinn-Lee, 2023, Rallis et al., 2018, McLean et al., 2017), there is limited research on how previous mental health training and firsthand experience with mental health issues might influence these outcomes. Investigating the role of previous mental health training on the effectiveness of gatekeeper programs can help determine whether

foundational knowledge and skills in mental health can influence participants' outcomes. This insight can inform the planning and outreach efforts preceding suicide prevention training. Moreover, exploring whether firsthand experience with mental health issues enhances or prohibits learning provides insights into how to tailor gatekeeper programs to accommodate diverse backgrounds and experience. It also helps evaluate the suitability of the training for students at risk for suicide. As reported by Wolitzky-Taylor et al., 2020, there is a significant gap in research that investigates the effectiveness of gatekeeper training programs on college students at risk for suicide. To address these gaps in the literature, the purpose of this study is to examine the effects of firsthand experience and education about mental health challenges on program participants' attitudes and self-efficacy from pretest and post-test.

Research Questions

This study will answer the following research questions:

1. How does firsthand experience with mental health challenges impact changes in Suicide Prevention for College Student (SPCS) Gatekeepers Program participants' attitudes and self-efficacy from pretest and post-test?
2. How does education about mental health challenges impact changes in Suicide Prevention for College Student (SPCS) Gatekeepers Program participants' attitudes and self-efficacy from pretest and post-test?

Chapter 2: Literature Review

Programming

The Suicide Prevention for College Students (SPCS) is a 90-minute gatekeeper training program that aims to prevent suicide by equipping college students with the knowledge and tools necessary to be able to intervene with their peers (Ross et al., 2022). The program is divided into three parts: the Information Phase, which teaches students about suicide warning signs, risk factors, and common myths; the Skills Phase, where students develop the ability to conduct suicide risk assessments; and the Practice Phase, where they engage in role-playing exercises, alternating between the role of gatekeeper and the individual at risk for suicide (Ross et al., 2022).

The SPCS program was first introduced as a pilot program at a small university in 2017 to 65 student participants. Analyses of pretest and post-test data showed an increase in self-efficacy and stigmatizing attitudes for students (Ross et al., 2021). As a result of these findings, Clover Educational Consulting Group received funding to disseminate trainings both virtually and in person to undergraduate and graduate students. A recent 3-year review of the program's outcomes using matched pretest and post-test data from 652 students showed a significant increase in participants self-efficacy and a significant decrease in stigmatizing attitudes. The students who participated in this study were predominantly female (62%) and White (80%) (Ross et al., 2023).

Theoretical Background

The development of the SPCS Gatekeeper Program for College Students was based on the Theory of Planned Behavior developed by Ajzen Icek. Ajzen theorized that an individual's intention to engage in a particular behavior is determined by three factors: attitudes toward the

behavior, subjective norms, and perceived behavioral control. Perceived behavioral control refers to the perception of difficulty or ease of the behavior of interest (Ajzen, 1991). Holmes et al. (2021) found that gatekeeper training programs are effective at increasing self-efficacy in participants, in part due to the way knowledge influences perceived behavioral control. Despite Ajzen's finding that attitude toward a behavior is a strong predictor of behavior intention, most gatekeeper programs do not address this outcome (Holmes et al., 2021). However, SPCS assesses behavior intention indirectly by measuring attitude and self-efficacy scores.

The practice of measuring self-efficacy in gatekeeper training programs has its roots in the Theory of Self-Efficacy developed by Albert Bandura. Self-efficacy refers to an individual's belief in their capacity to perform a necessary action to achieve a certain result. Bandura found that "efficacy expectations determine how much effort people will expend and how long they will persist in the face of obstacles and aversive experiences. The stronger the perceived self-efficacy, the more active the efforts" (1977, p. 194). Since self-efficacy determines behavior, studying this outcome offers researchers insights into areas where additional training might be needed.

Attitudes and Self-Efficacy About Mental Health

While there is currently limited literature about the impact of gatekeeper training on participants' attitudes about mental health (Holmes et al., 2021), especially among college students, several studies have examined this outcome. For instance, a randomized control trial with 123 undergraduate students conducted by Sharp et al. (2006), investigated attitude outcomes following a 40-minute psychoeducational intervention. The intervention consisted of a standardized script and a Power Point presentation with three main sections: addressing mental health stigma, addressing treatment barriers, and providing students with local resources. The

study's participants were students in their late teens to mid-twenties, with an average age of approximately 20 years, and were primarily White (74%) and female (75%).

The intervention (*n*= 62) group's post-score increase on the Attitudes Toward Seeking Professional Psychological Help Scale-Short Form (ATSPPHS-SF) was significantly greater than the control (*n*= 61) group's increase, and this difference was maintained at the one-month follow-up. (Sharp et al., 2006). This finding indicates that the classroom-based intervention was effective in positively influencing help-seeking attitudes. However, while there was a significant improvement in the intervention group's attitudes toward the mentally ill at post-test, as measured by the Opinions about Mental Illness Scale (OMI-SR) subscale, this outcome was not sustained at the one-month follow-up (Sharp et al., 2006).

These findings are corroborated by Lipson et al.'s randomized control trial (2014), which measured the impact of Mental Health First Aid (MHFA) training on self-efficacy and attitudes among 2,542 college students from 19 campuses in the United States. MHFA is a 12-hour course comprised of five modules that cover depression, anxiety, psychosis, substance abuse, and eating disorders. The cornerstone of MHFA is the five-step gatekeeper action plan, represented by the acronym ALGEE: assess risk, listen, give information, encourage self-care, and encourage help-seeking (Lipson et al., 2014).

The intervention group comprised 291 resident advisors (RAs), while the control group had 262 RAs (Lipson et al., 2014). RAs who participated in the MHFA training were mainly White (77%) and female (58%). Another set of groups included residents from the control group (*n*= 1,002) and the intervention group (*n*= 988). Although the residents did not participate directly in MHFA, researchers evaluated shifts in self-efficacy and attitudes as an indirect result of the RA's training. At the 3-month follow-up, RAs trained in MHFA exhibited significantly

higher self-efficacy compared to the control group. However, the increase in attitude scores was not significant (p= 0.07). Moreover, these outcomes did not translate into an increase of support to students, helping students in crisis, or referring to professional counseling or campus administrators. As expected, there were also no indirect effects on residents' self-efficacy and attitude scores (Lipson et al., 2014).

It is possible that since RAs held a position of authority, peers may have been hesitant to disclose mental health-related issues with them. This explanation is supported by Drum et al., (2009), who found that most suicidal students first chose to confide in a peer, but almost none disclosed their struggle to a professor. While residential assistants may not possess the same level of authority as professors, the power dynamic inherent in their role could still be a contributing factor to these findings.

For instance, Smith et al. (2022) found variations in the outcomes of gatekeeper training among faculty and students. The researchers conducted a quasi-experimental study investigating the outcomes of Kognito, an online gatekeeper training program with two asynchronous modules of 45-60 minutes each (Smith et al., 2022). Participants were 170 students and 140 faculty from 24 universities in Maryland. The student sample was predominantly female (74%) and White (58%) and included undergraduate and graduate students. The faculty sample was also predominantly female (80%) and White (72%).

Students' self-efficacy increased at post-test but decreased at the 3-month follow-up, whereas faculty members maintained their increased self-efficacy at the follow-up assessment (Smith et al., 2022). However, only students exhibited an increase in gatekeeper intervention behaviors. Specifically, there was an increase in students asking others about suicide, whereas faculty members showed a decrease in this behavior. Additionally, there was an increase in the number

of suicidal students referred to counseling services for students, but this number remained unchanged for faculty. These findings suggest that gatekeeper training may be particularly effective for students, given that college students prefer to rely on informal rather than formal networks for their emotional needs (Healthy Minds Networks, 2023).

However, despite positive training outcomes in the short-term, attitude and self-efficacy scores tend to diminish over time, indicating a need for ongoing support and reinforcement. Morgan, Ross & Reavley (2018) conducted a systematic review that encompassed 18 control trials conducted in both the United States and internationally. The studies assessed the effectiveness of Adult and Youth MHFA training and included various population demographics such as students, employees, members of the public, employees, or parents.

Researchers found that participants' self-efficacy significantly improved at post-test and at the 6-month follow-up. However, the significance diminished over time, with smaller impacts beyond 6 months. Similarly, participants' attitudes slightly improved at post-test, maintained at the 6-month follow-up, but reduced to non-significant levels at 12-month follow-up (Morgan et al., 2018). This finding suggests that some attitudes are more deeply ingrained and harder to change within a short duration. Attitudes rooted in longstanding personal beliefs might require more intensive or prolonged interventions.

Education About Mental Health Challenges

Research indicates that gatekeeper training has a more positive impact on students who already possess mental health literacy and prior training. For instance, Lipson et al. (2014) investigated individual differences in training outcomes among student RAs and found that those with higher self-perceived knowledge of mental health literacy at baseline experienced better outcomes. These outcomes included enhanced self-efficacy, an improved ability to identify

students undergoing distress, an increased likelihood to approach such students, an improved confidence in helping distressed students, an increased knowledge of mental health services, and decreased personal stigma around mental health. Moreover, the study found that RAs with prior mental health training exhibited increased confidence in assisting distressed students.

Similar conclusions were reached by Jacobson et al. (2012), who conducted a randomized trial to study the outcomes of the "Question, Persuade, and Refer" (QPR), a 1-2 hours suicide prevention training program. Participants were 112 second year social work master's students who were about to enroll in their field placement. Most students in the intervention group identified as White (91%) female (64%), 29 years old on average, and enrolled in a clinical track (81%). Both the control (*n*= 38) and intervention group (*n*= 35) had prior training and experience engaging with suicidal individuals as part of their field placement requirements.

However, the group that underwent QPR training showed improved suicide prevention behaviors and self-efficacy. Moreover, compared to the control group, the intervention group showed a gradual increase in gatekeeper self-efficacy over time. These findings indicate that while prior training and experience with suicidal individuals can provide a foundational understanding and skill set, the addition of gatekeeper training can further enhance students' self-efficacy and proactive behaviors in suicide prevention (Jacobson et al., 2012).

In their secondary analysis of the same controlled trial, Osteen et al., (2018) specifically focused on the intervention group (*n*= 31), which completed a pretest, post-test, and 4-month follow-up after participating in the QPR training. The study aimed to understand the influence of mediating outcomes on students' results. The researchers discovered that students with higher levels of positive attitudes and self-efficacy prior to the training experienced greater improvements in their scores thereafter. However, there was no correlation between prior

knowledge and post-training knowledge (Osteen et al., 2018). The researchers propose that this may be because knowledge does not necessarily correlate with participants' gatekeeping behaviors, as evidenced in this study. Another interpretation suggested by the authors is that the training might have had a leveling effect and provided a similar knowledge base for participants, regardless of their prior knowledge (Osteen et al., 2018).

While students with higher levels of prior mental health training were shown to benefit more from gatekeeper training, this finding may not extend to older age groups. For instance, Tompkins et al. (2010) studied the moderating effects of prior education on self-efficacy and attitudes through a non-equivalent control group design. The participants (n= 76) were predominantly White (93%), female (71%), and middle-aged individuals who served as school personnel in a small, rural school district. After participating in a QPR training session, individuals with previous suicide prevention training showed minimal pre-post changes in questioning about suicide compared to those with no prior training. Moreover, those with prior contact with suicidal youth also showed lower increases in self-efficacy.

However, since the participants of this study were of a different demographic background (i.e., school personnel), these findings are not generalizable to college students. Nonetheless, it is important to note that the study found that younger participants had more positive shifts in attitudes compared to other age groups (Tompkins et al., 2010). The results of these research studies have significant implications for dissemination efforts and indicate the importance of conducting more targeted mental health outreach to participants before gatekeeping training to maximize the outcomes of suicide gatekeeper training.

Lived Experience with Mental Health Challenges

Research shows that mental health issues, specifically depression, significantly increase the risk of suicide in youth (Nock et al., 2013). Secondhand exposure to suicide (i.e., knowing someone who has died by suicide) significantly increases college students' risk for depression, anxiety, PTSD, and suicidal ideation (Cerel et al., 2017). Increased frequency of exposure to suicide correlates with a heightened risk of developing these symptoms. Moreover, the closeness of one's relationship to the person who died by suicide and the perceived impact of the loss are positively correlated with higher rates of mental illness and suicidal ideation (Cerel et al., 2017).

The results showed that the impact of the loss was influenced by age and gender, with younger individuals and females reporting a greater perceived impact. Firsthand exposure to suicide, such as past suicidal ideation, emerged as the strongest predictor of current suicidal thoughts and behaviors (STB) in college students (Cerel et al., 2017). Additionally, prior mental health challenges, such as depression, anxiety, and low self-esteem were also found to be significant predictors of current STB (Macalli et al., 2021). There is a significant gap in research that investigates the effectiveness of gatekeeper training programs on college students at risk for STB (Wolitzky-Taylor et al., 2020). Investigating outcomes for this vulnerable group can inform early intervention strategies and decision-making.

One of the studies that investigated the effect of prior exposure to suicide on training outcomes among psychology students and community members was a randomized control trial conducted by Rogers et al (2018). The study analyzed the outcomes of two web-based 20-minute interventions: 1. psychoeducation, consisting of participants browsing the National Suicide Prevention Lifeline website, which provides information regarding suicide statistics, risk factors, and resources, and 2. Interpersonal Exposure, consisting of participants browsing the Lived Through website, which provides firsthand accounts from those who survived a suicide attempt.

Participants in the intervention groups (*n*= 86) were 26 years old on average and primarily identified as White (69%), Black (20%), and female (64%).

The study results indicated that changes in attitudes depended on participants' prior exposure to suicide: those with firsthand (personal experience with suicide) or secondhand exposure (hearing about suicidal experienced that happened to others) had significantly lower stigma levels at pretest compared to those with no previous exposure (Rogers et al., 2018). These participants experienced modest reductions of stigma at post-test, but these effects were not maintained at the one-month follow-up. On the other hand, participants without prior exposure to suicide had lower initial stigma scores and experienced more substantial and lasting reductions in stigma at post-test, which were maintained at the one-month follow-up. Since these interventions did not seem to have a lasting impact on those with firsthand or secondhand exposure to suicide, researchers emphasized the importance of targeting suicide prevention interventions to college students without prior exposure to maximize training gains (Rogers et al., 2018).

Conflicting results were found by Sareen et al. (2013) who conducted a randomized controlled trial on 55 First Nations on-reserve participants that included youth, adults, and older adults. The residents of these communities experienced high firsthand suicide rates, with 90% of the participants reporting that they knew someone who died by suicide. Of the participants, 31 attended the Applied Suicide Intervention Skills Training (ASIST), a 2-day workshop that teaches participants how to recognize the signs of suicide risk and how to help an individual. The control group was composed of 24 individuals who participated in a resilience retreat. At the 6-month follow-up, ASIST participants did not show increases in gatekeeper behaviors. Nasir et al., (2016) theorize that participants might not have been suitable for the training since they had a history of suicidal ideation and/or attempts at baseline.

The ASIST training also had unexpected negative effects; at the 6-month follow-up, 25% of ASIST participants reported “serious thoughts of committing suicide or killing oneself” vs. 4.5% in the control group. Although the difference between groups did not reach statistical significance (p= 0.64), the researchers found this consequence concerning, especially since five of the seven people with serious thoughts of suicide were young people. One of the explanations provided by the researchers was that discussing suicide in a group at high risk for suicide might have caused a “suicide contagion effect”.

As defined by the CDC, “suicide contagion is the process by which suicidal behavior influences an increase in the suicidal behaviors of others”, and this phenomenon can lead to suicide clusters, characterized by an increase in the number of suicides and suicide attempts occurring close in time or geography (2022). Research shows that, among youth, even a false perception of other peers’ attempted suicide can lead to a fivefold increase in self-attempted suicide (Zimmerman et al., 2016). It is important to note that all the ASIST participants were Native Americans (Sareen et al., 2013). Given their notably higher rates of suicide compared to the general population (CDC, n.d.), this could potentially explain the contagion effect. However, more research is needed to investigate the effectiveness of gatekeeper training on at-risk individuals.

Chapter 3: Methodology

Program Summary

The Suicide Prevention for College Students (SPCS) Gatekeepers Program is a 90-minute, evidence-based training program facilitated by a mental health professional either virtually or in-person (Ross et al., 2022). This program was developed by licensed psychologists at Clover Educational Consulting Group (Clover) and was designed to equip college students with the requisite skills needed to provide support to peers who may be at risk of suicide. Students participate by engaging participants in three phases: 1.) the Information Phase, where they learn and discuss common myths, risk factors, and warning signs; 2.) the Skills Phase, which teaches them to conduct a suicide risk assessment and seek professional support, and 3.) the Practice Phase, where students get to practice their suicide prevention skills in real time through roleplay with their peers (Ross et al., 2022).

The SPCS program was piloted in 2017 at a small university in the southeastern United States. In the post-test evaluation, participants (n= 65) demonstrated an increase in their knowledge and self-efficacy, alongside a decrease in stigmatizing beliefs about suicide (Ross et al.,2021). As a result of these positive outcomes, Clover secured funding to facilitate a large-scale dissemination initiative. A subsequent analysis of this 3-year dissemination effort showed that participants (n= 652) exhibited an increase of knowledge, self-efficacy, and a decrease in stigmatizing attitudes at post-test (Ross et al., 2023).

Sample Size and Sampling Strategy

Between 2019 to 2022, the Suicide Prevention for College Student (SPCS) Gatekeepers Program trained 876 undergraduate and graduate students at three colleges in the north-central, south-central, and southeastern regions of the United States. Due to attrition, 652 individuals

were matched between the pre-test and post-test and were included in this study. In partnership with the three colleges, Clover recruited participants in the program utilizing a non-probability, convenience sampling method by facilitating the training to student groups, clubs, or department-led events. There were no training incentives, and participants were informed they could leave the training at any time with no penalty. While the voluntary aspect of this sampling method may enhance participant engagement in the training, the potential for sampling bias could limit the generalizability of the findings. This caveat might be exacerbated by the lack of racial diversity in the sample, since 80% of the participants were White.

Protection of Human Subjects

This study utilized secondary, de-identified, and matched data collected by Clover; therefore, the project did not qualify as human subject research and did not need an Institution Review Board (IRB) protocol through the University of Texas at Arlington's IRB. However, Clover obtained IRB approval from High Point University to conduct research examining program outcomes (Ross et al., 2023). No identifiable information was collected pre- and post-surveys, and participants were matched between time points through a participant code.

The informed consent was included in the pre-test and contained information about the topics covered in the training and risks and benefits. The primary risk identified was possible discomfort, and participants were instructed to exit the training if they wished to leave at any time. Additionally, each facilitator remained available for a few minutes after the training to provide support to anyone who wished to further discuss the topic. The benefits identified by the researchers in the consent form included raising participants' awareness about mental health and suicide, increasing their skills and confidence to intervene when someone needs help, and improving their understanding of local resources for mental health support.

Research Design and Data Collection Procedures

Data were analyzed using a factorial Analysis of Variance (ANOVA) and an independent samples t-test to evaluate the impact of lived experience and prior mental health education on self-efficacy and attitudes. The 90-minute SPCS program was delivered by a licensed mental health professional synchronously, both in-person and virtually. From 2019 to 2022, seven facilitators led 36 SPCS gatekeepers training sessions. The number of participants in each training ranged from 1 to 110, with an average of 12 participants per session. Participants attended only one 90-minute session (Ross et al., 2023). This study includes only the participants who completed both the pre-test and post-test (n= 652). Demographic information was collected in the pre-test survey. All surveys were conducted via SurveyMonkey and took, on average, 10 minutes to complete. Upon completing the survey, participants had the opportunity to enter a $50 gift card drawing.

Measures

The independent and dependent variables of the study are outlined below:

Dependent Variables

Self-Efficacy. Participants' self-efficacy was measured through the Suicide Prevention Self-Efficacy Measure (Ross et al., 2021). Due to the lack of existing reliable and valid measures used with the population of interest, this scale was developed by psychology researchers with expertise in suicide prevention. The scale comprised eight items that assessed students' self-rated competency in suicide prevention scored on a 4-point Likert scale, ranging from 1 (*Strongly Disagree*) to 4 (*Strongly Agree*), with a maximum score of 32. Higher scores indicated greater self-efficacy. The reliability of this scale was shown to be excellent (α= .93) (Ross et al., 2023).

Scale sample items included:

- "I feel competent in assessing warning signs of suicide."
- “I feel competent in seeking immediate help for someone in a suicidal crisis."

Attitude. Participants’ attitudes were measured through The Stigmatizing Beliefs about Suicide measure (Ross et al., 2021), which was developed by psychology researchers with expertise in suicide prevention due to the lack of existing reliable and valid measures used with the population of interest. The scale consisted of five items that measured students' stigmatizing beliefs regarding suicide. The score was measured using a 4-point Likert scale, ranging from 1 (*Strongly Disagree*) to 4 (*Strongly Agree*), with a maximum score of 20. Higher scores indicated stronger stigmatizing beliefs about suicide. The reliability of this scale was shown to be excellent (α= .93) (Ross et al., 2023). Scale sample items included:

- "People who talk about suicide are just overreacting."
- "Suicidal thoughts are a sign of personal weakness."

Independent Variables

Lived Experience. Participants’ lived experience was measured using two items: “Have you ever experienced a mental health problem?” and “Has anyone in your family experienced a mental health problem?” Response choices included “No”, “Yes”, and “Decline to answer”. For this study, firsthand experience will be categorized into four groups:

- Group 1: Participants who responded "No" to both items, indicating no lived experience with mental health issues.
- Group 2: Participants who responded "Yes" to the second item but "No" to the first item, indicating only family experience with mental health issues.
- Group 3: Participants who responded "Yes" to the first item but "No" to the second item, indicating only personal experience with mental health issues.

- Group 4: Participants who responded "Yes" to both items, indicating both family and personal experience with mental health issues.

Previous Education in Mental Health. Previous education in mental health was measured using a single item: “Have you ever been educated/trained, either in school or outside of school, about mental health or suicide?” Response choice included “No” and “Yes, please describe where you received this training and what type of training it included (e.g., a semester-long class, a day-long workshop, a training during one class period, etc.)”. For the purposes of this study, open-ended answers will be excluded from analysis. To facilitate data analysis, the responses for each group will be coded numerically: “No” will be coded as 0, and “Yes” will be coded as 1.

Data Analysis Plan

Before proceeding with data analysis, data was cleaned and prepared to ensure that incomplete or erroneous entries are removed and that categorical variables (i.e., gender identity, current standing in school, racial/ethnic background, sexual orientation, religion) are coded numerically for analysis.

1. Descriptive Statistics

Descriptive statistics will be used for each variable to summarize the data. First, a snapshot of participants’ demographics will be provided by analyzing their characteristics. Age will be summarized by calculating the mean, standard deviation, and minimum and maximum values. For categorical variables (i.e., gender identity, current standing in school, racial/ethnic background, sexual orientation, religion), frequency counts and percentages will be provided for each category. The analysis of the independent variables (i.e., firsthand experience and previous education in mental health) will involve calculating percentages and frequencies. For the firsthand experience variable, these statistics will be detailed for each of the four groups.

2. Inferential Statistics

This study will use a factorial Analysis of Variance (ANOVA) and an Independent T-Test to examine the relationship between the independent and dependent variables. The design for each independent variable will be the following:

- Experience: experience x change score for attitude; experience x change score for self-efficacy
- Education: education x change score for attitude; education x change score for self-efficacy

For the "Experience" variable, the study will investigate the relationship between participants' firsthand experience, and their change score from pre-test to post-test on the outcome measures. Due to having four different groups, this analysis will be conducted through ANOVA. The aim of this analysis is to understand how varying degrees of personal mental health experiences affect the change scores of self-efficacy and attitudes. Similarly, for the "Education" variable, the study will assess the influence of previous mental health-related training on the study's outcomes through an Independent Samples T-Test. These analyses will provide an understanding of how past personal experiences and learning influence suicide prevention gatekeepers' scores.

Chapter 4: Results

Descriptive Statistics

The demographics of the participants in this study are reported in Table 1 below. Most participants in this study were female (62%), White (80%), Christian (72%), and straight (90%). The academic classes of the participants were quite diverse, encompassing all academic levels, from freshmen to graduate students. Participants' ages ranged from 16 to 29 years old, with a mean of 21 and a standard deviation of 2.4.

As observed in Table 1 below, most participants (59%, *n*= 384) indicated that they have not been educated or trained, either in school or outside of school, about mental health or suicide. Additionally, almost half of the participants (47%) reported ever experiencing a mental health problem (*n*= 309), and 34% indicated that someone in their family experienced a mental health problem (*n*= 220).

A third of the SPCS participants (*n*= 216) reported no personal or family lived experience with mental health, while a slightly lower percentage (28.4%) stated they had both personal or family lived experience (*n*= 185). To evaluate the outcome of the training, participants completed a self-efficacy and attitudes scale before and after the training. The maximum total score on the self-efficacy scale was 32, with higher scores indicating greater suicide-related competency. At pre-test, the mean of the total score at pre-test was 23.5 (*SD*= 0.5), At post-test, participants' mean was 29.1 (*SD*= 3.5), indicating that participants increased their suicide-related self-efficacy after the training.

The maximum score on the attitudes scale was 20, with higher scores indicating greater stigmatizing attitudes. At pre-test, the attitudes total mean score was 8.4 (*SD*= 2.3). At post-test, the score decreased to 7.0 (*SD*= 2.5), indicating a decrease in stigmatizing attitudes.

Table 1

Participants' Demographics (*n*= 652)

Characteristic	*n*	%
Race		
White	519	79.6
Hispanic/Latinx	84	12.9
African American/Black	48	7.4
Asian	18	2.8
American Indian or Alaska Native	6	0.9
Native Hawaiian or Other Pacific Islander	0	0
Multiracial	12	1.8
Gender		
Male	239	36.7
Female	406	62.3
Gender Nonbinary	3	0.5
Transgender	0	0
Not listed/missing	4	0.6
Sexual Orientation		
Straight	585	89.7
Bisexual	45	6.9
Gay/lesbian	13	2
Not listed/missing	9	1.4
Religion		
Christianity	469	71.9
Atheism	46	7.1
Agnosticism	44	6.7
Islam	11	1.7
Judaism	8	1.2
Buddhism	7	1.1
Hinduism	4	0.6
Not listed	14	2.1
Academic Class		
Freshman	107	16.4
Sophomore	157	24.1
Junior	135	20.7
Senior	131	20.1
Not listed	48	7.4
Other	74	11.3
MH Training		
Yes	259	39.7
No	384	58.9
Not listed	9	1.4

Lived Experience		
Yes	309	47.4
No	267	41
Declined to Answer	62	9.5
Not Listed	14	2.1
Family MH		
Yes	220	33.7
No	344	52.8
Declined to Answer	79	12.1
Not Listed	9	1.4
Lived Experience Groups		
Group 1 (no personal or family lived experience)	216	33.1
Group 2 (only family lived experience)	29	4.4
Group 3 (only personal lived experience)	117	17.9
Group 4 (both personal and family lived experience)	185	28.4
Not Listed	13	2.0
Age	*M*	*SD*
	21	2.5

Self-Efficacy and Attitudes Total Score Means

	Pretest			Post-test		
Measure	*n*	*M*	*SD*	*n*	*M*	*SD*
Self-Efficacy	643	23.5	4.2	652	29.1	3.5
Attitudes	650	8.43	2.3	650	7.0	2.5

To evaluate the outcome of the training, participants completed a self-efficacy and attitudes scale before and after the training. The maximum total score on the self-efficacy scale was 32, with higher scores indicating greater suicide-related competency. At pre-test, the mean of the total score at pretest was 23.5 (*SD*= 0.5), At post-test, participants' mean was 29.1 (*SD*= 3.5), indicating that participants increased their suicide-related self-efficacy after the training.

The maximum score on the attitudes scale was 20, with higher scores indicating greater stigmatizing attitudes. At pre-test, the attitudes total mean score was 8.4 (*SD*= 2.3). At post-test, the score decreased to 7.0 (*SD*= 2.5), indicating a decrease in stigmatizing attitudes.

ANOVA

Four groups were created to understand whether the changes in attitude from pre- to post-test was significant. The groups are listed in Table 2 below.

Table 2. Lived Experience Groups

Group 1 (no personal or family lived experience)
Group 2 (only family lived experience)
Group 3 (only personal lived experience)
Group 4 (both personal and family lived experience)

Attitude Outcomes within Lived Experience Groups

A one way analysis of variance showed that the effect of lived experience was not significant across the four groups, $F(15, 527)= 1.46$, $p=.11$, $\eta 2=.04$. Since the p-value is greater than 0.05, it means that there is no statistically significant difference in the dependent variable across the groups. Changes in attitudes from pre- to post-test were not influenced by group membership.

Self-efficacy Outcomes within Lived Experience Groups

A one way analysis of variance showed that the effect of lived experience was not significant across the four groups, $F(3, 537)= .224$, $p=.87$, $\eta 2=.001$. Since the p-value is greater than 0.05, it means that there is no statistically significant difference in the dependent variable across the groups. Changes in self-efficacy from pre- to post-test were not influenced by group membership.

Independent Samples T-Test

Attitude Outcomes within Mental Health Training Groups

An Independent Samples T-Test was run to understand whether fluctuations in attitude outcomes differed based on whether participants had previous training in mental health. Since the p value was greater than .05, we failed to reject the null hypothesis and conclude there was no difference in fluctuations in attitude for individuals with or without previous training in mental health (t=.881, p=.379).

Self-Efficacy Outcomes within Mental Health Training Groups

An Independent Samples T-Test was run to understand whether fluctuations in self-efficacy outcomes differed based on whether participants had previous training in mental health. Since $p < .001$ is less than our chosen significance level $\alpha = 0.05$, we can reject the null hypothesis, and conclude that there is a difference in the self-efficacy outcome based on previous participation in mental health training (t= -4.380, p<.001).

Chapter 5: Discussion and Implications

This study examined the impact of education and lived experience on self-efficacy and attitudes related to mental health and suicide among different groups of participants.

Self-Efficacy

The results indicated that there were no statistical differences in self-efficacy scores among the four groups (those with no personal or family lived experience, those with only family lived experience, those with only personal lived experience, and those with both personal and family experience). This means that lived experience with mental health does not increase nor decrease the participant scores at post-test.

However, those with prior education in mental health experienced a higher increase in self-efficacy after the training compared to those who did not previously receive additional training. This means that more effort should be made to provide additional training to people before involving them in the SPCS program. Participants could benefit from receiving additional materials before the training, or from completing pre-work similar to Mental Health First Aid training. Moreover, incorporating mental health education and training into school curricula and workplace training programs can lead to better mental health outcomes, as individuals feel more competent in managing mental health issues and supporting others.

Attitudes

The results indicate that there were no statistical difference in attitude scores between pre- and post-test among the four groups with lived experience. Similarly, there was no statistical difference in attitude scores among those with or without prior education in mental health. These results imply that while education and training may effectively boost self-efficacy, they might not

be sufficient to alter attitudes towards mental health and suicide significantly. It is possible that changing deeply held attitudes requires more intensive or different types of interventions beyond the scope of traditional educational programs. Interventions such as ongoing support groups, workshops focusing on stigma reduction, and personal stories or testimonials might be necessary to create a more profound shift in attitudes.

Limitations

This study has several limitations. It examined the influence of lived experience on self-efficacy and attitudes. However, more research is needed to investigate the effectiveness of gatekeeper training programs on college students at risk for suicide (Wolitzky-Taylor et al., 2020). Nasir et al. (2016), theorize that participants with a history of suicidal ideation and/or attempts at baseline might not be a good fit for gatekeeper training. Another limitation worth mentioning is the lack of diversity in the sample, as 80% of the participants were White and 90% were straight. This lack of diversity implies that future research should focus on more diverse samples, especially given that suicide rates are increasing faster among youth of color (Gordon, 2020) and in lesbian, gay, and bisexual adults (National Institute of Mental Health, 2021).

The cross-sectional design of this study limits the ability to draw causal conclusions. Future longitudinal research could employ longitudinal designs to track changes in self-efficacy and attitudes over time. Additionally, reliance on self-reported measures may introduce response biases, suggesting the need for more objective measures and qualitative data to gain a comprehensive understanding of the effects of training programs.

Further research is also needed to explore the specific components of educational programs that are most effective in enhancing self-efficacy and altering attitudes. Investigating

the role of factors such as program duration, content delivery methods, and the inclusion of interactive elements could yield insights into optimizing educational interventions.

Conclusion

This study analyzed the impact of lived experiences and previous mental health training on participants' attitudes and self-efficacy from pre- to post-test. The study highlights the need for continued emphasis on educational interventions, supplemented with strategies aimed at attitude change, to effectively address mental health issues and prevent suicide. Further research is needed to explore the nuanced effects of these interventions and their long-term impact, particularly among populations at higher risk for suicide.

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APPENDIX A: MEASURES

Variable	Items	Response Options
Firsthand experience with mental health challenges (assessed at pretest)	Have you ever experienced a mental health problem?	No/Yes/Decline to answer
	Has anyone in your family experienced a mental health problem?	No/Yes/Decline to answer
Education about mental health challenges (assessed at pretest)	Have you ever been educated/trained, either in school or outside of school, about mental health or suicide?	No/Yes, please describe where you received this training and what type of training it included (e.g., a semester-long class, a day-long workshop, a training during one class period, etc.)
Attitudes measured through the Stigmatizing Beliefs about Suicide measure (assessed at	1. People that talk about suicide are just overreacting. 2. People aren't likely to tell anyone if they are considering suicide. 3. There is nothing I can do to help prevent someone from dying by suicide. 4. Suicidal thoughts are a sign of personal weakness.	1= Strongly Disagree 2= Disagree 3= Agree 4= Strongly Agree

pretest and post-test)	5. People who see mental health professionals are unstable.	
Suicide Prevention Self-efficacy measured through the Suicide Prevention Self-efficacy Measure **(assessed at pretest and post-test)**	1. I am familiar with common risk factors for suicide. 2. I feel competent in assessing for warning signs of suicide. 3. I feel competent in knowing how to talk to and listen to a person who is demonstrating warning signs of suicide. 4. I know what to do if a person tells me they have a plan to complete suicide. 5. I know where and how to refer a person in need of counseling. 6. I feel competent encouraging someone to practice self-care and problem-solving skills. 7. I feel competent encouraging someone to seek out professional support. 8. I feel competent seeking immediate help for someone in a suicidal crisis.	1= Strongly Disagree 2= Disagree 3= Agree 4= Strongly Agree
	1. Age:	Numeric
	2. What is your gender identity?	Female, Male, Transgender, Gender nonbinary, Gender identity not listed here (please feel free to specify).
	3. Please select you current standing in school:	Freshman, Sophomore, Junior, Senior
		Caucasian/White, Hispanic/Latino, African

Demographic items (from pretest)	4. Racial/Ethnic Background (please select all that apply):	American/Black, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Multiracial
	5. Sexual Orientation:	Straight, Gay/Lesbian, Bisexual; Sexual identity not listed here (please feel free to specify).
	6. Religion:	Buddhism, Christianity, Hinduism, Islam, Judaism, Agnosticism, Atheism, Other (please specify).