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Audience-Specific Online Gatekeeper Training for Nursing Faculty: A Response to Increased Student Suicide Risk

Julie Honey

Audience-Specific Online Gatekeeper Training for Nursing Faculty:

A Response to Increased Student Suicide Risk

Kristiana Holmes and Julie Honey

University of North Dakota

This DNP Project paper, submitted by Kristiana Holmes, in partial fulfillment of the requirements for the Degree of Doctor of Nursing Practice from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

Kris Hendrickx, DNP, ACNS-BC
Clinical Associate Professor, Chairperson
Interim Chair of Graduate Nursing
Director, DNP Program

This DNP Project paper is being submitted by the appointed advisory committee as having met all of the requirements of the University of North Dakota and is hereby approved.

Diana Kostrzewski, PhD, RN
Dean, College of Nursing and Professional Disciplines

PERMISSION

Title Audience-Specific Online Gatekeeper Training: A Response to Increased Student Suicide Risk

Department College of Nursing

Degree Doctor of Nursing Practice

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Name: Kristiana Holmes

Date: 7-8-2019

AUDIENCE-SPECIFIC ONLINE GATEKEEPER TRAINING

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Name: Julie Honey

Date: July 8, 2019

Abstract

This DNP project was an effort to address the rising trend of suicide on college campuses. The aim of the project was to increase the number of faculty gatekeepers through implementation of an online audience-specific gatekeeper training program. Participants included 24 graduate and undergraduate nursing faculty at two private liberal arts colleges. An online audience-specific training program was implemented to improve faculty preparedness, likelihood of engagement, and self-efficacy in order to assist students in distress. The program trained participants as gatekeepers utilizing Question, Persuade, Refer (QPR) strategies and incorporated audience-specific information related to suicide risk in nursing students. Participants completed the Gatekeeper Behavior Scale (GBS) prior to and after the training. In addition, participants responded to narrative questions related to audience-specific training components at the completion of the training. Overall, Participants from Institution A showed statistically significant increases in all but one GBS response with a range of $p = 0.005 - 0.038$. Participants from Institution B showed statistically significant increases in all but three GBS responses with a range of $p = 0.023 – 0.039$. At a rate of 92%, participants found the audience-specific content that addressed risk of suicide in nursing students beneficial. The online audience-specific gatekeeper training exhibited effective increases in nursing faculty preparedness, likelihood of engagement, and self-efficacy in assisting students at risk for suicide. This audience-specific approach to gatekeeper training holds promise for institutions of higher education and their efforts to reduce student death by suicide.

Keywords: suicide prevention training, gatekeeper, QPR, Gatekeeper Behavior Scale, college students

Audience-Specific Online Gatekeeper Training for Nursing Faculty: A Response to Increased Student Suicide Risk

Suicide is the second leading cause of death for college students in the United States. Each year on college campuses, approximately 1,400 students die from suicide and 1.5 out of 100 college students in the United States attempt suicide each year (U.S. Department of Health and Human Services [HHS], 2016). Studies indicate that on campuses throughout the country, over 30% of college students reported feeling so depressed that it was difficult for them to function, and one in 12 college students had made a suicide plan. More teenagers and young adults die from suicide than from all other medical illnesses combined. Students who attempt suicide are at increased risk for poor health outcomes. Approximately 15% of individuals who engage in a serious suicide attempt will die by suicide within 10 years (Albright et al., 2016a).

Background

Access to healthcare providers knowledgeable about suicide prevention is a protective factor negatively impacted by the lack of individuals who are referred for mental health services. Failure to seek professional help when needed is unfortunate, given that treatment often reduces the likelihood that students will act on thoughts of suicide (Albright et al., 2016a). McAleavey et al. (2017) found that treatment in 108 university counseling centers showed improvement rates for students with depression and generalized anxiety (suicide risk factors) at 28.78% and 20.37% respectively. According to the Suicide Prevention Resource Center (2019), effective care and treatment for those at risk of suicide includes access to care, direct focus on suicidal thoughts and behaviors, and treatment for mental health and substance use disorders. In an effort to prevent suicide, colleges face the challenge of finding methods for empowering students to seek help at college counseling centers before they make a suicide attempt. Gatekeepers are individuals who

recognize suicide warning signs and signs of crisis and refer at-risk individuals for treatment. Suicide prevention plans must include evidence-based gatekeeper training programs to reduce suicide attempts and improve referral rates for mental health services.

Faculty on college campuses are likely to possess many of the characteristics of effective gatekeepers but do not feel adequately prepared to recognize warning signs or to intervene on behalf of a student in distress. Research has suggested that more than 95% of faculty on college campuses feel that part of their roles is to connect students who are experiencing psychological distress with support services. Nevertheless, 65% of faculty reported they did not feel comfortable discussing mental health concerns with students (Albright & Schwartz, 2017).

Suicide trends on college campuses have greatly increased (Stone, Holland, Bartholow, Crosby, Davis, & Wilkins, 2017). According to the National College Health Assessment (2017), there was an increase in students thinking about suicide from 8.1% to 11.5% between the years 2013 and 2017. During that same time period, those attempting suicide increased from 1.3% to 1.7%. In order to address these trends, appropriate referral responses by those in close contact with students is imperative.

One of the most commonly administered gatekeeper training programs implemented on college campuses is Question, Persuade, Refer (QPR). QPR emphasizes recognition of warning signs of suicidality, early intervention, and referral for those who are at risk (QPR Institute, 2018). Significant evidence exists that QPR gatekeeper training is beneficial in increasing knowledge of suicide related facts and self-efficacy for intervening with suicidal individuals. Despite the recognized value, many colleges do not offer formal gatekeeper training for a variety of reasons, including cost and accessibility (Herron, Patterson, Nugent, & Troyer, 2016).

Significance

Suicide is a major public health problem for which a significant morbidity and mortality burden exists. Suicide prevention is a priority of the United States Surgeon General's Office and Healthy People 2020 (National Action Alliance for Suicide Prevention, 2012; HHS, 2016). The effects of either death by suicide or attempted suicide reach well beyond the individual. Following a suicide, a college campus is at risk as intense emotional, mental, physical, and behavioral reactions to a crisis can occur. Moreover, an increased risk of concomitant suicides and imitative suicidal behaviors through contagion can exist. Other students in the community who are struggling with psychological pain may act in a similar way or feel shameful of their own mental health diagnosis. Institutionalized grief, another potential consequence, occurs when the memory of a campus suicide ingrains in the institution to the point that it becomes difficult to remember the community as safe (National Action Alliance for Suicide Prevention, 2012).

The impact of suicide is not isolated to the college campus. Rising suicide and self-harm rates affect the larger megasystem of health care as increased cost and inefficiencies lead to poor outcomes. Research indicates that the annual public cost of suicide attempts and completed suicides in the United States is approximately $93.5 billion (Shepard, Gurewich, Lwin, Reed, & Silverman, 2015).

Literature Review

Terminology

As the term "gatekeeper" relates to suicide prevention, it refers to "individuals in a community who have face-to-face contact with large numbers of community members as part of their usual routine" (Burnette, Ramchand, & Ayer, 2015, p. 16). According to Cimini, et al. (2014), gatekeepers "play a critical role in identifying and referring students at risk" (p. 94). QPR

is an evidence-based suicide prevention program aimed at training gatekeepers. The National Registry of Evidence-Based Programs and Practices (NREPP) identifies and evaluates studies to verify that a suicide prevention program is truly evidence-based. QPR has been recognized and endorsed by NREPP since 2006 (Substance Abuse and Mental Health Services Administration [SAMHSA], 2017).

Suicide Risk Factors

Suicide is a complex outcome that is influenced by many factors. To understand and prevent suicide, epidemiologic research confirms the importance of identifying both risk factors and protective factors. Significant risk factors for death by suicide include a previous suicide attempt, mood disorder, alcohol use, living in a rural area, and access to lethal weapons (Utah Suicide Prevention Coalition, 2017). College students may experience many of these risk factors.

In 2017, 16.7% of college students reported a diagnosis of depression (American College Health Association, 2017). SAMHSA (2017) reported similar results, with young adults who are 18 to 25 years old reporting the highest prevalence of mental illness compared to middle aged and older adults. Research by the Center for the Study of Collegiate Mental Health (CSCMH) (2017) reported the lifetime prevalence rates of "threat-to-self" characteristics (non-suicidal self-injury, serious suicidal ideation, and suicide attempts) had increased for the seventh year in a row among students who were seeking treatment through campus counseling. Alcohol use, which is prevalent on college campuses, was also found to increase suicide risk in this population (Schaffer, Jeglic, & Stanley, 2008). CSCMH (2017) reported college students with high scores on the substance abuse subscale had significantly higher levels of depression. Additional risk factors for college students include the stress of a major life transition, academic pressure, and relationship difficulties (Westefeld et al., 2005).

Suicide Protective Factors

Factors that protect against suicide completion include connectedness, adequate coping skills, access to health care services, and early recognition of mental health concerns (Utah Suicide Prevention Coalition, 2017). In order to decrease the suicide rate on college campuses, students must have early recognition of mental health concerns and access to counseling services. Research concludes that treatment provided by counseling centers on college campuses is effective. After comparing treatment outcomes for more than 100 randomized clinical trials to counseling center services offered nationally, McAleavey et al. (2017) concluded that counseling center treatment is effective at reducing symptoms for depression and anxiety. However, these services are not always utilized by students in distress. Research conducted by the Midwestern Higher Education Compact (2016) found that between 2011 and 2016, the average percentage of students seeking counseling services on college campuses has stayed around 10-15% (Francis & Horn, 2016). The underutilization of these resources by students who need them most may result from several causes, including lack of knowledge of available resources, fear of judgement for seeking mental health services and concern about potential negative consequences resulting from disclosure such as expulsion from school (Westefeld et al., 2005).

Suicide Prevention

Gatekeeper Training. Research supports a population-based approach to suicide prevention through gatekeeper training programs. Training gatekeepers is one of the most widely adopted suicide prevention strategies for college campuses. Gatekeepers on college campuses might include faculty, staff, administration, residence life-leaders, and peers (Cimini et al., 2014). Question, Persuade, Refer (QPR) is an emergency mental health intervention that teaches gatekeepers how to recognize and respond positively when an individual is exhibiting

suicide warning signs and behaviors. Significant evidence exists to support the argument that QPR gatekeeper training is beneficial in increasing knowledge of suicide-related facts and self-efficacy for intervening with suicidal individuals (Cross, Matthieu, Lezine & Knox, 2010; Herron et al., 2016; Lancaster et. al, 2014; Litteken & Sale, 2018; Mitchell, Kader, Darrow, Haggerty & Keating, 2013; Smith, Silva, Covington & Joiner, 2014).

To improve access and decrease costs of gatekeeper training, online training programs are available. Means et al. (2010) conducted a meta-analysis of online learning studies and concluded that adult online learners performed modestly better than face-to-face learners. A study by Allen, Seaman, Poulin & Straut (2016) also confirmed that the outcomes of online training are equal or superior to face-to-face instruction. Specific to suicide gatekeeper programs, Lancaster et al. (2014) compared online versus in-person QPR training and found no statistically significant differences in outcomes.

Audience-Specific Gatekeeper Training. Gatekeeper training that is specifically tailored to the unique needs, cultures, and concerns of specific groups is lacking. In the college setting, roles and interactions with students may vary depending on a group, department, or culture. Adapting gatekeeper training to a specific audience may improve efficacy. An article from Cimini et al. (2014) identified this gap and implemented a study on gatekeeper training that was audience specific. Although the results for the audience tailored training were positive, the authors stated the need for further studies to confirm their finding. Additional literature that supports the need for audience-specific training comes from an understanding that baseline knowledge and professional roles may affect success of gatekeeper training. Smith et al. (2014) advised that study participants in gatekeeper trainings would benefit from understanding suicide rates and risks specific to their population.

Nursing Faculty as Gatekeepers. Ideally, all members of a campus community would receive gatekeeper training and the result would be a lower number of deaths attributable to suicide (Cross et al., 2010). Due to the cost of training, as well as an understanding that effective gatekeepers typically possess certain characteristics, training an entire campus community may not be practical or feasible. To choose the most appropriate audience for group-specific training, research on characteristics of effective gatekeepers was reviewed.

Studies suggested that effective gatekeepers typically possess certain characteristics. Individuals most likely to serve as effective gatekeepers include those who are open to learning new ways of thinking about suicide and can manage stress associated with gatekeeping responsibilities. Additionally, effective gatekeepers possess the intellectual and socio-emotional ability to identify and help individuals in crisis and are willing to refer an individual in crisis for help (Cimini et al., 2014). Cigularov et al. (2009) identified emotional intelligence and altruism as two characteristics that distinguish between a superior and an average gatekeeper. Further research indicated that individuals who possess adequate social support, report comfort talking to suicidal individuals and are in positions that facilitate communication are most likely to identify and refer suicidal individuals following gatekeeper training (Cimini et al., 2014). Therapeutic communication, emotional intelligence, and altruism are all characteristics that play pivotal roles in nursing practice and may enhance the efficacy of nursing faculty as suicide gatekeepers. Condron et al. (2018) and Condron et al. (2015) posited that nurses may demonstrate better gatekeeper training outcomes with in-depth training and that their professional roles as nurses may enhance their ability to identify individuals who are at risk of suicide.

Nursing Student Risk. Nursing faculty consistently engage with students in nursing programs. Research indicated that nursing students are at risk for mental health diagnoses such

as depression, thus placing them at an increased risk for suicide ideation (Cleary, Horsfall, Baines & Happell, 2012). Aradilla-Herrero et al. (2014) suggested that the high scores on emotional attention tests found in nursing students was linked to heightened emotional susceptibility and an increased risk of suicide in this population. This research highlights that nursing faculty must be able to identify crisis warning signs and be willing to intervene with their own nursing students who are in distress.

National Data

Current literature provides clear statistical evidence regarding the status of suicide in young adults on college campuses. The CDC (2016) reported that suicide is the second leading cause of death from ages 10 to 34. The HHS (2016) reported that approximately 1,400 students die by suicide on college campuses each year. Over a 12-month period, the American College Health Association (2017) conducted a comprehensive assessment of college campuses, which confirmed that 10.3% of college students have seriously considered suicide, and that 1.5% of college students have attempted suicide. Suicide statistics that are specific to individual colleges are not consistently available. A variety of factors may discourage schools from tracking suicide rates including incomplete or inaccurate data collection, privacy concerns, and family preference.

State Data

Utah. Utah is in a geographic region of the country referred to as the Suicide Belt of the United States. The Suicide Belt also includes Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, and Wyoming. These states have high rural populations with suicide rates that are consistently higher than the national average (Smith & Kawachi, 2014). In Utah, over 90% of the population is concentrated in four urban areas along the Wasatch Front. The remaining 24 counties in Utah are rural (U.S. Department of Commerce Economics and Statistics

Administration, 2010). Consistent with national trends, the most remote counties in the southwestern region of Utah have the highest suicide rates (Utah Department of Health, 2015). Additional research indicated that individuals who have access to a firearm in their home are at greater risk of dying from suicide (Johnson, Barber, Azrael, Clark, & Hemenway, 2010). Compared to the other states, Utah has one of the highest rates of gun ownership at 44% (Utah Department of Health, 2015).

College students living in Utah are at an increased risk for attempting or completing suicide. Utah's college students fall above the national average on depression, thoughts of suicide, and serious mental illness. Approximately 45% of Utah college students report depression and associated difficulty functioning. On any given campus in Utah, approximately 30% of students served by counseling centers are suicidal. In Utah, suicide is the second-leading cause of death for individuals 10 to 39 years old (Utah Department of Health, 2015).

Minnesota. According to the CDC (2018), Minnesota has experienced at least a 40% increase in suicide rates since 1999. The suicide rate for ages 10 through 24 is 10.2 per 100,000, which is higher than the United States average of 9.6 per 100,000 (Minnesota Department of Health, 2018). The 2015 *College Student Health Survey Report* specific to Minnesota colleges identified that out of 12,220 students surveyed, approximately 1,220 students (0.9%) attempted suicide within the 12 months prior to the survey. Additionally, anxiety and depression, both known risk factors for suicide, had been diagnosed in Minnesota college students at rates of 10.4% and 7.7% respectively in the 12-month period prior to the survey (Lust & Golden, 2015).

Theoretical Foundation

Knowles' adult learning theory provided the framework for developing the project intervention. Knowles (1980) defined andragogy as "the art and science of helping adults learn"

(p. 43). Andragogy is "a set of core adult learning principles that apply to all adult learning situations" (Knowles, Holton, & Swanson, 2015, p. 4). Knowles theorized six basic assumptions about adult learners, which have major implications for teaching and evaluating this population. Knowles concluded that adult learners:

1. need to know why they need to learn something before the learning takes place,
2. move from dependency to self-directedness in learning which interrelates with adult self-concept,
3. draw on accumulated life experiences as a resource for learning,
4. experience readiness to learn that is oriented increasingly to the developmental tasks of social roles,
5. desire problem-centered and immediately applicable learning that increases competency, and
6. are largely internally motivated to learn rather than influenced by external factors (Knowles, Holton, & Swanson, 2015, p. 4).

All faculty participants were adult learners. Consistent with the first core principle of andragogy, faculty desired to know why the intervention was necessary. Information about relevance of the learning was integrated into the request for project participation and in the content of the presentation. Current literature provided clear statistics regarding the status of suicide in young adults on college campuses. The Center for Disease Control and Prevention (CDC) (2016) reported that suicide is the second leading cause of death from ages 10 to 34. The American College Health Association (2017) conducted a comprehensive assessment of college campuses over a 12-month period, which confirmed that 10.3% of college students have seriously considered suicide, and 1.5% of college students have attempted suicide. This

information was shared with faculty to prove relevance of the project to their role.

Training gatekeepers to identify the signs and behaviors of suicide risk is one of the most widely adopted suicide prevention strategies for college campuses. Research indicated that gatekeeper training has been effective when presented in an online format (Lancaster, et al., 2014). This connects to the second core principle of adult learners that suggests they are self-directed. In an online format, learners work independently to gain knowledge for themselves at a pace with which they are comfortable, allowing for a more autonomous learning experience.

The third principle of Knowles' adult learning theory indicates that adult learners draw on experiences as a resource for new learning. As students, nurses are taught the foundations of therapeutic communication. These concepts are later utilized in nursing practice. Faculty participants had a variety of professional nursing experiences. Many of the faculty indicated they had encountered depressed and suicidal individuals through their years in practice. This knowledge of therapeutic communication and nursing experience served as a foundation for further learning.

In a large survey completed by Albright and Schwarz (2017), full-time faculty ranked themselves at rates of 49.70% to 65.90% as being underprepared to recognize warning signs and approach at-risk students to recommend appropriate mental health services. As previously mentioned, approximately 95% of full-time faculty indicated that referral for students in distress is part of their role. Faculty may experience a readiness to learn associated with the fact that they believe identifying at-risk students is part of their roles but feel inadequately prepared to do so.

The online audience-specific gatekeeper training was clearly problem-centered, which supported the fifth core principal of adult learning. The focus of the program was suicide on college campuses and the identification of at-risk students. Faculty felt they should be part of the

solution. Gatekeeper training is intended to increase faculty confidence in intervening with students at risk for suicide. The results of training are immediately applicable. This is significant to the adult learner in keeping with the fifth core principle.

The sixth core principle suggests that adult learners tend to be motivated internally and understand the intrinsic value of learning. Faculty are likely to understand the value of intervening on behalf of a student in distress and may identify themselves as being in a prime position to intercede. Therefore, internal motivation is likely a driver for participation in the study.

Purpose

This project was an effort to address the increased trend of suicide on college campuses by increasing the number of faculty gatekeepers who can identify and intervene with at-risk students. Faculty on college campuses are likely to possess many of the characteristics of effective gatekeepers, but they do not feel adequately prepared to recognize warning signs or intervene on behalf of a student in distress (Albright & Schwartz, 2017). Despite the recognized value, many colleges do not offer formal gatekeeper training for a variety of reasons including cost and accessibility (Herron, Patterson, Nugent, & Troyer, 2016). Furthermore, adapting gatekeeper training to a specific audience, such as nursing faculty, may improve efficacy (Cimini et al., 2014). The project evaluated the effectiveness of an audience-specific online gatekeeper training program developed for nursing faculty at two private liberal arts colleges.

Goals and Objectives

Goal # 1: Increase faculty knowledge of intervening with students who are at risk for suicide through implementation of audience-specific gatekeeper training.

Outcome objective:

- Upon completion of online gatekeeper training, nursing faculty at two private, liberal arts colleges will indicate increased knowledge of intervening with at-risk students.

Goal # 2: Increase faculty confidence in intervening with students who are at risk for suicide through implementation of audience-specific gatekeeper training.

Outcome objective:

- Upon completion of online gatekeeper training, nursing faculty at two private, liberal arts colleges will indicate increased confidence in intervening with at-risk students.

Goal # 3: Increase effectiveness of an online gatekeeper training program developed for nursing faculty by incorporating audience-specific content.

Outcome objective:

- Upon completion of online gatekeeper training, nursing faculty at two private, liberal arts colleges will indicate increased training effectiveness due to the inclusion of audience-specific content.

Design and Methods

Project Design

The DNP project gathered quantitative data using pre and posttest questions and qualitative data through free response questions. The project consisted of an online audience-specific training program intended to improve faculty knowledge about suicide warning signs and enhance participant confidence in assisting students in distress. The program trained participants as gatekeepers utilizing QPR strategies. Audience-specific information was incorporated through the inclusion of demographic data on the local population and content

related to suicide risk in nursing students.

Timeline and Resources

Following Institutional Review Board approval, recruitment for the DNP project began on February 14, 2019. Multiple steps toward project implementation and completion were accomplished as scheduled. Data collection and analysis was completed on April 2, 2019 (see Appendix A for complete timeline information). Resources for the project were supported by the individual institutions (see Appendix B for complete resource information).

Population

Full-time and part-time nursing faculty at two private liberal arts colleges in Minnesota and Utah were recruited for participation. Inclusion criteria were full-time and part-time (at least 50% FTE) nursing faculty with any level of education and any length of teaching experience in higher education. Exclusion criteria included faculty outside of nursing departments and nursing faculty working less than part time. The sample was a non-probability convenience sample. Both principal investigators were nursing faculty at their respective academic institutions where the project was conducted.

Recruitment and Protection of Human Subjects

Upon receiving Institutional Review Board approval, recruitment for the project was conducted via email. All full-time and part-time nursing faculty received an email containing information about the aims of the study. The information clearly stated that participation in the project was voluntary and that all data would remain confidential. One week following the initial recruitment email, faculty received a second email announcing the project was open for participation. The second email included a web link for program access. Upon entering the online platform, participants created a unique identification number to keep responses

confidential and allow de-identified data to be matched across pretest and posttest assessments.

Instruments

To measure outcomes, consent was obtained by the authors to utilize the Gatekeeper Behavior Scale (GBS). The GBS survey consists of 11 questions with responses entered on a Likert scale. The GBS consists of three subscales: preparedness to aid people in psychological distress, likelihood to help those in psychological distress, and self-efficacy in helping those in psychological distress. Preparedness is an indicator of knowledge, whereas likelihood and self-efficacy indicate confidence and "optimization of ability" (Albright, et al., 2016b, p. 273). Albright, et al. (2016b) developed the GBS in an effort to create a validated measure for assessing impact of gatekeeper training. The GBS has been successfully tested for content, construct, criterion and convergent validity.

Methods

Pre-Intervention. Prior to beginning the training program, participants read the informed consent and completed two surveys, the first of which collected demographic information that included age, gender identification, level of education obtained, years teaching in higher education, and areas of nursing experience. Participants also indicated whether they had been previously trained as a gatekeeper and whether they had personal experience intervening with a suicidal student. Following the demographic information, participants completed a pretest utilizing the GBS.

Intervention. The training portion of the online program took participants approximately one hour to complete. The first module consisted of content traditionally taught in the evidenced-based QPR gatekeeper program. The second module focused on information specific to training nursing faculty including state and campus level prevalence data on college suicide. The

benefits of nursing faculty as gatekeepers as well as risk factors specific to nursing students were included.

The training program concluded with an opportunity for participants to practice the skills learned though a simulated case scenario. The scenario guided participants through interactions with a distressed student. Based on participant responses within the scenario, various outcomes were possible. To reach the best outcome for the distressed student, participants were guided to the most appropriate response through repeated attempts and direct feedback.

Post-Intervention. Immediately following the online gatekeeper training program, participants completed a posttest using the GBS. Participants also responded to narrative questions indicating whether they felt the content specific to nursing faculty clarified the implications for, and the role of, nursing faculty in preventing suicide. Finally, participants had the opportunity to comment on what they liked most and least about the program, offer suggestions for improvement, and indicate if they would recommend the training to others.

Data Analysis and Interpretation

Data Analysis

Demographic Data. Participant data captured age, gender, years teaching in higher education, level of education, and areas of nursing experience. Initially, 33 nursing faculty agreed to participate in the survey; however, 24 nursing faculty completed both the pretest and posttest. See Figures 1 – 5 for complete demographic data frequency charts.

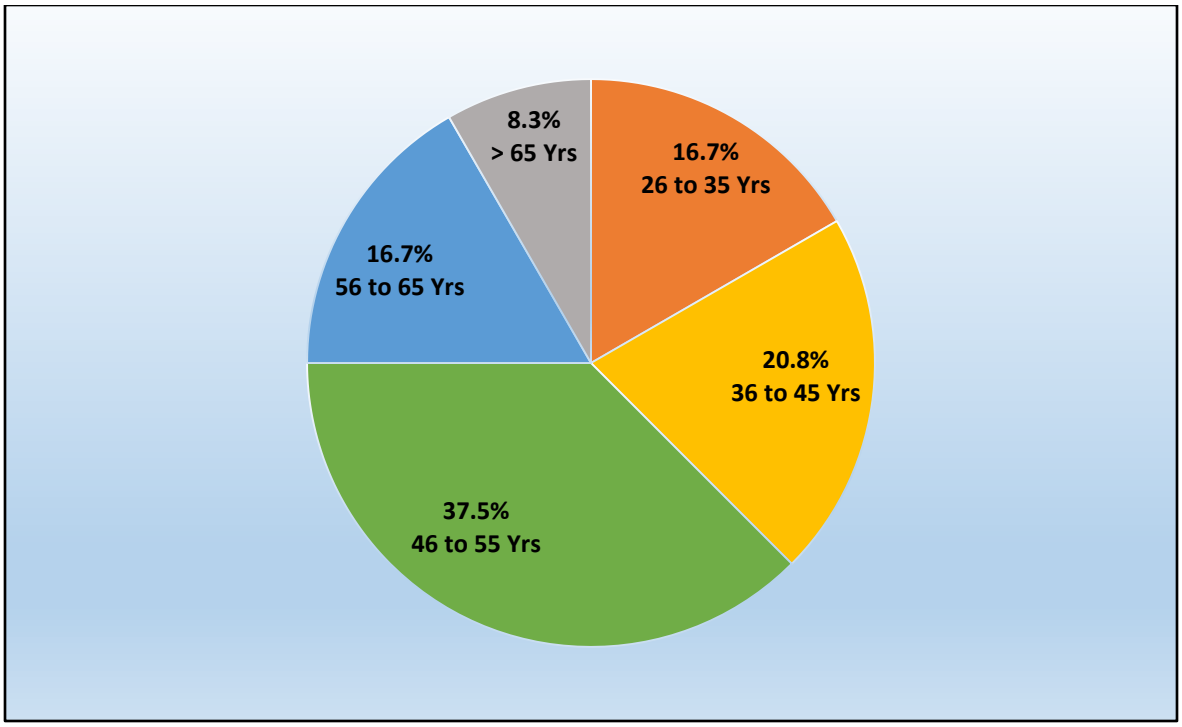

Figure 1. Participant age group distribution (*n* = 24).

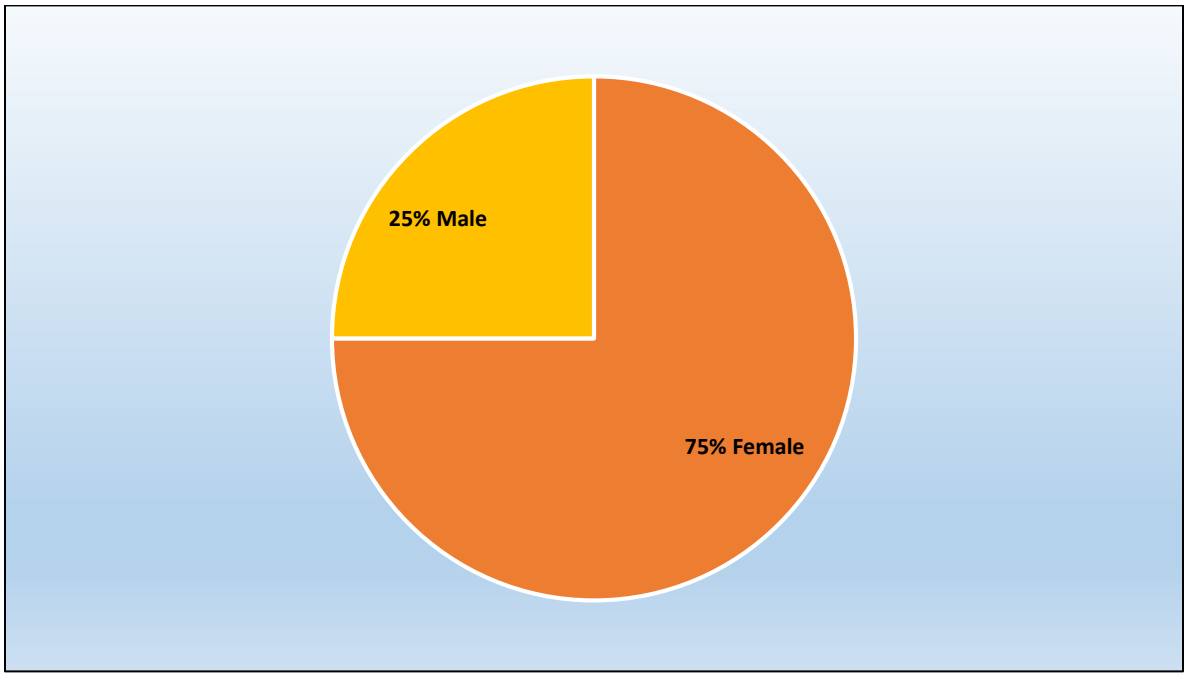

Figure 2. Participant gender distribution (*n* = 24).

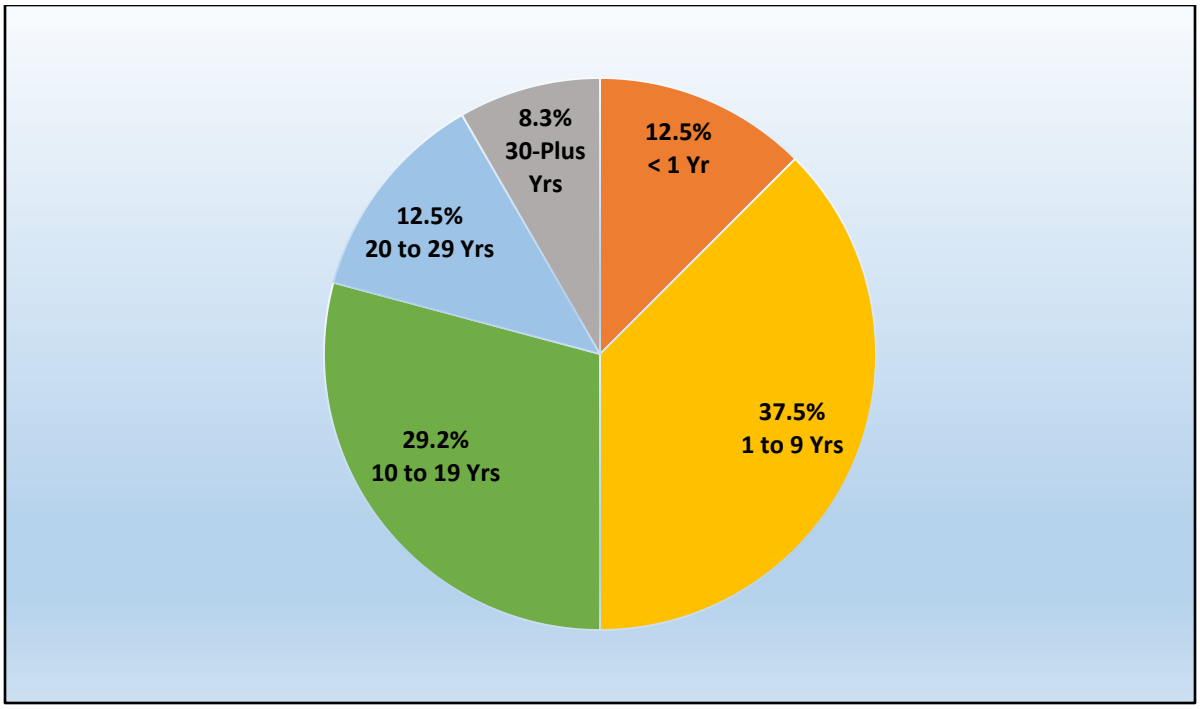

Figure 3. Participant years of teaching in higher education distribution (*n* = 24).

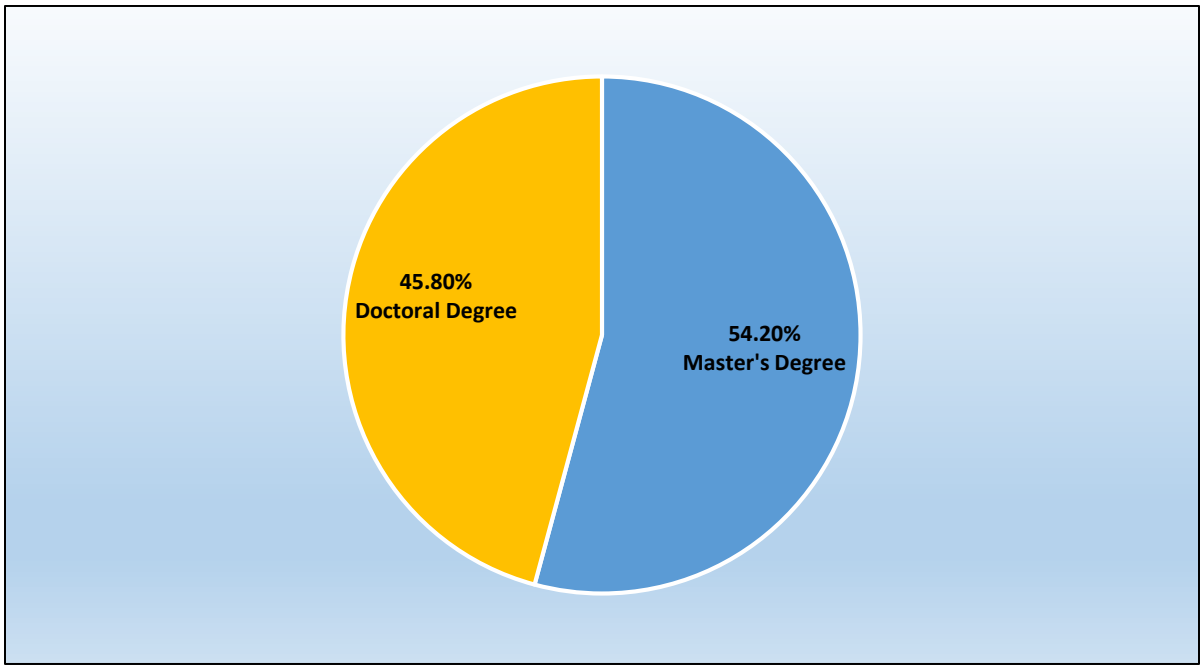

Figure 4. Participant level of education distribution (*n* = 24).

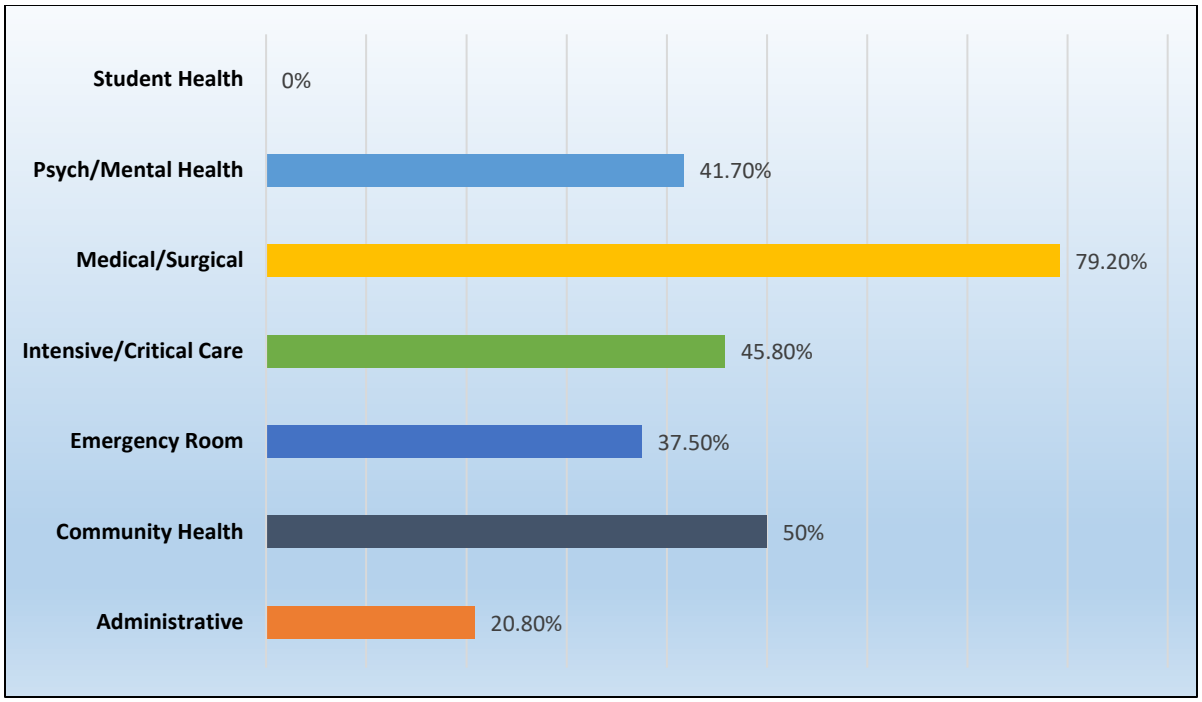

Figure 5. Participant areas of nursing experience (n = 24).

Pretest-Posttest Data. Using the Statistical Package for the Social Sciences (SPSS), pretest and posttest sample data were tabulated and evaluated for normality via the Shapiro-Wilk test. The pretest-posttest sample data were determined not to be normally distributed (Shapiro-Wilk ***p***-values were all < .05). Therefore, the Wilcoxon Signed-Ranks tests for paired-samples to compare pretest and posttest results between Institution A and Institution B were conducted at a significance-level of .05.

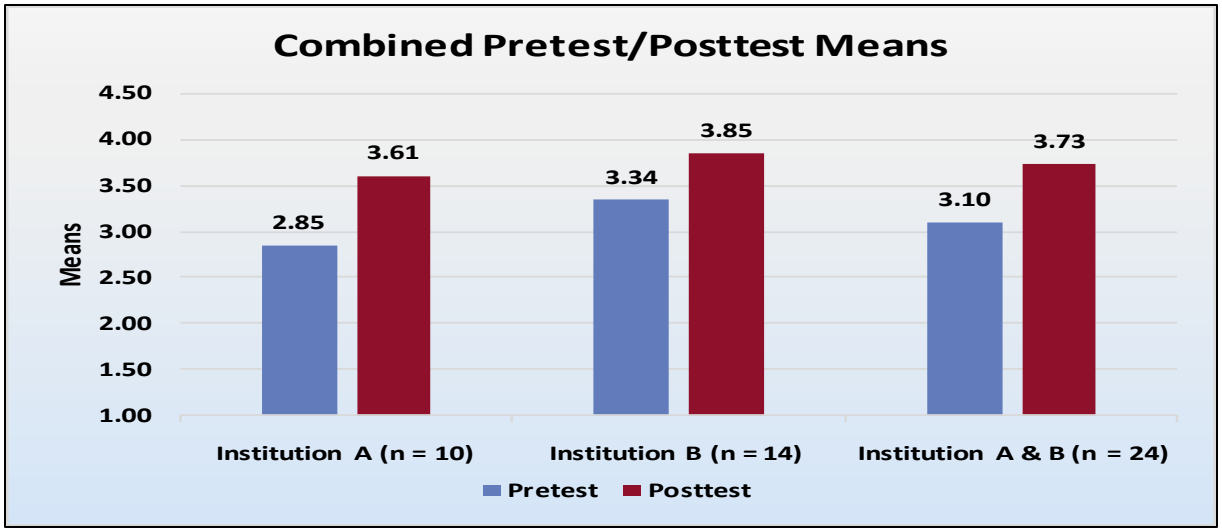

Figure 6. Institution A and Institution B: pretest and posttest means comparison (*n* = 24).

Data Interpretation

Quantitative data. Data from the GBS (see Appendix D for complete survey) for each individual institution were analyzed (see Appendix E for GBS question analysis). The results were as follows:

- Institution A showed an increase in pretest to posttest means for knowledge (GBS "preparedness" ratings) and confidence (GBS "likelihood" and "self-efficacy" ratings) (see Figure 7 and Figure 8).
- All Institution A responses to the GBS were statistically significant except for responses to question 7.
- Institution B showed an increase in pretest to posttest means for knowledge (GBS "preparedness" ratings) and confidence (GBS "likelihood" and "self-efficacy" ratings) (see Figure 9 and Figure 10).
- All Institution B responses to the GBS were statistically significant except for responses to questions 2, 9, and 10.

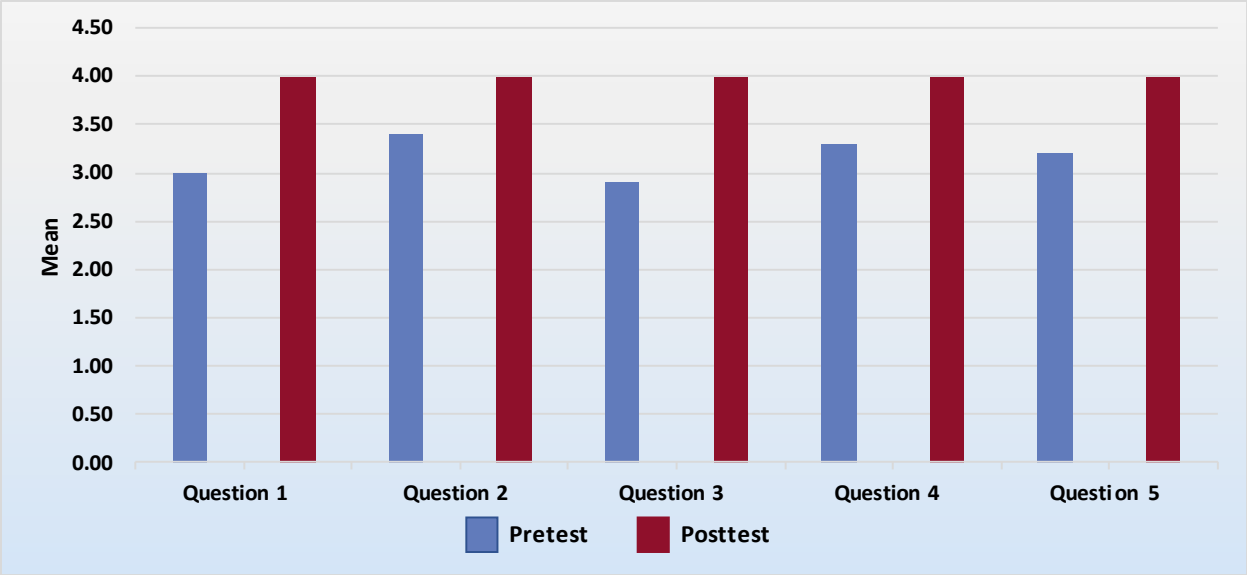

Figure 7. Institution A: Gatekeeper Behavior Scale pretest and posttest means for knowledge (preparedness) (n = 10).

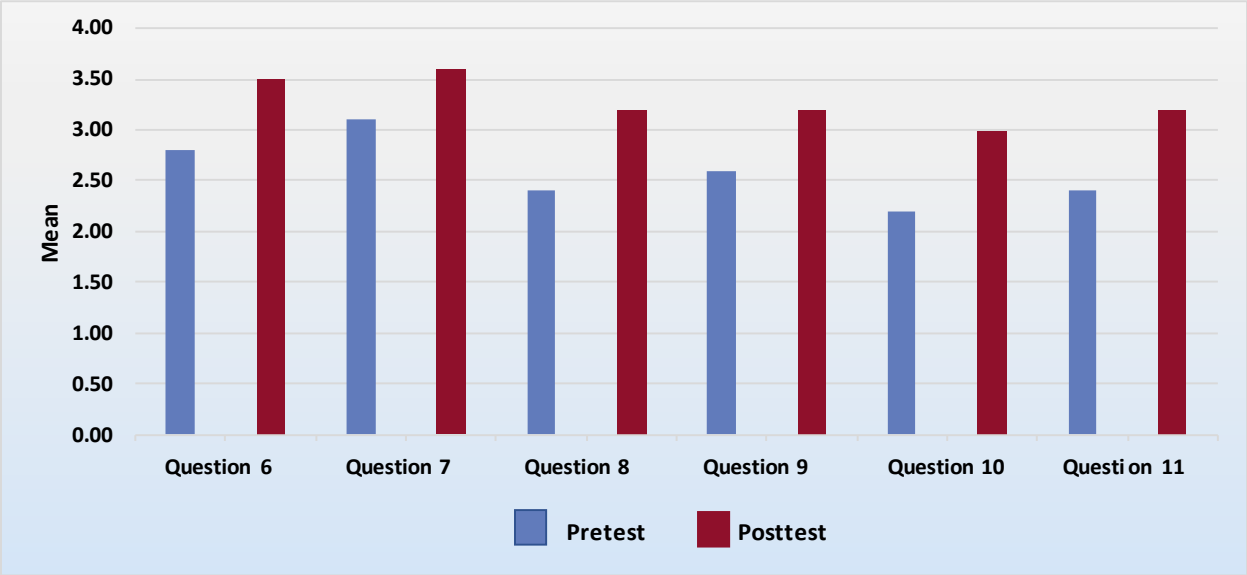

Figure 8. Institution A: Gatekeeper Behavior Scale pretest and posttest means for confidence (likelihood and self-efficacy) (n = 10).

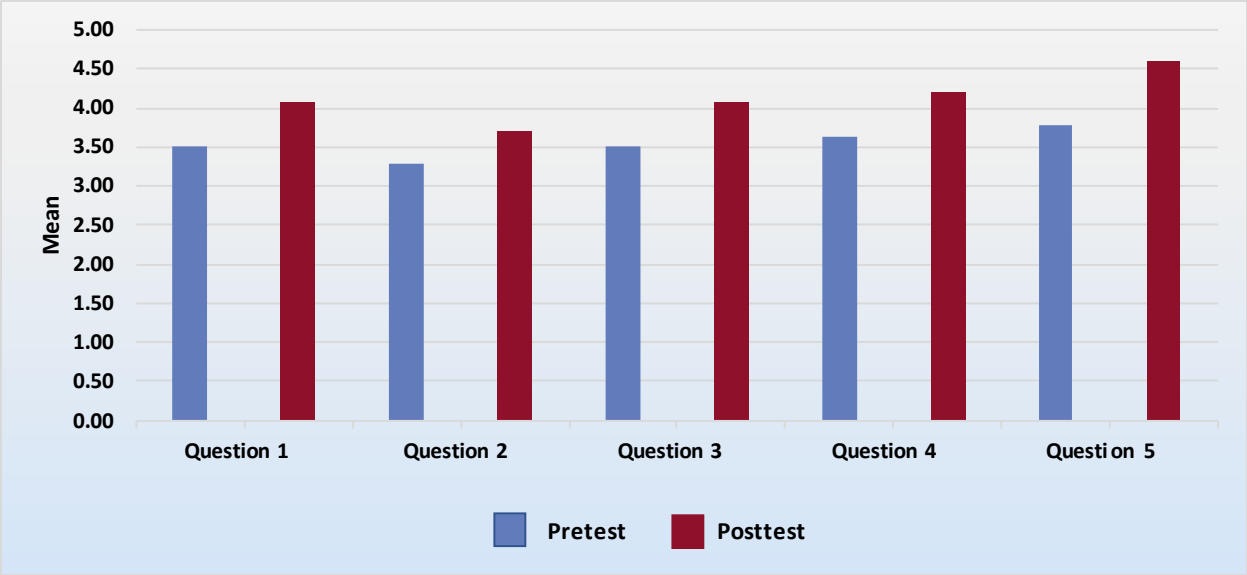

Figure 9. Institution B: Gatekeeper Behavior Scale pretest and posttest means for knowledge (preparedness) (n = 14).

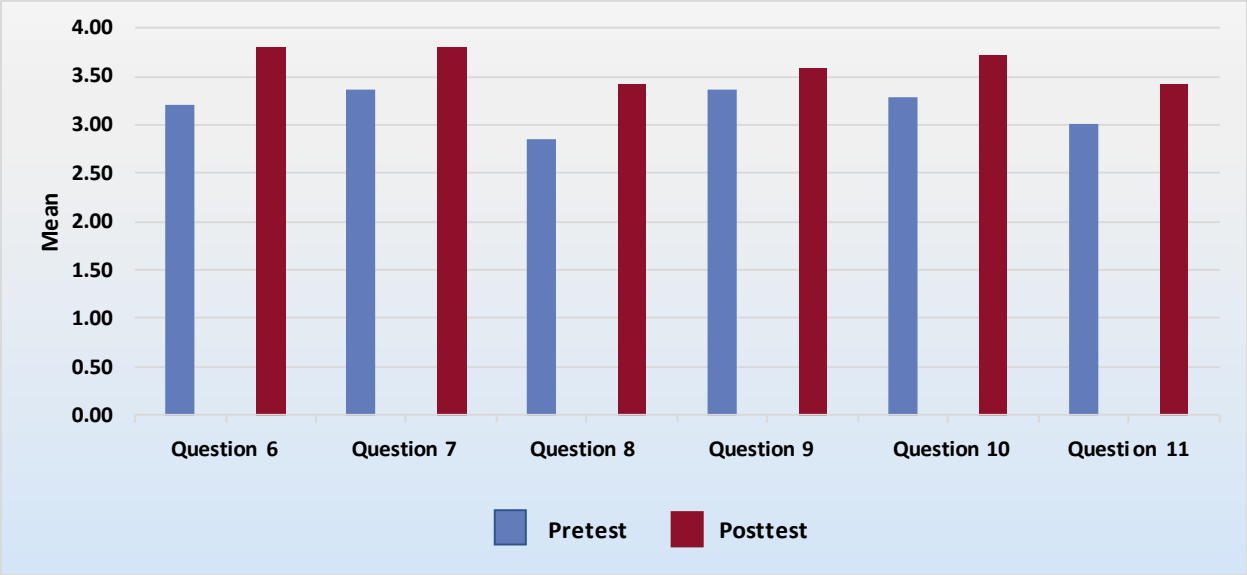

Figure 10. Institution B: Gatekeeper Behavior Scale pretest and posttest means for confidence (likelihood and self-efficacy) (n = 14).

Qualitative Data. Analysis of qualitative data indicated that participants found value in the training and would recommend the online training program to others. Nearly all participants (92%) found the audience-specific content addressing specific risk of suicide in nursing students was beneficial and more effective than a generic gatekeeper training program.

One participant stated, “Nursing students are under a great deal of pressure, so it is helpful to have specific information regarding recognition of suicide risk in this population.” Another faculty validated the value of the program and commented on a particular situation indicating benefit from the content in the training. The faculty shared, “I have had a student that said ‘If I don’t pass, I will kill myself,’ and I wasn’t sure how to respond” (see Appendix F for complete qualitative dataset). In addition to the content specific to nursing faculty and students, there was a stated overall appreciation of the simple and direct approach of QPR, as well as the ability to practice skills learned in the simulated case scenario.

Strengths and Limitations

Strengths

This DNP project intended to highlight the benefits of audience-specific gatekeeper training on college campuses. To strengthen reliability of the results, data were collected from two private liberal arts colleges to allow for comparison between groups. Utilization of a validated survey instrument strengthened the findings and improved internal validity of the study. Moreover, the inclusion of qualitative free-response questions allowed for a deeper understanding of participant reflections and helped to provide direction for developing future audience-specific gatekeeper training.

Limitations

Generalizability of this project is potentially impacted by several factors. The sample size

was small and over 75% of participants identified as female. The sample was specific to nursing faculty from two private, liberal arts colleges. It is possible the results would not be applicable to other colleges and universities nor other faculty disciplines.

The participants were from a non-probability convenience sample. All participants learned of the project through a departmental email and volunteered to take part if they chose. This self-selection to participate could indicate a previous motivation to learn more about suicide prevention that may contribute to volunteer bias affecting external validity of the project.

Implications and Future Directions

Gatekeeper training that is audience-specific was shown in the findings of this project to be effective and to improve nursing faculty knowledge of and confidence in intervening with suicidal students. These findings have implications for college campuses. Institutions that serve a nursing student population should strive to provide gatekeeper training to their faculty in efforts to reduce nursing student death by suicide. Future research using larger and more diverse samples is necessary to enhance generalizability.

Evaluation of knowledge and confidence with the GBS occurred immediately post training. Studies that allow for evaluation of increased knowledge and confidence persisting in the months and years following the training are required. The ability to provide quantitative evidence, such as an actual reduction in college student suicide rates after implementation of audience-specific gatekeeper training programs, would be a next step in solidifying the effectiveness of such programs.

This DNP project sought to minimize the gap in literature related to the effectiveness of audience-specific gatekeeper training. The findings indicate that audience-specific training is effective. Further research replicating this project will continue to close the literature gap and

inform faculty practice roles and responsibilities.

Conclusion

The goal of gatekeeper training is to enhance the probability that a potentially suicidal person is promptly referred for mental health services. As a population-based approach, the greater the percentage of the members of a given community who are trained to successfully recognize its suicidal members, the fewer suicide-related events should occur. With national statistics indicating that suicide rates on college campuses are on the rise, faculty knowledge about suicide warning signs and confidence in assisting students in distress can save lives.

This DNP project was a first step in helping the identified institutions incorporate an effective suicide prevention strategy with a specific group. Detection and referral are only a piece of the solution to preventing suicide. Audience-specific gatekeeper training is one part of an answer to the much larger social, psychological, and cultural strategies that are necessary in order to lower campus suicide rates. Gatekeeper training is an essential component of the process. Implementation of this project will serve as a catalyst for the further conversations and interventions necessary to ensure improved health on college campuses.

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Appendix A

Timeline

TASK	ESTIMATED START	ESTIMATED COMPLETION	SEQUENTIAL OR PARALLEL	DEPENDENT UPON	COMPLETED DATE
(A) Investigators complete online gatekeeper training	10/15/2018	11/20/2018	Parallel		11/20/18
(B) Provide the instruction consultants through Academic Technology and Online Learning (ATOL) services a framework for video development (including modules, assessment techniques and mode of delivery.	10/30/2018	11/12/2018	Parallel	Task A.	11/12/18
(C) Provide ATOL team specific roadmap criteria for "choose your own adventure" scenarios.	11/28/2018	12/10/18	Sequential	Task B.	12/18/2018
(D) Provide content related to all modules for ATOL team, including assessment questions and	11/28/2018	12/20/2018	Parallel	Task B.	12/18/2019

evaluation criteria.					
(E) Meet with ATOL team to create videos/complete online program.	1/8/2019	1/20/2019	Sequential	Task C, D.	1/19/2019
(F) Email nursing faculty regarding project information and the opportunity for participation.	1/20/2019	1/20/2019	Parallel		2/4/2019
(G) Completed training video will be embedded into the online platform at two colleges.	1/20/2019	2/1/2019	Sequential	Task E.	2/12/2019
(H) Online gatekeeper training will be made accessible 24 hours a day 7 days a week to participants.	2/5/2019	2/20/2019	Sequential	Task G.	2/14/2019
(I) Completed data will be collected and evaluated using SPSS.	2/20/2019	3/15/2019	Sequential	Task H.	4/2/2019
(J) Project and results will be ready to present at College Health Conference in Denver, CO.	10/2018	5/2019	Parallel	Task I.	
(K) Project paper will be written and ready to submit for publication.	10/2018	5/2019	Parallel	Task J.	

Appendix B

Resources

ITEM	COST	COST (Total)
QPR Gatekeeper Training Certification Course Objectives: • To understand the nature, range and importance of suicidal communications and their importance in preventing suicide. • To review and understand the groups at greatest risk of suicide and why QPR can work for them. • To train participants to teach QPR Gatekeeper Training for suicide prevention. • To gain perspective about suicide prevention and how QPR fits into national efforts. • To acquire specific knowledge about how audiences may respond to the QPR message and how to react in a helpful manner. • To learn how to effectively promote suicide prevention • To gain the competence and confidence to teach others how to save lives and help prevent suicidal behaviors.	**$495**	**$495**
QPR Gatekeeper Training Certification Course for Medical Professionals Objectives: • Explain suicide as a major public health problem	**$495**	**$495**

• Identify unique verbal, behavioral, and situational suicide warning signs • Explain how to inquire about suicidal intent and desire • Explain how to inquire about capacity for suicide and self-injurious behavior • Demonstrate increased knowledge, skills, self-efficacy and intent to act to intervene with suicidal people and patients • Explain the difference between "known at-risk" patients and "unknown at-risk" patients • Explain how to conduct a brief triage assessment of acute suicide risk • Describe "means restriction" and identify individual characteristics and hospital environmental features that may increase or decrease the risk for suicide • Address immediate patient safety needs and determine most appropriate setting for care • Describe the US National Strategy for Suicide Prevention • Describe and locate major suicide prevention web sites and online resources • Explain how to engage in an interactive and helpful conversation with someone who has attempted suicide • Explain how to engage in an interactive and helpful conversation with the loved ones or family members of		

someone who has died by suicide • Describe clinical groups at high risk for suicide • Describe the relationship of mental illness and substance abuse to suicide and understand the fundamentals of our current knowledge about suicide and its prevention			

Academic Technology and Online Learning (ATOL) services (at CSS)
• Consultation services for development of an online audience-specific gatekeeper training
• Technology development services for an online audience-specific gatekeeper training
• Two staff
  ○ Instructional Designer
  ○ Instructional Technologist & Digital Media Specialist
	Hours of consultation	4 hours per ATOL staff	

	Time per module (5 modules total)	60 minutes per module per ATOL staff	
	Cost of services	$100 per hour per ATOL staff	
	Total ATOL consultation and technology development cost	**$3600**	**$3600**
Training materials	**$200**		**$200**
Presentation materials	**$200**		**$200**
Conference for presentation of findings and accessing additional information and resources for mental health in ambulatory care—American College Health Association, May 2019	$700 3 nights lodging $500 airfare $900 conference (3 days, non-member) $200 meals		Total for 2 participants = $4600
Grand Total			**$9590**

Appendix C

Summary of Ranks and Test Statistics: Gatekeeper Behavior Scale

	Negative ranks			**Positive ranks**			**Test statistics**		
GBS Question	n	Mean rank	Sum of ranks	n	Mean rank	Sum of ranks	Ties	*Z*	*p*
Prep 1	0	.00	.00	13	7.00	91.00	11	-3.307[b]	.001*
Prep 2	0	.00	.00	10	5.50	55.00	14	-2.972[b]	.003*
Prep 3	0	.00	.00	13	7.00	91.00	11	-3.275[b]	.001*
Prep 4	0	.00	.00	12	6.50	78.00	12	-3.274[b]	.001*
Prep 5	0	.00	.00	12	6.50	78.00	12	-3.217[b]	.001*
Like 6	0	.00	.00	12	6.50	78.00	12	-3.276[b]	.001*
Like 7	0	.00	.00	9	5.00	45.00	15	-2.810[b]	.005*
Effi 8	0	.00	.00	14	7.50	105.00	10	-3.557[b]	.000*
Effi 9	0	.00	.00	9	5.00	45.00	15	-3.000[b]	.003*
Effi 10	0	.00	.00	8	4.50	36.00	16	-2.640[b]	.008*
Effi 11	0	.00	.00	13	7.00	91.00	11	-3.500[b]	.000*

Note. Prep = preparedness; Like = likelihood; Effi = self-efficacy.
[a]Based on negative ranks
[b]Based on positive ranks
*p < .05, indicates statistically significant change

Appendix D

Gatekeeper Behavior Scale

Subscale	Number	Item	Response Scale
Preparedness	How would you rate your preparedness to:		
	Prep 1	Recognize when a student's behavior is a sign of psychological distress	1 = Very low 2 = Low 3 = Medium 4 = High 5 = Very high
	Prep 2	Recognize when a student's physical appearance is a sign of psychological distress	
	Prep 3	Discuss with the student your concerns about the signs of psychological distress they are exhibiting	
	Prep 4	Motivate students exhibiting signs of psychological distress to seek help	
	Prep 5	Recommend mental health support services (such as the counseling center) to a student exhibiting signs of psychological distress	
Likelihood	Like 6	How likely are you to discuss your concerns with a student exhibiting signs of psychological distress?	1 = Very unlikely 2 = Unlikely 3 = Likely 4 = Very likely
	Like 7	How likely are you to recommend mental health/support services (such as the counseling center) to a student exhibiting signs of psychological distress?	
Self-Efficacy	Please rate how much you agree/disagree with the following statements:		
	Eff 8	I feel confident in my ability to discuss my concern with a student exhibiting signs of psychological distress	1 = Strongly disagree 2 = Disagree 3 = Agree 4 = Strongly agree
	Eff 9	I feel confident in my ability to recommend mental health support services to a student exhibiting signs of psychological distress	
	Eff 10	I feel confident that I know where to refer students for mental health support	
	Eff 11	I feel confident in my ability to help a suicidal student seek help	

Albright, G.L., Davidson, J., Goldman, R., Shockley, M., and Timmons-Mitchell, J. (2016). Development and validation of the gatekeeper behavior scale: A tool to assess gatekeeper training for suicide prevention. *The Journal of Crisis Intervention and Suicide Prevention, 37*(4), 271-280. doi: 10.1027/0227-5910/a000382

*Note: *Permission was obtained from author, Glenn Albright, to utilize the Gatekeeper Behavior Scale in the proposed study. Approval obtained via email on 10/17/2018.*

Appendix E

Gatekeeper Behavior Scale (GBS) Question Analysis

Question 1: "Recognize when a student's behavior is a sign of psychological distress."

- Institution A, posttest scores were significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 3.00), ***z*** = −2.64, ***p*** = 0.008
- Institution B, posttest scores were significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 4.00), ***z*** = −2.06, ***p*** = 0.039

Question 2: "Recognize when a student's physical appearance is a sign of psychological distress."

- Institution A, posttest scores were significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 3.00), ***z*** = −2.45, ***p*** = 0.014
- Institution B, posttest scores were not significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 3.00), ***z*** = −1.86, ***p*** = 0.063

Question 3: "Discuss with a student your concern about the signs of psychological distress they are exhibiting."

- Institution A, posttest scores were significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 3.00), ***z*** = −2.60, ***p*** = 0.009
- Institution B, posttest scores were significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 3.00), ***z*** = −2.06, ***p*** = 0.039

Question 4: "Motivate students exhibiting signs of psychological stress to seek help."

- Institution A, posttest scores were significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 3.00), ***z*** = −2.65, ***p*** = 0.008

- Institution B, posttest scores were significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 3.50), ***z*** = −2.06, ***p*** = 0.039

Question 5: "Recommend mental health support services (such as the college counseling center) to a student exhibiting signs of psychological distress."

- Institution A, posttest scores were significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 3.00), ***z*** = −2.53, ***p*** = 0.011
- Institution B, posttest scores were significantly higher (***Mdn*** = 4.50) than pretest scores (***Mdn*** = 3.50), ***z*** = −2.07, ***p*** = 0.038

Question 6: "How likely are you to discuss your concerns with a student exhibiting signs of psychological distress?"

- Institution A, posttest scores were significantly higher (***Mdn*** = 3.50) than pretest scores (***Mdn*** = 3.00), ***z*** = −2.65, ***p*** = 0.008
- Institution B, posttest scores were significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 3.50), ***z*** = −2.07, ***p*** = 0.038

Question 7: "How likely are you to recommend mental health/support services (such as the counseling center) to a student exhibiting signs of psychological distress?"

- Institution A, posttest scores were not significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 3.00), ***z*** = −1.89, ***p*** = 0.059
- Institution B, posttest scores were significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 3.50), ***z*** = −2.12, ***p*** = 0.034

Question 8: "I feel confident in my ability to discuss my concern with a student exhibiting signs of psychological distress."

- Institution A, posttest scores were significantly higher (***Mdn*** = 3.00) than pretest scores (***Mdn*** = 2.00), ***z*** = −2.83, ***p*** = 0.005
- Institution B, posttest scores were significantly higher (***Mdn*** = 3.00) than pretest scores (***Mdn*** = 3.00), ***z*** = −2.27, ***p*** = 0.023

Question 9: "I feel confident in my ability to recommend mental health support services to a student exhibiting signs of psychological distress."

- Institution A, posttest scores were significantly higher (***Mdn*** = 3.00) than pretest scores (***Mdn*** = 2.50), ***z*** = −2.45, ***p*** = 0.014
- Institution B, posttest scores were not significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 3.00), ***z*** = −1.73, ***p*** = 0.083

Question 10: "I feel confident that I know where to refer a student for mental health support."

- Institution A, posttest scores were significantly higher (***Mdn*** = 3.00) than pretest scores (***Mdn*** = 2.00), ***z*** = −2.07, ***p*** = 0.038
- Institution B, posttest scores were not significantly higher (***Mdn*** = 4.00) than pretest scores (***Mdn*** = 3.50), ***z*** = −1.73, ***p*** = 0.083

Question 11: "I feel confident in my ability to help a suicidal student seek help."

- Institution A, posttest scores were significantly higher (***Mdn*** = 3.00) than pretest scores (***Mdn*** = 2.00), ***z*** = −2.83, ***p*** = 0.005
- Institution B, posttest scores were significantly higher (***Mdn*** = 3.50) than pretest scores (***Mdn*** = 3.00), ***z*** = −2.12, ***p*** = 0.034

Appendix F

Audience Specific Narrative Questions and Responses

This program contained content specific to nursing faculty's role in recognizing and preventing suicide in their students. Was this specificity helpful in understanding your role or would a format designed to reach a broader audience (e.g., general public) have been sufficient?	**Why did you answer the way you did?**
The information specific to my role as nursing faculty was helpful.	All nursing faculty need to understand these statistics - so do all nurses! This specific information was essential.
A generic format would have been sufficient.	Hopefully nursing faculty are able to take information and apply it to their specific practice. That being said, the efficient format of the training and integration (awareness of upcoming training in faculty meeting, preparation email about training coming soon, reminder email) was very helpful. However, I think that I would have been able to apply the concepts to my particular profession without the specificity of nursing faculty.
The information specific to my role as nursing faculty was helpful.	I liked the information being specific to my current role. I do think it could apply to the general public easily as well.
The information specific to my role as nursing faculty was helpful.	Depression and anxiety are not uncommon in nursing students. Having dealt with this in the past, it’s nice to have additional tools to deal with it in the future.
The information specific to my role as nursing faculty was helpful.	It impressed upon me that suicide among nursing students was a greater concern than I would have thought.
The information specific to my role as nursing faculty was helpful.	I have believed and continue to believe that this is my role as an adjunct professor.
The information specific to my role as nursing faculty was helpful.	I can apply it to my role as a faculty member

The information specific to my role as nursing faculty was helpful.	It stressed the impact of suicide on nursing students specifically
The information specific to my role as nursing faculty was helpful.	It directly relates to our role working with nursing students
The information specific to my role as nursing faculty was helpful.	This format is directly related to my area of practice-
The information specific to my role as nursing faculty was helpful.	Faculty are often very busy and overwhelmed with the task at hand and the nature of nursing education. Again, this is a specific way, using QPR to truly intervene and help a struggling student.
The information specific to my role as nursing faculty was helpful.	It was extremely helpful and more engaging when targeted to Nursing faculty
The information specific to my role as nursing faculty was helpful.	There would be similarities between the general public and students, yet there are some unique aspects of student behaviors that one does encounter, so this approach was more relevant.
The information specific to my role as nursing faculty was helpful.	It was good content
The information specific to my role as nursing faculty was helpful.	I liked the focus on Nursing, because there are very specific stressors nursing students feel that other students do not and vice versa.
The information specific to my role as nursing faculty was helpful.	Nursing students specifically are under a great deal of pressure, so it is helpful to have specific recommendations regarding recognition of suicide in that population.
The information specific to my role as nursing faculty was helpful.	Always helpful to be specific so you know how it relates to you
A generic format would have been sufficient.	The nursing faculty content is interesting but in order to reach a broader population it's probably not necessary
The information specific to my role as nursing faculty was helpful.	I felt it was helpful to have it specific examples for my role.
The information specific to my role as nursing faculty was helpful.	This was helpful to my nursing role, a broader one that reached other faculty would have been fine as well.

The information specific to my role as nursing faculty was helpful.	It is more personal and engaging
The information specific to my role as nursing faculty was helpful.	Information relevant to the students I teach kept me interested and engaged in the content
The information specific to my role as nursing faculty was helpful.	Increases awareness of the difficult nature of nursing school
The information specific to my role as nursing faculty was helpful.	It is helpful to see data on nursing students and gain a better understanding how nursing faculty can approach students in need of help
The information specific to my role as nursing faculty was helpful.	I have had a student that said, "If I don't pass, I will kill myself". I wasn't sure how to respond, but I addressed with my director and I was able to speak with the student.
The information specific to my role as nursing faculty was helpful.	It was keyed to nursing students in particular.
The information specific to my role as nursing faculty was helpful.	Nursing faculty are trusted and should be trained in how to help in these situations.
The information specific to my role as nursing faculty was helpful.	The content was more relevant to my role which made me pay greater attention.
The information specific to my role as nursing faculty was helpful.	I think it is helpful to think about suicide from the perspective of nursing faculty
The information specific to my role as nursing faculty was helpful.	I am a Nursing Faculty