EVALUATION OF A PEER BASED SUICIDE PREVENTION PROGRAM ON A COLLEGE CAMPUS

A thesis submitted in partial fulfillment of the requirements

For the degree of Master of Science in Counseling,

Marriage and Family Therapy

by

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May 2013
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Dedication

I would like to dedicate this thesis to the many individuals who have supported, encouraged and most importantly believed in me throughout this process.

To my husband to be, Ryan, who motivated me to pursue a graduate program in the first place and was my rock throughout. To my Mom, who has always been my biggest cheerleader and a great source of inspiration. Her unconditional love and belief in me is unparalleled. To my Dad, whose work ethic and commitment I admire and strive for. He taught me the power of persistence and to always keep trying. To my family and friends who listened to me talk about this for the past two years and never wavered in their interest and encouragement. To my chair and trusted advisor Dr. Diane Gehart whose passion for the profession of Marriage and Family Therapy has inspired me immensely. I will be forever grateful for your agreeing to take on this thesis and believing in my ability to complete it. To my committee members: Dr. Jonah Schlackman, whose enthusiasm and patience with me in analyzing all of the results of this study are deeply appreciated and Dr. Dana Stone whose wonderfully thoughtful insights and support as well as enthusiasm bolstered my confidence in completing this paper. To Dr. Charlie Hanson who inspired me to begin on my thesis in my very first semester and put me on the right track towards completing this feat. I will forever be grateful for his encouragement and guidance. To Dr. Marshall Bloom and Vaheh Hartoonian with the Blues Project, who were on board with me from day one to complete this study and who went above and beyond to support me throughout the process. Finally, this paper is dedicated to the peer educators and everyone else involved in the Blues Project Program. Thank you for your collaboration and the work that you do. You are making a difference!
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ABSTRACT

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Suicide has been cited as the second leading cause of death among college students (Centers for Disease Control and Prevention (CDC), 2009). Many colleges and universities have suicide prevention programs, however, there is little information about the efficacy of such programs. The Blues Project is a peer-based suicide prevention and depression education program for university students with the objectives of increasing student knowledge about the topics of suicide and depression and decreasing the negative stigma that is attached to these topics. To evaluate the efficacy of this program, 185 undergraduate students, who participated in a Blues Project Presentation, completed pretest and posttest surveys. Results indicate significant gains in knowledge about suicide and depression, increased awareness about resources available to students, and a decrease in stigma associated with these topics. These results can be used to further develop and refine suicide-prevention programs such as the Blues Project to increase their efficacy.
Chapter I

Introduction

*Every two hours and seven minutes a person under the age of twenty-five completes suicide. For every completed suicide by youth it is estimated that 100 to 200 attempts are made* (American Association of Suicidology, 2010).

Introduction

According to the Centers for Disease Control and Prevention (CDC, 2009), suicide is the second leading cause of death for college students. Of completed suicides, approximately 90% are by persons suffering from untreated mental health disorders, primarily depression (CDC, 1992). A survey conducted by the American College Health Association (2010) revealed that 58.7% of college students reported feeling very sad within the past 12 months. The same survey reported that 41% of college students felt so depressed that they were unable to function, 6% seriously considered suicide and 1.3% of students surveyed reported making a suicide attempt. A study by Westefeld et al. (2005) found that 42% of college students agreed suicide was a problem on college campuses. The same study revealed that only 26% of respondents indicated they were aware of supportive campus resources targeting suicide.

In addition to a lack of knowledge about resources there is also a lack of help seeking by college students who may be suicidal. Drum, Brownson, Denmark and Smith (2009) found that approximately 46% of students who had seriously considered suicide in the past twelve months did not tell anyone about their suicidal thoughts. These researchers found that a fear of being stigmatized was one barrier to students not seeking help. On a systemic level, Drum et al. (2009) propose that a paradigm shift needs to be
made from one that focuses on secondary prevention for those students already affected to a primary prevention model focused on increasing awareness and promotion of help seeking behavior. Of the colleges and universities that currently have such primary prevention programs to address suicide and depression, the literature on the efficacy of such programs is not comprehensive and little is known about the effects of such programs for college students (Holdwick, 1999).

Statement of the Problem

Washburn and Mandrusiak (2010) affirm that strategies to connect college students at risk for depression and suicide with support are an essential part of suicide prevention planning. These researchers suggest that because these are taboo topics, students who are affected may be hesitant to reach out for help. Furthermore, friends of these students either may not be aware of warning signs or may not know what resources are available to assist a friend in need. Pompili, Innamorati, Girardi, Tatarrelli, and Lester (2011) cite that the single most important factor in the prevention of suicide is to address the causes of mental health problems in young people and that efforts aimed at the prevention of suicide should be taken within the context of health education programs. Unfortunately, such programs are reportedly lacking. A survey conducted by the American College Health Association (2010) reports that 65.5% of college students have not received any information about the topics of suicide prevention from their college or university. In this same survey, 49.9% of students report that they have not received any information from their university on depression or anxiety. There are programs to address the issues of depression and suicide on college campuses; however, according to Poppili
et al. (2011) few methodologically sound research studies are available to indicate the best practices in suicide prevention on college campuses.

**Purpose**

The purpose of this thesis is to evaluate the efficacy of The Blues Project, a peer-led suicide prevention and depression education program sponsored by the University Counseling Services at a regional university in the Western United States. This program aims to increase student awareness about the issues of depression and suicide and to decrease the negative stigma associated with discussing these topics by providing psychoeducational presentations in college classrooms. Westefeld et al. (2006) suggests that the key components of an effective suicide prevention program involve educating participants about warning signs, what action to take if warning signs are observed, and how to go about accessing resources for help. The Blues Project incorporates these three key components into suicide prevention efforts.

This thesis examined if the Blues Project is decreasing students’ perceived stigma associated with depression and suicide. The study additionally explored whether student knowledge about these topics and awareness about the mental health resources available to them on campus are increased by this intervention. Pretest and posttest surveys were conducted to assess changes in student knowledge and attitudes about depression and suicide through their participation in a Blues Project presentation. Surveys were designed to ascertain if stigma is decreased and knowledge about available resources increased. Outcomes were reported to the Blues Project program director to improve the effectiveness of the projects efforts.
Significance

Washburn and Mandrusiak (2010) cite a continued need for increased awareness about suicide on postsecondary campuses. These researchers additionally emphasize the importance of evaluating the effectiveness of such programs. Researchers state that the evaluation of such programming “both encourages continuous quality improvement and facilitates access to sustainable funding sources” (p. 115). Also, noted by these researchers is that “the evaluation of the effectiveness of suicide awareness efforts often lags behind implementation efforts” (p.107). To date there has been no evaluation conducted to determine the efficacy of the Blues Project. It is important to determine whether or not the efforts of the Blues Project are making a difference in student knowledge and attitudes about the topics of depression and suicide. Given the gravity of these issues among college students it is imperative to determine which interventions are in fact effective and which are not so that we may allocate prevention efforts effectively.

Terminology

**Depression:** A mood disorder characterized by at least two full weeks of a depressed mood or loss of interest in almost all activities as well as four additional symptoms of depression including: changes in appetite, sleep patterns, irritability, fatigue, difficulty concentrating, feelings of worthlessness or guilt, and thoughts of suicide (Diagnostic and Statistical Manual of Mental Disorders 4th ed. Text Revision, 2000).

**Suicide:** Death caused by self-directed injurious behavior with any intent to die as a result of the behavior (Crosby, Ortega, and Melanson, 2011, p.25).
**Suicide attempt:** A non-fatal self-directed potentially injurious behavior with any intent to die as a result of the behavior. A suicide attempt may or may not result in injury (Crosby, et al., 2011).

**Suicidal ideation:** Thinking about, considering, or planning for suicide (Crosby et al., 2011).

**Primary Prevention:** Measures to prevent the onset of a targeted condition. Primary prevention measures include activities that help avoid a given health care problem (Fitzgerald Health Education Associates, Inc., 2012).

**Secondary Prevention:** These interventions happen after an illness or serious risk factors have already been diagnosed. The goal is to halt or slow the progress of disease (if possible) in its earliest stages; in the case of injury, goals include limiting long-term disability and preventing re-injury (Institute for Work and Health, 2012).

**Personal Stigma:** One's own personal negative beliefs about those with mental health problems (Downs and Eisenberg, 2012).

**Perceived Stigma:** Views about others' beliefs about those with mental health problems (Downs and Eisenberg, 2012).

**Summary**

In order to better understand the need for suicide prevention efforts, it is important to fully comprehend the pervasiveness of depression and suicide among college students. The following chapter will present research on the prevalence of depression and suicide among this population. Additionally significant, is research pertaining to student knowledge and attitudes relating to these topics. Barriers to student help-seeking behavior, such as the stigma associated with depression and suicide and a lack of
knowledge about resources to utilize for help, have been identified as key components to creating effective prevention programs. Finally, it is necessary to examine research that evaluates existing prevention programs and the current evidence based practices for suicide prevention among college students. These issues will be reviewed in the following chapter.
Chapter II

Review of the Literature

Introduction

This chapter will explore research relevant to suicide and depression as these topics relate to college students and prevention efforts on college and university campuses. The chapter will begin with a general discussion of suicide and depression including descriptions of symptoms, prevalence among college students, student perceptions about the degree to which these issues are a problem and issues of diversity as they pertain to prevalence. Following this will be an exploration of student behavior, attitudes, and knowledge pertaining to depression, suicide, and help-seeking. This will include examinations of the barriers to student help-seeking behavior, the stigma associated with mental health disorders, and the lack of student knowledge about resources to utilize for help. Finally, there will be a review of the evidence-based practices for suicide prevention among college students as well as a review of existing depression and suicide prevention programs. Overall, the literature review will identify the need for both the implementation and evaluation of depression and suicide prevention programs on college campuses.

Depression and Suicide Among College Students

Depression

According to the National Institute of Mental Health (NIMH, 2011), oftentimes it is during the college years when people experience the first symptoms of depression. The DSM IV-TR (2000) characterizes major depressive disorder by one or more major depressive episodes accompanied by at least four other symptoms of depression
including: changes in appetite, changes in sleep patterns, irritation, fatigue, feelings of worthlessness or guilt, difficulty concentrating and/or making decisions, and thoughts of suicide or suicide attempts. A major depressive episode is characterized by, “a period of at least two weeks during which there is either depressed mood or the loss of interest or pleasure in nearly all activities” (DSM IV-TR, 2000, p. 349). Many individuals experiencing depression report feelings of sadness, anxiety, irritability, helplessness, and hopelessness that are persistent and interfere with daily activities. A genetic vulnerability may put some people at a higher risk for depression; however, environment can also be a key factor. Some of the stresses of college such as living away from family for the first time, the challenge of new classes, or worrying about paying bills could also be cause for depression. Most colleges offer free or low cost mental health services to students who may be exhibiting signs and symptoms of depression (NIMH, 2011).

**Suicide**

Suicide is a death caused by self-directed injurious behavior with any intent to die as a result of the behavior (Crosby et al., 2011). Suicide deaths are only a piece of the problem of suicide. Many more individuals survive attempts at suicide then die (Suicide Prevention Resource Center, 2012). Westefeld et al. (2006) cite that “suicide on college campuses in the United States has been an issue of great concern for many years” (p. 931). There are gender disparities in suicide attempts and completions. Women attempt suicide at a rate two to three times higher then men. Men complete suicide at a rate of four times as often as women (SPRC, 2012). This disparity has been attributed to the difference in choice of means by males versus females; men tend to use more violent and
lethal means, such as firearms, while women tend to use more nonviolent and less lethal means, such as poison (Otsuki, Kim, and Peterson, 2010).

**Prevalence of Depression and Suicide**

The American College Health Association (ACHA, 2010) conducted a survey of 30,093 students at 39 postsecondary institutions across the United States. Results indicated that 28.4% of students reported that within the last 12 months they felt so depressed that it was difficult to function. Six percent of students in the same survey reported that within the last 12 months they had seriously considered suicide and one percent reported making a suicide attempt within the past 12 months. Eight percent of students reported being diagnosed or treated by a professional for depression within the past 12 months.

Furr, Westefeld, McConnell and Jenkins (2001) examined the self-assessed rates of depression and suicide among college students. Researchers distributed brief questionnaires in academic classes pertaining to: students’ experiences of depression since beginning college and if they had thought about or attempted suicide since beginning college. Surveys were collected from 1,455 college students across four colleges and universities in the Midwest and South. Responses from this survey revealed that 53% of students indicated experiencing depression since starting college. Nine percent of respondents indicated they had thought about committing suicide since beginning college and 1% indicated they had attempted suicide since beginning college. Seventeen percent of those students who reported experiencing depression reported seeking counseling.
The aforementioned studies were based solely on student self-report. A study by Eisenberg et al. (2007), contributed to the literature on prevalence by distributing surveys that included the use of instruments validated against clinical diagnosis. Researchers utilized the PHQ-9 in order to measure depression. This is a 9-item screening tool based on criteria indicated in the Diagnostic and Statistical Manuel for Mental Disorders. Researchers additionally used survey questions from the National Comorbidity Survey Replication (NCS) to assess for suicidality. Surveys were completed by 2,843 students at a large Midwestern public university. Fourteen percent of undergraduate students and 11.3% of graduate students screened positive for depression. Three percent of undergraduate students and 1.6 % of graduate students indicated experiencing suicidal thoughts in the past four weeks. The rates of depression in this study are significantly lower than those found in some other research (ACHA, 2010; Furr et al. 2001). Limitations to this study cited by researchers include lack of generalizability from the sample and the capacity for the PHQ-9 instrument as a tool used for screening versus diagnosis.

Prevalence of Suicidal Ideation

A study of 108,536 students across 70 U.S. colleges and universities indicates that suicidal ideation is more common than previously believed (Drum, Brownson, Denmark, and Smith, 2009). In this extensive study on the nature of the suicidal crises in college students, researchers found that 18% of undergraduate students and 15% of graduate students responded “yes” when asked if they had “ever seriously considered attempting suicide.” Among these students, 47% of undergraduates and 43% of graduates reported having multiple periods of suicidal ideation. These findings indicate that suicidal ideation
presents a “prevalent and recurrent problem for the nation’s college students” (Drum et al., 2009, p.215).

**Student Perceptions of the Problem of Depression and Suicide**

There is a discrepancy between student perceptions of the problems of depression and suicide as a whole and suicide and depression on their own college campuses (Westefeld et al., 2005 and Furr et al., 2001). In a survey conducted by Westefeld et al. (2005), researchers asked participants the degree to which they perceived suicide to be a problem for college students. Forty-two percent of students responded that they thought suicide was a problem for college students. Ten percent of students surveyed responded that they thought suicide was a problem on the campus of the college they were currently attending. A survey conducted by Furr et al. (2001), revealed that 47% of students believed depression was a serious problem, while 37% of students believed depression to was a serious problem at their school. In the same survey 53% of students indicated experiencing depression since beginning college.

**Risk Factors Among College Students**

Westefeld et al. (2006) examines risk factors related to college student suicide. A combination of developmental changes and other factors such as: a past history of attempts, substance abuse, history of physical or sexual abuse, hopelessness or helplessness, and depression have been shown to raise the risk of suicide among this population. Cukrowicz et al. (2011) specifically emphasizes that any level of depression is cause for concern. Researchers cite evidence that depression is an important risk factor in suicidal ideation. In their three studies of undergraduate students and the relationship between suicide ideation and severity of depressive symptoms, they found that increased
suicide ideation is not limited to only students who have severe depressive symptoms. Researchers found that students who have only minor to moderate symptoms may also experience suicidal thoughts. Suicide is linked to depression and following a suicide is often diagnosed upon psychological autopsy (Swartz, et al., 2010).

Diversity Issues

In examining the differences in suicide rates among various ethnic groups there are some diversity issues to be considered. While suicide is prevalent among all races and ethnicities, there are some groups in particular who seem to have a much higher prevalence of suicidal behavior than others (Goldston et al., 2008). According to these researchers, “Evidence of racial and ethnic differences is readily apparent in the rates of lethal and nonlethal suicidal behaviors among different groups of adolescents” (Goldston et al., 2008, p. 15). Suicide deaths are reported highest among American Indian/Alaska Native (AI/AN) males, followed by Latinas. Suicide attempts are highest among both male and female AI/AN (Goldston et al., 2008). Among the AI/AN population aged 15-24, the suicide rate is 2.5 times higher than that of any other racial group in the United States (Hamilton & Rolf, 2010). Geographic isolation, lack of education, financial insecurities, and alcoholism among the AI/AN population have been cited as potential cultural factors in the high prevalence of suicide among this group (Goldston et al., 2008; Hamilton & Rolf, 2010). Research shows that cultural factors play a major role in explaining high suicide rates among groups as well as other aspects of suicidal behavior and help-seeking. Goldston et al. (2008), assert that there may be culture specific patterns in the triggers of suicidal behavior; risk and protective factors for suicidal behavior may be influenced by cultural context, such as level of acculturation; characteristics of
suicidal and related behaviors may differ across cultures; and culture may affect the stages of help seeking behaviors.

Another group that has been identified at higher risk for suicide as well as depression is lesbian, gay, bisexual, and transgendered (LGBT) youth. Higher levels of both depression and suicidality have been found among youth who identify as homosexual versus those youth who identify as heterosexual (Marshal et al., 2011). A number of risk factors have been identified for this group including, increased rates of depression among this population, LGBT discrimination and victimization, early age of first same-sex attraction, and increased rates of substance abuse (Marshal et al., 2011; Moon, Fornili & O'Briant, 2007; Mustanski & Liu 2013).

**Student Behavior, Attitudes, and Knowledge**

*Student Use of Counseling Services*

Eighty percent of students who die by suicide never participate in counseling services (Drum et al., 2009). A number of studies have examined potential barriers to the utilization of counseling services by college students including attitudes and beliefs that the problem is manageable without professional help, fear of stigma, and lack of knowledge about available resources (Arria et al., 2011; Downs & Eisenberg, 2012; Eisenberg et al., 2007; Westefeld et al., 2005). Of those students who have participated in counseling services, up to 68% report that counseling had been helpful (Furr et al., 2001). Students who sought professional help have been shown to be less likely to commit suicide than those who do not seek help (Drum et al., 2009).
Barriers to Student Help Seeking

Drum et al. (2009) found that students’ reasons for not disclosing their suicidal ideation to someone included “fear of being stigmatized of judged, not wanting to burden others, knowledge that the problem was transitory, not having anyone to tell, and fear of consequences such as expulsion from school or forced hospitalization” (p. 218). These researchers found that 46% of undergraduate and 47% of graduate students chose not to tell anyone about their suicidal thoughts.

In a study by Gould et al. (2004) that examined attitudes about coping strategies and help-seeking behavior for suicidality among adolescents from six New York State schools, approximately one-third of students at risk thought they should be able to handle their own problems without outside assistance. In the same study, one-fourth of students at risk believed that if you are depressed, it is a good idea to keep those feelings to yourself.

Eisenberg, Golberstein, and Gollust (2007) administered an online survey to a random sample of 2,785 undergraduate and graduate students at a large public university to look at the factors associated with student help-seeking. The research objectives in this study specifically included: “to identify which factors (awareness, beliefs, financial or insurance constraints, and sociodemographic characteristics) are associated with the likelihood of perceiving a need for and using services” as well as “to identify the most prominent factors that students report to be barriers to using services” (p. 595). Students were screened, using a variety of measures for depression, generalized anxiety disorder, impairments in academic functioning due to mental health problems, perceived need for mental health services, and psychotropic medication use. Researchers found that 30% of
students reported a perceived need for mental health services in the year prior. Students identified as currently dealing with mental health problems, as indicated by measures for depression and anxiety, were significantly more likely to both perceive a need for and receive services. Researchers asked the question, “Which reasons explain why you have not received medication or therapy in the past 12 months for your mental or emotional health?” (p. 600). Results of this study indicated that 51% of students cited the belief that stress is normal in college/graduate school. Thirty-seven percent of students cited that “the problem will get better by itself,” and 20% cited worry over what others would think of them. Limitations of this study include the use of screening tools over formal clinical diagnosis of mental health problems, a lack of information collected pertaining to use of more informal help services such as religious organizations and limitations related to determinants of causality. Researchers in this study emphasized the importance of continued research into the factors impacting access to mental health services.

*The Stigma of Mental Health*

A large percentage of the research examining barriers to college student help-seeking behavior cite fear of stigma as a primary factor (Arria et al., 2011; Drum et al., 2009; Downs & Eisenberg, 2012). “Most researchers and advocates agree: people with mental illness suffer the greatest impact from stigma” (Corrigan, 2005, p. 17). Corrigan (2005) makes a distinction between public and self-stigma. Public-stigma refers to a negative attitude the general public has about people with mental illness. Self-stigma involves negative beliefs about oneself such as believing one has less value than others because of a mental health disorder. “Many people choose not to pursue mental health
services because they do not want to be labeled a 'mental patient' or experience the prejudice and discrimination that the label entails” (Corrigan, 2005, p. 28).

The help-seeking rates of college students reviewed in the literature reveal the impact stigma has on those young adults suffering from a mental illness (Arria et al., 2011; Downs & Eisenberg, 2012). Arria et al. (2005) found that stigma-related fear and attitude/ beliefs were barriers most often cited to not receiving treatment. In this qualitative study, researchers examined help-seeking behavior of 158 college students who had a lifetime history of suicidal ideation. This was a supplemental study to a more broad and longitudinal health risk behavior study of 1,253 college students. Students who reported suicidal ideation were invited to participate in a thirty-minute interview to assess help-seeking behavior and lifetime prevalence of psychological distress. Of those students who participated in the interview, 96% reported a minimum of one episode of psychological distress in their lifetime, with most episodes occurring after the start of college. Of those ninety-six percent, 73% reported receiving formal treatment, which was defined by researchers as utilizing those services provided by health professional, counselors, campus or community based health or counseling centers, hospitals or other facilities, law enforcement officials, support groups rehabilitation clinics, or hotlines. Attitudes and beliefs were most often cited as reasons for not seeking treatment. Fifty-eight percent of students reported thinking the problem could be solved without treatment. Stigma related barriers accounted for 39% of students who did not seek treatment. Researchers suggest that, “educational efforts to raise awareness might help to change such beliefs in the general population of college students” (p.1512). Additionally recommended are more proactive efforts targeting at risk students. Limitations of this
study included a small sample size that may or may not be generalizable to larger populations.

In a larger scale study on the relationship between help-seeking behavior of suicidal students and their attitudes and beliefs, Downs and Eisenberg (2012) had similar findings. Researchers surveyed 8,487 undergraduate and graduate students from 15 universities within the United States. This study involved the administration of an online survey to examine how attitudes and beliefs about suicide relate to help-seeking. Researchers examined both personal and perceived stigma. Personal stigma being one’s own personal negative beliefs about those with mental health problems and perceived stigma being views about others’ beliefs about those with mental health problems. Thirty-five percent of respondents were worried what others would think of them if they sought help for mental health problems. Concerns included that others would think less of them, seeking help was a sign of failure, and a lack of acceptance by others. In this study, perceived stigma was significantly higher than personal stigma. Researchers suggest propagating the idea that mental health services are part of ordinary health care and that seeking help for mental health issues does not indicate a personal shortcoming (Downs and Eisenberg, 2012).

Diversity and Help-Seeking

Goldston et al. (2008) call attention to the impact that culture has on help-seeking behavior. Stigma or concerns that treatments will not align with cultural values are cited as possible hindrances to help-seeking. Among the AI/AN population, research shows that only 10-35% will seek help during a suicidal incident (Hamilton & Rolf, 2010). Research shows alarmingly low rates of help-seeking among the Asian American
population, with only 4% reporting the utilization of a mental health specialist for help (Goldston et al., 2008). A number of factors have been presented as contributing factors to the low rates of help-seeking among various cultural groups. The desire to be self-reliant, concerns about confidentiality, language barriers, fear of deportation, and a preference to seek help within the family have all been cited as contributing factors (Goldston et al., 2008; Hamilton and Rolf, 2010).

**Lack of Student Knowledge about Resources to Utilize for Help**

In the previously discussed study done by Eisenberg, Golberstein and Gollust (2007), researchers reported that 49% of students knew where to go for mental health services and 59% knew about free counseling services on campus available to them. Other researchers have found that significantly less students are aware of resources for dealing with suicide on campus (Westefeld et al. 2005). In a recent survey of college freshman at a West Coast public University, researchers found that 63% of students would seek out help from campus resources if someone they knew were experiencing depression or suicidal thoughts (Sise et al., 2011). However, in the same survey a significantly smaller portion (38%) of students were likely to use campus resources for themselves. This survey was conducted in an effort to predict the efficacy of a new prevention tool on a college campus. A majority of students surveyed reported they would use the prevention tool, a magnet displaying the warning signs of suicide and phone numbers for university counseling services and a crisis hotline. Researchers suggest that this intervention has the potential to raise awareness about counseling services available on campus (Sise et al., 2011).
Suicide Prevention Programs for Youth and Young Adults

Given the research pertaining to a lack of knowledge, underutilization of campus mental health services and low incidence of help-seeking among college students, the development and implementation of primary prevention programs that focus on the entire campus community and the reduction of stigma have been strongly encouraged (Sise et al., 2001; Drum et al., 2009; Downs & Eisenberg, 2012). The following section will begin with an overview of youth suicide prevention models. This will be followed by a review of current suicide prevention programs for youth that have been empirically evaluated including: the CARE program, QPR Gatekeeper Training Program, Sources of Strength Suicide Prevention Program, and the Adolescent Depression Awareness Program. Additionally explored will be the Jed Foundation’s suggested framework for implementing a comprehensive suicide prevention program on college campuses and the similarities between the elements of this framework and The Blues Project. Finally, suggestions for prevention efforts in working with multicultural populations will be briefly explored.

An Overview of Youth Suicide Prevention Models

The CDC (1992) created a resource guide, which outlines eight different youth suicide prevention strategies. The first and second strategies are school gatekeeper and community gatekeeper training. These types of programs focus on training school staff or community members such as clergy, law enforcement, etc. to identify those students who may be at risk for suicide and refer them for help. The third strategy is general suicide education. A review of a number of suicide education programs was conducted by Gould, Greenberg, Velting, and Shaffer (2003). These researchers found that suicide awareness
curriculum programs were neither supported nor rejected based upon multiple evaluations. Gould et al. (2003) found that while some benefits such as improvement in knowledge, help seeking behavior, and attitudes were evident, other studies found either no benefits or in some cases detrimental effects. These researchers additionally suggested a shift in education from a suicide awareness program to those promoting the acquisition of various skills such as coping, and problem solving with the hope, “that an immunization effect can be produced against suicidal feelings and behaviors” (Gould et al., 2003, p.395).

The fourth strategy suggested involves the use of screening programs to identify those individuals with the greatest number of risk factors for suicide. Once identified, it is possible to take specific actions to prevent those at-risk students from attempting suicide. The Care, Assess, Respond, Empower (CARE) suicide prevention program is one such intervention that utilizes screening procedures. This program will be discussed in greater detail later in this paper.

The fifth strategy, peer support programs, has proven to be effective by a number of researchers. A study of the Sources of Strength Suicide Prevention Program, which will be discussed in more detail, found that interventions delivered by peer leaders were effective in changing student's attitudes about suicide and increasing the likelihood of help seeking behavior (Wyman et al., 2010).

The sixth and seventh strategies, crisis centers/ hotlines and means restriction are designed to provide more emergency type care to suicidal individuals and are discussed as more of an educational piece in most programs. These are both important components
in ensuring the safety of a person who may be suicidal, however, are not considered to be primary prevention strategies.

The final strategy, intervention after a suicide, or "postvention", is of particular importance in schools. “Research has found that when news of suicide is prominently displayed in the media or suicide is addressed in a fictional television show or popular movie, there is a predictable increase in suicidal deaths among young people during the following weeks” (Center for Mental Health in Schools at UCLA, 2003, p. 83). Therefore, when a suicide occurs in a school it is important that the event not be romanticized in any way. Students should be informed of the event and counseling should be made available so that students may process any feelings of grief (CMHSU, 2003).

While suicide prevention programs all utilize unique strategies, most strategies can be conceptualized into two broad categories. The first category includes those that serve to enhance the recognition of suicidal youth and their referral to mental health resources (school gatekeeper, community gatekeeper, screening programs, crisis centers and hotlines). The second category includes strategies aimed at directly addressing and educating about known or suspected risk factors for youth suicide (general suicide education, peer support programs). Swartz et al. (2010) notes that regardless of which strategy is used, most programs focus on suicide prevention alone and do not address the association between adolescent suicide and depression. Swartz et al. (2010) cite that in a survey of suicide prevention programs only 4% of those programs adhered to the theory that suicide is a consequence of mental illness.

**Evaluation of the CARE Suicide Prevention Program**

The CARE suicide prevention program is one of eight evidence-based programs
indicated on the Substance Abuse and Mental Health Services Administration’s (SAMHSA) registry of evidence-based programs and practices listed under suicide prevention. This program was originally developed for high school aged youth at risk of substance abuse or dropping out of school, however, has been expanded to include young adults in non-educational settings including health care clinics. In an examination of the long-term outcomes for this prevention program, Hooven, Herting, and Snedker (2010) reviewed the design of the original intervention. This included the delivery of the CARE suicide prevention program to over 600 high school students at risk for suicide and their families. Students were first classified as “at risk” for suicide based upon the administration of a comprehensive survey. This survey was given to over 2,000 students, which included screening questions for suicide risk identified to be both valid and reliable measures by researchers in this study. Those students screened to be “at risk” were assigned to participate in one of two protocols, either CARE or Minimal Intervention (MI). CARE was broken down into three intervention groups including: Parents CARE (P-CARE), Counselors CARE (C-CARE) or a combination (P&C CARE). Researchers hypothesized that the P&C CARE intervention would have the greatest changes in outcomes and that the three intervention groups would be more effective than MI. The CARE interventions included the completion of a two-hour computer assisted assessment and two hours of individual motivational counseling including linkage to social support resources. The P-CARE intervention additionally included a total of four hours of training for parents on suicide prevention and strategies to help their children. Follow up “booster” sessions were additionally provided to review and reinforce strategies and reassess risk and protective factors approximately 2.5 months later. The
Minimal Intervention included a brief assessment interview followed by the assembly of support at home and school. The CARE program is designed to increase help seeking through problem awareness and support-activation. Objectives of the CARE program include: decreasing suicidal behaviors, decreasing risk factors, and increasing personal and social resources (SAMHSA, 2007).

Hooven, Hertings, and Snedker (2010) reported on short-term effects of the CARE program from baseline to immediately post intervention. Researchers reported statistically significant findings in the reduction of depression and suicidality. Similar studies on the post intervention efficacy of this program yield similar results (Eggert et al., 2002; Randell, Eggert, and Pike, 2001). In the long-term young-adult follow-up study conducted by Hooven Hertings and Snedker (2010), 86% of participants from the original program were surveyed approximately six years post baseline. These researchers used latent class growth models to examine change patterns in depression and suicide-risk behaviors over time. Over the transition from adolescence to young adulthood, researchers found a continued pattern of decreased risk for depression and suicide among participants. Hooven et al. (2010) postulate that results are based upon factors within the design of the CARE Program including the intent to increase problem awareness, support activation, and help-seeking. "When young people learn to seek help when thoughts of suicide occur instead of acting on those thoughts suicide risk is lowered" (Hooven et al. 2010, p. 731). Hooven et al. (2010) acknowledge possible limitations to this study including lack of a control group and loss of participants from baseline to long-term follow-up. Ultimately this study serves to evidence the long-term impacts that a suicide prevention program can have on adolescents and young adults as well as exemplify
measures for examining suicide risk over time.

**The Question Persuade Respond (QPR) Gatekeeper Program**

Gatekeeper training aims to train individuals to identify students at risk of suicide and refer them for help (CDC, 1992). A number of studies have examined the QPR gatekeeper program among adolescents and young adults (Indelicato, Mirsu-Paun, and Griffin, 2011; Tompkins and Witt, 2009; Wyman et al., 2008). QPR is considered a “best practice” by the Suicide Prevention Resource Center (Quinnet, 2007). Dr. Paul Quinnet created this intervention and originally published about the QPR Program in 1995. Since that time over a million individuals have been trained as QPR gatekeepers. In reviewing the theory behind this program, Quinnet (2007) describes the QPR program as “an emergency mental health intervention that teaches lay and professional gatekeepers to recognize and respond positively to someone exhibiting suicide warning signs and behaviors” (p.3).

Quinnet (2007) compares his QPR intervention to Cardio Pulmonary Resuscitation or CPR, an emergency medical intervention based on a “chain of survival” model where the chance of a patient surviving cardiac arrest increases when four links including: early recognition, early CPR, use of an external defibrillator, and early advanced life support are connected. In Quinnet’s QPR model, the four links requiring similar connection include: early recognition of suicide warning signs, early QPR, early referral to professional services, and early professional assessment and treatment. The QPR Gatekeeper Training Program is designed around three broad principles: awareness, surveillance, and detection. “The training is designed to increase awareness about the problem of suicide, enhance surveillance of others in distress, which leads to greater
detection of observable suicide warning signs” (Quinnet, 2007, p. 4). Gatekeepers are trained how to ask if someone is suicidal, how to persuade suicidal individuals to seek help, and about information pertaining to resource referral (Indelicato et al., 2011).

**Gatekeeper Training Program with Residence Advisors.**

Tompkins and Witt (2009) examined the efficacy of the QPR program. In this study, 240 college residence advisors across the Pacific Northwest from six private colleges participated in a quasi-experimental non-equivalent control group designed study. Of the six participating schools, three college’s RA staff served as control groups and completed pretest surveys. A limited number (n=31) of control group participants completed a posttest survey online. The other three college’s RA staff received QPR training and completed surveys immediately pre and post training. A limited number of participants additionally participated in a follow-up survey approximately four to six months later. The surveys administered to participants were adapted from prior gatekeeper research evaluations and included questions pertaining to self-reported knowledge about suicide prevention, attitudes about suicide and suicide prevention and personal gatekeeper behavior. Results indicated that QPR training was effective in increasing self-reported ratings of preparation, efficacy, and intentions to perform in a gatekeeper role. Researchers report that gains for those RA’s trained in QPR were more substantial than those who did not participate in the training. Limitations cited by researchers in this study included the possibility of other confounds that may have influenced results due to some gains demonstrated among control group participants. Additionally cited limitations included lack of experimental control due to the research design and limited collection of pre to posttest data from a comparison group of
participants. This study serves to exemplify the potential for the QPR gatekeeper program to positively impact a college population. Tompkins and Witt (2009) suggest the need for future research in this area.

*Gatekeeper Training at a Large Southeastern University.*

Indelicato, Mirsu-Paun, & Griffin (2011) conducted a study on the efficacy of the QPR Program at a large southeastern university. In this study, gatekeepers trained included students, faculty, and other staff members. Researchers, “examined participants’ self-rated suicide prevention knowledge, their thoughts about intervening with suicidal individuals, and the frequency and use of the training gains over a 3-month period” (p. 351). Of the 1,374 students, faculty and staff who participated in the gatekeeper training, 67% completed a pretest paper questionnaire, 28% completed a one-month follow up questionnaire online and 18% completed a three-month follow up questionnaire online. The questionnaire was adapted from the standard version created by Quinnet and consisted of six questions scored on a five-point Likert scale. Results indicated that participants, “were effective in acquiring and retaining information regarding facts, warning signs, risk factors and how to ask someone about suicide” (Indelicato et al., 2011 p. 360). Limitations to this study include the significant decrease in participants from pre-test to post-test and use of a questionnaire that had not undergone a validation procedure. Furthermore, the focus of this particular study is primarily on the suicide awareness of trained gatekeepers and gives no indication of improving awareness on a campus-wide scale. This study serves to present the efficacy of a gatekeeper training program and researchers suggest that “based on the incidence of suicide among college-aged students, the introduction of preventative programs on campuses is critical” (p.361).
Sources of Strength Suicide Prevention Program

This program was developed in the late 1990’s under the leadership of Mark LoMurray in North Dakota. This program utilizes peer leaders who collaborate with adult mentors and conduct focused peer-to-peer prevention activities in their school. The primary aim of this program is to encourage dialogue about suicide and increase positive help-seeking behaviors among students by normalizing the act of reaching out to adults for help. Program implementation launches by training two to five adult mentors in schools for four to six hours on the sources of strength model. The mentors’ role is to guide peer leaders in distributing safe suicide prevention messaging. Peer leaders are recruited through school staff nomination and review. As the program continues, past peer leaders will take part in the recruitment of future peer leaders. Those students selected as leaders complete a three to four hour training with adult mentors and meet bi-weekly over a period of time in order to plan/review action steps. Action steps for peer leaders include outreach efforts centered around hope, help, and strength messaging throughout the school community. Peer leaders use a number of strategies including social networking, presentations, “local faces” posters/audio/videos, and text-forwarding.

In 2009, this program was registered by both the Suicide Prevention Resource Center and the American Foundation for Suicide Prevention as a National Best Practice for suicide prevention (Chavis, 2010; Wyman et al., 2010; Sources of Strength, 2012).

Peter Wyman, Ph.D, led an outcome evaluation of this program at the University of Rochester Medical Center and results were published in the American Journal of Public Health in September 2010. The study examined the effectiveness of the Sources of Strength Suicide Program in eighteen high schools in Georgia, New York, and North
Dakota. Six of the 18 high schools were located in metropolitan areas and 12 were located in rural locales. Researchers were interested in evaluating both the impact of the program on student peer leaders as well as norms about suicide within the entire school population. Schools were randomly assigned to either an immediate training group or a control group to begin training in five months. Before group assignment, each school used a set of standardized procedures for the recruitment of peer leaders. The students chosen were representative of ethnic populations in the schools.

A total of 496 students enrolled as peer leaders and of those students, 453 completed both pre and posttest questionnaires (Wyman et al. 2010). Additionally, in order to measure effects on the entire school population, surveys were administered to all students from the six smallest schools in the study and half of the classrooms in the larger schools, which were selected by random sampling. Questionnaires examined three areas including: suicide perceptions and norms, social connectedness, and peer leader behaviors. Items on the questionnaires were reviewed for content validity by a panel of experts. Wyman et al. (2010) found significant positive changes in peer leaders including: an increased belief that adults at school could help students who may be suicidal, increased use of coping resources identified as sources of strength, decreased maladaptive coping approaches, and an increase in the amount of identified adults who could be trusted. These researchers additionally found significant and positive changes among the student population, which included changes in perceptions and norms surrounding seeking help from adults. Limitations cited by researchers in this study included the reliance on self-report measures, and lack of data on long-term outcomes as a result of program implementation. Ultimately, these findings by Wyman et al. (2010) show that
the Sources of Strength Suicide program, delivered by peer leaders, was effective in modifying norms across a school population and increasing the belief that adults can provide help to suicidal students.

Adolescent Depression Awareness Program

Swartz et al. (2010), theorizes that, “Introducing depression education programs into the high schools is an alternative approach to addressing the public health crisis of adolescent suicide while concurrently addressing the morbidity associated with unrecognized and untreated adolescent depression” (p.12). Swartz et al. (2010) conducted an outcome study of such a depression education program, The Adolescent Depression Awareness Program (ADAP). ADAP was developed in 1999 by two psychiatrists and one psychiatric nurse. The program is geared toward high school students and includes the teaching of a three-hour depression education curriculum over the course of two or three health classes. The ADAP curriculum includes lectures, videos, interactive activities, and homework focusing on both knowledge about depression and attitudes about treatment for depression. Within the lessons, suicide is presented as a symptom of depression and an emphasis is placed on suicide as part of an illness needing treatment rather than a typical response to stressful life events. The central goal of the program is to increase student knowledge about depression. A secondary aim is to change student perceptions about suicide and decrease the negative stigma that often accompanies psychiatric illnesses (Swartz et al., 2010; Johns Hopkins Medicine, 2012).

Swartz et al. (2010) reports on an initial outcome evaluation of this program that was conducted from 2001-2005. In this study, 3,538 students from six high schools in a large public-school district in Maryland were surveyed before and after being taught the
ADAP curriculum. In order to assess the effectiveness of the curriculum, the Adolescent Depression Knowledge Questionnaire (ADKQ) was developed by researchers and administered as a pretest and posttest to participating students. Students were given the questionnaire prior to taking part in the program and again six weeks following the delivery of the ADAP curriculum. Results of these assessments showed a statistically significant increase in student knowledge from the pretest to the posttest. However, researchers cite limitations in concluding causation due to the lack of a randomized, controlled study design. Additionally, while this program serves to effectively increase participant awareness about the issues of depression and suicide, it does not necessarily serve to increase or normalize help-seeking behavior. Swartz, et al. (2010) notes this limitation and discusses how it is unknown whether increased knowledge about depression leads to increased treatment-seeking behaviors. This is an important component in suicide prevention considering that approximately one-third of at-risk students with serious suicidal ideation and behavior believe that people should be able to handle their own problems without any outside help (Gould, Velting, Kleinman, Lucas, Thomas, & Chung, 2004). This was briefly addressed in Question 4 of the ADKQ: “Depression can be controlled by willpower.” Researchers note the clinical importance of the response to this prompt, "students must understand that willpower alone is by no means adequate treatment for depression, just as willpower would not be sufficient treatment for asthma or diabetes” (p.17). Once this point is understood, however, the issue becomes whether or not an individual will in fact seek out the help they know they need. Therefore, ideally researchers recommend this intervention as a piece of a more comprehensive program. Perhaps incorporating education about both depression and suicide as well as increasing
availability of resources and help seeking may be most effective.

A Review of Implementation of The Jed Foundation Framework

With the exception of the QPR outcome studies (Indelicato et al., 2011; Tompkins & Witt, 2009) the aforementioned programs primarily outline schemes for programs in high school settings (Hooven et al., 2010; Swartz et al., 2010; Wyman et al., 2010). The Jed Foundation (2006) suggests a program model aimed at targeting college populations. This comprehensive program for suicide prevention was developed in 2005 by a committee of college counselors, senior college administrators, mental health professionals and attorneys specializing in college issues. The Jed Foundation framework identifies eight key domains, which collaboratively aim at suicide prevention, intervention, and postvention efforts (The Jed Foundation, 2006). These eight domains include: educational programs, social marketing, social network promotion, life skills development, questionnaire/screening, mental health services, crisis management, and means restriction.

Washburn and Mandrusiak (2010) examined how one large Western Canadian University has attempted to implement strategies informed by the comprehensive framework for suicide prevention developed by The Jed Foundation. This University incorporated numerous strategies based upon the suggested Jed Foundation Framework. Each strategy included in the University’s program aligns with one or more of the eight domains outlined by The Jed Foundation.

Student Connectedness and Engagement. The first strategy implemented was enhanced student connectedness and engagement. This strategy aligns with The Jed Foundation domains of social network promotion and life skills development. The University strives
to provide a number of opportunities for students to establish meaningful connections within the campus community. The University additionally is diligent in promoting these opportunities through online venues.

**Suicide Awareness.** The second strategy implemented was a suicide awareness campaign. This strategy aligns with the Jed Foundation domain social marketing. This intervention included a variety of activities including the distribution of information cards and the display of posters on campus. The specific goals of this program included, “increasing awareness of the warning signs of suicide and of available community resources, and increasing visibility for suicide prevention and intervention” (Washburn & Mandrusiak, 2010, p.107). Researchers note that, to date, this campaign has not been systematically evaluated for its efficacy and that this will be an important task to complete in the future.

**Gatekeeper Training.** The third strategy implemented was gatekeeper training. This intervention aligns with the Jed Foundation domain educational programs. The QPR Gatekeeper Training Program, previously discussed in this chapter, was implemented on this campus. At the time of publication, Washburn and Mandrusiak (2010) cited that data on the efficacy of this program was still being collected, however, preliminary results indicated a positive outcome.

**Collaborative Identification and Treatment of Depression.** The fourth strategy implemented was collaborative identification and treatment of depression. This intervention aligns with the Jed Foundations domains questionnaire/screening and mental health service. Washburn and Mandrusiak (2010) emphasized the link between depression and suicide. In order to target this component, the University in this study established a shared-care collaborative among physicians and mental health practitioners
throughout the community. The collaborative received specialized training in the area of mild depression treatment, implemented a systematic screening and assessment for depression, and served to maximize the sharing of resources.

*Specialized Training in Suicide Assessment and Treatment.* The fifth strategy implemented was specialized training in suicide assessment and treatment. This intervention aligns with the Jed Foundation domain mental health service. For this intervention counselors and psychologists from University Counseling Services took part in the Question, Persuade, Respond, and Treat (QPRT) program, an offshoot of the QPR gatekeeper training program. Suicide risk assessment and creating safety intervention plans are the focus of this training program for University staff participants.

*Increased Access to Counseling Services for At-Risk Students.* The sixth strategy implemented was increased access to counseling services for at-risk students. This aligns with the Jed Foundation domain mental health service. In order to increase access, the Counseling office added a daily drop in service as well as an emergency back up system into its appointment system. This leaves availability for those students who may be in crisis to be seen by a counselor. Washburn and Mandrusiak (2010) note that the wait time for students not considered to be “in crisis” is over a month, which is a significant barrier to students receiving mental health care and increases the likelihood that their concerns may become crises within that time lag of calling to make an appointment and being seen by a counselor.

*Enhanced Crisis Management Policy and Procedures.* The seventh strategy implemented was enhanced crisis management policy and procedures. This aligns with the Jed Foundation domain crisis management. The University established a crisis intervention
team to work closely with at-risk students in a case management type capacity. Additionally, this team was appointed with the task of identifying strategies for the University to best respond to at-risk students such as the implementation of an involuntary mental health leave policy.

The only domain from the Jed Foundation Framework not included in this University’s action plan was means restriction. This domain was indicated as the target of programs managed by other campus and community associations such as campus security and local law enforcement.

Washburn and Mandrusiak (2010) point out that the efforts put forth by this University to implement a comprehensive suicide prevention program on a college campus require a large commitment on the part of the University and involve the collaboration of the entire community. Additionally essential to suicide prevention interventions is evaluation of programs. Washburn and Mandrusiak (2010) note that only anecdotal experiences have validated the effectiveness of the intervention strategies used by this University through case studies and, “a more systematic evaluation is required to ascertain their relative effectiveness and to inform future program development” (p.108).

The Blues Project

The Blues Project is another prevention program for college students, which aligns with the framework set forth by the Jed Foundation. This program was developed in the early 1990's and originally was modeled after the QPR program. The Blues Project has since evolved, extending a type of gatekeeper based training to a wider set of students through psychoeducational programs delivered by peer leaders. All students enrolled at the university are eligible to become peer leaders and interested students are encouraged
to submit an application. Students may volunteer to become peer leaders or register for a class to receive academic credit for their participation. Similar to the Sources of Strength suicide prevention program, peer leaders complete training with mentors and meet weekly to review and plan action steps. Additionally, past peer leaders take part in the recruitment and training of future peer leaders (Wyman et al., 2010; Sources of Strength, 2012).

The Blues Project is sponsored by University Counseling Services (UCS) and serves as a link between students and the UCS (The Blues Project, 2009). The Blues Project incorporates many of the domains recommended by the Jed Foundation Framework including: educational programs, social marketing, social network promotion, mental health service, and life skills development (The Blues Project 2009; The Jed Foundation, 2006). University Counseling Services additionally sponsors a helpline, which targets the crisis management domain of the Jed Foundation Framework. The Blues Project is unique in that the program incorporates information about depression into its model.

The educational program, mental health service, life skills development, and social network promotion domains are all targeted through 45-60 minute classroom presentations given by peer leaders. All Blues Project Presentations follow the same outline:

I. Introduction by peer educators (Who they are, why they became peer leaders, setting of ground rules, and opening statements)

II. Objectives of presentation

III. Discussion of common misconceptions and facts
IV. College student suicide and depression statistics

V. Information about Depression


VII. Discussion about behavioral indicators of suicide (warning signs)

VIII. Discussion about the feelings of someone suicidal

IX. Discussion about the causes of depression and suicide

X. Discussion about Do's and Don'ts

XI. Discussion about resources and distribution of resource materials

XII. Question and Answer Component

While in-class presentations by peer leaders are the primary intervention that the Blues Project employs, the program additionally brings attention to the topics of depression and suicide through social media outlets, such as Facebook as well as outreach activities, such as sponsoring on campus activities and distributing resources at campus events.

*Multicultural Considerations in Prevention Efforts*

“Accepting the premise that race, ethnicity, and culture are powerful variables in influencing how people think, make decisions, behave, and define events, it is not far-fetched to conclude that such forces may also affect how different groups define a helping relationship” (Sue & Sue, 2008, p.42). Research shows us that there is a wide range of rates of suicidal behaviors and attitudes toward suicidal behaviors across cultures (Goldston, et al. 2008).

However, there are few culturally sensitive interventions that have been reported as effective for working with suicidal adolescents. This is not surprising, as the bulk of mental health practices have been geared towards servicing the needs of the majority
Euro-American population. In the literature reviewed thus far pertaining to those suicide prevention programs considered to be “best practices,” little attention is given to multicultural perspectives (Hooven et al., 2010; Indelicato et al., 2011; Tompkins & Witt, 2009; Washburn & Mandrusiak, 2010; Wyman et al., 2010). Results of these studies were not indicated for separate ethnic categories, therefore it is unclear as to whether the efficacy of these programs would generalize across cultures. According to Sue and Sue (2008) “The problem with traditional definitions of counseling, therapy, and mental health practice is that they arose from mono-cultural and ethnocentric norms that excluded other cultural groups...Mental Health Professionals must realize that “good counseling” uses White Euro-American norms that exclude three quarters of the world’s population” (p. 36).

**Synthesis of Review of Research**

The research presented serves to explore issues relevant to suicide prevention among adolescents and young adults as well as current programs targeting youth suicide prevention efforts that have evidenced some level of efficacy. The prevention models reviewed have in part informed efforts put forth by the suicide prevention program that will be evaluated in this paper, The Blues Project. This outcome evaluation of The Blues Project will serve to fill a gap in the research base and be this first to provide information pertaining to the efficacy of this particular prevention program on a college campus.

The findings of researchers in the literature that has been reviewed impart the significant changes in knowledge and attitudes relating to depression and suicide that may result from prevention program efforts (Hooven et al., 2010; Indelicato et al., 2011; Swartz et al., 2010; Wyman et al., 2008). In an evaluation of the CARE suicide
prevention program, researchers report statistically significant findings in the reduction of depression and suicidality. Furthermore, researchers state, “it is likely that when young people learn to seek help when thoughts of suicide occur instead of acting on those thoughts, suicide risk is lowered” (Hooven et al., 2010, p.731).

In the evaluation of the Sources of Strength Suicide Prevention Program, researchers report the impact adolescent peer leaders had on suicide prevention. Researchers found “an intervention delivered by adolescent peer leaders can modify a set of norms across the school population that are conceptually and empirically linked to reduced suicidal behavior” (Wyman et al., 2010, p.1658). The goals of this particular intervention include an increase in help-seeking and knowledge of suicide prevention as well as a decrease in stigma surrounding mental illness and suicide (Sources of Strength, Inc., 2011). These goals are commensurate with those of The Blues Project and additionally, the use of peer leaders as agents of change resembles the intervention design conducted by the Blues Project.

The evaluations reviewed of the QPR Gatekeeper Training Program serve to demonstrate the impact prevention efforts may have among the college population. Researchers found significant differences in self-rated knowledge about suicide prevention and available resources for accessing help. Researchers point out “a byproduct of these changes may be an improved attitude in promoting help-seeking behavior and decreased stigma associated with mental health in general” (Indelicato et al., 2011, p. 359). Gatekeeper training has been encouraged as a key element in prevention efforts (U.S. Department of Health and Human Services, 1992; The Jed Foundation, 2006). The Blues Project incorporates elements of this strategy into prevention efforts, which are
supported by the empirical evidence for the importance of preparing students to serve in a
gatekeeper role provided by this research (Indelicato et al., 2011).

Evaluation of the ADAP, evidenced significant changes in student knowledge and
attitudes about depression among high school students who participated in the program.
This particular intervention highlights the link between depression and suicide and the
importance that students, parents, and teachers become aware of this link. Researchers
additionally suggest that increased knowledge may decrease stigma associated with
depression and therefore increasing likelihood of reaching out for help or attempting to
help others (Swartz et al., 2010).

Shared by all programs reviewed is the use of a research design incorporating pre
and post intervention questionnaires. (Hooven et al., 2010; Indelicato et al., 2011; Swartz
et al., 2010; Tompkins & Witt, 2009; Wyman et al., 2008) A similar design will be
utilized in the evaluation of The Blues Project and measures will be adapted from
questionnaires utilized by researchers in the aforementioned studies.

An evaluation of The Blues Project will add to the existing body of literature on
programs for youth suicide prevention. While the Blues project incorporates many
elements of the programs previously reviewed, this program is unique in its emphasis on
both depression and suicide. Additionally, The Blues Project focuses on a college
population whereas many of the programs reviewed to date have focused on adolescent
populations. Therefore, evaluation of the Blues Project will serve to potentially expand
upon the possible avenues for suicide prevention efforts among a college population.

According to Washburn and Mandrusiak (2010), the coordination of campus-wide
efforts to evaluate the success of a comprehensive suicide prevention program is
challenging, but the evaluation of the ongoing effectiveness of such programming both encourages continuous quality improvement and facilitates access to sustainable funding sources. While the focus of this particular evaluation is only a piece of the comprehensive suicide prevention plan at one regional university in the Western United States, it is important to target individual interventions to determine effectiveness. This particular intervention is of interest because as Washburn and Mandrusiak (2010) note, “the evaluation of the effectiveness of suicide awareness efforts often lags behind implementation efforts” (p.107). It is important to determine whether or not the efforts of the Blues Project are making a difference in student knowledge about the topics of depression and suicide. Given the gravity of the issues of depression and suicide among college students it is imperative that we determine which interventions are in fact effective and which are not so that we may allocate prevention efforts effectively.
Chapter III

Methods

Introduction

This study examined the effectiveness of the Blues Project, a suicide prevention and depression awareness program at a large public university in the Western United States. Specifically examined were participants’ self-rated knowledge about the topics of depression and suicide, self-rated attitudes toward the subjects of depression and suicide as well as knowledge about and attitudes toward help-seeking behavior. A quasi-experimental pretest and posttest design was utilized in this study.

Hypotheses

1. Participation in a Blues Project Presentation will increase student knowledge about depression and suicide.

2. Participation in a Blues Project Presentation will increase student awareness about resources available to them to address issues related to suicide and depression.

3. Participation in a Blues Project Presentation will decrease student’s negative attitudes associated with seeking help for depression and suicide.

4. Participation in a Blues Project Presentation will increase students' level of confidence in their ability to engage in suicide prevention behaviors.

This chapter will begin with a discussion of the sample population of this study including relevant demographic information about the population from which the sample was selected, number of participants and selection of participants. Second, will be a description of the survey used in this study, including what measures specific questions were drawn from and specific scales used. Next, will be a description of the research
design used for this study. Finally, will be a detailed outline of the procedures involved in this study including a timeline, selection of participants and data collection/analysis.

Sample

Data collected for this study were obtained from 185 undergraduate students enrolled at a large public West Coast University. This represents the total number of matched pretests and posttests that were collected by the researcher. Participation in this study was on a voluntary basis. The faculty who requested a Blues Project Presentation in their classroom were given the option for their students to participate in this study. Those students in classes whose professor agreed to allow the distribution of surveys during class were given the choice to complete pretest and posttest surveys before and after a Blues Project Presentation in their classroom.

The participants ranged in ages from 18 to 49, with the largest number of participants (89.7%) falling into the range of 18-24. Of the remaining participants, 5.9% were between the ages of 25 and 30 and 4.3% were between the ages of 31 and 49. Females (76.2%) made up a larger portion of the sample than males (23.2%). The majority of participants identified as Hispanic/Latino (43.2%). The second largest ethnicity reported was White (23.2%). Nine percent of participants identified as Asian/Pacific Islander, 5.4% as African American, and 10.3% identified as other; 8.6% of respondents did not respond to this question. Figures 1 through 3 summarize the demographic characteristics of participants.
Figure 1. Pie chart showing percentage of participants by gender.

Figure 2. Pie chart showing percentage of participants by age.

Figure 3. Pie chart showing the percentage of participants by ethnicity.
Instruments

This study utilized a self-report questionnaire with 30 items total (See Appendix A). The questions evaluated student knowledge and attitudes about the topics of depression and suicide. The survey additionally included demographic based questions.

The first eight items on the survey were knowledge-based questions. These items were adapted from the Suicide Prevention Exposure, Awareness, and Knowledge Survey (SPEAKS-S), (SAMHSA, 2006) and the Adolescent Depression Knowledge Questionnaire (ADKQ), (Swartz et al. 2010). In this section, participants were asked to indicate whether they believe statements pertaining to suicide and depression were true or false.

Items nine through eleven pertained to participant's level of confidence in their ability to interact with others about various suicide prevention behaviors. These questions were adapted from the SPEAK-S, (2009). These items were rated on a 5-point Likert scale, with lower scores indicating a higher level of confidence. Items twelve through seventeen were attitude-based questions and related to perceptions about mental health care seeking. These questions were also adapted from the SPEAK-S (2009) and were rated on a 5-point Likert scale with higher scores indicating more positive attitudes about seeking help for mental health issues. The next four items examined student attitudes relating to the availability, access, and awareness of resources for suicide and depression. These items were similarly rated on a 5-point Likert scale with a lower score indicating an increased likelihood to seeking help and an increased awareness of resources to access. Item number twenty-two was an open ended question asking participants to list up to four resources they would refer a friend or fellow student to if they knew that person
were considering suicide. The remaining eight questions were demographic in nature and asked participants to indicate: gender, age, and ethnicity. Additionally included were questions serving to identify those students who have experienced feelings of depression and suicide, or have known someone who was depressed or suicidal. Two items served to identify those students who saw a Blues Project Presentation in the past and those who presently or in the past majored in psychology.

**Research Design**

This study used a quasi-experimental design with one group. The design included a pretest and posttest to evaluate student knowledge and attitudes about depression and suicide before and after a suicide prevention intervention. The intervention was group participation in a Blues Project presentation. This design served to determine whether or not participation in a Blue Project Presentation changed participant knowledge and attitudes about the topics of depression, suicide, and help-seeking.

**Procedures**

Participants were recruited from a pool of undergraduate students enrolled in classes in which faculty volunteered to devote one class period to a Blues Project Presentation. Blues Project Presentations were organized by Blues Project peer leaders in the spring of 2012 through personal conversations as well as verbal and written invitation. Those faculty requesting Blues Project presentations in their classroom were provided detailed information about the research study and given the option of participating. Faculty indicated their desire to participate or abstain on a Blues Project Presentation Request form (see Appendix B). In the fall of 2012, faculty who indicated they were interested in participating in the research study were contacted by the Blues
Project coordinators, as well as the researcher, to schedule a time for a Blues Project presentation. Additionally scheduled with faculty, by the researcher, was a time approximately one week prior to the presentation date in order to collect the pretest data.

On the scheduled pretest data collection date, the researcher provided potential participants in each of the classrooms verbally with detailed information about the research study. Potential participants were informed that they may take part in the Blues Project Presentation regardless of their decision to participate in the research and that participation in the study would be completely voluntary.

Next, pretest paper and pencil questionnaires were distributed to those students who volunteered to participate. Pretest questionnaires were administered by the researcher and required approximately 10-15 minutes for completion. In order to keep the questionnaires anonymous, participants were asked to create a unique id for the survey. This id included the first and last initial of the participant’s name followed by the last four digits of their cell phone number. This allowed the researcher to match pretest and posttest questionnaires while maintaining participant anonymity.

Approximately one week after the collection of pretest baseline assessments a Blues Project Presentation took place in the classroom. The presentations were approximately 45 minutes to one hour in length. Presentations were facilitated by trained peer leaders who received gatekeeper-type training (Indelicato et al., 2011) from a licensed clinical psychologist and/or graduate student leaders in the areas of depression education and suicide prevention. The presentations included a lecture focused on myths and misconceptions about suicide, causes of depression and suicide, statistics, types of depression, symptoms of depression, warning signs, and what students can do to help
themselves or a friend in need. The objectives of the presentation were to: focus attention on suicide prevention because in fact most suicides can be prevented, to remove the view and stigma that suicide and depression are things not to be discussed, to discuss depression which may lead to suicidal behavior, to replace myths and misconceptions about depression and suicide with facts, and to inform that campus community of available resources to students (Blues Project Training Manuel, 2009). Additionally included in the presentation was a brief video about suicide, a question-and-answer component, and the distribution of pamphlets including campus and community resources for students to utilize.

Immediately after the Blues Project Presentation the researcher distributed a paper and pencil posttest questionnaire to participants. Participants were instructed to use the same identification information as was used on the pretest, the first and last initial of the participant’s name followed by the last four digits of their cell phone number. After completion of the posttest, participants were thanked for their participation. The researcher then matched pretests with posttests based upon unique identification information and analyzed the data collected.
Chapter IV

Results

Introduction

The present study aimed to examine the impact that participation in a Blues Project Presentation has on student knowledge and attitudes about depression and suicide. The researcher posed the following hypotheses:

1. Participation in a Blues Project Presentation will increase student knowledge about depression and suicide.
2. Participation in a Blues Project Presentation will increase student awareness about resources available to them to address issues related to suicide.
3. Participation in a Blues Project Presentation will decrease student’s negative attitudes associated with seeking help for depression and suicide.
4. Participation in a Blues Project Presentation will increase student's level of confidence in their ability to engage in suicide prevention behaviors.

This chapter will begin with a detailed description of pertinent demographic information reported by participants that is related to past and present experiences with the topics discussed. Next, hypotheses will be individually reviewed including: details pertaining to how each hypothesis was tested, the method for analysis, and whether or not results support the researcher's hypotheses.

Descriptive Statistics

*Depression and Suicide Among Participants*

Participants were asked to indicate on both pretest and posttest surveys if they had ever been depressed, ever been suicidal or if they had ever known someone who was
depressed or suicidal. On pretest surveys, 56.8% of participants reported that they had been depressed, 10.3% reported that they had been suicidal, and 76.2% reported that they have known someone who was depressed or suicidal. On posttest surveys, 51.4% of students reported that they had been depressed, 12.4% of students reported that they had been suicidal, and 76.8% of participants reported that they have known someone who was depressed or suicidal. Possible explanations for differences in reporting from pretest to posttest will be discussed further in Chapter Five.

**Background Information**

Additional background information including: whether or not participants had ever declared psychology to be their major and whether or not participants had seen a Blues Project Presentation before, were obtained by the researcher. These factors were considered in analyzing the effect of Blues Project Presentations on participant knowledge and attitudes, as participants who answered yes to either of these questions may have had prior knowledge about the topics. The majority of participants (78.9%) reported that they had not presently or in the past declared psychology as a major. Additionally, the majority of participants had never seen a Blues Project Presentation before (65.9%); 33.6% reported that they had seen one or more Blues Project presentations in the past.

**Hypotheses**

*Hypothesis #1: Participation in a Blues Project Presentation will increase student knowledge about depression and suicide.*

The first eight items on the survey examined hypothesis number one. Questions were adapted from the ADKQ, an instrument designed to measure participant knowledge
about depression (Swartz et al., 2010) and the SPEAKS-S, an instrument designed, in part, to measure participant knowledge about suicide (SAMHSA, 2006). These questions were chosen to reflect information taught within the structure of a Blues Project Presentation. Students were asked to indicate whether they believed various statements were true or false. A composite score was calculated from the sum of correct responses from these eight items.

A paired samples t-test was conducted to compare the number of questions participants answered correctly on the pretest and the number of questions participants answered correctly on the posttest. There was a significant difference in the number of questions answered correctly by participants from pretest (M = 5.20, SD=1.17) to posttest (M= 5.70, SD = 1.01); t(184) = -4.524, p < .001. These results support the researcher's hypothesis that participation a Blues Project Presentation will increase student knowledge about the topics of depression and suicide.

An examination of individual questions versus the total score revealed significant differences from pretest to posttest in five out of the eight items. Table 1 summarizes the differences in correct responses from pretest to posttest and identifies those items that had a statistically significant difference from pretest to posttest. A thorough exploration of differences or a lack of difference from pretest to posttest for individual items will be discussed in Chapter 5.
Table 1

Number and Percentage Correct on Individual Items on Pretest Compared to Posttest

<table>
<thead>
<tr>
<th>Survey Items</th>
<th>Correct Answer</th>
<th>Pre-Test Correct</th>
<th>Post-Test Correct</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 1</td>
<td>False</td>
<td>154</td>
<td>83.2%</td>
<td>171</td>
</tr>
<tr>
<td>Item 2</td>
<td>True</td>
<td>168</td>
<td>90.8%</td>
<td>173</td>
</tr>
<tr>
<td>Item 3</td>
<td>False</td>
<td>103</td>
<td>55.7%</td>
<td>151</td>
</tr>
<tr>
<td>Item 4</td>
<td>False</td>
<td>75</td>
<td>40.5%</td>
<td>63</td>
</tr>
<tr>
<td>Item 5</td>
<td>False</td>
<td>77</td>
<td>41.6%</td>
<td>38</td>
</tr>
<tr>
<td>Item 6</td>
<td>False</td>
<td>86</td>
<td>46.5%</td>
<td>120</td>
</tr>
<tr>
<td>Item 7</td>
<td>True</td>
<td>144</td>
<td>77.8%</td>
<td>175</td>
</tr>
<tr>
<td>Item 8</td>
<td>True</td>
<td>155</td>
<td>83.8%</td>
<td>164</td>
</tr>
</tbody>
</table>

Note. Item 1: People who talk about or threaten suicide don't do it. Item 2: People who are depressed are more likely to commit suicide. Item 3: You should not talk to depressed people about suicide; it might give them the idea or plant the seeds in their mind. Item 4: Suicides occur in the greatest numbers around the holidays like Thanksgiving and Christmas. Item 5: Sometimes a minor event (like a bad exam grade) can push an otherwise normal person to commit suicide. Item 6: Depression can be controlled with willpower. Item 7: Depression runs in some families. Item 8: Major depression is a treatable medical illness.

Hypothesis #2: Participation in a Blues Project Presentation will increase student awareness about resources available to them to address issues related to suicide.

Items 20-22 on the survey examined participants' awareness about available campus and community resources. On questions 20-21, participants rated their level of agreement with statements pertaining to personal awareness on a 5 point Likert scale with 1 being "strongly agree" and 5 being "strongly disagree."

A paired samples t-test was conducted to compare participant level of agreement about resource awareness from pretest to posttest. There was a significant difference in the level of awareness reported from pretest (M= 2.29, SD=1.13) to posttest (M= 1.70, SD= 0.65); t(171)= 6.17, p < .001.
An examination of the frequency of student responses to these items indicated that there was an 18% increase in the number of students who agreed or strongly agreed with the statement, "I am aware of resources on my campus to utilize for help if I, or someone I know, may be thinking about suicide." Additionally, there was a 32% increase in the number of students who agreed or strongly agreed with the statement, "I am aware of resources in my community to utilize for help if I, or someone I know, may be thinking about suicide." A summary of the percentage of student responses to these awareness-based questions can be seen in Table 2.

**Table 2**

**Percentage of Student Responses to Awareness Based Questions**

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Agreed/Agreed</th>
<th>Strongly Disagreed/Disagreed</th>
<th>No Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
<td>Post-test</td>
<td>Pre-test</td>
</tr>
<tr>
<td>Item 20</td>
<td>74.1%</td>
<td>92.4%</td>
<td>15.1%</td>
</tr>
<tr>
<td>Item 21</td>
<td>54.6%</td>
<td>87.0%</td>
<td>31.4%</td>
</tr>
</tbody>
</table>

*Note.* Item 20: I am aware of resources on my campus to utilize for help if I, or someone I know, may be thinking about suicide.

Item 21: I am aware of resources in my community to utilize for help if I, or someone I know, may be thinking about suicide.

Question 22 was qualitative in nature and asked participants to list up to four resources where they would refer a friend or fellow student that was thinking about suicide. There was an increase in the number of resources students were able to independently identify from pretest to posttest. Figure 4 summarizes the number of resources identified by participants from pretest to posttest. These results support the researcher's hypothesis that participation in a Blues Project Presentation will increase awareness about available suicide prevention resources.
Hypothesis #3: Participation in a Blues Project Presentation will decrease students' negative attitudes associated with seeking help for depression and suicide.

Items 12-19 on the survey addressed students' attitudes pertaining to mental health care seeking as well as tendencies towards help-seeking behaviors. Participants rated their level of agreement with statements pertaining to help-seeking on a 5-point Likert scale with 1 being "strongly agree" and 5 being "strongly disagree." A score of 3 indicated "no opinion." Given the phrasing of statements, higher scores indicated a more positive attitude towards help-seeking. One item (number 18) was re-coded to correspond with the scoring of other items.

A composite score was calculated from all individual items addressing attitude. A paired samples t-test was conducted to compare attitudes from pretest to posttest. There
was not a significant difference in attitudes from pretest \((M=3.40, SD=0.53)\) to posttest \((M=3.35, SD=0.41)\); \(t(184)=1.36, p=.17\).

The study examined the following attitudes: personal stigma, perceived stigma, and help-seeking behavior. Paired samples t-tests were conducted to compare attitudes in each of these categories from pre-test to post-test. There was no significant difference in rates of reported personal stigma from pretest \((M=4.44, SD=0.71)\) to posttest \((M=4.54, SD=0.67)\); \(t(178)=-1.70, p=.091\). There was additionally no significant difference in rates of reported help-seeking behavior from pre-test \((M=3.36, SD=0.85)\) to post-test \((M=3.63, SD=0.74)\), although the outcome was close to significant \(t(179)=-2.74, p=.007\). There were significant differences in rates of reported perceived stigma from pretest \((M=3.77, SD=1.05)\) to posttest \((M=4.04, SD=0.96)\); \(t(169)=-3.33, p<.001\).

As the mean score for the attitude composite indicated an average response of "no opinion," little could be gleaned from these results. In order to better discern differences in attitudes from pretest to posttest responses were assigned to three variables. One that distinguished those participants who answered with a response of agreement, one that distinguished those participants who answered with a response of disagreement and one that distinguished those participants who answered with a response of no opinion.

Examination of the frequencies of various response revealed that the majority of student's \((50-90\%)\) had positive attitudes about help-seeking prior to viewing a Blues Project Presentation. The greatest changes in percentages from pretest to posttest occurred in the area of perceived stigma. Table 3 summarizes the percentage of students who responded in agreement, responded in disagreement and responded no opinion to items 12-19.
Table 3

Percentage of Student Responses to Attitude Based Questions

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agreed/Agreed</th>
<th>Strongly Disagreed/Disagreed</th>
<th>No Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
<td>Post-test</td>
<td>Pre-test</td>
</tr>
<tr>
<td><strong>Personal Stigma</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 12</td>
<td>5.9%</td>
<td>4.3%</td>
<td>80.5%</td>
</tr>
<tr>
<td>Item 13</td>
<td>2.7%</td>
<td>2.2%</td>
<td>89.2%</td>
</tr>
<tr>
<td>Item 14</td>
<td>5.9%</td>
<td>2.2%</td>
<td>74.1%</td>
</tr>
<tr>
<td><strong>Perceived Stigma</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 15</td>
<td>16.2%</td>
<td>10.8%</td>
<td>68.1%</td>
</tr>
<tr>
<td>Item 16</td>
<td>28.6%</td>
<td>16.2%</td>
<td>50.3%</td>
</tr>
<tr>
<td>Item 17</td>
<td>18.4%</td>
<td>9.2%</td>
<td>57.8%</td>
</tr>
<tr>
<td><strong>Help-Seeking Behavior</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 18 *</td>
<td>7.0%</td>
<td>3.8%</td>
<td>82.7%</td>
</tr>
<tr>
<td>Item 19</td>
<td>15.1%</td>
<td>15.7%</td>
<td>62.2%</td>
</tr>
</tbody>
</table>

Note. Item 18 was recoded to reflect similar scoring of other items. \( N=185 \)

These results only partially support the researcher's hypothesis that participation in a Blues Project Presentation will decrease student's negative attitudes associated with seeking help for depression and suicide.

Hypothesis # 4 : Participation in a Blues Project Presentation will increase students' level of confidence in their ability to engage in suicide prevention behaviors.

Items 9 through 11 on the survey asked participants to rate their level of confidence in their ability to engage in suicide prevention behaviors. A composite score was calculated based on the sum of participants' responses to these three items. Students rated their level of confidence on a 5-point Likert scale with 1 being "very confident" and 4 being "not confident." A response of 5 indicated "I don't know."

A paired samples t-test was conducted to compare self-rated levels of confidence from pretest to posttest. There was a significant difference in scores from the pretest (\(M=2.63, \ SD=0.69\)) to the posttest (\(M=2.03, \ SD=0.66\)); \(t(184)=13.18, p < .00\). This
supports the researcher's hypothesis that participation in a Blues Project Presentation will increase students' level of confidence in their ability to engage in suicide prevention behaviors.

Synthesis of Results

The Blues Project is more or less meeting its stated objectives, which are to increase student knowledge about the topics of depression and suicide, increase awareness about available resources to address these issues and decrease the negative stigma associated with seeking help for these issues. Chapter Five will explore in more depth the extent to which objectives are currently being fulfilled as well as areas for improvement within the program. Additionally explored will be the specific factors utilized by the Blues Project that have been previously researched with other populations and that were found to be similarly successful with the college population surveyed in this study. The success of the Blues Project supports the findings of previous studies examining best practices for suicide prevention. This study supports the implementation of programs like the Blues Project with college students and contributes further to the extant literature on programs of this nature.
Chapter V

Discussion

Summary

As the second leading cause of death among college students, suicide is a serious area of concern. While some colleges and universities do have suicide prevention programs, there is little information about the efficacy of these programs. The purpose of this thesis was to evaluate the efficacy of the Blues Project, a peer-based suicide prevention and depression education program on a college campus. While the Blues Project has incorporated numerous elements of previously researched suicide prevention programs, it is unique in its emphasis on both suicide and depression. The results of this study add to the limited extant literature on the effectiveness of such programs for a college population and can be used to promote best practices in developing similar programs for this population.

To evaluate the efficacy of The Blues Project, 185 undergraduate students, who participated in a Blues Project Presentation, completed pretest and posttest surveys. Results indicate significant gains in knowledge about suicide and depression, increased awareness about resources available to students, a decrease in perceived stigma about these topics, and an increase in students' level of confidence in engaging in help-seeking behaviors. These results can be used to further develop and refine suicide-prevention programs, such as the Blues Project, in order to increase their efficacy.

Discussion

Pompili, et al. (2011) state that the single most important factor in the prevention of suicide is to address the causes of mental health problems in young people and that
efforts aimed at the prevention of suicide should be taken in the context of health
education programs. Additionally, the use of peer leaders as agents of change (Wyman et
al., 2010), gatekeeper training (Indelicato, Mirsu-Paun, and Griffin, 2011; Tompkins &
Witt, 2009; Wyman et al., 2008) and an increased knowledge of depression (Swartz, et
al., 2010) were found to be successful elements of existing prevention programs. The
Blues Project has incorporated aspects of these programs into its own model and the
present research findings corroborate that these interventions are successful. The results
of this study indicate that The Blues Project is meeting program objectives to increase
student knowledge and awareness as well as reduce stigma.

Depression and Suicide Among Participants

Approximately 51-56% of students surveyed self-reported that they have felt
depressed, and 10-12% that they have been suicidal. These statistics are consistent with
the extant literature on the prevalence of depression and suicide on college campuses.
Furr et al. (2001) examined rates of self-reported suicide and depression and found that
53% of students indicated experiencing depression since beginning college and 9%
indicated thinking about committing suicide.

There was a decrease in self-reported rates of depression from pretest to posttest.
Differences in reporting by participants from pretest to posttest may be due to a number
of factors. It is possible that fewer students reported depression in the posttest (51.4%)
versus the pretest (56.8%) because they had increased knowledge about the difference
between clinical depression and a depressed mood. Conversely, there was an increase in
self-reported suicidality from pretest (10.3%) to posttest (12.4%). This perhaps is
representative of a shift in attitudes about suicide. The extant literature addresses the
perceived stigma associated with mental health issues and cites this as the primary reason for lack of help seeking among participants (Arria et al., 2011; Drum et al., 2009; Downs & Eisenberg, 2012). It is possible that participation in a Blues Project reduced perceived stigma among participants and resulted in a higher rate of reporting suicidality. Due to the self-report method used to gather data for this study and a lack of clinically validated measures used to assess for depression and suicide, it is difficult to accurately measure the levels of depression and suicidality among participants in this study.

**Knowledge Based Questions**

Findings indicate a statistically significant gain in knowledge from pretest to posttest. These findings are consistent with those found by Swartz et al. (2010) in their examination of an adolescent depression awareness program. Due to the design of this study, in particular the lack of a control group, it is not possible to credit the Blues Project with causing these changes. However, the changes observed present a cogent argument for the success of the Blues Project in contributing to this increase in knowledge. Examination of the individual survey items pertaining to knowledge revealed a number of interesting points.

There were a total of three items out of the eight in which there was no significant difference in participant responses from pretest to posttest. On two of those three items, item 2 "People who are depressed are more likely to commit suicide" and item 8 "Depression runs in some families", over 83% of participants answered correctly on the pretest. This suggests that participants had a strong knowledge base prior to participation in a Blues Project Presentation. Item 4 "Suicides occur in the greatest numbers around the holidays like Thanksgiving and Christmas," additionally did not have a significant
change in response from pretest to posttest. However, most participants incorrectly identified this statement as true on the pretest and there was a 6% decrease in the number of participants answering this item correctly from pretest to posttest. During observation of Blues Project Presentations it was noted by the researcher that peer educators did not directly address this particular point throughout the presentation. Additionally, in the video presentation showed to the class one of the students in the video had attempted suicide, "the day after Thanksgiving." This could have led participants to believe that this statement was in fact true. These factors could account for a smaller percentage of students answering item 4 correctly on the posttest.

The remaining five items did show significant differences in responses from pretest to posttest. The greatest gains were seen in item 3, "You should not talk to depressed people about suicide; it might give them the idea or plant the seed in their minds," item 6, "Depression can be controlled with willpower," and item 7, "Depression runs in some families." It is interesting to note that those items with the greatest gains in correct responses pertained specifically to knowledge about depression, which is an area that is often not specifically addressed in programs aimed at suicide prevention. Item 1, "People who talk about or threaten suicide don't do it," additionally showed an increase in correct responses from pretest to posttest. However, participants had strong baseline knowledge for this particular item with 83% of participants responding correctly on the pretest.

Item five, "Sometimes a minor event (like a bad exam grade) can push an otherwise normal person to commit suicide," showed a significant difference in response from pretest to posttest. However, curiously there was a notable decline in the number of
correct responses from pretest to posttest. This may have been due to misinformation or a possible lack of information delivered by peer leaders within the Blues Project Presentation. One limitation of utilizing peer educators is that they are not professionals and therefore may be more apt to provide certain misinformation or forget to discuss certain portions of the presentation. This is one area, however, that can be addressed by improving the training of peer educators and providing more consistent opportunities for evaluation throughout participation in the peer educator program.

**Awareness Based Questions**

Westefeld et al., (2005) found that only a small percentage of students (26%) indicated awareness about supportive campus resources targeting suicide. Eisenberg et al. (2007) found a slightly higher percentage (49%) were aware of where to go for mental health resources and 59% were aware of free counseling services on campus available to them. One of the primary objectives of the Blues Project is to increase student awareness about available resources. Findings indicate that there was a 32% increase in reported student awareness about community resources from pretest to posttest and an 18% increase in reported student awareness about campus resources. These increases resulted in 92% of students reporting awareness about campus resources and 87% of students reporting awareness about community resources. Additionally, there was a marked increase in the number of specific resources participants independently listed from pretest to posttest. These results indicate that the Blues Project is successfully meeting its goal to raise awareness about resources on campus and within the community where students can access support in the event they or someone they know becomes suicidal.
Overall, the present study did not find a significant difference in student attitudes about help-seeking from pretest to posttest. A number of factors may have contributed to these findings, chiefly, the large majority of students who already had positive attitudes about these topics prior to the Blues Project intervention. The present study examined three specific components of participant attitudes including, personal stigma, perceived stigma, and help-seeking behavior.

The stigma of mental health has been cited as a barrier to help-seeking for issues such as depression and suicide (Arria et al., 2011; Drum et al., 2009; Downs & Eisenberg, 2012). The present study examined students' level of personal and perceived stigma before and after viewing a Blues Project presentation. Findings of the present study mirrored those of Downs & Eisenberg (2012): overall, the levels of perceived stigma, or what participants thought most other students on their campus believed were higher than personal stigma, or what individual students' believed. The present study found that most students' reported low levels of personal stigma in the pretest and these levels decreased even more in the posttest, although the difference was not found to be significant. This indicates that students personally have more positive attitudes towards seeking help for mental health issues.

Levels of perceived stigma on the other hand, were higher in both the pretest and posttest, which indicates that students' believe others to have more negative beliefs about seeking help for mental health problems. There was however, a significant decrease in reported perceived stigma from pretest to posttest, which suggests the Blues Project did contribute to a decrease in negative attitudes in this area. This is an important finding, as
Downs & Eisenberg (2012) discovered that perceived stigma was positively associated with treatment use. Therefore, a program such as the Blues Project, which was found to significantly reduce stigma in this area is likely to increase rates of help-seeking among students.

In addition to perceived and personal stigma the present study also examined attitudes about help-seeking behavior. The majority of students indicated positive attitudes about help-seeking prior to participating in a Blues Project presentation. While there was a slight increase in the percentage of students who reported positive attitudes from pretest to posttest, these results were not statistically significant.

As previously discussed, overall students' had fairly positive attitudes about help-seeking prior to participating in a Blues Project Presentation. Therefore, a narrow margin for change from pretest to posttest, may have accounted for results that were not significant in two out of the three areas of attitude that were examined. The extant literature notes that many suicide prevention programs are founded on a public health approach and place emphasis upon involving comprehensive strategies that target campus level attitudes behaviors and policies (Downs & Eisenberg, 2012). The Blues Project has been engaged in suicide prevention efforts for several years now and it is possible that their efforts have impacted attitudes at the campus level. Future research may focus on evaluating the implementation of a similar prevention program on a campus where a suicide prevention program has not previously existed.
Levels of Confidence

As reviewed in the extant literature, gatekeeper training, which involves training individuals to identify students at risk for suicide and refer them for help has been indicated as a "best practice" for suicide prevention (CDC, 1992; Quinnet, 2007). The Blues Project includes some elements of gatekeeper training into suicide prevention efforts. The present study examined students' level of confidence in engaging in suicide prevention behaviors including recognizing the warning signs of suicide in another student and referring a student at risk of suicide for help. Findings indicated that there was a statistically significant increase in self-reported level of confidence among students from pretest to posttest. These findings suggest that the Blues Project is successful in positively impacting students' belief in their ability to help someone who may be at risk for suicide. However, an inherent limitation of self-report is that reported levels of confidence may not translate to students actually engaging in these suicide prevention behaviors. Additional research is needed to examine whether or not this increased confidence is translating into action on the part of students.

Diversity

The large percentage of participants in this study identifying as Hispanic (43.2%), provides us with a glimpse of the effects that a peer based suicide prevention and depression education program may have on this population. As Latinas are included in the category for highest reported suicide deaths (Hamilton & Rolf, 2010), it is important that this population be given proper attention in the development of prevention programs. While analyses comparing the impact of Blues Project Presentations between students of varying ethnic identities was beyond the scope of this project, we can still glean some
information from the results. In similar studies (Hooven et al., 2010; Indelicato et al., 2011; Swartz et al, 2010; & Wyman et al., 2010), the large majority of participants identified as Caucasian. Therefore the sample in this study provides a unique perspective on the efficacy of a peer based suicide prevention program with a large percentage of Hispanic students. It is possible that the slightly higher rate of reported suicidality in this study (10-12%) as compared to the 9% found by other researchers (Furr et al., 2001), may be reflective of a higher percentage of Latinas in the sample.

**Limitations**

This study has a number of limitations that need be mentioned. First, there were some complications with the survey design. In particular, peer educators did not address some of the knowledge-based questions within the content of the Blues Project presentations. This was in part due to the survey and in part due to the nature of a peer education program. The fact that presentations are facilitated by students, who are not experts on the material, increases the probability that some mistakes may be made. These factors made it difficult to accurately see how much of an impact the presentations had on total student knowledge from pretest to posttest. Second, approximately 33.6% of students reported that they had previously seen a Blues Project presentation and 21.1% reported that they had at one time or presently declared psychology to be their major. These students may have had prior knowledge about the topics, which may have skewed the baseline data. Third, the timing of the administration of the posttest immediately after the presentation limits insight into how long the effects of the intervention last. It would be interesting to conduct future follow-up studies at one month, six months, or one year with participants in order to measure retention of information over time. Finally, the
design of this study, in particular the lack of a control group, makes it difficult to credit the Blues Project alone with increasing student knowledge about depression and suicide, increasing awareness about resources, increasing student confidence in engaging in help-seeking behaviors, and decreasing perceived stigma.

**Future Research**

In general, a problem with suicide prevention program research is that it is challenging to measure how much increased knowledge and a decrease in stigma actually contributes to increased help-seeking behavior and a decrease in suicide among students. Further research is needed to evaluate how this program is impacting rates of help-seeking and reported depression and suicide among students. Furthermore, continued evaluation of the Blues Project is needed to ensure the ongoing effectiveness of this program and quality improvement. Additionally, further research is needed to determine the generalizability of findings among other college student populations. It would be interesting to utilize the Blues Project program model on a campus that previously has not had an organized suicide prevention program to see the differences in baseline attitudes and knowledge about these topics. In particular, it would be interesting to see if rates of personal stigma were lower in pretests at a university without any formalized suicide prevention program. Also interesting, would be an examination of the impact that the Blues Project has on peer leaders and if their gatekeeper like training has any impact on help-seeking and rates of suicide on this campus. A final suggestion for future studies would be to examine more specifically the impact that a program such as the Blues Project has on participants from various cultural groups including those college students who identify as lesbian, gay, bisexual, and transgender.
Conclusion

This study provides new data on the efficacy of a peer based suicide prevention and depression education program on a college campus. Findings suggest that this program increases student knowledge about these topics, increases awareness about resources and reduces stigma. This study presents us with a new model for a suicide prevention program geared towards college students that also incorporates information about depression. The information discovered will be used to improve the Blues Project and hopefully will aide in the development of similar programs on other college campuses.
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Appendix A: Survey Instrument

Thank you for agreeing to participate in this survey about suicide and depression among college students. Your responses to these questions are extremely important in enhancing programs to prevent suicide on college campuses.

The following statements represent myths or facts about depression and suicide. Some are true and some are false. Please indicate whether you believe the statement is true or false (select one). (*1-5, **6-8)

<table>
<thead>
<tr>
<th>Statement</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) People who talk about or threaten suicide don’t do it.</td>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>2) People who are depressed are more likely to attempt suicide.</td>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>3) You should not talk to depressed people about suicide; it might give them the idea or plant the seeds in their mind.</td>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>4) Suicides occur in the greatest numbers around the holidays like Thanksgiving and Christmas.</td>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>5) Sometimes a minor event (like a bad exam grade) can push an otherwise normal person to commit suicide.</td>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>6) Depression can be controlled with willpower.</td>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>7) Depression runs in some families.</td>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>8) Major depression is a treatable medical illness.</td>
<td>True</td>
<td>False</td>
</tr>
</tbody>
</table>

Please rate your level of confidence in your ability to interact with others about the suicide prevention behaviors described below from not confident to very confident (Circle one). *

<table>
<thead>
<tr>
<th>I feel confident that:</th>
<th>Very Confident</th>
<th>Confident</th>
<th>Somewhat Confident</th>
<th>Not Confident</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>9) I can recognize the warning signs of suicide in another student.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10) I would ask someone who was exhibiting warning signs of suicide if they are thinking about suicide.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11) I would connect or refer a student at risk for suicide to resources for help. (Ex: hotline, counseling, ER, etc.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
The following questions relate to perceptions about mental health care seeking. Please circle the number that best represents what you think.*

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>12) I think that it is a sign of personal weakness or inadequacy to receive treatment for depression or suicidal thoughts and behaviors.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13) I would see a person in a less favorable way if I came to know that he/she has received treatment for suicidal thoughts and behaviors.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14) I think that it is advisable for a person to hide from people that he/she has been treated for suicidal thoughts and behaviors.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

The following questions relate to perceptions about mental health care seeking on your campus. Please circle the number that best represents what you believe most people on your campus think.*

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>15) It is considered a sign of personal weakness or inadequacy to receive treatment for depression or suicidal thoughts and behaviors.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16) People would see a person in a less favorable way if they came to know that he/she has received treatment for suicidal thoughts and behaviors.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17) It is advisable for a person to hide from people that he/she has been treated for suicidal thoughts and behaviors.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

The following questions relate to the availability and accessing of campus and community resources for students at risk for suicide. Please circle the number that best represents what you think.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>18) I would tell someone who could help about a suicidal friend, even if that friend asked me to keep it a secret.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19) If I were depressed or suicidal, I would not go to a counselor because I would not feel comfortable talking to a stranger about my problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20) I am aware of resources on my campus to utilize for help if I, or someone I know, may be thinking about suicide.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>ID #:</td>
<td>____________________________________________</td>
<td>(First and Last Initial, Last 4-digits of cell phone number)</td>
<td>EX: CL6843</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21) I am aware of resources in my community to utilize for help if I, or someone I know, may be thinking about suicide.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>No Opinion</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22) If you knew a friend or fellow student that was thinking about suicide, where would you refer him or her? (Please list up to 4 resources)</td>
<td>1.</td>
<td>2.</td>
<td>3.</td>
<td>4.</td>
<td></td>
</tr>
</tbody>
</table>

**Background Information:**

<table>
<thead>
<tr>
<th>23) Have you ever been depressed?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>24) Have you ever been suicidal?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>25) Have you ever known someone who was depressed or suicidal?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>26) I presently or in the past have declared psychology to be my major.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>27) My age is</td>
<td>Under 18</td>
<td>18-24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>28) I identify as</th>
<th>African American</th>
<th>Asian/Pacific Islander</th>
<th>Latino/Hispanic</th>
<th>White</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>29) How many Blues Project Presentations have you seen in the past?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3+</td>
</tr>
<tr>
<td>30) I am</td>
<td>Female</td>
<td>Male</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Thank you for your participation!* 😊

Appendix B: Recruitment Letter

09/12/12

Dear ________________________

Thank you so much for your support of The Blues Project! Because of the invaluable support of faculty like you, we have been able to raise awareness of the serious issue of depression all over campus, and together we have taken a proactive and preventative role in suicide prevention.

In an effort to ensure that Blues Project presentations are the very best they can be, this semester a former Blues Project peer educator and current Graduate student at CSUN, Corie Loiselle, has offered to help The Blues Project conduct some research on the effectiveness of our presentations. To help Corie in this endeavor we are asking for your cooperation in coordinating a time in which Corie may come in and distribute a brief pre-test survey approximately one week before the Blues Project will facilitate a presentation in your classroom. The pre-test survey should take no longer than 15-20 minutes to complete. Below please find some additional information about this study.

TITLE
Evaluation of a Suicide Prevention and Depression Awareness Program on a College Campus

PURPOSE OF STUDY
The purpose of this research study is to evaluate the efficacy of The Blues Project, a suicide prevention and depression awareness program at California State University Northridge. The research will add to the limited literature we have about the efficacy of such programs on college campuses. We are hopeful that this information will be of assistance to the Clinical Director of the Blues Project, peer educators, University Counseling Services staff, as well as the faculty and students at CSUN. It is also our intention to collect information that may support the development of grant applications to procure funding for this program in the future.

PROCEDURES
The following procedures will occur:
Participants will be asked to complete a pretest questionnaire that will take approximately 15-20 minutes to answer. Approximately one week after completing the pre-test questionnaire, participants will view a Blues Project Presentation on the topics of depression and suicide prevention. This presentation will include lecture, video, a brief question and answer component, and the distribution of resource pamphlets. This presentation will be approximately 45 to 90 minutes in length. After viewing the Blues Project presentation participants will immediately be asked to complete a posttest questionnaire that will take approximately 15-20 minutes to answer.

If you would be willing to schedule a time for Corie to come in and distribute a pre-test survey please indicate your interest below and Corie will contact you to schedule a time to come into your classroom approximately one week before the Blues Project is scheduled to come in. Thank you so much again for your support!

☐ Yes, I am willing to schedule a pre-test approximately one week prior. Please have Corie contact me at the following e-mail address:

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