PROTECTIVE FACTORS AS PREDICTORS OF LEVELS
OF SUICIDAL IDEATION AND SUICIDAL BEHAVIOR
IN THE COLLEGE POPULATION

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by

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PROTECTIVE FACTORS AS PREDICTORS OF LEVELS OF SUICIDAL IDEATION AND SUICIDAL BEHAVIOR IN THE COLLEGE POPULATION (173 pp.)

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The purpose of this study was to examine whether or not protective factors could predict levels of suicide risk among college students. Additionally, this study aimed to examine if there were differences in protective factors between groups based on demographic characteristics, such as: gender, race/ethnicity, sexual orientation, self-reported cumulative GPA, and undergraduate versus graduate student status. A total of 555 college students (undergraduate and graduate) completed an anonymous, online survey. The survey included a variety of demographic information used to measure group differences and 3 inventories which measured suicidal ideation and behavior, internal protective factors, external protective factors, emotional stability, parent support, peer support, and significant other support.

The analysis of the data resulted in significant findings for each primary research question. For the first research question, peer support and emotional stability were shown to be statistically significant in predicting a person's level of suicide risk; higher levels of emotional stability and peer support predicted lower levels of suicide risk. Regarding the second research question, group differences were found for: gender, sexual orientation, and GPA. For gender, females scored significantly higher on scales measuring external protective factors, significant other support, peer support, internal protective factors, and

emotional stability. For sexual orientation, heterosexual participants reported higher levels of family support. For GPA, significant differences were found on the subscale measuring emotional stability; participants who self-identified in the lowest category of GPA also reported low levels of emotional stability. No significant differences were found between undergraduate and graduate students, or race/ethnicity groupings.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION AND LITERATURE REVIEW

Suicidal ideation and suicidal behavior are noted as concerns for the college population (American College Health Association [ACHA], 2012; Center for the Study of Collegiate Mental Health [CCMH], 2010; Schwartz, 2006; Westefeld et al., 2006). Not only is suicidal behavior a serious mental health risk among college students in the United States, it is the second leading cause of death among this demographic group (United States Department of Health and Human Services, 2005). Studies have indicated that between 7% and 10% of college undergraduates have "seriously considered suicide in the past 12 months" (American College Health Association, 2013; Drum, Brownson, Burton, & Smith, 2009), and up to 24% of students have had suicidal thoughts while attending college (Westefeld et al., 2005). As reports of suicidality on the college campus have been rising for the past 25 years (Drum et al., 2009), there has been a parallel rise in the demand for mental health services on college campuses and research in the area of suicide among college students (Kitrow, 2003).

Researchers have begun to highlight various factors, both risk and protective, pertaining to suicide that may impact levels of suicidal ideation and behavior (ACHA, 2013; Drum et al., 2009; Granello, 2010; Rutter & Estrada, 2006; Simon, 2011). Protective factors are defined as supportive conditions that reduce the likelihood a person will engage in intentionally self-harmful behavior (Guiterrez, Osman, Kopper, & Barrios, 2000; Osman et al., 2004; Rubenstein, Heeren, Housman, Rubin, & Stechler, 1989). Examples of protective factors for suicidal college students are: responsibility toward

family, fear of social disapproval, moral objections to suicide, coping skills, college or future related concerns, and social support (Westefeld et al., 2006). Risk factors are variables (personal or situational) that predispose an individual to intentional, self-harmful behaviors (Osman et al., 2004). Some risk factors for the college population are: current substance/alcohol abuse, a history of suicide attempts, a history of sexual abuse, a diagnosis of depression, hopelessness, and lack of support (Westefeld et al., 2006).

Gaining a better understanding of relevant protective factors to the college population, and sub-groups within this population, could have a positive impact in many ways. For example, clinicians working with college students could utilize this information by implementing a more individualized assessment of suicide risk. A better understanding of differences among student groups (e.g., based on gender, sexual orientation, Race/ethnicity, etc.) would allow for clinicians to more easily individualize assessments catered to each student, potentially targeting and utilizing protective factors in a more purposeful way. This information would not only benefit mental health professionals working directly with student clients, but also those who do preventative programming on campus, including suicide prevention in postsecondary settings (SPRC, 2011), as college campuses are expected to both protect students in crisis, and attend to public health goals of reducing the frequency of suicidality and improving the overall health and well-being of college students (Drum et al., 2009). Ideally, contributions to the literature about protective factors related to college student suicide would help to reduce overall student suicides by promoting stronger clinical skills for clinicians

conducting suicide assessments and empower clinicians and other gatekeepers by giving them a more holistic approach to working with suicidal students.

Research studies regarding protective factors of college students have been done when looking at other topics; however, little research directly explores protective factors in relation to college student suicide. Specifically, past studies have looked at protective factors and eating disorders (Cook-Cottone & Phelps, 2003; Cordero & Israelie, 2009) as well as alcohol and drug use among college students (Brown, Salsman, Brechting, & Carlson, 2007; Delva et al., 2004; Martens et al., 2004). An identified gap in the literature, viewed as a limitation, is the complete lack of investigation of protective factors for racial and ethnic minority (REM) college students (Stephenson, Belesis, & Balliet, 2005). Although a few studies have investigated protective factors and health compromising behaviors, including suicide, for college students of different ethnic backgrounds (Iturbide, Raffaelli, & Carlo, 2009; Turner-Musa & Lipscomb, 2007), these studies did not directly examine protective factors related to suicide among ethnically diverse students. As areas of sparse literature have been identified, this study hopes to explore and contribute to the literature addressing suicide and protective factors specific to the college population.

Purpose of the Study

The primary purpose of this research study is to increase the knowledge base about protective factors for college students related to suicidal ideation and behavior. As protective factors vary among individuals and across settings, exploration of the differences in protective factors among diverse student groups can provide meaningful

insights into which factors are likely to be significant and valuable to particular college students. Research has offered support for the assessment of reasons for living in diverse populations (e.g., college students; Guiterrez et al., 2012; Osman et al., 1993, 2001; Osman & Kopper, 1998).

It has been suggested that continued research be done in the area of suicidality and protective factors with the college population (ACHA, 2007; CCMH, 2010; Drum et al., 2009; Schwartz, 2006). Therefore, the current study aimed to identify which individual or combination of protective factors specific to the college population can best help to accurately predict levels of suicidal ideation. Further, the current study examined differences in protective factors among identified demographic groups through the gathered information (gender, sexual orientation, Race/ethnicity, self-reported cumulative GPA, and graduate/undergraduate student status). The remainder of this chapter will include: a definition of terms pertinent to review of literature, identified research questions and hypotheses for this study, and a review of the literature to help establish a framework for this study.

Definition of Terms

Completed suicide is described as death under circumstances when there is evidence of intention to take one's own life (e.g., to suicide; SPRC, n.d.). *Suicide attempt* is when one tries to take one's own life, with a nonfatal outcome. A suicide attempt may or may not result in injuries (SPRC, n.d.). *Suicidal ideation* includes thinking about, considering, or planning for suicide (e.g., means to kill oneself, when to kill oneself, where to kill oneself; CDC, 2012). Suicide ideation ranges from passive thoughts (e.g.,

"I wish I wasn't around") to clear, active thoughts of suicide (e.g., "I will jump in front of a car tomorrow on the freeway"). *Suicide ideators* are individuals who have thoughts about suicide but have not made an explicit attempt. Persons experiencing suicide ideation may or may not make a plan; not every person experiencing suicidal ideation will have active thoughts of suicide (SPRC, n.d.). *Suicidal behavior* has been described as a continuum that begins with thinking about suicide (ideation); it continues with planning and preparing for suicide, threatening to attempt suicide, attempting suicide, and ends with completing suicide (SPRC, 2004). *Suicide risk/lethality* can be defined on multiple levels, depending on the severity or level of risk to which a person experiences suicidal ideation or behavior (e.g., no risk, low risk, moderate risk, high risk; Paladino & Barrio Minton, 2008). *Risk factors* are influences that increase the likelihood of an individual attempting or completing suicide. *Protective factors* are influences that decrease the likelihood of a person attempting or completing suicide (SPRC, 2004).

Research Questions

1. Will protective factors predict levels of suicidal ideation and behavior among college students after controlling for several demographic variables?

2. Are there differences in protective factors among groups based on demographic characteristics?

   a. Are there differences in protective factors between groups based on gender?

   b. Are there differences in protective factors among groups based on race/ethnicity?

    c.   Are there differences in protective factors among groups based on sexual orientation?

    d.   Are there differences in protective factors among groups based on self-reported cumulative GPA?

    e.   Are there differences in protective factors between undergraduate and graduate student status?

The hypotheses for this study are as follows:

Research Hypothesis (RQ1): Protective factors (including support, internal and external protective factors, and emotional stability) will predict levels of suicidal ideation and suicidal behavior after controlling for several demographic variables.

Null Hypothesis (RQ1): Protective factors (including support, internal and external protective factors, and emotional stability) will not predict levels of suicidal ideation and suicidal behavior after controlling for several demographic variables.

Research Hypothesis (RQ2a): There will be differences in protective factors based on gender.

Null Hypothesis (RQ2a): There will be no differences in protective factors based on gender.

Research Hypothesis (RQ2b): There will be differences in protective factors based on race/ethnicity.

Null Hypothesis (RQ2b): There will be no differences in protective factors based on race/ethnicity.

Research Hypothesis (RQ2c): There will be differences in protective factors based on sexual orientation.

Null Hypothesis (RQ2c): There will be no differences in protective factors based on sexual orientation.

Research Hypothesis (RQ2d): There will be differences in protective factors based on self-reported cumulative GPA.

Null Hypothesis (RQ2d): There will be no differences in protective factors based on self-reported cumulative GPA.

Research Hypothesis (RQ2e): There will be differences in protective factors based on undergraduate and graduate student status.

Null Hypothesis (RQ2e): There will be no differences in protective factors based on undergraduate and graduate student status.

Review of the Literature

In regard to the current study, this section will highlight: current suicide statistics for the general population; suicide and mental health concerns on college campuses; the role of college counseling centers; suicide assessment skills for mental health professionals; protective factors (including internal and external factors) for suicide; risk factors for suicide, including depression and substance use among college students; and an overview of demographic information and how it relates to suicide among college students (i.e., race/ethnicity and suicide, gender and suicide, sexual orientation and suicide; academic performance and suicide; and a comparison of undergraduate and graduate mental health concerns and suicidality).

Current Suicide Statistics (General Population)

Statistics for suicidality are reported nationally to represent the impact of suicide on a larger scale. In 2010, 38,364 suicides were reported in the United States, which means that, every day, approximately 105 people die by taking their own lives in this country (National Center for Health Statistics, 2011). At this time, suicide is the fourth leading cause of death for Americans 18 to 65 years of age. While the number of completed suicides in the United States is high, the number of suicide attempts is much greater (American Foundation for Suicide Prevention [AFSP], 2011). In fact, Crosby, Han, Ortega, Parks, and Gfoerer (2011) noted that for adults aged 18 years and older in the U.S., an estimated one million, or 0.5% of the population reported making a suicide attempt in the past year; an estimated 2.2 million adults, or 1% of the population reported making a suicide plan in the past year; and an estimated 8.3 million persons or 3.7% of the population have had serious thoughts of suicide in the past year. These numbers show that suicidal ideation is more common than suicide attempts, and that suicide attempts are more common than completed suicides.

While having knowledge of current suicide statistics is important, being aware of how suicide data is gathered and problems that may be associated with this process is also vital to understanding the full picture. Research studies on rates of suicide deaths, suicide attempts, or suicidal ideation may vary considerably. Part of the variance is due to the way data are collected, as researchers are not always able to distinguish intentional suicide attempts from non-intentional self-harm behaviors or an accidental death versus a

suicide. Another factor impacting accuracy in this area is that many suicide attempts go unreported or untreated (AFSP, n.d.).

As there are variables that impact the collection of data on suicidality, researchers have also suggested that there are many variables impacting suicide rates for the general population, such as: socioeconomic status, employment, support, mental disorders, sexual orientation, substance use, and others (AFSP, n.d.). Current research on college student suicide has indicated that many of the same factors are relevant (ACHA, 2013; National Center for Health Statistics, 2011; Drum et al., 2009; Gallagher, 2004-2012; Hirsch & Barton, 2011). Factors with relevance to the current study (sexual orientation, support, academic achievement, etc.) will be explored later in the literature review. The next section provides statistics related to suicidality and mental health concerns for college students, and explores the role of college counseling centers.

Suicide and Mental Health Concerns on College Campuses

Both the prevalence and severity of college student mental health concerns have increased over the past 5 years (Gallagher, 2004-2012), reflecting a rise in the needs of the student population (Barr, Rando, Krylowicz, & Winfield, 2010; Kitrow, 2003). Among these growing student psychological concerns is a higher incidence of suicidal ideation and behavior (Gallagher, 2004-2012). Research on rates of suicide on individual college campuses began after 1935 and suicide has been noted as a prominent cause of death among college students in the United States since the 1930s (Schwartz, 2006). Multi-campus studies, appearing in 1968, have since become the standard for studies of death by suicide among college students in the United States (Schwartz, 2006). Results

from four multi-campus studies of suicidality and mental health concerns are presented in this section (ACHA, 2013; Drum et al., 2009; Gallagher, 2004-2012; Schwartz, 2011).

Schwartz (2011) conducted a study that looked specifically at suicide rates on the college campus, and reported 622 suicides over a five-year period (academic years 2004-2005 to 2008-2009) on 645 distinct campuses. Ninety-eight percent of these reported suicides were completed at four-year colleges and universities in the United States. Gender was known for 580 of the student suicides, which was broken down into 156 female student suicides and 424 male student suicides (Schwartz, 2011). Method was indicated for 374 out of the 424 male student suicides and 146 out of the 156 female student suicides. Use of a firearm was the leading method for suicide for male students, which accounted for 31% of the total reported suicides. The second most common method reported was hanging, which accounted for 27% of the total male suicides reported. For female suicide, the researchers noted there were too few suicides achieved by any single means; therefore, Schwartz (2011) was unable to identify a leading method for female students.

Similarly, Gallagher (2004-2012) looked at completed suicides and method, as well as mental health concerns of students who had completed suicide. Gallagher surveyed 293 counseling center directors in a multi-campus study and reported 106 completed student suicides in the 2011-2012 academic year. The directors reported that 21% of the completed suicides at their institutions were current or former college counseling center clients. Method of suicide was indicated as: 23% committed suicide by firearm, 32% by hanging, 17% by toxic substances, 12% by jumping, and 16% by other

means. Of the completed suicides, 77% were males, and 84% were undergraduates.

Other demographics of the students who suicided are as follows: 74% were Caucasian,

12% were Asian or Pacific-Islanders, 7% were multi-ethnic, 5% were Latino, and 2%

were African-American. Regarding additional mental health concerns, directors were

asked to answer questions, with fixed choices, to their best knowledge or ability

regarding the students on their campuses who had committed suicide. Directors reported

that 80% of the students who completed suicide were depressed, 47% had relationship

problems, and 22% had academic problems.

While Gallagher (2004-2012) and Schwartz (2011) reported on suicide rates and

method of suicide, Drum et al. (2009) created a web-based survey designed to provide

insight into a broader picture of suicidal thought, intent, and action among college

students. Their study used a stratified random sample of 108,536 students across 70

colleges and universities. The undergraduate response rate was 24% and graduate

response rate was 25%, for a total of 26,451 students participating in the study.

Enrollment at participating institutions ranged from 820 to 58,156 students, with a mean

of 17,752 students. Of the institutions, 38% were private and 62% were public.

Ninety-four percent of the campuses included both graduate and undergraduate students,

with only four campuses reporting undergraduate-only student bodies. This national

study included 20% of schools located in the Northeast, 20% in the West, 30% in the

Midwest, and 30% in the South. Drum et al. (2009) noted a limitation of the study to be

over representation of Caucasian students, compared with the broader population of

students in higher education settings in the United States.

Drum et al. (2009) chose to use a variety of statements for suicidal ideation and behavior, allowing respondents to indicate low to high levels of suicidal ideation. The complete list of statements used in this study to look at participants' lifetime experience of suicidal thoughts and serious suicidal ideation were: I have never had suicidal thoughts; one period in my life of having suicidal thoughts; a few discrete periods in my life having suicidal thoughts; repeated episodes of suicidal thoughts with periods in between of no suicidal thoughts; suicidal thoughts on a regular basis for several years; and I have seriously considered attempting suicide. Over half of the college students in the Drum et al. (2009) study reported some form of suicidal thoughts in their lives. When participants were asked if they had "ever seriously thought of attempting suicide," 18% of undergraduates and 15% of graduate students checked this item. More specifically, when asked if participants had experienced suicidal ideation in the past 12 months, 6% of undergraduates and 4% of graduate students reported that they had "seriously considered attempting suicide in the past 12 months" (Drum et al., 2009). Information gathered from the Drum et al. study is unlike any other, in that it provides a deeper look into students self-reporting of past and present suicidal ideation and behavior.

A study looking at both mental health concerns and suicide specific data is from the National College Health Assessment II (NCHA; ACHA, 2013). The NCHA-II is used to report nationwide data about students' habits, behavior and perceptions of current health topics. This study aims to provide knowledge and assist college health professionals (health educators, counselors, administrators) with their programming and direct work with students and clients. The final data set from the 2013 study included

123,078 student participants from 153 schools, which included public and private schools, as well as 2 and 4 year institutions. The following mental health concerns or stressors experienced within the past 12 months were reported: felt things were hopeless (45%), felt overwhelmed by all you had to do (83.7%), felt exhausted (79.1%), felt very lonely (55.9%), intentionally injured yourself (5.9%), and felt overwhelming anxiety (51%). More specific to depression and suicide, students responded to the following items: felt very sad (59.6%), felt so depressed that it was difficult to function (31.3%), seriously considered suicide (7.4%), attempted suicide (0.9%). The findings from the ACHA and other empirical research studies suggest that suicidality and mental health concerns on college campuses are a serious and prevalent problem deserving attention (ACHA, 2008-2013; Drum et al., 2009; Gallagher, 2004-2012; Guiterrez, 2005; Lester, 1994; Rutter & Estrada, 2006; Schwartz, 2005, 2006, 2011; Silverman, Meyer, Sloane, Raffel, & Pratt, 1997; SPRC, n.d.). As mental health concerns for college students, including suicide, are being reported nationwide, it is important to better understand the role of college counseling centers and how they address student mental health concerns.

 Role of college counseling centers. College counseling centers generally provide individual counseling or psychotherapy, with additional services varying from campus to campus, such as: individual, couples, group, and/or family counseling; alcohol and drug treatment; eating disorders treatment; psychiatric services; psychological assessment; and career counseling (ACHA, 2010). Most campus counseling centers also provide outreach and consultation services (Gallagher, 2004-2012). Results from The National Survey for College Counseling, formerly called The National Survey of

Counseling Center Directors help with understanding both the atmosphere of college

counseling centers and the perception of college campus needs. This annual survey,

conducted since 1981, seeks input from administrative leaders in university counseling

centers to provide current trends in college counseling centers. The areas covered in this

annual study range from budget trends, to current mental health concerns, to

administrative, ethical, and clinical issues.

Among college counseling centers surveyed, the average counselor-to-client ratio

was one counselor to 1,600 students, with smaller schools having much better ratios

(Gallagher, 2004-2012). The average number of sessions per student was 6.2, with 29%

of centers placing limits on the number of client counseling sessions allowed. Forty-eight

percent of centers reported not having a session limit policy but promote their centers as a

short-term service; 23% of centers allowed students to receive treatment as long as

necessary to resolve presenting problems.

When directors were asked more specifically about which services their campus

currently provided (that were thought to be essential for addressing suicidal behavior),

the following responses were given: 74% provided psychoeducational programs for

faculty/coaches/advisors/resident assistants, 71% utilized off-campus referral networks,

70% had a protocol for emergency services, 69% conducted stress reduction programs,

55% promoted campus-wide educational programs, 50% reported having on-site

psychiatric services, 52% had programming for depression screening days, 44% provided

education programs and materials for parents/families, and 32% had suicide postvention

programs in place (Gallagher, 2004-2012). As the need for mental health services on

college campuses has been discussed and current resources and services available on college campuses have been identified, the next section explores a comprehensive way of assessing for suicide, and introduces the role of protective and risk factors in students' lives and in suicide assessment.

Although results from the Gallagher (2004-2012) study help to see how campuses are currently addressing suicide risk on campuses, a more comprehensive approach was explored. The National Mental Health Association and the Jed Foundation (2002) worked to create a framework for suicide prevention to specifically address suicide concerns on college campuses. The following components were included in the approach: (a) identify at risk students, (b) increase help-seeking behavior among students, (c) provide mental health services to those in need, (d) follow crisis management procedures, (e) restrict access to potentially lethal means, (f) educate students to develop life skills, and (g) explore and promote social networks for college students. Additionally, the Internet has been used in suicide prevention, intervention, and postvention. This has been done by including online education and training, self-help chat rooms, online suicide assessments, and informational and supportive Web sites (Manning & VanDeusen, 2011). As the need for mental health services on college campuses has been described, current resources and services available on college campuses have been identified, and a comprehensive approach to suicide prevention has been explored, the next section provides a comprehensive way of assessing for suicide, and introduces the role of protective and risk factors in college students' lives and in suicide assessment.

Suicide Assessment Skills for Mental Health Professionals

When assessing for suicide, counselors can use a continuum to help identify a client's level of risk (APA, 2006), depending on the severity or level of risk to which a person experiences suicidal ideation or behavior (Paladino & Barrio Minton, 2008). Jacobs (1999) created the following example of a suicide continuum ranging from lowest to highest risk: (a) no predictable risk of suicide; (b) low risk (e.g., suicidal ideation without a plan); (c) moderate risk (e.g., suicide plan without means and full plan); (d) moderate-high risk (e.g., plan and preparation for suicide); (e) high risk of suicide (e.g., plan, preparation, and means for suicide); and (f) a completed suicide.

Mental health counselors use clinical interviews and assessment tools to evaluate suicide risk and to determine where a client falls on a suicide continuum. The combination of these items helps determine the level of risk, based on warning signs (commonly referred to as risk factors) and protective factors that are hoped to lessen the level of risk experienced by those having suicidal ideation (Granello, 2010; Simon, 2002). This interaction of risk and protective factors can often be explained by ambivalent thoughts experienced by suicidal persons (Guiterrez, 2005). For example, when risk factors are stronger than protective factors, the individual may be more attracted to death; in contrast, when protective factors are dominant, there may be a stronger attraction to life. As suicide risk is affected by many factors (both risk and protective) that can change from moment to moment, accurately assessing the true level of suicide risk can be difficult. Sometimes suicide risk and protective factors are confused, as the absence of a specific risk factor (e.g., no history of attempts) may be

identified as a protective factor, yet the absence of a risk factor does not necessarily indicate the presence of a protective factor (Simon, 2011).

When assessing for suicide, Jobes and Drozd (2004) recommended looking at the combined effect of reasons one has to live (protective factors; e.g., children, significant other, future goals), as well as the number of problems a person is facing (risk factors; e.g., loss of job, loss of pet, failure to get into graduate school). Consequently, evaluating a person's level of risk without consideration of protective factors could lead to a clinician rating the risk level too high, or possibly underestimating the risk level if the client has few or no protective factors (Simon, 2011). To summarize, while risk factors in suicide assessments are almost always examined, protective factors are less frequently explored. In fact, increased support for using both risk and protective factors has appeared in the literature only since the early 2000s (Granello, 2010; Guiterrez, 2005; Guiterrez, Osman, Kopper, Barrios, & Bagge, 2000; Jobes & Drozd, 2004; Paladino & Barrio-Minton, 2008; Rutter, Freedenthal, & Osman, 2008; Simon, 2011). For the purpose of the current study, both protective factors and risk factors are explored in order to better understand their role and how they may impact levels of suicide risk.

Protective Factors

Protective factors are defined as factors in one's life that may mitigate suicidal thoughts and behaviors (CDC, 2011). Marsha Linehan first empirically researched these factors in 1983, as she explored the question of what keeps people alive when they are thinking about suicide (Rutter & Estrada, 2006). In fact, Linehan, Goodstein, Nielsen, and Chiles (1983) created the Reasons for Living Inventory (RFL), a 48-item self-report

measure that assesses a range of adaptive characteristics. These adaptive characteristics

are viewed as potential reasons for not committing suicide, should suicidal thoughts arise.

Examples of items on the RFL (Linehan et al., 1983) are: I have a responsibility and

commitment to my family; I believe I can learn to adjust or cope with my family or

problems; I believe I can find other solutions to my problems.

A major assumption of the RFL inventory is that suicidal individuals, in

comparison to non-suicidal people, are lacking adaptive beliefs that deter suicidal

behavior. In fact, Linehan et al. (1983) found that individuals with prior suicidal behavior

reported fewer reasons for living than individuals with no suicidal history, and that

individuals with suicidal histories valued reasons for living to a lesser degree, as they

rated reasons for living as less important than those with no suicidal history. The concept

of reasons for living was critical to the evolution of research on protective factors

(Linehan et al., 1983; Osman et al., 1993; Range & Knott, 1997), and has since led

researchers to further investigate protective factors on a more diverse spectrum (Greening

& Stoppelbein, 2002; Guiterrez, Rodriquez, & Garcia, 2001; Rennie & Dolan, 2010;

Rutter & Estrada, 2006; Steinhardt & Dolbier, 2008; SPRC, n.d.).

When experiencing a life stressor, people can help to reduce the chances of a

negative outcome by implementing a protective factor (Rennie & Dolan, 2010; Steinhardt

& Dolbier, 2008). Protective factors may vary with age, gender, race/ethnicity, culture,

and other demographic factors (Greening & Stoppelbein, 2002; Guiterrez, Rodriquez, &

Garcia, 2001). For example, perceived social support (from community or family) may

prove to be a more significant protective factor for some ethnicities than others (Rutter &

Estrada, 2006). Protective factors are commonly broken down into two categories:

internal (resiliency, positive self-concept, and emotional stability) and external (social

support, peer and family support; Rutter & Estrada, 2006). Both internal and external

protective factors are explored in greater depth in this section to provide a deeper

understanding of how each might impact a person's life and levels of suicide risk.

Internal protective factors include a person's psychological strengths. An

example of an internal protective factor is emotional stability, defined as one's ability to

work through uncomfortable experiences without experiencing acute depression or

hopelessness, or reacting in a hostile manner (Guiterrez, Osman, Kopper, & Barrios,

2000). Emotional stability includes the ability to self-regulate, verbalize positive

thoughts about self and life, and navigate emotionally upsetting experiences (Rutter &

Estrada, 2006). Another identified internal protective factor is resilience, defined as a

process of adapting well in the face of adversity, trauma, or when experiencing

significant sources of stress (Rutter, 2000). Beyond adaptability, highly resilient

individuals are able to return to their previous levels of functioning; Steinhardt and

Dolbier (2008) described resilience as the ability to recover quickly from disruptions in a

person's daily functioning that may result from stressors. They categorized resilient

coping strategies as both behavioral (e.g., journaling, exercising) and cognitive (e.g.,

identifying solutions, having hope for the future). Other researchers have suggested that

resilient people are also likely to have at least one supportive and trusting relationship

(Baruth & Carroll, 2002; Dumont & Provost, 1999), and at least one study has suggested

that resilient people may simply be those who have experienced fewer life stressors when

compared with those seen to be less resilient (Baruth & Carroll, 2002). This latter view implies that resiliency may be a function of life circumstance as much as a personal attribute.

In contrast with internal protective factors, external protective factors are resources outside the individual that may be helpful when he or she is faced with difficult situations or suicidal thoughts (Osman et al., 2001). The current study focuses on support as an external protective factor, including relationships with family, significant others, and peers. Each of these types of support were explored in greater depth to better explore how each may impact a person's functioning, beginning with support from peers, otherwise noted as social support. Bonner (1992) described social support as a safeguard that lessens the perceived negative consequences in life and enhances coping skills. Whether the support is actual or perceived, it is hypothesized that having social support decreases the stress level for individuals and increases a person's ability to cope with stressful situations (Johnson, Gooding, Wood, Taylor, & Tarrier, 2010). Specifically, college students showed improved coping and adaptation to college when there was sufficient peer and college-wide support (Zea, Jarama, & Bianchi, 1995).

Peers have a strong impact and influence on college students (Taub & Thompson, 2013). In fact, multiple studies have shown that college students readily turn to informal sources for support and advice (e.g., more likely to seek help from friends and families than mental health professionals; Goldston et al., 2008; Davidson, Yakusha, & Sanford-Martens, 2004). Similarly, Sharkin, Plageman, and Mangold (2003) reported that 80% of college students planned to seek guidance or advice from a peer in times of

duress; the NCHA-II found that 61.1% of students reported seeking information from friends on a regular basis (ACHA, 2009). As higher levels of social support have been shown to have a positive impact on adjusting to the college environment and reducing the likelihood of suicidal behavior in college students (Hirsch & Barton, 2011), clinicians working on college campuses should understand the important role of social support and its potential impact on students' risk for suicidal ideation and behavior.

In addition to relationships with peers, support from a young adult's family and significant other has also been shown to have a positive impact on the student's well-being and mental health (Bearman & Moody, 2004; Beretera, 2007; Groholt, Ekeberg, Wichstrom, & Haldorsen, 2000; Shtayermman, Reilly, & Knight, 2012). Davidson et al. (2004) found that in addition to seeking help from peers, students say they would talk with family members about their problems. The current generation of college students is extremely close to their parents (Howe & Strauss, 2003). In fact, a study done by Grace (2006) found that college students communicated with their parents an average of 10.4 times per week; a similar study by Levine and Dean (2013) found that 19% of undergraduates are in contact with their parents three or more times daily. These studies show patterns of seeking support and help to understand the role family and peers play for current college students.

Students who reported strong support from family also reported lower levels of suicidal ideation. This may suggest that support provides a positive outlet for college students to express their problems and feelings, explaining their lower risk for suicidal ideation (Shtayermman et al., 2012). Similar to findings by Shtayermman et al., Ellis and

Lamis (2007) documented that individuals who reported no suicidal ideation also claimed

having a greater sense of responsibility to family and friends, as well as stronger coping

beliefs. However, the converse must also be considered. Having deficits in parental or

family support is associated with an increase in suicidal ideation for college students

(Greening & Stoppelbein, 2002) and disrupted social connections (e.g., family discord,

problems with friends, ending of relationships) increase the risk of suicidal ideation and

behavior significantly (Donald, Dower, Correa-Velez, & Jones, 2006; Rubenowitz,

Waern, Wihlelmsson, & Vallenbeck, 2001).

Finally, support from significant others, can also serve as a protective factor. In a

study done by Kposowa (2003), marital status was discussed as a potential predictor for

suicidal ideation. This study indicated that individuals who were single, divorced,

widowed, or separated had an increased likelihood of attempting suicide. More

specifically, divorced and widowed individuals were reported to be twice as likely to kill

themselves compared to individuals who were married, and participants identifying as

single were 1.9 times more likely to end their lives as those identifying as married.

Kposowa hypothesized that being married may be associated with feeling secure and

having additional support, which may lessen the likelihood of suicidal thoughts or

actions.

Dating back to 1951, there is a long history of research exploring the connection

between support and suicidal behavior (Durkheim, 1951). However, the concept of

support as a protective factor for college students is still relevant in current literature

(Drum et al., 2009; Roswarski & Dunn, 2009; Rutter et al., 2008; Shtayermman et al.,

2012; SPRC, n.d.), and an important topic for those working on college campuses. As protective factors have been shown to help moderate or reduce suicidal thoughts, threats, or attempts, risk factors may increase suicidal thoughts and behaviors.

Risk Factors

Many factors in a person's life can contribute to an individual contemplating suicide. Risk factors associated with suicide may or may not be direct causes of suicidal ideation or behavior. These factors can be defined as a combination of individual, relational, community, and societal issues that contribute to the risk of suicide (CDC, 2010). Examples of suicide risk factors applicable across the developmental lifespan are: family history of suicide; previous suicide attempt(s); history of mental disorders; history of alcohol and substance abuse; feelings of hopelessness; and loss (relational, social, work, or financial; CDC, 2010). More specifically, risk factors shown to contribute to suicidal ideation and behavior in college students are: (a) low self-esteem and student stress (Wilburn & Smith, 2005); (b) depression, including feelings of loneliness and hopelessness (AFSP, n.d.; Drum et al., 2009; Osman et al., 2002; SPRC, 2004); (c) academic problems (Drum et al., 2009); (d) relationship and family issues (Drum et al., 2009; SPRC, 2004); and (e) alcohol and drug use (AFSP, n.d.; Drum et al., 2009; SPRC, 2004). College students experiencing one or more risk factors at a given time are increasingly likely to experience suicidal ideation and behavior (SPRC, 2011).

Many research studies have focused on mental disorders, specifically depression and substance use, as risk factors relative to suicide (AFSP, n.d.; Drum et al., 2009; Ellis & Trumpower, 2008; Osman et al., 2002; Sareen et al., 2005; SPRC, 2004). In fact, it is

estimated that 90 to 95% of those who die by suicide have some form of a treatable mental disorder at the time of their deaths, frequently depression or substance abuse (Cukrowicz et al., 2011).

Depression among college students. The most commonly seen diagnoses in clinical settings on college campuses are mood disorders, such as depression (ACHA 2001, 2007). The World Health Organization described depression as a "mental disorder that presents with depressed mood, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy, and poor concentration" (Marcus, Yasamy, Ommeren, Chisholm, & Saxena, n.d.). Depression is currently the second leading cause of disability in individuals 15 to 44 years of age, and it is estimated that 25% of young adults will experience a depressive episode by the age of 24 (Marcus et al., n.d.). Shtayermman et al. (2012) found that 4% of college students met the criteria for Dysthymia (as defined by the *Diagnostic and Statistical Manual of Mental Disorders-IV* [*DSM-IV*]; APA, 2010) and 4.4% met the criteria for a diagnosis of Major Depressive Disorder (as defined by the *DSM-IV*).

Severe depressive symptoms may be a strong indicator of increased risk for someone who presents with suicidal ideation (Toth, Schwartz, & Kurka, 2007). In fact, depressive symptoms have been found to be associated with 95% of students with suicidal ideation (Kisch, Leino, & Silverman, 2005). Multiple studies have reported that feelings of hopelessness and depression are risk factors for those experiencing suicidal ideation (AFSP, 2011; Furr, Westefeld, McConnell, & Jenkins, 2001; Osman et al., 2002; SPRC, n.d.; Westefeld et al., 2006); however, Konick and Guiterrez (2005) reported that

depression was more strongly associated with suicidal ideation than hopelessness for college students.

In a recent national study, ACHA (2012) found that, in the preceding 12 months, students reported that: 59.5% felt very sad, 56.6% felt very lonely, 44.6% felt that things were hopeless, 29.5% felt they were so depressed it was difficult to function, and 10.6% were diagnosed or treated by a professional for depression. This comprehensive study helps to approximate both the number of students diagnosed with depression as well as those experiencing symptoms of depression. Although it is crucial to understand the prevalence of depressive symptoms among college students, it is also important to understand the impact of depression when a person does not receive professional help. Untreated depression can result in poor academic performance, self-medicating with drugs and alcohol, and suicide (Lazenby, 2011). As alcohol use or abuse may exacerbate depression for college students and increase the risk of suicide (Lazenby, 2011), the next section explores both rates of substance use on college campuses and the relationship between substance use and suicidal ideation and behavior.

Substance use among college students. A widespread concern among university personnel is student use and abuse of alcohol and other substances (ACHA, 2010). Student consumption of alcohol and other drugs, as well as consequences associated with substance use, are viewed as highly problematic by higher education professionals (Lewis & Myers, 2010). Further, the use of alcohol and drugs is considered a risk factor when assessing suicidality (SPRC, n.d.), as substance use can reduce a person's sense of inhibition and lead to riskier or more impulsive behaviors, including suicidal behavior

(SPRC, 2004). Also, having a history of alcohol dependence or alcohol abuse has been identified as a potential risk factor or predictor of suicide attempts (Dutta et al., 2007; Ellis & Trumpower, 2008; Hingson, Heeren, Winter, & Weschler, 2005).

According to the National Survey on Drug Use and Health, and Substance Abuse and Mental Health Services Administration (SAMHSA; 2007), rates of binge drinking have changed little since the 1990s, as 45.5% college students reported binge drinking behaviors and 19% of students acknowledged engaging in "frequent binge drinking" (Weschler, Lee, Kuo, & Lee, 2000). Similarly, Weschler, Lee, Kuo, Seibring, Nelson, and Lee (2002) surveyed approximately 140 postsecondary institutions in the United States and found that 44% of college students reported binge drinking behaviors, which was defined in this study as five or more drinks in one setting for men and four or more for women.

Problematic alcohol and drug use is commonly reported by college students (ACHA 2001, 2007). Knight et al. (2002) surveyed 14,000 college students and found that 31% of college students met criteria for a diagnosis of alcohol abuse and 6% met the criteria for a diagnosis of alcohol dependence, based on students' self-reports about their drinking. Criteria for alcohol abuse and alcohol dependence came from the *DSM-IV* (APA, 2000). In another study by Shtayermman et al. (2012), 493 college students were surveyed; data on substance abuse/dependence and alcohol abuse/dependence were obtained using the Patient Health Questionnaire for Adolescents (PHQ-A; Johnson, Harris, Spitzer, & Williams, 2002). The PHQ-A is a self-reporting measure that assesses mood, anxiety disorder, and other disorders in adolescent primary care patients (Johnson

et al., 2002). Shtayermman et al. (2012) found that 9.6% of students surveyed met the

diagnostic criteria for alcohol dependence and 4.6% met the diagnostic criteria for drug

abuse. These numbers speak to the current trends of alcohol use by college students. It is

important to assess for alcohol and other drug use as a risk factor for this group, as

college students have reported that suicidal behavior was a consequence of drinking

(National Institute on Alcohol Abuse and Alcoholism, 2002).

In addition to exploring how depression and alcohol impacts a person's

suicidality, there is growing interest in suicide research regarding demographic

differences among risk and protective factors for suicide (Gallagher, 2004-2012;

Greening & Stoppelbein, 2002; Guiterrez et al., 2001; Muehlenkamp, Guiterrez, Osman,

& Barrios, 2005). For example, a student's sexual orientation could be considered a

factor in looking at risk for elevated levels of suicidal ideation. In a study done by

Shtayermman et al. (2012), students who identified as gay or bisexual were at risk for

higher levels of suicidality in comparison to the heterosexual participants. Other studies

have also shown that those identifying as LGBT (Lesbian, Gay, Bisexual, or

Transgender) have higher levels of suicidality (Kitts, 2005; Russell, 2003; Rutter &

Soucar, 2002). Better identification of protective factors specific to groups (e.g., male

versus female) may help clinicians improve their clinical skills when assessing and

treating suicidality. Race/ethnicity, gender, sexual orientation, and academic

performance need to be explored with regard to the current and emerging literature about

possible relationships among demographic factors of college students and suicide.

Race/Ethnicity and Suicide

Wong, Brownson, and Schwing (2011) noted concern with the overall deficiency of literature surrounding racial and ethnic minority (REM) students, given the growing racial and ethnic diversity on many college campuses in the United States. According to the U. S. Department of Education, National Center for Education Statistics (NCES; 2012), the percentage of American college students who are Hispanic, Asian/Pacific Islander, and Black has been increasing. From 1976 to 2010, the percentage of Hispanic students rose from 3% to 13%, the percentage of Asian/Pacific Islander students rose from 2% to 6%, and the percentage of Black students increased from 9% to 14%. During the same period, the percentage of college students who are White students fell from 83% to 61%. Race/ethnicity is not reported for nonresident aliens, who made up 2% and 3% of total enrollment in 1976 and 2010, respectively. In fact, it is reported that REM students comprised 31% of the overall college student population 2010 (NCES, 2011). As the ethnic diversity of the United States and its college-going population continues to grow, it is important that research on vital topics like suicide address how culture and other factors may influence student mental health and well-being (SPRC, 2004). Better identifying common risk and protective factors for groups of different ethnicities will help clinicians better develop more effective interventions for clients (Perez-Rodriguez, Baca-Garcia, Oquendo, & Blanco, 2008).

Current limitations of studies examining race/ethnicity and suicidality with the college population are: demographics for studies are reported but differences in participants' race/ethnicity are not discussed within the articles (ACHA, 2013; Drum et

al., 2009; Gallagher, 2004-2012; Schwartz, 2011); there is lack of diversity within the participant sample, or a single race/ethnicity is explored within a study (Choi & Rogers, 2010; Choi, Rogers, & Werth, 2009; Harris & Molock, 2000; Marion & Range, 2003; Morrison & Downey, 2000; Utsey, Hook, & Stanard, 2007; Wang, Nyutu, & Tran, 2012; Wong et al., 2011). At this time, little is known about (a) the relationship between race/ethnicity and suicidal behaviors (Perez-Rodriguez et al., 2008); (b) how cultural factors may impact emerging adults' suicidality (Gomez, Miranda, & Polanco, 2011; and (c) how risk and protective factors impact suicidality among racial and ethnic minority college students (Stephenson et al., 2005). In fact, Willis, Coombs, Drentea, and Cockerham (2003) questioned whether risk factors for suicidality discovered within the general population may be appropriately generalized to specific ethnic groups (e.g., African American, American Indians, Hispanics, etc.). As the research focused on REM college students is minimal, further research is needed to help clinicians better understand the possible relationships among race/ethnicity, protective factors, and suicide for REM college students (Wang, Nyutu & Tran, 2012; Wong et al., 2011).

Gender and Suicide on the College Campus

Gender differences for suicidal ideation and suicidal behavior have been examined in the literature for over 30 years (Canetto, 1994; Canetto & Sakinofsky, 1998; Stephenson, Pena-Shaff, & Quirk, 2006; Wellman & Wellman, 1988; Witte, Fitzpatrick, Joiner, & Schmidt, 2005; Yorganson et al., 2008), with few studies specifically addressing differences between predictor variables separately by gender for university students (Stephenson et al., 2006). When reporting differences between genders and

suicidality, results have not been consistent. While some studies identify no consistent gender differences when looking at suicidal ideation and suicidal behavior (Garcia, Adams, Friedman, & East, 2002; Reynolds, 1990; Rudd, 1990; Wellman & Wellman, 1986, 1988), other research studies have reported differences in gender for both suicidal ideation and behavior (Anderson, 2002; Canetto, 1994; Canetto & Sakinofsky, 1998; Pompili et al., 2007; Witte et al., 2005). This section will focus on studies in which gender differences were reported for suicidality, method of suicide, seeking services, and reasons for living.

When researching gender differences and suicide, a common term, *gender paradox* (Canetto & Sakinofsky, 1998), is used. The gender paradox refers to women being more likely to experience suicidal ideation (Canetto, 1994; CDC, 2012; Reynolds, 1990) and attempt suicide, whereas men are reported to be more likely to complete suicide (Anderson, 2002; Kerr, Owen, & Capaldi, 2008). Supporting this paradox, the CDC (2012) reported that there are four male suicide completions for every one female completion, although females are reported to attempt suicide approximately three times more often than males (Rich, Rich, Ricketts, Thaler, & Young, 1988). Likewise, differences are noted for gender with regard to method of suicide. Firearms were reported to be the most commonly used method of suicide for men, accounting for 56% of reported male suicides, and poisoning (e.g., overdose on prescription pills, consumption of household cleaners) was reported to be the most common method of suicide for females, accounting for 37.4% of reported female suicides (Crosby et al., 2011). In other words, the CDC (2013) identified men's suicidal acts as being more

violent (e.g., use of firearms) in comparison to females' attempts to end their lives in a more passive, less violent way (e.g., swallowing pills).

Regarding utilization rates of mental health services among college students, male students are less likely than female students to have used counseling services on campus (Gonzalez, Alegria, & Prihoda, 2005; Yorganson et al., 2008), with females being twice as likely to have seen a counselor (Yorganson et al., 2008). These trends may be related to societal norms, in that females have a tendency to seek help more often than males; men are taught to not express emotions or share their troubles (Portes, Sandhu, & Longwell-Grice, 2002). In fact, women are also found to have higher numbers of reasons for living, when compared with men (Hirsch & Ellis, 1996), and reasons for living was suggested as a stronger protective factor against suicide in women than in men (Lizardi et al., 2007). To summarize, women are reported to attempt suicide more often, use less lethal of means, be more likely to seek services, and have a higher level of reasons for living. However, men are reported to attempt suicide less often, but have a higher completion rate due to use of more lethal means; seek services less often; and report having fewer reasons for living. Continued research could help to better identify and address differences between genders when looking at protective factors for suicide. In turn, this would benefit not only clinicians, but many professionals working in higher education, as campus programming could be targeted more specifically to address students' needs (Stephenson et al., 2006; Yorganson et al., 2008).

Sexual Orientation and Mental Health Concerns

The American College Health Association (ACHA) reported that 7.2% of United States college students identify as lesbian, gay, or bisexual (LGB). LGB students have been linked to a higher prevalence of and risk for mental health concerns than students identifying as heterosexual. Specifically, higher levels of depression and substance use are risk factors reported among LGB young adults (Bontempo & D'Augelli, 2002). Similarly, a multi-campus study done by the CCMH (2010) found that individuals who identified as gay scored significantly higher than heterosexual students on scales of depression, anxiety, and family distress. When these concerns are paired with other stressors, risk for suicide increases.

Stigma about being in the sexual minority and "coming out" are noted as other factors adding stress (Kitts, 2005). Coming out may trigger rejection from family and friends, or generate a sense of disappointment from loved ones, which may cause an increase in symptoms of depression and thoughts of suicide (Rutter & Soucar, 2002). When lack of family and peer support (Ryan, Huebener, Diaz, & Sanchez, 2009; SPRC, n.d.) is paired with higher levels of substance abuse (Bontempo & D'Augelli, 2002), there is also a heightened risk of suicide for members of the LGB community.

When thinking about students' experiences on a day-to-day basis, LGB college students have reported more stressful experiences in comparison to their heterosexual counterparts (CCMH, 2010), including harassment and derogatory remarks (Oswalt & Wyatt, 2011). Due to added stressors, LGB students are found to be less likely to feel comfortable with their overall college campus climate, department climate, and

classroom climate (Rankin, 2005). This harassment and discomfort in the academic atmosphere somewhat explains the increased risk for mental health concerns and suicide among LGB students. Oswalt and Wyatt (2011) found that individuals identifying as LGB had higher rates of attending counseling at the university counseling or health services compared to the heterosexual population, which is contrary to Rankin (2005), who stated that LGB students are less likely to seek services.

In a study specifically exploring suicidality and sexual orientation, Garcia et al. (2002) identified a link between suicidal ideation and sexual orientation among college students. This study surveyed 155 students (138 valid questionnaires were used in analysis); participants were recruited from 2 human sexuality courses and LGB groups on 2 college campuses. These authors sought to ensure an adequate number of LGB respondents, as LGB students are sometimes underrepresented in studies. LGB groups were recruited and asked to distribute the questionnaires among their members. Seventy-eight percent of respondents identified as heterosexual and 22% identified as LGB. The authors reported that LGB respondents were 2.9 times more likely to think about committing suicide than heterosexuals. With further analysis, it was discovered that the difference was accounted for primarily by women, in that 71% of the lesbian/bisexual women, compared with 39% of the heterosexual women, reported past suicidal ideation. No significant differences were found in the frequency of reports of suicidal ideation between gay/bisexual men in comparison to heterosexual men. Adding to the literature on LGB students, Rutter and Soucar (2002) additionally incorporated work with transgender students. They reported that individuals who identified as lesbian,

gay, bisexual, or transgender (LGBT) are more likely to have higher levels of suicidal ideation compared with individuals who identified as heterosexual. Additionally, researchers have found that students who identify as LGBT not only have higher rates of suicidal ideation, but are also twice as likely to take their lives (Kitts, 2005; Russell, 2003).

Regarding bisexual college students, Balsam, Beauhaine, Mickey, and Rothblum (2005) found that these individuals reported higher levels of mental distress (which included anxiety, depression, and negative affect) in comparison to gay, lesbian, and heterosexual individuals. Oswalt and Wyatt (2011) identified unique stressors specific to bisexual college students: (a) higher rates of adverse life events, (b) less positive family support, and (c) more negative peer interactions. Also, Oswalt and Wyatt found that bisexuals had the highest rates for seeing all types of mental health service providers and for using college counseling or health services in comparison to students identifying as lesbian, gay, and heterosexual. While these findings did not directly include suicide ideation or attempts, the study did suggest mental distress was a risk factor that is linked to both suicide ideation and attempts (e.g., depression, anxiety, stress, discrimination).

Currently, there is no authoritative data on suicide rates among LGB persons, as sexual orientation data is not typically reported on death certificates. Whereas some research has been done to explore mental health concerns and sexual orientation, little directly connects sexual orientation and suicide. Therefore, continued exploration and research of suicidality among LGB persons is needed (Johnson, Oxendine, Taub, & Robertson, 2013). Similarly, research on protective factors for LGBT students is lacking

(SPRC, n.d.). As protective factors likely will differ as a function of culture (i.e., gender, sexual orientation, race/ethnicity; Muehlenkamp et al., 2005), these factors should be further researched in relation to demographic differences to provide a more informed approach for suicide assessment, treatment, and campus wide programming for college students. Specifically, additional information linking protective factors, sexual orientation, and suicidality would benefit counselors working at colleges and universities to better assess and treat sexual minority students.

Academic Performance and Mental Health on the College Campus.

As academic performance (e.g., GPA) is crucial to college students maintaining student status, receiving and retaining scholarships, entering into memberships in academic clubs and much more, this section will explore factors impacting academic performance and how academic performance impacts mental health concerns. Many of these mental health concerns discussed in this section are also identified as risk factors for suicide (e.g., alcohol and drug use, anxiety and depression, discrimination/harassment). Multiple studies provide data to support the idea that a wide range of mental health concerns and stressors can impact a student's academic performance (ACHA, 2013; Eisenberg, Gollust, Golberstein, & Hefner, 2007; Furr et al., 2001; Keyes et al., 2012). To begin, in the most recent NCHA-II, undergraduate students identified the following items as impacting their academic performance and success: alcohol use, anxiety, depression, drug use, and relationship difficulties, stress (ACHA, 2013). Academic success was defined in this study as receiving a lower grade on an exam or an important project; receiving a lower grade in a course; receiving an incomplete or dropping a course; or

experiencing a significant disruption in thesis, dissertation, research, or practicum work. Although it is helpful to understand the factors impacting college students' academic performance, it is also important to examine the number of students being affected. In a study by Eisenberg et al. (2007), both undergraduates (18.4%) and graduate students (14.1%) reported missing academic obligations in the previous four weeks due to mental health concerns and 44.3% of undergraduates and 41.2% of graduate students reported that mental or emotional difficulties affected their academic performance in during the preceding month. Similarly, ACHA (2013) reported that 44.7% of students surveyed reported academics as being traumatic or very difficult to handle within the past 12 months.

Another factor impacting academic performance, not discussed by ACHA (2013) or Eisenberg et al. (2007), is discrimination based on social group membership (e.g., race/ethnicity, gender, sexual orientation, etc.). As the impact of discrimination may hinder educational goals and positive academic outcomes, learning outcomes (grades, performance, etc.) may be influenced by students' experiences within their campus environment (Pascarella & Terenzini, 2005). As harassment and discrimination toward LGB students remains problematic on college campuses (Rankin & Reason, 2005), these factors likely impact students' educational outcomes. Rankin (2005) suggested that LGB students and students questioning their sexuality consistently reported higher levels of mental health issues, having a negative impact on their academic success in comparison to heterosexual students surveyed.

When comparing academic performance and suicidality, a study by Drum and colleagues (2009) found that 43% of undergraduate students and 45% of graduate students who reported seriously considering a suicide attempt also noted academic problems as having a large effect on suicidal ideation. Furr et al. (2001) also suggested that poor academic performance and achievement may be a risk factor for college students experiencing suicidal ideation or behavior. Where multiple studies show connections between mental health concerns and academic performance (ACHA, 2013; Eisenberg et al., 2007; Pascarella & Terenzini, 2005, Rankin, 2005), few studies have specifically examined the direct relationship between college student suicidality and academic performance (Klibert, Langhinrichsen-Rohling, Luna, & Robichaux, 2011). Continued research and exploration of a potential connection between academic performance and levels of suicidal ideation or behavior is needed.

Regarding qualities that lead to high academic achievement, a study by Hall, Perry, Rughig, Hladkyi, and Chipperfield (2006) compared academically successful students to those who were not academically successful. These authors found that the group termed as academically successful reported more adaptability or resilience (internal protective factors) when encountering challenging and stressful circumstances. Another internal protective factor identified by academically successful students, was having stronger beliefs about personal control (emotional stability) over academics compared to their non-successful counterparts. Thus, the authors hypothesized that achievement motivation may be one measure of good mental health for college students. Other studies underscore that high achievement motivation may suggest good mental health for college

students (Hall et al., 2006; Klibert et al., 2011). Although the majority of this section focused on how suicidality can impact a person's academic performance, or the reverse, how poor academic performance can be a risk factor for suicide, it is important to recognize that academic success can be a protective factor for suicide and an indicator of positive mental health. The current study explores GPA as a potential protective factor for suicidal ideation and behavior.

A comparison of undergraduate and graduate student mental health concerns and suicidality. College enrollment in the United States reached a record of 17.6 million students in 2006, and is expected to increase by another 13% between 2006 and 2015 (Hussar & Bailey, 2006). Between 2000 and 2010, enrollment increased 37%, from 15.3 million to 21.0 million (NCES, 2012). Much of the growth between 2000 and 2010 was in full-time enrollment; the number of full-time students rose 45%, whereas the number of part-time students rose 26%. During the same time period, the number of female students rose 39%, whereas the number of male students rose 35%. Given enrollment increases, it is important to recognize current issues impacting students. As graduate students are studied less often than undergraduate students, this section includes two major research projects that looked at differences between these groups regarding mental health concerns, including suicidality (Eisenberg et al., 2007; & Drum et al., 2009).

Eisenberg et al. (2007) conducted a web-based, single campus study at a large Midwestern public university. The sample was comprised of 5,021 students, with 2,495 undergraduates and 2,526 graduate and professional students. Participants were

randomly selected from the registrar's database of all currently enrolled students.

Relative to the overall population ratio, which is two undergraduates for every graduate

student, there was purposive oversampling of graduate students, as mental health needs of

graduate students have been largely neglected (Eisenberg et al., 2007).

Eisenberg et al. (2007) noted the following regarding mental health concerns:

13.8% of undergraduates and 11.3% of graduate students screened positive for major or

other depression; 4.2% of undergraduates and 3.8% of graduate students screened

positive for current panic disorder or generalized anxiety disorder; and 2.5% of

undergraduates and 1.6% of graduate students reported suicidal thoughts in the preceding

four weeks. Less than 1% of both groups reported making a suicide plan in the past four

weeks, and only one student in the entire sample reported a suicide attempt during that

time span.

Drum et al. (2009) looked at differences between undergraduate and graduate

suicide and mental health concerns. This multi-campus study used a stratified random

sample of 108,536 students across 70 colleges and universities in the United States. The

undergraduate and graduate response rates were 24% (15,010 out of 62,000) and 25%

(11,441 out of 46,536), respectively, for a total sample of 26,451 students. Regarding

suicidal ideation, over half of college students who responded reported some form of

suicidal thinking in their lifetime. When participants were asked whether they had "ever

seriously considered attempting suicide," 18% of undergraduates and 15% of graduate

students said yes. Among those who had "seriously considered attempting suicide," 47%

of undergraduates and 43% of graduate students had three or more periods of serious

suicidal ideation. Eight percent of undergraduates and 5% of graduate students reported

having attempted suicide at least once during their lives, and 6% of undergraduates and

4% of graduate students reported that they "seriously considered attempting suicide" in

the past 12 months. Ultimately, 14% of undergraduates and 8% of graduate students who

seriously considered suicide in the past 12 months actually attempted suicide. These

numbers represent 0.85% of the total undergraduate sample and 0.30% of the total

graduate student sample. Of this small group, 69% of undergraduates and 75% of

graduate students made one suicide attempt; 9% reported three or more attempts. Among

those who attempted suicide, 19% of undergraduates and 28% of graduate students

reported making an attempt that required medical attention. Drug overdose was the most

common method of suicide attempt (51% of undergraduate and 50% of graduate student

attempters). For students who attempted suicide within the past 12 months, 23% of

undergraduates and 27% of graduate students reported that they were currently

considering making another suicide attempt. Findings from Drum et al.'s (2009) study

show that suicidal ideation and attempts are a prevalent and recurrent problem for the

nation's college students.

Similar to findings by Eisenberg et al. (2007), Drum et al. (2009) found that 45%

of undergraduates and 39% of graduate students reported that their thoughts of suicide

greatly interfered with their academic performance. In particular, academic problems

were rated as having a large effect on suicidal ideation by 43% of undergraduates and

45% of graduate students who seriously considered attempting suicide. This suggests

that gatekeepers (e.g., faculty, advisors, counselors, etc.) on college campuses involved

with academically distressed students may have an opportunity to interact with these students to potentially decrease their likelihood of developing suicidal thinking (Drum et al., 2009).

Regarding protective factors, Drum et al. (2009) asked students who seriously considered attempting suicide but did not ultimately make an attempt within the past 12 months to rate the importance of various factors in preventing their suicide attempts. Among both undergraduate and graduate students, 77% said that disappointing or hurting their family had a large or very large impact on their decision to not attempt suicide, whereas 56% of undergraduates and 49% of graduate students said the same of disappointing or hurting their friends. These numbers demonstrate the importance of family and social support in college students' lives. In addition, 40% of undergraduates and 35% of graduate students reported that wanting to finish school was an important reason to not attempt suicide, which may indicate that high academic performance can serve as a protective factor. Knowledge of these protective factors may assist clinicians who are working to reduce a client's risk for attempting suicide.

Chapter Summary

This chapter provided an overview of suicide statistics (for the general population), and focused on suicide and mental health concerns among college students. It also reviewed the role of college counseling centers and the importance of effective, holistic suicide assessment skills for mental health professionals. Both protective factors and risk factors were explored, including depression and substance use among college students. Other factors relevant to college student mental health and suicidality, such as

race/ethnicity, gender, sexual orientation, academic performance, and graduate and undergraduate mental health concerns were highlighted in order to provide the context, purpose, and rationale for the current study. The review of literature underscores the significant issue of suicide among college students and the importance of including protective factors in assessing the risk of suicidal clients. This study sought to explore whether protective factors will predict levels of suicidal ideation and behavior, and looked for differences between and among groups of college students. The following chapter describes the methodology for the current study.

CHAPTER II

METHODOLOGY

The following chapter provides a detailed explanation of the methods used in this study. First, the purpose of the study is presented, along with the study's research questions. Then, participants and procedures of the study are outlined, including sampling. Next, information on the three inventories is provided, which includes norming data, validity, reliability, and a scholarly critique of each inventory. Following this, the rationale for selecting binary logistic regression and Multivariate Analysis of Variance (MANOVA) as the chosen methods of quantitative study is shared. The chapter concludes with the delimitations of the study and a chapter summary.

Purpose of the Study

The purpose of this study was to identify which individual or combination of protective factors predicts levels of suicidal ideation and behavior among the college population.

Research Questions

1. Will protective factors predict levels of suicidal ideation and behavior among college students after controlling for several demographic variables?

2. Are there differences in protective factors between groups based on demographic characteristics?

   a. Are there differences in protective factors between groups based on gender?

43

b. Are there differences in protective factors between groups based on race/ethnicity?

c. Are there differences in protective factors between groups based on sexual orientation?

d. Are there differences in protective factors among groups based on self-reported cumulative GPA?

e. Are there differences in protective factors between undergraduate and graduate student status?

Participants: Inclusion Criteria

IRB approval (see Appendix A) was gained before contacting participants for this study. Participation in the study was voluntary. Individuals could participate if they were 18 years of age or older, and an enrolled undergraduate or graduate student at one large Midwestern university. This criterion was developed as the researcher was looking to gather a diverse population of both undergraduate and graduate students. Demographic data (see Appendix B) were gathered for as part of the online survey. Aside from this, there were no additional inclusion criteria for this study.

Procedures

An online survey was created through Qualtrics software (Qualtrics, Provo, UT). This survey was anonymized in order to guarantee anonymity to participants taking the study (i.e., participants' responses could not be linked to their IP address; therefore, the researcher was not able to know the identity of any participants). The online survey included a demographic sheet, all of the questions of the Suicide Resilience Inventory–25

(SRI–25; Appendix C; Osman et al., 2004); all of the questions included in the Suicide Behaviors Questionnaire–Revised (SBQ–R; Appendix D; Osman et al., 2001); and all of the questions included on Multidimensional Scale of Perceived Social Support (MSPSS; Appendix E; Zimet, Dahlem, Zimet, & Farley, 1988). The test creators for the SRI–25, SBQ–R, and MSPSS granted permission for the inventories to be used as part of this dissertation study (see Appendix F).

Once Institutional Review Board approval was granted, the researcher contacted the Office of Research, Planning, and Institutional Effectiveness (RPIE) at a large Midwest university to obtain undergraduate and graduate student email addresses. The Office of Research, Planning and Institutional Effectiveness then sent email addresses to a lead consultant at the Kent State University Research and Evaluation Bureau (College of Education, Health, and Human Services), who was responsible for sending out the recruitment email, which included a link to the online survey. The Office of RPIE was able to generate email addresses of students 18 years of age and older, per this researcher's request. After email addresses were given to the lead consultant at the Research Bureau, a recruitment email was sent to undergraduate students and graduate students at a large Midwest university (see Appendix G), inviting them to participate in the study. The Office of Research, Planning, and Institutional Effectiveness determined the number of emails sent out. This number was based on the minimum participant response rate determined for this study. Completed inventories were tracked throughout the study to ensure that the necessary sample size and power were achieved. The recruitment email provided a basic description of the purpose of the study, explained

requirements of the study, and included a link to the website where the informed consent document and online survey could be accessed. This allowed those interested in participating to gain information about the process and general content of the study in order to make an informed decision about whether or not to participate.

The email also identified an incentive to participate in the study in order to serve as a motivator for participants to complete the online survey. All individuals who completed the required elements of the research study were eligible to win a $75 gift card and three participants were randomly selected from those eligible to receive the gift cards. Regulations through Kent State University's IRB allow any incentive of $75 or less to be used in a research study without gathering additional information (e.g., information for taxes) from participants.

Upon accessing the link to the online survey, students first viewed the informed consent document (Appendix H) and were asked to check a box indicating that they understand and give consent to participate in the study. Informed consent was required of participants prior to their gaining access to the online survey. This researcher included information for the university's mental health resources, as well as a national suicide hotline within the informed consent, at the beginning of the survey, and again as part of the conclusion statement of the survey (see Appendix I) because of the sensitivity of questions asked regarding suicidal ideation and behavior. These resources were included so students would have readily available resources if any questions triggered safety concerns for participants.

Contact information for university mental health services and a national suicide hotline were included based on the researchers concern for participant safety, and after consultations. Because questions about suicide could potentially upset some participants, this researcher consulted with two resources, one being another researcher who has used the same inventories in an online survey at a university and the other being an IRB representative for the university where this study was conducted. The first consultation was with Dorian Lamis, who has used the same instruments as this study (SRI–25, SBQ–R, & MSPSS), most recently through an online survey at a large Western University (Lamis, personal communication, November 27, 2013). Lamis used only an online informed consent for his most recent study using these inventories (Osman, Lamis, Freedenthal, Guiterrez, & McNaughton-Cassill, 2014). Lamis suggested, "I would at the very least have the national hotline available to participants." This researcher also consulted with an IRB representative at the university where this dissertation study was conducted (Kevin McCreary, personal communication, November 2013). This researcher discussed the plan to have campus and national mental health resources listed as part of the informed consent, as well as at the completion of the online survey, so participants would be exposed to the resources multiple times. McCreary supported this researcher's plan to include campus resources and a 24-hour hotline as a way to minimize participant risk. Based on the two consultations, this researcher chose to use a national hotline, as well as multiple campus resources, appearing in the informed consent, at the beginning of the survey, and again at the completion of the study.

After agreeing to participate in the online survey, participants answered questions pertaining to demographic information, which was collected in order to gain supplementary data from the participants for the purpose of data analysis. Once participants completed the demographic information, they moved to questions on the SRI–25 (Osman et al., 2004), then to questions on the SBQ–R (Osman et al., 2001), and finally to questions on the MSPSS (Zimet et al., 1988). Once participants completed all questions, the official online survey was completed. As noted earlier, because of the potential sensitivity of some students toward questions about suicidal ideation and behavior, this researcher included information for Kent State University's mental health resources, as well as a national suicide hotline phone number for the third time as part of the survey's conclusion statement. Participants could choose to enter their email address for the drawing of a $75 gift card at the end of the online survey by emailing a selected co-chair for this researcher's dissertation. Participants were directed to put *Protective Factors Raffle* in the subject line of the e-mail. The dissertation co-chair randomly selected three participant email addresses at the end of data collection, and then contacted the selected winners with information about how to attain the $75 gift card.

Completed survey results were electronically submitted through Qualtrics (Qualtrics, Provo, UT). Once all data were collected, they were transferred from Qualtrics to Microsoft Excel, and then to Statistical Package for the Social Sciences (SPSS) Version 19 for Windows. Data from this study were analyzed using SPSS Version 19 for Windows. Participant data transferred into SPSS included: information from the demographic sheet; responses to questions from the SRI–25 (Osman et al.,

2004); responses to questions from the SBQ–R (Osman et al., 2001); and responses to questions from the MSPSS (Zimet et al., 1988).

Sampling

An alpha level of .05 and a medium effect size of .30 (Cohen's r; Cohen, 1988) were maintained for all statistical procedures. A power analysis was conducted with an alpha level of .05, power of .80, and a medium effect size (Cohen, 1988). The power analysis was used to determine the recommended sample size of 120 participants for this study. For a multiple regression analysis using six or more predictors, an absolute minimum of 10 participants is needed per predictor variable (Wilson Van Voorhis & Morgan, 2007). Therefore, the study needed to include a minimum of 120 participants because there were 12 predictor variables: internal protective factors, external protective factors, emotional stability, parental support, peer support, significant other support, age, gender, race/ethnicity, sexual orientation, self-reported cumulative GPA, and undergraduate/graduate student status. Through the assistance of the Office of Research, Planning, and Institutional Effectiveness at Kent State University, this researcher was able to gather a randomized sample of both undergraduate and graduate students (18 years of age and older).

<div align="center">

Instruments

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Various instruments were used to collect data. A demographics sheet was created and used to gather information regarding participants in this study. In addition, three inventories were used: the SRI–25 (Osman et al., 2004), the SBQ–R (Osman et al., 2001),

and the MSPSS (Zimet et al., 1988). The following section includes a detailed description of each instrument.

Demographics Questionnaire

A demographic questionnaire (see Appendix B) was created as part of the study in order to gain background information on participants. Areas of inquiry included: age, race/ethnicity, gender, sexual orientation, self-reported cumulative GPA, and undergraduate/graduate student status. These aspects were included in order to identify if there are differences in protective factors among demographic categories. Age was included on the demographics sheet to guarantee all responses were from participants aged 18 and above. Participants completed the demographics sheet at the same time they completed the testing instruments.

Suicide Resiliency Inventory (SRI–25)

In creating the SRI–25 (Appendix C), Osman et al. (2004) sought to incorporate resilience with other protective factors, and developed a brief self-report measure looking at factors that help an individual cope with suicide-related thoughts and behaviors. Osman et al. conceptualized resilience as a range of personal and environmental supportive conditions that are vital to reducing the probability of a person engaging in at-risk behaviors when exposed to a severe negative life event. Osman and colleagues constructed the SRI–25 to assess three specific dimensions of the resilience construct: internal protective factors, external protective factors, and emotional stability.

The SRI–25 (Osman et al., 2004) includes three subscales: internal protective scale (9 items), external protective scale (8 items), and emotional stability scale (8 items).

Each item has a 6-point Likert scale, from 1 (strongly disagree) to 6 (strongly agree).

Higher scores suggest less suicide risk. The SRI–25 (Osman et al., 2004) is scored by

summing the respective items of each subscale and then dividing by the number of items,

thus giving a mean score for each subscale and for the total scale. This inventory's

internal protective domain represents positive beliefs or feelings about oneself and

satisfaction with life. For example, item 13 states, "I am proud of many good things

about myself." This domain includes the ability to hold a sense of self and of one's own

power (self-concept) while also understanding one's ability to overcome current

challenges by recalling past personal successes (resilience). Positive self-concept and

resilience are well-supported protective factors identified in existing suicide research

(Osman & Kopper, 1998).

The external domain reflects the individual's ability to seek out perceived external

resources that are helpful when faced with one's own difficulties or suicidal thoughts.

This domain includes the ability or confidence to seek support from close relatives or

friends when facing suicidal thoughts. More specifically, this domain explores if a

person would discuss suicidal ideation with his or her own supports (Rutter & Behrendt,

2004). For example, item 15 of the SRI–25 (Osman et al., 2004) states, "I can ask for

emotional support from people close to me if I were to think about killing myself."

Perceived social support from friends, peers, and family has been reported as a significant

suicide protective factor for young adults (Greening & Stoppelbein, 2002).

The third construct, emotional stability, consists of items that reflect positive

beliefs about one's own ability to regulate suicide related thoughts and behaviors when

confronting emotionally or psychologically distressing events such as depressive symptoms or interpersonal rejection (Osman et al., 2004). For example, item 18 states, "I can handle thoughts of killing myself when I feel lonely or isolated from other people." Guiterrez et al. (2000) defined emotional stability as the ability to navigate emotionally upsetting experiences while not becoming acutely depressed, hopeless, or hostile.

Norming data of the SRI–25. Psychometric properties of the SRI–25 (Osman et al., 2004) were assessed using both a clinical (Guiterrez, Freedenthal, Wong, Osman, & Norizuki, 2012) and non-clinical sample (Rutter, Freedenthal, & Osman, 2008). There were two separate studies for the clinical sample: Study 1 included 152 males (*M* age = 15.54, *SD* = 1.03 years, ages 14-17 years) and 220 females (*M* age = 15.50, *SD* = 1.03 years, ages 14-17 years). Of this sample, 187 (77.2%) self-identified as Caucasian, 51 (13.7%) identified as African American, 13 (3.5%) identified as Hispanic or Latino American, 9 (2.4%) identified as Asian American, and 12 (3.2%) identified as other ethnic group memberships. Study 2 had fewer participants. There were 30 males (*M* age = 15.57, *SD* = 1.10 years) and 40 females (*M* age = 15.75, *SD* = 1.03 years). The mean age of the total sample was 15.67 years (*SD* = 1.06; range 14-17 years). Of the participants, 49 (70%) self-identified as Caucasian, 11 (5.7%) identified as African American, 6 (8.6%) identified as Hispanic or Latino American, 4 (5.7%) identified as Asian American, and 12 (3.2%) identified as other ethnic group memberships. For the non-clinical sample, 239 graduate students were surveyed. Of the participants, 149 were female (62.3%) and 90 were men (37.7%). In addition, 147 participants identified as Caucasian (61.5%), 33 identified as Asian or Pacific Islander (13.8%), 30 identified as

Latino (12.6%), 9 identified as Black (3.8%), and 20 reported being of another race/ethnicity, including biracial (8.4%).

Reliability and validity of the SRI–25. Scale reliability computed for scores on the SRI–25 (Osman et al., 2004) total and scales were shown to be acceptable (Osman et al., 2004) in clinical and nonclinical examples (Guiterrez et al., 2012). Studies have shown strong estimates of internal consistency reliability, ranging from .887 to .963, compared to other self-report measures of hopelessness, suicide ideation, and social support (Guiterrez et al., 2012; Osman et al., 2004). Regarding scale reliability for the nonclinical sample, Guiterrez et al. also found that scores on the SRI–25 (Osman et al., 2004) total and scales had good estimates of internal consistency reliability: Emotional Stability scale (ρ = .926, 95% CI [.909, 943]), External Protective scale (ρ = .914, 95% CI [.894, .934]), Internal Protective scale (ρ = .939, 95% CI [.925, .953]), and the SRI–25 (Osman et al., 2004) total inventory (ρ = .959, 95% CI [.946, .972]). These findings indicate strong evidence of internal consistency reliability for the SRI–25 (Osman et al., 2004) total and scale scores (Cicchetti, 1994; Clark & Watson, 1995).

Studies have shown strong estimates of concurrent validity with other self-report measures of hopelessness, suicide ideation, and social support (Guiterrez et al., 2012). Scores on the Reasons For Living–Adolescents (RFL-A; Osman & Kopper, 1998) total and subscales have been shown to have internal consistency, factor structure, and concurrent validity (Guiterrez et al., 2000; Graham, 2002; Osman, Bailey, & Kopper, 2007). The researchers summed scores on all 32 items to derive a total measure of "reasons for living." Thus, the RFL–A total score was used to establish estimates of

concurrent validity for the SRI–25 (Osman et al., 2004). For the Guiterrez et al. (2012) sample (*N* = 70), responses to the RFL–A items yielded good estimates of scale reliability (ρ = .976; 95% CI [.965, .983]).

To evaluate the relative contribution of the SRI–25 (Osman et al., 2004) in differentiating the responses of high suicide risk (coded 0) and the low suicide risk (coded 1) groups, the separate models included scores on internalizing measures that have been associated with suicidal behavior (i.e., Beck Hopelessness Scale, Trauma Symptom Checklist for Children-Depression). The SRI–25 (Osman et al., 2004) total scale score achieved high accuracy in differentiating the responses of the high and low suicide risk groups, AUC = .932. In particular, when considered alone, scores on the SRI–25 (Osman et al., 2004) total inventory had a sensitivity of 92.5% (95% CI [79.6, 98.4]) and a specificity of 86.7% (95% CI [69.3, 96.2]), positive predictive value = 90.2% (95% CI [76.9, 79.3]), and negative predictive value = 89.7% (95% CI [72.6, 97.8]).

Scholarly critique of the SRI–25. Findings of the psychometric investigation of the SRI–25 (Osman et al., 2004) show that this instrument demonstrates good reliability and validity in a diverse sample of 239 college students (Osman et al., 2004). Rutter et al. (2008) replicated findings from previous reports, showing similarities in a generally older sample with a different ethnic composition. The Osman et al. study contained a much smaller proportion, compared with the Rutter et al. study, of Latino participants (1.7% vs. 13.81%, respectively) and Asian participants (2.8% vs. 13.81%, respectively), and it had a higher proportion of Black participants (34.8% vs. 3.77%, respectively). No

participants in the Osman et al. study were older than 25; almost 16% ($n = 38$) of the

Rutter et al. study's sample was older than 25. Despite these differences in sample

composition, the Rutter et al. confirmatory factor analysis replicated the three-factor

structure found by Osman et al. Also, as a brief self-report screening instrument, the

SRI–25 (Osman et al., 2004) was found to nicely differentiate the responses of youth with

a history of suicidal behavior from those youth without such a history (Osman et al.,

2012).

A few limitations for the SRI–25 (Osman et al., 2004) should be noted. One, the

major analyses were conducted in a single psychiatric setting with youth. Utilizing a

non-clinical population with or without exposure to a number of stressors would provide

more confidence in findings of reliability and validity. Secondly, the sample used for

validation was fairly small, with only 70 participants. Finally, the majority of

participants using the SRI–25 (Osman et al., 2004) were White. Finding participants

more representative of the general population could strengthen results (Guiterrez et al.,

2012).

Suicide Behaviors Questionnaire–Revised (SBQ–R)

The SBQ–R (Osman et al., 2001; Appendix D) was designed to assess

suicide-related thoughts and behaviors (e.g., attempts). The SBQ–R (Osman et al., 2001)

directly assesses suicidality, looking at past, current, and potential for future suicidal

ideation. This instrument is made up of four questions, each assessing a different

dimension of suicidality (or risk for suicide). Question one addresses the history of a

person's potential suicidal ideation and suicide attempt, by asking, "Have you ever

thought about or attempted to kill yourself?" Participants are asked to select only one of the following responses: (1) never; (2) it was just a brief passing thought; (3a) I have had a plan at least once to kill myself but did not try to do it; (3b) I have had a plan at least once to kill myself and really wanted to die; (4) I have attempted to kill myself, but did not want to die; (5) I have attempted to kill myself, and really hoped to die. When 1 is selected, the respondent is assigned to a non-risk or non-suicidal group. When 2 is selected, the respondent is assigned to a suicide-risk ideation subgroup. When 3a or 3b is checked, the respondent is assigned to a suicide plan subgroup. When 4a or 4b is selected, the respondent is assigned to the suicide attempt subgroup.

The second question of the SBQ–R assesses the frequency of suicidal ideation over the past 12 months, by asking, "How often have you thought about killing yourself in the past year?" Possible responses are: (1) never, (2) rarely (1 time), (3) sometimes (2 times), (4) often (3-4 times), (5) very often (5 or more times). The authors chose to use a 1–5 rating for the responses, exploring the frequency of suicide ideation. For example, 1(never) would score as 1; 2 (rarely) would score as 2 and so on.

The third question assesses the threat of suicidal behavior and willingness to tell another person in certain responses, asking, "Have you ever told someone that you were going to commit suicide or that you might do it?" Participant responses are as follows: (1) no; (2a) yes, at one time, but did not really want to die; (2b) yes, at one time, and really wanted to die; (3a) yes, more than once, but did not want to do it; or (3b) Yes, more than once, and really wanted to do it. Scoring for this question is as follows: for the response of 1(no), score as 1; for the response of 2a or 2b, score as 2; for the response of

3a or 3b, score as 3. Finally, the last question of the SBQ–R evaluates the likelihood of future suicidal behavior and asks, "How likely is it that you will attempt suicide someday?" Response options for participants are: (0) never, (1) no chance at all, (2) rather unlikely, (3) unlikely, (4) likely, (5) rather likely, (6) very likely. Range of scores for this question corresponds to the ratings of 0–6. When all items of the SBQ–R are completed, the scorer should sum all the scores checked by the respondent. The total score will range from 3–18. A lower score on this inventory indicates a lesser risk for suicidal ideation and behavior and a higher score indicates a greater risk for suicidal ideation and behavior.

Norming data for the SBQ–R. Validation for this inventory was done with both clinical and nonclinical samples. Participants were recruited from an adult psychiatric inpatient unit, an adolescent psychiatric inpatient unit, a high school affiliated with a Midwestern university, and a medium-sized university. As the current study is looking at the college population, the participants from the Midwestern university setting are described. An undergraduate sample was composed of 135 students recruited from psychology courses at a Midwestern university. There were 69 men (*M* age = 21.10 years, *SD* = 2.98) and 66 women (*M* age = 20.97 years, *SD* = 2.91). The men and women did not differ significantly in age. Approximately 94% of the participants were Caucasian, 3% African American, 3% Asian American. The sample was composed of freshmen (14.8%), sophomores (28.9%), juniors (23.7%), seniors (31.1%), and senior plus (1.5%). The majority of participants were single (97%); 3% were married. Based

on responses to the background information questionnaire, 15 (11.1%) students indicated serious past suicidal ideation or behaviors and were assigned to the suicide risk subgroup.

Reliability and validity of the SBQ–R. The SBQ–R (Osman et al., 2001) has been shown to have acceptable internal consistency reliability (Cronbach's Alpha was .87 for high school and psychiatric adult inpatient samples, and .76 for an undergraduate sample). Scores on the SBQ–R were useful in differentiating between subgroups of the study participants. Specifically, in each independent study sample, the suicidal subgroup obtained higher scores than the non-suicidal subgroups on the SBQ–R items and total scores. Osman et al. suggested that scores on the SBQ–R are helpful information when assessing for suicide related behaviors. Logistic regression analyses were used to look at data from independent clinical samples (Osman et al., 2001). Osman and colleagues found well-established evidence for criterion-related validity. Receiver operating characteristic (ROC) analyses identified cutoff scores that were most useful in maximizing the sensitivity and specificity rates for differentiating levels of suicide risk within the independent study samples. A cutoff score of 2 on item 1 was most useful for all samples (e.g., adult inpatient, adolescent inpatient, adolescent high school, and undergraduate college). A cutoff score of 7 on the SBQ–R (Osman et al., 2001) total score was most useful with the adolescent high school sample and undergraduate sample (Osman et al., 2001).

Scholarly critique of the SBQ–R. It was suggested that research on the SBQ–R could be further strengthened by using larger sample sizes to determine if separate norms for males and females are necessary and attaining more ethnically diverse samples

(Osman et al., 2001). Advantages noted for using this inventory in both clinical and

nonclinical samples are that it is a straightforward, brief self-report measure (Osman et

al., 2001; Range & Knott, 1997). Also, due to the wording of the items on this inventory,

a wide range of information is gathered, including: (a) lifetime suicidal ideation or

suicide attempts, (b) frequency of suicidal ideation over the past 12 months, (c) the threat

of suicidal behavior, and (d) likelihood of future suicidal behavior.

Multidimensional Scale of Perceived Social Support (MSPSS)

The MSPSS (Zimet et al., 1988; Appendix I) was developed as a brief self-report

measure of subjectively assessed social support, in which 12 items were given on a

7-point Likert scale, ranging from 1 (*very strongly disagree*) to 7 (*very strongly agree*;

Zimet et al., 1988). The 12-item MSPSS was designed to measure the perceived

adequacy of support from the following three subscales: family, friends, and significant

other. Each subscale has 4 questions. Family support is measured on items 3, 4, 8 and

11. For example, Item 8 states: "I can talk about my problems with family." Support

from friends is measured on items 6, 7, 9, and 12. An example of an item looking at peer

support is, "I can count on my friends when things go wrong" (Item 7). Finally,

significant other support is measured on items 1, 2, 5, and 10. An example measuring

significant other support is Item 10: "There is a special person in my life who cares about

my feelings." Higher scores on each of the subscales indicate higher levels of perceived

support. A sum of the three scales yields a global satisfaction with the perceived support

score. While this inventory was created in 1988 and is over 20 years old, this researcher

used this inventory as a means to measure the three domains of family support,

significant other support, and peer support. The researcher was specifically interested in looking at whether there were differences in types of support among different groups of students (e.g., race/ethnicity, gender, sexual orientation, and graduate versus undergraduate student).

Norming data of the MSPSS. Zimet and colleagues attempted to extend initial findings utilizing the MSPSS by demonstrating internal consistency reliability and factorial validity using three different subject groups: (a) 265 pregnant women, (b) 74 adolescents living in Europe with their families, and (c) 55 pediatric residents. The first group consisted of 265 pregnant women in their third trimester receiving prenatal care at West Virginia medical facilities. This pre-partum sample ranged from 16–42 years of age ($M = 25.8$ years of age, $SD = 5.3$). The second group was comprised of 74 adolescents attending high school in Madrid or Paris (49 females, 25 males). The adolescents ranged from 15 to 19 years of age ($M = 16.7$, $SD = .84$). The families of these adolescents were in France and Spain primarily due to requirements of diplomatic, business, or military jobs. The third sample included 55 first and second year pediatric residents in training at Cleveland area hospitals (33 women, 22 men). The residents ranged from 24 to 38 years of age ($M = 29.2$, $SD = 3.0$).

Reliability and validity of the MSPSS. The MSPSS (Zimet et al., 1988) was found to have internal consistency reliability across subject groups (Zimet, Powell, Farley, Werkman, & Berkoff, 1990). According to Zimet et al. (1988), the MSPSS demonstrated very good internal consistency reliability with Cronbach's Alpha levels comparable to those obtained in the original study. The coefficient values ranged from

.81 to .90 for the family scale, from .90 to .94 for the friends subscale, from .83 to .98 for

the significant other subscale, and from .84 to .92 for the scale as a whole. The MSPSS

(Zimet et al., 1988) was found to have strong factorial validity, confirming the three

subscale structures: family, friends, and significant other. Strong support was also found

for the validity of the family and significant other scales (Zimet et al., 1990). Most

recently, strong evidence for estimates of internal consistency reliability, and potential

correlates of the composite MSPSS (Zimet et al., 1988) scale scores were obtained in a

convenience sample of 610 nonclinical undergraduate students (Osman et al., 2014).

Scholarly critique of the MSPSS. The initial study describing the development

of the MSPSS indicated that it was a psychometrically sound instrument (Zimet et al.,

1988). Zimet et al. (1988) initially noted a potential concern with using the MSPSS with

populations other than adults free of pathology or those diagnosed with generalized

anxiety disorder. However, further studies showed that MSPSS was psychometrically

sound when used in adolescent psychiatric inpatients (Kazarian & McCabe, 1991), and

with younger adult psychiatric outpatients (Cecil, Stanley, Carrion, & Swan, 1995). In

both of these studies, evidence supported the utility of the three subscales (i.e., family,

friends, and significant others). Finally, a strength of the 12-item MSPSS (Zimet et al.,

1988) is that it is one of the most widely used self-report measures of perceived sources

of social support (Osman et al., 2014).

Data Analysis

For the current study, logistic regression analysis was implemented using an alpha

level of .05 and a beta level of .20 to achieve statistical significance. The alpha level was

maintained to eliminate the potential of a Type I error; the beta level was maintained in order to eliminate the potential for a Type II error. The Statistical Package for the Social Science (SPSS) Version 19 was used to analyze this study's data.

Descriptive statistics were calculated for all of the demographic variables as well as for the dependent variables (scores on the SBQ–R; Osman et al., 2001). Univariate analysis was used to gain descriptive statistics for the variables in this study. Bivariate analysis was used to examine the relationship between various pairs of variables in this study, and multivariate analysis was conducted to simultaneously analyze multiple variables. The aim of the data analysis was to determine which individual or combination of variables pertaining to protective factors predicted levels of suicidal ideation in the college population.

Research Question One

Will protective factors predict levels of suicidal ideation and behavior among college students after controlling for several demographic variables? Independent variables or predictor variables for the first question in this study are subscales from the SRI–25 (Osman et al., 2004; internal protective factors, external protective factors, and emotional stability) and the MSPSS (Zimet et al., 1988; peer support, significant other support, and family support) and demographics gathered, such as: age, gender, race/ethnicity, sexual orientation, self-reported cumulative GPA, and undergraduate/graduate student status. Dependent variables (taken from the SBQ–R; Osman et al., 2001) were: non-risk or non-suicidal group; suicide-risk ideation subgroup; suicide plan subgroup; and suicide attempt subgroup.

Binary Logistic Regression as a Data Analysis Method

Binary logistic regression determines the impact of multiple independent variables presented simultaneously to predict membership of one or other of the two dependent variable categories. Two main uses of logistic regression are: (a) the prediction of group membership and (b) providing knowledge of the relationships and strengths among the variables (e.g., having more protective factors puts you at a higher probability for being in the no-suicide risk group; Menard, 2002). Assumptions of logistic regression are as follows: (a) logistic regression does not assume a linear relationship between the dependent and independent variables, (b) the dependent variable must be a dichotomy (2 categories), (c) the independent variables need not be interval, nor normally distributed, nor linearly related, nor of equal variance within each group, and (d) the groups must be mutually exclusive and exhaustive (Hosmer & Lemeshow, 2004).

Logistic regression was selected as the appropriate method for this question of the study, as this researcher sought to explore which factors associated with protective factors and support could predict levels of suicidal ideation and behavior, with demographic variables as controls. Regression procedures aid in understanding and testing complex relationships among variables and in forming predictive equations (King, 2008). Demographic information gathered on the demographics sheet, as well as inventories measuring external protective factors, internal factors, emotional stability, and support, were chosen as predictor variables, to be understood in terms of their ability to predict levels of suicidal ideation and behavior within a college student population.

As explained by Maroof (2012), logistic regression attempts to classify or predict a discrete, categorical variable among other predictors, which can be continuous or categorical. In binary logistic regression, the outcome variable is dichotomous. For the purpose of this study, the outcome variable was broken down into suicide risk and non-suicide risk group. There is no particular order to the variables, though the groups are designated to facilitate interpretation of the regression coefficients. The rationale for using logistic regression for this study is based upon the aim of the research question itself: to identify which individual or combination of factors associated with protective factors predict levels of suicidal ideation and behavior. Because the research question suggests that each of the predictor variables (protective factors and support) are equally perceived as factors that could predict levels of suicidal ideation and behavior, simultaneous regression was deemed as the most appropriate regression model for the first research question.

Research Question 2

Are there differences in protective factors among groups based on demographic characteristics?

a. Are there differences in protective factors between groups based on gender?

b. Are there differences in protective factors among groups based on race/ethnicity?

c. Are there differences in protective factors among groups based on sexual orientation?

> d. Are there differences in protective factors among groups based on
>   self-reported cumulative GPA?
>
> e. Are there differences in protective factors between undergraduate and
>   graduate student status?

Independent variables for the second research question and sub questions in this study are: gender, race/ethnicity, sexual orientation, self-reported cumulative GPA, and undergraduate/graduate student status. Dependent variables are: internal protective factors, external protective factors, emotional stability, peer support, significant other support, and family support.

Multivariate Analysis of Variance (MANOVA) as a Data Analysis Method

MANOVA was selected as the appropriate method for this question of the study, as this researcher sought to explore if there were differences among varying demographic factors (gender, race/ethnicity, sexual orientation) when looking at levels of support (peer, significant other, or family) or protective factors (internal, external, or emotional stability). Information gathered on the demographics sheet was chosen as independent variables to be understood in terms of their ability to predict the impact of different protective factors. MANOVA is used when a researcher wants to investigate the difference among two or more groups on a set of two or more dependent variables (Dimitrov, 2009). Further, MANOVA can be used when the dependent variables are statistically and substantively related to one another. By choosing to use MANOVA, this researcher was able to compare groups on separate dependent variables simultaneously. The rationale for using MANOVA for this study is based upon the aim of the second

research question and sub questions: to identify if there are differences among the gender, race/ethnicity, sexual orientation, self-reported cumulative GPA, and graduate/undergraduate student status when looking at protective factors.

One can examine the effects of each dependent variable separately, as well as examine the effects of combinations among dependent variables. This researcher chose MANOVA instead of multiple ANOVAs, as conducting separate univariate F tests on each dependent variable can inflate the probability of Type I Error (rejecting a true null hypothesis). Also, it is possible to obtain a significant multivariate effect when separate ANOVAs might indicate that the groups do not differ with respect to any one dependent variable. Use of MANOVA helps to eliminate these potential problems, which allows a simultaneous test across all dependent variables. MANOVA finds a linear combination of the dependent variables that maximizes separation among groups. Also, a discriminant analysis was done as a post-hoc measure. Discriminant function analysis is used to determine which variables discriminate between two or more naturally occurring groups. For example, in this study, the researcher wanted to investigate which variables discriminate protective factors for undergraduate and graduate students. For that purpose, the researcher could collect data on numerous variables. Discriminant analysis could then be used to determine which variable(s) are the best predictors of students' protective factors.

Delimitations

The scope of this research was to explore which protective factors predict levels of suicidal ideation and behavior among college students. Although risk factors are

generally given more attention in the literature surrounding suicide, they were not explored in this research, as the study was intended to focus exclusively on protective factors. Although other aspects of protective factors and support exist and may be significant to suicide, the intent of this research was to focus solely on external protective factors, internal protective factors, and emotional stability (defined by the SRI–25; Osman et al., 2004), as well as peer support, significant other support, and family support (as defined by the MSPSS; Zimet et al., 1988).

Both undergraduate and graduate students were the selected population for this research study. In past studies, undergraduate student populations were typically used as participants. The aim of this research was to better understand differences and commonalities of protective factors, and levels of suicidality based on undergraduate and graduate student status.

Gaining insights as to the experiences of college students through interviews may have provided additional meaningful information, but such research could not answer the research question posed for this study. Consequently, qualitative approaches were not selected for use. Due to the nature of the research questions of this study, quantitative research, specifically binary logistical regression and MANOVA, were deemed most appropriate and best suited to answer the research questions. These delimitations outline the focus of this study as well as the rationale both for what was included and what was excluded throughout the research process.

Chapter Summary

This chapter outlined the methodology used for the current study. It reiterated the purpose of this study and also outlined research procedures, including the criteria for inclusion, participants and procedures, sampling methods, instruments, data analysis, and delimitations of the study. With this information as a foundation, it is now possible to analyze the results of this study.

CHAPTER III

RESULTS

The following chapter provides a detailed explanation of the results from this study. First, a summary of sampling procedures is presented. Next, univariate data analysis results are presented, which include descriptive statistics of all variables and relative frequency of nominal variables used in this study. Finally, multivariate results are provided, which identify whether participants fall into a suicide risk or non-risk group and differences in protective factors between identified groups (gender, race/ethnicity, sexual orientation, etc.). This chapter concludes with a brief summary of the study results.

The purpose of this study was to explore whether protective factors could predict levels of suicidal ideation and behavior among the college population. For the purpose of this study, suicidal ideation and behavior were measured by items of the SBQ–R. Participants were placed into groups based on their total score on the SBQ–R (non-risk group or suicide-risk group). Multiple hypotheses were created in response to the research questions. The research questions for this study are as follows:

1. Will protective factors predict levels of suicidal ideation and behavior among college students after controlling for several demographic variables?

2. Are there differences in protective factors among groups based on demographic characteristics?

   a. Are there differences in protective factors between groups based on gender?

b. Are there differences in protective factors among groups based on race/ethnicity?

c. Are there differences in protective factors among groups based on sexual orientation?

d. Are there differences in protective factors among groups based on self-reported cumulative GPA?

e. Are there differences in protective factors between undergraduate and graduate student status?

This researcher planned to use a factorial MANOVA as a data analysis method for the second research question, as the researcher sought to explore if there were differences among varying demographic factors (gender, race/ethnicity, sexual orientation) when looking at levels of support (peer, significant other, or family) or protective factors (internal, external, or emotional stability). MANOVA is used when a researcher wants to investigate the difference among two or more groups on a set of two or more dependent variables. However, when running the analysis for the second research question, this researcher found that looking at differences among all of the identified groups would not provide adequate results due to small group sizes. Therefore, the researcher used multiple one-way MANOVAs, to look at differences between groups (gender, race/ethnicity, etc.), which still allowed the researcher to answer the sub questions of the second research question.

Sampling

A recruitment email was sent to 3,325 students, both undergraduate and graduate, at a large Midwestern university, requesting their participation in the study. After five days, 407 individuals had participated in the study. An additional 147 participants completed the study after the first reminder email, and another 81 participants completed the study after a second reminder email. The online survey was left open for 14 days after the minimum sample size ($N = 120$) was achieved in order to allow those interested in participation to complete the study. The data collection process took place over the course of 15 days and 635 participants started the study. However, for a more accurate analysis, this researcher used the data from 555 individuals who completed this study's inventories (SBQ–R, SRI–25, MSPSS) in their entirety. With the figure of 555 participants, there was a 16.69% response rate.

An incentive to participate in the study was identified in the recruitment email to students in order to encourage individuals to consider participating in the study. As an incentive, three participants were randomly selected to receive a $75 Target gift card. The randomly selected participants were notified via email of being selected to receive the gift card, which was distributed to the selected winners once data collection was completed.

Univariate Data Analysis

Univariate data were collected for this study. A total of 555 undergraduate and graduate students completed survey instruments in this present study. This section illustrates the descriptive statistics of those sampled, summarizing the data set for all of

the variables. These statistics include the means, standard deviations, minimums, and maximums for all of the primary variables. The descriptive statistics for demographic data included: age, gender, race/ethnicity, sexual orientation, self-reported GPA, and year in college. Additionally, this section illustrates the descriptive statistics for the subscales of the SRI–25 (internal protective factors, external protective factors, and emotional stability), the SBQ–R (non-suicide risk group and suicide risk group), and the MSPSS (peer support, family support, significant other support).

Demographic Data

Descriptive statistics were used to better understand characteristics of the sample population used for this study. Demographic data were outlined in terms of the number of individuals who represent each demographic (frequency), as well as the percentage that each demographic represents when compared to the whole sample. Table 1 includes demographic data pertaining to age, race/ethnicity, year in college, self-reported cumulative GPA, sexual orientation, and gender.

Age. Demographic data pertaining to the age of participants were collected for this study. The age range of participants for this study was 18 to 65+ years of age. Results showed that the mean age for participants in this study was approximately 33.05 years of age. The mean age for undergraduate participants was 31.78 years of age, 33.58 years of age for graduate students, and 36.54 years of age for those identifying their student status as other.

Table 1

Demographic Data

Variable	*N*	Frequency	Percent
Age			
18-24		83	16.0%
25-34		269	51.9%
35-44		85	16.4%
45-54		58	11.2%
55 and above		23	4.4%
Total	518		
Missing	36		
Race/ethnicity			
African American/Black		19	3.4%
Am. Ind./Alaskan Native		1	0.2%
Asian American/Asian		6	1.1%
Caucasian/White		503	90.6%
Hispanic/Latino/a		6	1.1%
Arab American		5	0.9%
Native Haw./Pac Islander		1	0.2%
Biracial		8	1.4%
Other		6	1.1%
Total	555		
Year in College			
Freshman/First Year		6	1.1%
Sophomore		14	2.5%
Junior		46	8.3%
Senior		125	22.5%
Graduate Student		351	63.2%
Other		13	2.3%
Total	555		
Cumulative GPA			
3.5-4.0		362	65.2%
3.0-3.4		121	21.8%
2.5-2.9		52	9.4%
2.0-2.4		19	3.4%
Total	554		

(*table continues*)

Table 1 (continued)

Demographic Data

Variable	*N*	Frequency	Percent
Sexual Orientation			
Heterosexual		494	89%
Lesbian		12	2.2%
Gay		10	1.8%
Bisexual		30	5.4%
Questioning		2	0.4%
Other		7	1.3%
Total	555		
Gender			
Male		137	24.7%
Female		416	75.0%
Transgender		1	0.2%
Other		7	1.3%
Total	555		

Race/ethnicity. Demographic data were also collected regarding the

race/ethnicity of participants in this study. As suggested by Table 1, significantly more

Caucasians ($n = 503$, 90.6%) were represented in the study sample than members of any

other race/ethnicity. The next highest frequency with regard to race/ethnicity was

Black/African American ($n = 19$, 3.4%); the third highest race/ethnicity, represented by

participants, included those who identified as Biracial ($n = 8$, 1.4%). Three racial

categories (Asian American, Hispanic/Latino/a, and Other) each represented 1.1% of the

participant pool, with 6 participants in each category. Thus, the majority of participants

for this study identified as Caucasian. Finally, less than 1% of the participants identified

as American Indian/Alaskan Native, Arab American, and Native Hawaiian/Pacific Islander.

Year in college. Demographic data pertaining to the year in college of participants were collected for this study. The following frequencies are reported for participants in this study: Freshman ($n = 6$, 1.1%); Sophomore ($n = 14$, 2.5%); Junior ($n = 46$, 8.3%); Senior ($n = 125$, 22.5%), Graduate Student ($n = 351$, 63.2%), and Other ($n = 13$, 2.3%). As can be seen in Table 1, over half of the participants were graduate students.

Cumulative GPA. Demographic data pertaining to the self-reported cumulative GPA of participants were collected for this study. Regarding self-reported cumulative GPA, 362 participants (65.2%) reported having a GPA falling between 3.5 and 4.0. The next highest category reported was 121 participants (21.8%) reporting a cumulative GPA of 3.0 to 3.4. Third, 52 students (9.4%) reported cumulative GPA of 2.5 to 2.9. Finally, 19 students (3.4%) reported a cumulative GPA of 2.0 to 2.4. Results of self-reported cumulative GPA show that participants choosing to participate in this study tended to be academically successful, with 87% of participants self-reporting a cumulative GPA of 3.0 or above.

Sexual orientation. Demographic data pertaining to the sexual orientation of participants were collected for this study. The following frequencies were reported for the category of sexual orientation: heterosexual ($n = 494$, 89%); lesbian ($n = 12$, 2.2%); gay ($n = 10$, 1.8%); bisexual ($n = 30$, 5.4%); questioning ($n = 2$, .4%); and Other ($n = 7$,

1.3%). Therefore, a majority of participants (89%) identified as heterosexual and 11% of the total participants identified as lesbian, gay, bisexual, questioning, or other (LGBQO).

Gender. Demographic data pertaining to the gender of participants were collected for this study. As outlined in Table 1, more females ($n = 416$, 75%) participated in this study than males ($n = 137$, 24.7%). Only one participant in this study identified as transgender. Thus, the majority of participants in this study identified as female.

Testing Instruments (Primary Variables)

Data regarding continuous variables measured on the testing instruments for this study (which included the SRI–25, the SBQ–R, and the MSPSS) were collected. Correlations for the inventories can be found in Appendix J. Descriptive statistics are presented for the total scores on the three inventories used for this study. A summary of the means, standard deviations, minimums, and maximums are shown in Table 2.

Table 2

Descriptive Statistics of the Primary Variables for All 555 Respondents

Variable	Mean	SD	Minimum	Maximum
SRI–25	5.26	.77	1.00	6.00
SBQ–R	6.46	2.55	3.00	18.00
MSPSS	23.51	5.34	4.00	28.00

SRI–25. As mentioned in Chapter 2, scores on the SRI–25 are divided into the subgroups of internal protective factors (Internal PF), external protective factors (External PF), and emotional stability. In this present study, participants' scores for overall resiliency towards suicidal ideation and behavior had a mean of 5.26, on a scale from 1 to 6, and standard deviation of .77, as seen in Table 2. It should be noted that the limited variance represented by the standard deviation may have impacted results. Higher scores on the SRI–25 suggest that individuals possess more resilience; higher levels of resiliency reduce the likelihood of engaging in risky behaviors when exposed to a distressing event.

Table 3 illustrates the descriptive statistics for the SRI–25 subscales. These scores represent the amount of perceived protective factors reported for each resiliency subscale. Each of the three subscales contains a different number of items but the same score range. While each individual subscale does not give specific criteria of what indicates a high or low score, the authors have indicated that higher scores may indicate a greater resilience against suicide risk.

First, the internal protective factor subscale has a total of 9 items and scores can range from 1 to 6. In the current study, participants' scores on the internal protective factor subscale showed a mean of 4.95 and a standard deviation of .93. Higher scores on this scale suggest an individual holds positive beliefs or feelings about oneself and satisfaction with life, including one's sense of self and ability to work through difficult situations, hence showing greater resilience.

Table 3

SRI–25 Subscales for All 555 Participants

Subscale	Mean	SD	Minimum	Maximum
Internal PF	4.95	.93	1.00	6.00
External PF	5.32	.92	1.00	6.00
Emotional Stability	5.55	.80	1.00	6.00

Second, the external protective factors subscale has 8 items with a range from 1 to 6. Participants' scores on this scale had a mean of 5.32 and a standard deviation of .92. Higher scores on this subscale reflect a person's willingness and ability to seek out helpful resources when faced with stressful situations, including suicidal thoughts. Specifically, this subscale explores if a person would discuss suicidal ideation with his or her supports.

Third, the emotional stability subscale contains 8 items and scores can range from 1 to 6. Participants' scores on this scale showed a mean of 5.55 and a standard deviation of .80. Higher scores for this subscale indicate a greater resiliency towards managing suicidal thoughts and behavior. Specifically, higher scores on questions from this subscale reflect positive beliefs about one's own ability to regulate suicide related thoughts and behaviors when confronted with distressing events in life.

SBQ–R. The SBQ–R was used as a binary value to answer the first research question of this study. A participant's summed score on the SBQ–R determined whether

the individual would be put into a non-risk group or a suicide-risk group. The total score of the SBQ–R determined into which group a participant fit. The non-suicide risk group can range from scores of 3 to 6. The suicide risk group scores can range from 7 to 18. Scores above 6 (for a non-clinical population) on the SBQ–R are of concern, indicating potential suicide risk. Results from this study showed that 332 participants (60.5%) met the criteria for the non-risk group (with a score of 6 or below on the SBQ–R), and 217 participants (39.5%) met the criteria for the suicide risk group (with a score of 7 or above on the SBQ–R). In the current study, participants' scores ranged between 3 and 16, with a mean of 6.46 and a standard deviation of 2.55.

The information provided in Tables 4 and 5 was not used to answer either of the primary research questions in this study. However, the data in these tables were included to provide depth to the reported suicidality of the sampled participants. These results are discussed in Chapter 4. Table 4 reflects the frequencies for each SBQ–R question. This instrument is made up of four items; each question assesses a different dimension of suicidality (or risk for suicide). The first question of the SBQ–R (SBQR–1) looks at lifetime suicide ideation and suicide attempts. The second question of the SBQ–R (SBQR–2) assesses the frequency of suicidal ideation over the past 12 months. The third question of the SBQ–R (SBQR–3) asks about the disclosure of the threat of a suicide attempt. The last question on the SBQ–R (SBQR–4) evaluates the likelihood of suicidal behavior in the future. While norms have not been given for each item score, higher scores on each question of the SBQ–R indicates a higher potential for suicide risk.

Table 4

Descriptive Statistics

SBQ–R Question	N	Minimum	Maximum	Mean	Std. Deviation
SBQR–1	555	1	6	2.15	1.255
SBQR–2	554	1	5	1.58	1.023
SBQR–3	554	1	5	1.35	.780
SBQR–4	555	1	5	1.65	.904

Table 5 is different from Table 4, as it depicts the participants' placement into a group, based solely on the first question of the SBQ–R, which states: "Have you ever thought about, or attempted to kill yourself?" Participants could select only one of the following responses: (1) never; (2) it was just a brief passing thought; (3a) I have had a plan at least once to kill myself but did not try to do it; (3b) I have had a plan at least once to kill myself and really wanted to die; (4a) I have attempted to kill myself, but did not want to die; (4b) I have attempted to kill myself, and really hoped to die. When 1 was selected, the respondent was assigned to a non-risk group. When 2 was selected, the respondent was assigned to a suicide-ideation subgroup. When 3a or 3b were checked, the respondent was assigned to a suicide plan subgroup. When 4a or 4b were selected, the respondent was assigned to the suicide attempt subgroup. Participants who scored 2 or above on SBQ–R question 1 were put into one of the three suicide risk groups (ideation, plan, attempt), based on the ROC analyses done by Osman et al. (1999).

Table 5

SBQ–R Question 1 Responses for All 555 Participants

Subscale	Frequency	Percent	Cumulative Percent
Non-Risk Group	185	33.3	33.3
Suicide-Risk Ideation	236	42.5	75.9
Suicide Plan	93	16.8	92.6
Suicide Attempt	41	7.4	100.0

MSPSS. With the MSPSS, total scores were reported for the subscales of family

support, significant other support, and peer support (Table 6). A summed score for the 3

subscales of the MSPSS was also reported (Table 2). This inventory's minimum score

for each item is 1 and maximum score for each item is 7; the inventory's minimum score

for each subscale is 4 and maximum score for each subscale is 28. Higher scores indicate

strong levels of perceived support (within each subscale, or for the total summed score).

First, the friend support subscale has a total of 4 items and total subscale scores

can range from 4 to 28. In the current study, participants' scores showed a mean of 23.51

and a standard deviation of 5.34. Second, the family support subscale has 4 items with a

total subscale range from 4 to 28. Participants' scores had a mean of 23.75 and a

standard deviation of 5.47. Third, the significant other subscale contains 4 items and

total subscale scores can range from 4 to 28. Participants' scores showed a mean of

24.75 and a standard deviation of 5.15. These results indicated high levels of perceived support in all 3 categories.

Table 6

MSPSS Subscales for All N

Subscale	N	Mean	SD	Minimum	Maximum
Friend Support	555	23.51	5.34	4.00	28.00
Family Support	555	23.75	5.47	4.00	28.00
Significant Other Support	555	24.75	5.15	4.00	28.00

Research Question Results

The following describes the binary logistic regression and MANOVAS used for this study. Tables are also provided to display some of these results. Results were divided into two main sections to address each of the primary research questions.

Research Question One Results

In order to assess which combination of variables predicted levels of suicidal ideation and behavior, a binary logistic regression equation was used in this study. The first research question asked, "Will protective factors predict levels of suicidal ideation and behavior among college students after controlling for several demographic variables?" Logistic regression was utilized to determine whether participants fit into the binary of non-risk group and suicide risk group. The initial deviance in the null model for this study was 736.81. After predictors in the model were included, the deviance

became 553.41, which results in a reduction in deviance by 183.39. The Omnibus Test

of Model Coefficients, which tests the significance of the difference between models,

demonstrated a significant difference (p = .000). The Model Summary presented the

final model deviance (553.41) and the Nagelkerke R Square, being .384. This helps to

understand that 38.4% of the deviance in the empty model was reduced by incorporating

the predictors (subscales from SRI–25: External PF, Internal PF, Emotional Stability, and

subscales from the MSPSS: Peer Support, Family Support, Significant Other Support) for

this study into the model.

Regarding fit between the model and the data, the Hosmer and Lemeshow Test

did not find significance, which indicates that there is a linear relationship between the

predictor variables and the log-odds of the dependent variable. The model was accurate

76% of the time in predicting a participant's classification into the appropriate risk group,

with a baseline of 60.5% belonging in the suicide risk group. Based on Wald statistics

and significance values, the scales that demonstrated statistical significance were the

SRI–25 Emotional Stability Scale (p = .000) and the MSPSS Friends Scale (p = .006; see

Table 7). Therefore, scores on the scales of emotional stability and friend support were

identified as the strongest predictors for participant's placement into the non-risk or

suicide risk group. For example, higher scores on the subscales of emotional stability or

peer support demonstrated significance in predicting a person's placement into the no

suicide risk group. The opposite is also true; lower scores on peer support or emotional

stability subscales were predictive of a participant's placement into the suicide risk

group. There was one case (participant) who completely did not fit the classification

model, with standardized residual value of -3.37.

Table 7

Regression Coefficients

Variable	B	SE	Wald	P	Df	Exp(b)
Internal PF	-.121	.173	.488	.485	1	.886
External PF	-.187	.203	.845	.350	1	.830
Emotional Stability	-2.114	.291	52.620	.000	1	.121
SO Support	.039	.034	1.332	.248	1	1.040
FAM Support	.016	.031	.264	.594	1	1.016
FRI Support	.082	.029	7.988	.005	1	.921
Constant	13.705	1.525	80.813	.000	1	8951115.033

Research Question Two Results

As discussed earlier, data analysis for the second research question, "Are there

differences in protective factors between groups based on demographic characteristics?"

was not able to be run as initially intended. A factorial MANOVA would have created a

large number of subgroups due to the high number of variables in this study. Therefore,

due to the limited number of participants that would have fallen into each subgroup,

one-way MANOVAs were utilized to answer the sub questions of the second research

question (listed earlier in the chapter). For the purpose of this study, external protective

factors were measured by the SRI–25 subscale, MSPSS Family Support subscale, MSPSS Friend Support subscale, and the MSPSS Significant Other Support subscale and internal protective factors were measured by the SRI–25 Internal Protective Factors subscale and the SRI–25 Emotional Stability subscale. These results are discussed in the following sections.

      Differences in external protective factors based on gender. Due to only 1 participant identifying as transgender in this study, participant data (see Table 8) were broken down into categories of male and female as the independent variables. Statistically significant differences were found in external protective factors based on gender, $F(4, 548) = 7.170$, $p < .05$; Hotelling's Trace $= .950$. The tests of between subjects effects showed that there were statistically significant differences in mean between gender and the following scales measuring external protective factors: the SRI–25 External Protective Factors Scale ($p = .002$), MSPSS Significant Other Scale ($p = .000$), and MSPSS Friend Scale ($p = .006$), with female participants scoring higher on the aforementioned subscales in comparison to male participants. These scores suggest that the female participants perceived higher levels of external protective factors, support from significant other, and support from friends.

Table 8

Differences in External Protective Factors Based on Gender

	Gender	Mean	SD	*N*
External PF (SRI–25)	Male	5.10	1.029	137
	Female	5.39	.88	416
FAM Support	Male	23.12	6.32	137
	Female	25.27	4.59	416
FRI Support	Male	23.34	5.78	137
	Female	23.86	5.38	416
SO Support	Male	22.42	5.72	137
	Female	23.85	5.18	416

Differences in internal protective factors based on gender. There was a statistically significant difference in internal protective factors based on gender, $F(2, 550)$ = 4.731, $p < .05$; Hotelling's Trace = .017 (Table 9). The tests of between subjects effects showed that there was a statistically significant difference in mean between gender and the scales measuring internal protective factors: the SRI–25 Internal Protective Factors Scale ($p = .016$), and SRI–25 Emotional Stability Scale ($p = .003$). Females scored higher on both of the subscales measuring internal protective factors, suggesting that females perceived themselves to have more positive beliefs about one's own ability to regulate suicide-related thoughts as well as positive beliefs or feelings about oneself and satisfaction with life.

Table 9

Differences in Internal Protective Factors Based on Gender

	Gender	Mean	SD	*N*	*d*
Internal PF	Male	4.78	1.01	137	.68
	Female	5.01	.89	416	
Emotional Stability	Male	5.37	.92	137	.86
	Female	5.61	.75	416	

Differences in external protective factors based on race. Due to the high number of Caucasian participants in this study, participant data was broken down into Caucasian/White and Non-Caucasian as the independent variables. There was not a statistically significant difference in external protective factors based on race/ethnicity, $F(4,549) = .690$, $p = .599$; Hotelling's Trace = 0.995 (See Table 10).

Differences in internal protective factors based on race/ethnicity. There was not a statistically significant difference for internal protective factors based on race/ethnicity, $F(2, 551) = .853$, $p = .427$; Hotelling's Trace = 0.003 (See Table 11).

Table 10

Differences in External Protective Factors Based on Race/Ethnicity

	Race	Mean	SD	*N*
External PF SRI–25	Caucasian	5.32	.92	502
	Non-Caucasian	5.31	.94	52
MSPSS-SO	Caucasian	24.82	5.01	502
	Non-Caucasian	24.06	6.45	52
MSPSS-FAM	Caucasian	23.75	5.42	502
	Non-Caucasian	23.62	6.05	52
MSPSS-FRI	Caucasian	23.48	5.36	502
	Non-Caucasian	23.69	5.14	52

Table 11

Differences in Internal Protective Factors Based on Race/Ethnicity

	Race/ethnicity	Mean	SD	*N*
Internal PF	Caucasian	4.93	.93	502
	Non-Caucasian	5.10	.87	52
Emotional Stability	Caucasian	5.55	.81	502
	Non-Caucasian	5.62	.69	52

Differences in external protective factors based on sexual orientation. Due to low participant numbers identifying as lesbian, gay, bisexual, questioning, and other, two groups were identified for the purposes of data analysis, heterosexual and LGBQO (see

Table 12). Statistical significance was found for differences in external protective factors

based on sexual orientation, $F(4, 549) = 4.976$, $p = .001$; Hotelling's Trace $= .036$. The

tests of between subjects effects showed that there was a statistically significant

difference in mean between sexual orientation and the MSPSS scale measuring family

support ($p = .011$), with heterosexual participants scoring higher than those identifying as

LGBQO. These results suggest that heterosexual participants in this study had higher

levels of perceived support from family members.

Table 12

Differences in External Protective Factors Based on Sexual Orientation

	Sexual Orientation	Mean	SD	*N*	*p*
External PF SRI–25	Heterosexual	5.31	.91	494	.64
	LGBQO	5.37	.99	60	
MSPSS-SO	Heterosexual	24.71	5.06	494	.61
	LGBQO	25.067	5.59	60	
MSPSS-FAM	Heterosexual	23.95	5.21	494	.01
	LGBQO	22.05	7.14	60	
MSPSS-FRI	Heterosexual	23.45	5.24	494	.59
	LGBQO	23.85	6.17	60	

Differences in internal protective factors based on sexual orientation. There

was not a statistically significant difference in internal protective factors based on sexual

orientation, $F(2, 551) = 2.908$, $p = .055$; Hotelling's Trace = .011 (See Table 13).

While not asked as part of the primary research questions, data were gathered and

reported regarding sexual orientation and suicide risk. When broken down into groups by

sexual orientation for suicide risk, 61.1% of heterosexual participants were in the non-

risk group and 38.9% were in the suicide risk group, whereas for LGBQO participants,

53.3% were in the non-risk group and 46.7% were in the suicide risk group. Regarding

suicidal ideation, 43.5% of heterosexual participants and 33.3% of LGBQO participants

endorsed lifetime suicidal ideation. Finally 21.7% of LGBQO participants and 16.2%

heterosexual participants reported a suicide plan and 16.7% of LGBQO participants and

6.3% of heterosexual participants reported a past suicide attempt. These results are

discussed further in Chapter 4.

Table 13

Differences in Internal Protective Factors Based on Sexual Orientation

	Sexual Orientation	Mean	SD	N
Internal PF	Heterosexual	4.96	.91	494
	LGBQ/Other	4.86	1.11	60
Emotional Stability	Heterosexual	5.54	.81	494
	LGBQ/Other	5.66	.67	60

Differences in external protective factors based on GPA. There was not a statistically significant difference in external protective factors based on GPA, $F(12, 1444.872) = 1.414$, $p=.152$; Wilk's $\Lambda = 0.970$ (See Table 14).

Differences in internal protective factors based on GPA. There was statistical significance found for differences in internal protective factors based on GPA, $F(6, 1096) = 1.414$, $p = .013$; Wilk's $\Lambda = 0.971$. The tests of between subjects effects showed that there were statistically significant differences between the SRI–25 scale of Emotional Stability and GPA ($p < .05$). As significant differences were found in the tests of between-subject effects, pairwise comparisons were run and statistical significance was found for the emotional stability subscale mean and those with a GPA of 2.0 to 2.4 in comparison to all other groups. Participants with a GPA of 2.0 to 2.4 scored lower on the emotional stability subscale (See Table 15), suggesting participants with the lowest self-reported GPA have less positive beliefs about one's own ability to regulate suicide-related thoughts and behaviors. After a Bonferonni adjustment was made, the new significance level was $\alpha = .0125$.

Differences in external protective factors based on undergraduate/graduate student status. There was not a statistically significant difference in external protective factors based on student status, $F(8, 1096.00) = .981$, $p = .220$; Wilk's $\Lambda = .981$ (See Table 16).

Table 14

Differences in External Protective Factors Based on Cumulative GPA

	GPA	Mean	SD	*N*
SRI-EPF	4.0–3.5	5.40	.82	362
	3.4–3.0	5.20	1.05	120
	2.9–2.5	5.25	.99	52
	2.4–2.0	4.80	1.50	19
MSPSS-SO	4.0–3.5	25.03	4.99	362
	3.4–3.0	24.32	5.55	120
	2.9–2.5	24.42	4.66	52
	2.4–2.0	22.84	6.57	19
MSPSS-FAM	4.0–3.5	24.00	5.29	362
	3.4–3.0	23.39	5.44	120
	2.9–2.5	23.75	5.28	52
	2.4–2.0	20.74	8.56	19
MSPSS-FRI	4.0–3.5	23.60	5.15	362
	3.4–3.0	23.35	5.36	120
	2.9–2.5	24.04	5.43	52
	2.4–2.0	20.84	7.99	19

Table 15

Differences in Internal Protective Factors Based on Cumulative GPA

	GPA	Mean	SD	*N*
Internal PF	4.0–3.5	5.01	.91	362
	3.4–3.0	4.82	.93	120
	2.9–2.5	4.92	.91	52
	2.4–2.0	4.59	1.11	19
Emotional Stability	4.0–3.5	5.60	.74	362
	3.4–3.0	5.50	.86	120
	2.9–2.5	5.50	.70	52
	2.5–2.0	4.94	1.36	19

Table 16

Differences in External Protective Factors Based on Undergraduate/Graduate Student Status

	Student Status	Mean	SD	*N*
External PF SRI–25	Undergraduate	5.17	1.03	191
	Graduate	5.41	.83	350
	Other	5.03	1.37	13
MSPSS SO	Undergraduate	24.05	5.38	191
	Graduate	25.16	4.91	350
	Other	23.92	7.05	13
MSPSS FAM	Undergraduate	22.94	5.85	191
	Graduate	24.21	5.14	350
	Other	22.85	7.40	13
MSPSS FRI	Undergraduate	22.845	5.94	191
	Graduate	23.90	4.92	350
	Other	22.23	6.51	13

Differences in internal protective factors based on undergraduate/graduate student status. There was not a statistically significant difference in internal protective factors based on student status, $F(4, 1100) = 2.051$, $p = .085$; Wilk's $\Lambda = 0.985$ (See Table 17).

Table 17

Differences in Internal Protective Factors Based on Undergraduate/Graduate Student Status

	Student Status	Mean	SD	*N*
Internal PF	Undergraduate	4.83	.94	191
	Graduate	5.01	.91	350
	Other	5.10	1.11	13
Emotional Stability	Undergraduate	5.43	.89	191
	Graduate	5.62	.73	350
	Other	5.51	.80	13

Summary of Chapter 3

Results of the research questions were presented in this chapter. Descriptive statistics were used to describe characteristics of the chosen demographic variables, followed by the results of the binary logistic regression used to answer the first research question and MANOVAs used to understand the sub questions of the second research question. The following chapter includes a discussion of the findings of this study.

CHAPTER IV

DISCUSSION

The purpose of this study was to examine whether or not protective factors could predict levels of suicide risk among college students. Additionally, this study aimed to examine if there were differences in protective factors between groups based on demographic characteristics, such as: gender, race/ethnicity, sexual orientation, self-reported cumulative GPA, and undergraduate versus graduate student status.

This chapter provides a discussion of the study results. First, the findings related to each of the research questions are examined, and these results are then compared to existing literature. Next, implications and limitations of this study are presented, followed by recommendations for future research. The chapter concludes with a summary of this research project.

Research Question One

The first research question explored whether specific protective factors could predict levels of college student suicide risk. Suicidality is a concern for the college population (ACHA, 2012; CCMH, 2010; Drum et al., 2009; Schwartz, 2006; Westefeld et al., 2006), with reports of suicidal ideation and behavior on the college campus rising for the past 25 years (Drum et al., 2009). As existing literature has highlighted various factors, both risk and protective, that may impact levels of suicide risk (ACHA, 2013; Drum et al., 2009; Granello, 2010; Rutter & Estrada, 2006; Simon, 2011), this study explored protective factors as predictors of college students' level of suicide risk and differences between identified groups.

96

In the present study, protective factors were measured to determine if they may, in fact, predict levels of suicidal ideation and behavior among the student respondents. A binary logistic regression was run to identify whether participants fell into a non-risk group or a suicide risk group. Three hundred and thirty-two participants (60.5%) met the criteria for the non-risk group (with a cutoff score of 6 or below on the SBQ–R), and 217 participants (39.5%) met the criteria for the suicide risk group (with a cutoff score of 7 or above on the SBQ–R). As mentioned in Chapter 3, the logistic regression model for this study demonstrated accuracy 76% of the time in predicting a participant's classification into the appropriate risk group with a baseline of 60.5% belonging in the suicide risk group. Further, the protective factor subscales that demonstrated statistical significance for predicting the appropriate risk group are the SRI–25 Emotional Stability Scale and the MSPSS Friend Support Scale. Higher scores on the subscales of emotional stability and friend support were shown to be significant in predicting lower levels of risk for suicide. For example, a participant who reported high levels of emotional stability and support from peers would have been more likely to fit into the non-suicide risk group. These two protective factors are further discussed.

Chapter 1 defined emotional stability as the ability to self-regulate, to verbalize positive thoughts about self and life, and to navigate emotionally upsetting experiences (Rutter & Estrada, 2006). Many times, emotional stability is seen in the literature as a form of resilience. Steinhardt and Dolbier (2008) described resilience as the ability to recover quickly from disruptions in a person's daily functioning that may result from stressors. The concept of emotional stability creating resilience that mitigates suicidality

supports the findings of this study. Results showed emotional stability was a statistically significant predictor for a participant's placement into a suicide risk or non-suicide risk group; higher participant reports of emotional stability predicted lower levels of suicide risk and placed them in the non risk group.

A review of the literature in Chapter 1 of this study also identified the strong impact of peer support on college students (ACHA, 2009; Davidson et al., 2004; Goldston et al., 2008; Sharkin et al., 2003; Taub & Thompson, 2013), with reports that college students frequently seek advice from peers. Specifically, Sharkin et al. (2003) reported that 80% of college students planned to seek guidance or advice from a peer in times of duress. Further, when Drum et al. (2009) asked students who seriously considered attempting suicide but did not attempt suicide in the past 12 months to rate the importance of potential influences that have prevented suicide attempts, 56% of undergraduates and 49% of graduate students said that the thought of disappointing or hurting their friends was a deterrent to them. Existing literature explains the role of friends for college students and underscores the perceived importance of social support in students' lives. The current study's finding of higher levels of friend support being statistically significant in predicting low levels of suicide risk supports Hirsch and Barton's (2011) findings that higher levels of social support can reduce the likelihood of suicidal behavior in college students.

What is unique about the present study is its examination of protective factors in assessing and predicting college students' levels of suicide risk. The majority of existing studies focused on the role of risk coupled with protective factors in suicidality (Guiterrez

et al., 2000; Lamis & Lester, 2013; Muehlenkamp et al., 2005; Osman et al., 2004; Osman, Bailey, & Kopper, 2007; Rutter & Soucar, 2002; Rutter et al., 2008). While research on suicide has looked at support since the early 1950s (Durkheim, 1951) and reasons for living since the early 1980s (Linehan, Goodstein, Nielsen, & Chiles, 1983), few studies have specifically taken a strengths-based only approach to identifying predictors for suicide risk. This study is the first to use the protective factors identified in the subscales of the SRI–25 and MSPSS as predictors for suicide risk based on the cutoff scores of the SBQ–R. As this researcher had hypothesized, higher levels of protective factors, specifically emotional stability and friend support, were associated with lower levels of suicide risk.

Research Question Two

The second research question and sub questions explored whether there were differences in protective factors between groups based on identified demographic characteristics and other chosen categories. The demographics and categories examined in this study were: gender, race/ethnicity, sexual orientation, self-reported cumulative GPA, and undergraduate versus graduate student status. As noted in Chapter 1, protective factors may vary with age, gender, race/ethnicity, ethnicity, culture, and other demographics (Greening & Stoppelbein, 2002; Guiterrez, Rodriquez, & Garcia, 2001). This study supports the previous statement, as significant differences among protective factors between multiple groups were found. Some participant demographics were compared to the demographics of the overall student body of the large Midwestern

university where the study was conducted; the most recent campus statistics for the large Midwestern university were updated in the fall of 2013.

Differences Based on Gender

Participants in this study identified in the following way: 137 (24.7%) as male, 416 (75%) as female, and 1 (0.2%) as transgender. Of the male participants, 44.4% were undergraduate and about 55.6% were graduate students. Of female participants, 32.4% were undergraduates and 67.6% were graduate students. Among undergraduates, 30.8% identified as males and 69.1% identified as females and among graduate students, 21.1% identified as male and about 78.9% identified as female. Overall, these numbers are representative of students at the large Midwestern university, as campus-wide statistics for the university also showed that the undergraduate and graduate student population were comprised of less men than women.

Analysis of responses in this study revealed statistically significant differences between male and female participants for the following scales measuring external protective factors: External Protective Factors Scale (SRI–25), MSPSS Significant Other Scale, and MSPSS Friend Scale. Females showed a higher mean score in comparison to males on all of these scales, suggesting that female participants identified higher levels of external supports in their life. Similarly, a recent study by Lamis and Lester (2013) also reported statistical significance between men and women for the MSPSS scales of Friend Support and Significant Other Support, with women having higher mean scores. According to Johnson et al. (2010), whether or not a person's support is actual or perceived, it is hypothesized that having support decreases the stress level for individuals

and increases a person's ability to cope with stressful situations, which supports this study's finding of significance regarding internal protective factors. This study found that there was a statistically significant difference in mean between gender for the SRI–25 Internal Protective Factors Scale and SRI–25 Emotional Stability Scale. Females reported a higher mean score for both internal protective factor scales and emotional stability scale in comparison to their male counterparts. Therefore, results from this study may suggest that women scoring higher on subscales measuring support are correlated with their higher scores measuring emotional stability, measured by the SRI–25. Further, results from this study may suggest that individuals with higher levels of perceived support are impacted positively by and more likely to demonstrate more emotional stability.

Findings of gender differences from this study regarding protective factors are also in line with past studies suggesting that men have fewer protective factors for suicide in comparison to women (Ellis & Lamis, 2007; Essau, Lewinsohn, Seeley, & Sasagawa, 2010; Lamis & Lester, 2013). One possible reason for this, suggested by Hunt, Auriemma, and Cashaw (2003), is that men tend to minimize the disclosure of coping strategies out of fear of being perceived as weak. Another reason that may help to explain female participants having higher reports of protective factors is that women tend to seek out support more often, and value support from relationships in different ways than men. In fact, Barbee et al. (1993) suggested that females tend to emphasize support through nurturance (e.g., providing support for others) and emotional expressiveness (e.g., talking out problems with friends), making it easier for women to seek support from

close relationships. Yet a more typical male role may emphasize achievement, autonomy, and emotional control, making it difficult for men to seek out and obtain social support (Barbee et al., 1993). As women are more likely to utilize support as a coping skill, this may contribute to female participants reporting higher levels of emotional stability in comparison to men, as men more typically value masculine norms such as independence, invincibility, and power, which may be a barrier for adequate identification of a support system (Davies et al., 2000). Disclosing high levels of stressors or support may threaten college men's beliefs about their own masculinity (Brougham, Zail, Mendoza, & Miller, 2009).

The findings related to gender differences in this study may suggest that protective factors are identified differently in gender groups and have different impacts for females and males. Specifically, the inventories identified for the purpose of this study may have been more geared to protective factors that females identify as important in their life. A potential reason for women showing higher mean scores on multiple subscales is that they perceive more support in their life, are able to identify those who support them, and are not impacted by a stigma of identifying supports in their life. As results from this study and Lamis and Lester (2013) found differences in protective factors for gender groups, this supports the notion of considering gender when assessing for suicide risk and tailoring interventions for college students.

More studies are needed to help support or disprove this study's findings of female college students reporting higher levels of protective factors, both internal and external. Future studies should consider the inclusion of variables that assess a diverse

array of constructs, which may contribute to suicidality and protective factors more specifically catered to men (Lamis & Lester, 2013), as the chosen inventories for this study may not have tapped into protective factors that would be pertinent or relevant to male college students. Potential protective factors to be explored are: success or prestige in career, financial security, marital status, and high levels of self-efficacy (feelings of self-competence). Exploration of varied constructs may help to identify protective factors more relevant for male college students. Lamis and Lester (2013) also suggested utilizing other inventories to assess risk and protective factors for college men in order to better assess for suicide risk. Further, qualitative interviews may also be helpful in exploring what male college students perceive to be protective factors that impact levels of suicide risk.

Regarding gender differences in suicidality, the gender paradox in suicide literature refers to women being more likely to experience suicidal ideation (Canetto, 1994; CDC, 2012; Reynolds, 1990) and attempt suicide, whereas men are reported to be more likely to complete suicide (Anderson, 2002; Kerr, Owen, & Capaldi, 2008). However, of the participants in this study, 48.2% of men and 40.6% of women acknowledged previous suicidal ideation; 20.4% of the men and 15.4% of the women created a suicide plan at some point in their lifetimes; and 5.8% of the men and 7.9% of the women had survived an actual suicide attempt. These findings should be considered with caution, as this is a single campus study that has a higher mean age than most studies published on the college population of students. Having a higher mean age may correspond to higher reports of suicidality due to an increased likelihood of stressful life

events over time. This topic is discussed in more detail in the section regarding

differences based on undergraduate versus graduate students.

Differences Based on Race/ethnicity

Participant race/ethnicity was collected as part of the demographic data in this

study. Results showed that significantly more Caucasians (90.6%) were represented in

the study sample than members of any other race/ethnicity. Other participant

race/ethnicities included: Black/African American (3.4%), biracial (1.4%), Asian

American (1.1%), Hispanic/Latino/a (1.1%), Other (1.1%), Arab American (0.9%),

American Indian/Alaskan Native (0.2%), and Native Hawaiian/Pacific Islander (0.2%).

For the purpose of this study, groups were collapsed to Caucasian/White and Non-

Caucasian. Overall undergraduate student demographics at the large Midwestern

institution from where the participant sample came are as follows: Caucasian (78.4%),

African American (7.7%), Hispanic/Latino/a (2.5%), Multi-racial (2.4%), Asian (1.1%),

Native American (0.3%), and Hawaiian/Pacific Islander (0.1%). Graduate student

demographics at the large Midwestern university where the participants were sampled are

as follows: Caucasian (69.0%), African American (5.3%), Hispanic/Latino/a (1.8%),

Multi-racial (0.9%), Asian (2.1%), Native American (0.2%), and Hawaiian/Pacific

Islander (0.1%). As seen in the numbers, both the study participants and university from

where participants were sampled have a majority of Caucasian students in comparison to

all other race/ethnicities.

No statistically significant differences were found between Caucasian and

Non-Caucasian groups on either external or internal protective factors. It should be noted

that collapsing all racial groups, other than Caucasian/White, on the demographic form into the Non-Caucasian group could have lessened the variance within the study. Further, it should be recognized that there may be less variance due to the single subset of the population being surveyed (college students). Another potential influence impacting the lack of statistically significant differences between groups of race/ethnicity is that the chosen inventories for this study did not assess protective factors that would differentiate college students based on race/ethnicity. Other studies have noted the following protective factors as helpful in reducing suicide risk in racially diverse groups: religiosity and negative attitudes toward suicide (Marion & Range, 2003); positive ethnic group identity and strong family ties (Utsey, Hook, & Stanard, 2007); and family cohesion (Chu, Hsieh, & Tokars, 2011). Future research may benefit from further exploration of protective factors identified to reduce suicide in a racially diverse population.

Replication of this study with purposeful sampling of racial and ethnic minority (REM) populations may be beneficial to filling the gap in literature for differences in protective factors based on race/ethnicity, which was previously identified in Chapter 1. Although little is known about the relationship between race/ethnicity and protective factors specific to suicidal behaviors, better identification of common risk and protective factors for different racial groups could help clinicians develop more effective interventions for REM college clients (Perez-Rodriguez et al., 2008). The lack of statistically significant findings in this study with regard to race/ethnicity support past literature stating a need for additional research on protective and risk factors of REM

students (Wong et al., 2011). The increased racial and ethnic diversity on many college

campuses in the U.S. also underscores the need for more research on this topic.

Differences Based on Sexual Orientation

Data from this study showed that 11% of participants identified as lesbian, gay,

bisexual, questioning, or other (LGBQO). The percentage of participants identifying as

LGBQO in this study is higher than what was reported in a recent national study done by

ACHA (2013), in which only 7.2% of college students identified as lesbian, gay, or

bisexual (LGB). Regarding external protective factors, data from this study showed that

participants identifying as heterosexual scored significantly higher on the subscale of

family support than those identifying as LGBQO. The CCMH (2010) study reported that

individuals who identified as gay scored significantly higher than heterosexual students

on a scale of family distress, suggesting that LGBQO students may experience less

support from their families. As noted in Chapter 1, the coming out process may trigger

rejection from family and friends, or generate a sense of disappointment from loved ones

(Rutter & Soucar, 2002). As LGBQO students in this study reported statistically

significant lower levels of family support, and CCMH (2010) noted higher levels of

family stress for LGB students, assessment of family support as a risk or protective factor

for LGBQO college students would appear both relevant and pertinent. Future studies

may benefit from gathering information about other persons or groups where students

gain their support (e.g., campus clubs, mentor on campus [faculty], coworkers) and also

how participants identify the term family. For example, a student identifying as LGBQO

who has experienced rejection from his or her biological family members may identify his or her "family" as a peer group that provides primary emotional support.

Similar to past research, LGBQO participants did endorse higher levels of having a suicide plan (21.7%) in comparison to their heterosexual counterparts (16.2%), and a higher percentage of LGBQO participants reported a past suicide attempt (16.7%) in comparison to heterosexual participants (6.3%). These findings are similar to other studies in which LGB students typically reported higher levels of suicidality (CCMH, 2010; D'Augelli, Hershberger, & Pilkington, 2001; Russell & Joyner, 2001). With such a high percentage of LGBQO participants having suicidal thoughts, plans, or attempts, it is crucial for clinicians to properly assess for protective factors and suicide risk with students identifying as LGBQO. Counselors can stay updated in the area of suicide assessment by reading current literature and attending trainings that incorporate both risk and protective factors.

When broken down into groups by sexual orientation for suicide risk, this study found that for heterosexual participants, 61.1% were in the non-risk group and 38.9% were in the suicide risk group, whereas for LGBQO participants, 53.3% were in the non-risk group and 46.7% were in the suicide risk group. A higher percentage of heterosexual participants (43.5%) compared to LGBQO participants (33.3%) experienced lifetime suicidal ideation. This finding is different from other studies (ACHA, 2013; CCMH, 2010) in which LGBQ students more commonly reported higher levels of suicidal ideation. This may suggest that participants in this study experience the college campus and their surroundings as safe and open. Another potential influence that may

have impacted this study's findings is age; the mean age for the study's participants was about 33; it is possible that participants identifying as LGBQO in this study were more likely to have developed a safe and reliable support system, in comparison to traditionally aged students (ages 18 to 23).

Differences Based on Reported GPA

In this study, 65.2% of participants reported a GPA of 3.5 to 4.0, 21.8% of participants reported a GPA of 3.0 to 3.4, 9.4% participants reported a GPA of 2.5 to 2.9, and 3.4% of participants had a GPA of 2.0 to 2.4. The use of MANOVA found significance in mean differences for internal protective factors on the SRI–25 scale of Emotional Stability with students reporting a GPA of 2.0 to 2.4 in comparison to all other GPA groups. Specifically, lower mean scores for the scale of emotional stability were found with students reporting a GPA of 2.0 to 2.4. This finding supports the work of Hall et al. (2006), who found that academically successful students had stronger beliefs about personal control (emotional stability) over academics compared to their non-successful counterparts. This study's results would suggest a relationship between a student's GPA and his or her emotional stability; however, whether student's lower GPA causes low levels of emotional stability, or low levels of emotional stability impacts GPA negatively is unknown. Qualitative interviews exploring this in a deeper way could add to the current literature, and provide more insight as to the potential relationship between a student's GPA and his or her perceived ability to regulate his or her thoughts and behaviors when experiencing distressing events.

While minimal differences were found between GPA and suicide risk in this study, supporting or disputing earlier research on academic performance as impacting suicidality is not possible from this study's findings. It should be noted that Drum et al. (2009) found that 43% of undergraduate students and 45% of graduate students who reported seriously considering a suicide attempt also noted academic problems as having a large effect on suicidal ideation. It has also been suggested that poor academic performance and achievement may be a risk factor for college students experiencing suicidal ideation or behavior (Furr et al., 2001). Further investigation of suicidality and academic performance with larger student populations may benefit counselors and other gatekeepers on college campuses (e.g., those working in academic affairs, student retention, prevention planning, mentors).

Differences Based on Undergraduate Versus Graduate Student Status

As many studies recruit participants from an undergraduate population, this researcher sought to get responses from both undergraduate and graduate students. Numbers for participants in this study were 35% undergraduate students and about 65% graduate students. No group differences were found to be statistically significant between undergraduate and graduate students in this study through MANOVA. Whereas no significant differences were found between undergraduate and graduate students on protective factors, it should be noted that overall, the majority of this study's participants reported high levels of support. For the purpose of this study, support was measured by the subscales of the MSPSS. The mean for participants' scores on the MSPSS subscales was 23.51. Participants' scores on the MSPSS subscales can range from 4 to 28. Similar

to an early study by Zimet et al. (1998), undergraduate participants scored well above the

midpoint (ranging from 1 to 7). This may suggest that overall, students on the college

campus feel well supported by components of their environment (Zimet et al., 1998).

High levels of support among students in this study reinforce previous research

that emphasized the importance of family and peers for college students as they

experience transition and stress (ACHA, 2009; Bearman & Moody, 2004; Beretera, 2007;

Davidson et al., 2004; Goldston et al., 2008; Hirsch & Barton, 2011; Levine & Dean,

2013; Sharkin et al., 2003; Shtayermman et al., 2012; Taub & Thompson, 2013; Zea et

al., 1995). As noted earlier, this study found that peer support was a significant predictor

for the level of suicide risk, with higher levels of peer support indicating lower risk. This

echoes the literature in Chapter 1 that found disrupted social connections to increase the

risk of suicidality (Donald et al., 2006; Rubenowitz et al., 2001). Such information helps

counselors and others in helping professions to gain a deeper understanding of the

importance of support in a person's life and importance in helping students identify

potential components of their support system. A few potential reasons that may explain

higher levels of external protective factors, including support, for college students

include: (a) an increased skill level to seek support (greater communication skills); (b)

increased likelihood of built-in support networks (peers in coursework, professors,

advisors, honor societies); and (c) a greater understanding of how support can impact

one's success in other areas of a person's life.

Overall, findings of participant suicidality from the current study are notable. The

current study found that 33% of participants met the criteria for the non-risk group,

42.5% of participants were in the suicide ideation group, 16.8% of participants met the criteria for the suicide plan group, and 7.4% met the criteria for the suicide attempt group. Participants were placed into these groupings based on their responses to the first question of the SBQ–R, "Have you either thought about or attempted to kill yourself?" Based on these numbers, 77%, or over three-quarters, of the students in this study have experienced some level of suicidality (suicide ideation, suicide plan, suicide attempt). The high percentage of students experiencing lifetime suicidal ideation and behavior underscores the importance of this topic.

Regarding differences in suicide risk for undergraduate and graduate participants in this study, 52.9% of undergraduates and 65.1% of graduate students fell into the non-risk group; therefore, 47.1% of undergraduate students and 34.9% of graduate students were determined to be in the suicide risk group. A higher percentage of graduate student participants (44%) compared to undergraduate participants (38.2%) reported suicidal ideation during their lives. Even though graduate students in this study reported higher rates of suicidal ideation, undergraduates endorsed having higher rates of a suicide plan (21.5%) at some point in their life in comparison to their graduate students (14.3%) and higher rates of past suicide attempts (11%) in comparison to graduate participants (5.4%). As the mean age for participants identifying as undergraduate ($M =$ 31.78 years of age) and graduate students ($M = 33.58$ years of age) was only two years in difference, hypothesizing about group differences would not appear to be related to age as a primary influence in understanding these group differences.

The findings of overall suicidality from this study help to document the number of students (both undergraduate and graduate) who have experienced suicidal ideation, had a suicide plan, or even attempted suicide in their lifetime, which demonstrates the need for continued research, prevention efforts, trainings for professionals on the college campus, and improved clinical services for college students. It should be noted that the SBQ–R directly assesses for lifetime suicidality (Osman et al., 2001; Range & Knott, 1997), whereas many times, other studies assess for suicidal ideation in the past 12 months (or other shorter amounts of times; ACHA, 2013; CCMH, 2010; Drum et al., 2009). While the SBQ–R does not assess for current suicidality, a wide range of information is gathered from the four questions asked, which may provide a significant amount of information that helps to understand suicide risk of participants in a very direct and clear way.

Implications

The results of this study and its links to previous research point to new ways that protective factors can be used in a variety of ways by professionals on college campuses. The implications for the use of protective factors were examined across the following populations of the college community: (a) professional counselors working with college students; (b) directors of college counseling centers; and (c) other professionals on college campuses, such as: college campus administrators, those doing prevention planning on the college campus, and other professionals in the student affairs field.

Professional Counselors Working With College Students

This study's findings support existing literature that recommends the implementation of protective factors into the assessment and treatment of clients (Granello, 2010; Guiterrez, 2005; Guiterrez, Osman, Kopper, Barrios, & Bagge, 2000; Jobes & Drozd, 2004; Paladino & Barrio-Minton, 2008; Rutter et al., 2008; Simon, 2011). Clinicians working with college students could utilize information from this study by implementing a more individualized assessment, targeting and utilizing a student's emotional stability and perceived peer support in a more purposeful way. Results of this study demonstrated that higher levels of peer support and emotional stability were predictors for lower levels of suicide risk in this study's sample, supporting literature stating that identifying, understanding, and using protective factors is important when assessing for suicide risk (CDC, 2013; Simon, 2011).

Specifically, when seeing clients for the first time, clinicians can assess clients in a new way, seeking to understand the uniqueness of college student clients' protective factors in their lives. Identified differences between groups (e.g., women reporting higher levels of external and internal protective factors, or LGBQO students reporting less family support) help clinicians to see the importance of assessing each student in a unique way. Also, as this study suggested that higher levels of emotional stability and peer support predicted a lower level of suicide risk for college students, counselors working with college students may want to pay particular attention to these areas. Counselors can work one on one to increase emotional stability with clients. It is also important for college counselors to be aware of appropriate referrals for group counseling

opportunities as well as other campus supports and activities that could be useful to

students in building a healthy, positive peer network. The findings from this study may

help counselors promote advocacy efforts for clients both in and out of session. For

example, advocacy efforts for clients could include: (a) understanding the client's culture

(what supports are valued within a culture); (b) looking at, identifying, and celebrating

strengths (which protective factors they identify as helpful in their life); and (c)

understanding the needs of the population from the perspective of the population with

whom they are working (staying up to date with current trends of the client population

with whom a clinician is working; Lewis, Ratts, Paladino, & Toporek, 2011).

Directors of College Counseling Centers

Incorporating knowledge of protective factors into college counseling centers and

training environments could be helpful in the following ways: (a) clinical utility:

protective factor inventories can be used to more easily identify client strengths, supports,

and level of suicide risk; (b) training purposes: the counselor (or counseling student) can

demonstrate skills and knowledge of client protective factors, and supervisors are able to

evaluate and provide feedback on a counselor's ability to assess for and use protective

factors in counseling; or (c) group work: directors of counseling centers should work

towards integrating skill-based group opportunities within the counseling center relevant

to current college student needs. Promotion of stronger clinical skills to include the use

of protective factors could empower clinicians and other gatekeepers (e.g., those working

in academic affairs, student retention, prevention planning, mentors) by giving them a

more holistic approach to working with college students. Beyond the use of inventories

in the clinical settings on college campuses, college counseling center directors could

support the use of protective factors by including protective factors as part of the intake

process and by providing adequate trainings for counselors and supervisors specific to

assessment and use of protective factors with college students.

Specific to the results from this study showing the importance of peer support in

predicting suicide risk, college counseling center directors could utilize this information

by offering more group counseling opportunities. Skill based groups could also be

geared towards social skills and seeking out healthy and positive resources when faced

with a stressful situation, and developing students' communication skills (e.g., learning to

discuss distressing situations with one's own supports). While not statistically

significant, undergraduates also reported lower levels of family support. Groups

covering topics of leaving the family home and transitioning to college or communication

with family may also be useful in addressing undergraduate student needs. Utilizing

group differences identified in this study can help to more accurately target and plan for

appropriate groups in college counseling centers. For example, this study found that

LGBQO participants identified less family support. A counseling center could:

collaborate with other campus professionals to create safe spaces for LGBQO students,

promote support groups or student organizations specific to LGBQO students, and

provide additional trainings to their staff to make sure they are aware of campus trends.

Other Professionals Working on the College Campus

Another important group working with students is comprised of those who do

preventative programming on college campuses, including suicide prevention (SPRC,

2011). As noted in the literature review for this study, college campuses are expected to both protect students in crisis, and attend to public health goals of reducing the frequency of suicidality and improving the overall health and well-being of college students (Drum et al., 2009). It has been noted that college campuses are an ideal setting to design, implement, and evaluate suicide prevention programming. Therefore, prevention efforts should work to target identified risk and protective factors for college student suicidality (Lamis & Lester, 2013). This study's results suggest that prevention efforts would incorporate efforts to focus on the emotional stability of students, and students' levels of perceived support from peers. For example, campuses could incorporate the information in the following ways: complete focus groups with current students to identify ways that students seek peer support and identify how the campus could assist with creating healthy peer relationships; survey faculty and students on knowledge of mental health resources (e.g., campus resources addressing mental health); create a task force to implement recommended changes on campus; and measure the success of new programming or prevention efforts.

Relevant information regarding how protective factors can impact a person's level of risk is important for all college campus gatekeepers and service providers to understand. For professionals working in student affairs (residence life, Greek life, student activities, advising, etc.), understanding the role of peer support can help them when conceptualizing preventative programming (e.g., peer mentor programs). Emotional stability was also noted as a significant predictor for suicide risk. Professionals on college campuses should be aware of appropriate warning signs and

campus referrals for students reporting or demonstrating a lack emotional stability. Further, those working with college students could benefit from training in relevant protective factors, in order to help with appropriate referrals to college counseling centers. College campuses have the responsibility to train the professionals (in student affairs and like positions) on current trends and needs of students. This study's results help to identify the varied role of protective factors, including group differences, in college students' lives and considerations for college campus professionals in varied roles.

Limitations

There are several limitations to be noted for the current study. First, this study used a self-report method of online data collection, which may be cause for potential concerns about the reliability of participant responses. As this study relied on self-report, some students may have misrepresented their levels of support, protective factors, or suicidal ideation and behavior. While the amount of bias that participants may have had is largely unknown, the voluntary participation of students and anonymity of participants may have lessened their desire to present an overly positive or negative representation of self. It should also be understood that participants' responses may have been impacted by their varied and unique perceptions of inventory items.

A second limitation of this study is the lack of diversity, in terms of race/ethnicity and a lack of males within the student sample. As this sample was predominantly White female college students at a single university, results may not be generalizable to other

college and university populations. A multi-campus study may have provided a more diverse sample.

Third, a potential limitation for this study may have been the mean age of participants. The most recent study by ACHA (2013) showed the mean age of their undergraduate participants to be 21.42 years of age. The mean age of undergraduate participants in this study was about 10 years above that ($M = 31.78$ years of age), therefore, potentially impacting any generalizability of this study's findings for other undergraduate populations.

Another limitation of this study may have been the number of students included in the sample. A much larger sample size (e.g., 10,000) would have allowed for running the initial type of MANOVA for this study, in order to look at interactions between groups. As this study was done on a single campus, continued research should be conducted with other and varied institutions of higher education in order to be able to generalize findings to larger populations of students. A multi-campus study would provide results that are more likely to be representative of students on a national level.

Finally, a lack of inclusion of all potentially relevant and impactful variables is a limitation to this study. As there were no significant differences in race/ethnicity and limited differences in gender, this is a topic for further exploration. Providing relevant protective factor variables (e.g., inventories measuring religiosity/spirituality, masculinity, self-efficacy, financial security) that may have tapped into differences in race/ethnicity or gender may have provided more insight into the differences among these specific groups.

Recommendations for Future Research

More research is needed to further explore the connection of protective factors to college student mental health. Additional studies would not only benefit counselors working with college students, but also those in administrative roles, student affairs, and persons responsible for preventative programming and planning on college campuses. The researcher identified the following recommendations for future research involving protective factors of college students.

Mixed Methodology

Future research should utilize mixed methodology to gain an in-depth perception of how protective factors impact college student lives. This study utilized a quantitative research design; however, it would be beneficial to conduct further research using either a qualitative or a mixed-methods approach that would broaden the ways in which the relationship between protective factors and suicidality could be understood. In-depth, qualitative interviews could help to gain knowledge in how students utilize protective factors in their lives, as well as explore what other protective factors students identify as impactful to positive mental health, as quantitative research can miss the subtle nuances. Qualitative research may be able to pull out these themes in one-on-one interviews. Future research may also benefit from taking a longitudinal approach to examine how suicidality and the impact of protective factors may change over time.

Clinical Versus Non-Clinical Sample

Future research should also explore the differences between results for a clinical population versus a non-clinical population with regard to protective factors and suicide.

More specifically, further research could explore how protective factors predict the level of suicide risk among college students who receive counseling at a university counseling center. Such research could increase understanding as to the differences in how protective factors predict risk of suicidality among those who consistently receive mental health counseling in comparison to the general population of students who do not consistently receive counseling services.

Multi-Campus Study

Future research should replicate this study using a multi-campus population (including studies that specifically sample for LGBT students and REM students). Participants in this study were predominantly Caucasian and heterosexual. Future research should include a more diverse sample in order to assess for differences in results with participants from different racial backgrounds and sexual orientation. Because participants for this study were recruited from one public Midwestern university, further research should explore protective factors of college students from other geographical locations. In so doing, the relationship between protective factors and suicidality of college students may be clarified and expanded. Another way to present a more diverse sample of participants for race/ethnicity and sexual orientation is to connect with college campus student organizations that specifically connect with these two identified groups.

Client and Counselor Perceptions

While this study looked at self-reports of clients' suicidality, internal protective factors, and external protective factors, having experienced counselors share their perceptions of the use and importance of protective factors may help bring practicality to

this topic. Similar to point number one suggesting the benefits of mixed methodology, quantitative research can answer only some questions surrounding this topic. Conducting in-depth interviews with mental health counselors and college students in counseling to explore protective factors for the college population may be helpful in a deeper understanding of the statistical results of this study. Specifically, exploring other potential protective factors to delineate differences in race/ethnicity, gender, or sexual orientation would help to answer pieces that were unclear from this study.

Hierarchical Regression

Hierarchical regression uses a theoretical model in order to determine the order of variables entered into the regression equation. It would seem beneficial to use a larger sample size with the theoretical premise that specific internal protective factors or external protective factors are stronger predictors of suicide risk. By utilizing hierarchical regression, differences in which protective factor variables significantly and meaningfully predict suicidality could be better understood. In this, it would be important to utilize protective factors identified for the population being studied (e.g., spirituality for REM students).

In sum, although this study produced significant results, research on protective factors and suicidality of college students is still in its early stages. The use of protective factors is still an emerging theme in routine counseling practice and suicide assessment. Continued research will help to distinguish the benefits and identify possible limitations of focusing on protective factors in: (a) suicide assessment and treatment with college students, (b) prevention planning and programming, and (c) training on protective factors

for professionals on campus. As more research is conducted in these areas of study, counselors and other college campus gatekeepers can gain insight and awareness as to the unique concerns and characteristics of college students. Further research exploring the relationship between protective factors and suicidality can thereby support use of protective factors in clinical practice and help counselors implement characteristics that are unique and meaningful to college students seeking services.

Summary

Two main research questions provided the basis for this study: (a) Will protective factors predict levels of suicidal ideation and behavior among college students after controlling for several demographic variables? and (b) Are there differences in protective factors among groups based on demographic characteristics? A randomized sample of 555 undergraduate and graduate students at a large Midwestern university participated in this study.

Results of this study determined that placement of students into a non-risk versus suicide risk group based on protective factors was accurate 76% of the time. The scales that demonstrated statistical significance for predicting a participant's level of risk were the SRI–25 Emotional Stability subscale and the MSPSS Friends subscale. These results support the idea that protective factors can be helpful in accurately determining the suicide risk of college students, specifically when looking at emotional stability and self-perceived peer support. Further, differences between the identified demographic items were found among college students, which can provide insight into relevant

protective factors for specific groups (e.g., LGBTQ students reported lower levels of family support than heterosexual students in this population).

There is still little research that explores differences of protective factors among REM students. Future research is needed to determine the potential differences to increase the success of assessment and treatment for REM clients (Perez-Rodriguez et al., 2008; Wong et al., 2011). Additionally, further research is needed to look at potential differences in protective factors within the LGBT community on college campuses. Finally, exploring counselor and client perceptions of the use of protective factors in assessment and treatment is an area that has not yet been explored in the literature.

APPENDICES

APPENDIX A

IRB APPROVAL

Appendix A

IRB Approval

RE: IRB # 14-188 entitled "Protective Factors as Predictors of Levels of Suicidal Ideation and Suicidal Behavior in the College Population"

I am pleased to inform you that the Kent State University Institutional Review Board reviewed and approved your Application for Approval to Use Human Research Participants. This protocol was reviewed at a fully convened board meeting on April 23, 2014 **Approval is effective for a twelve-month period:**

April 23, 2014 through April 22, 2015

*A copy of the IRB approved consent form is attached to this email. This "stamped" copy is the consent form that you must use for your research participants. It is important for you to also keep an unstamped text copy (i.e., Microsoft Word version) of your consent form for subsequent submissions.

Federal regulations and Kent State University IRB policy require that research be reviewed at intervals appropriate to the degree of risk, but not less than once per year. The IRB has determined that this protocol requires an annual review and progress report. The IRB tries to send you annual review reminder notice to by email as a courtesy. **However, please note that it is the responsibility of the principal investigator to be aware of the study expiration date and submit the required materials.** Please submit review materials (annual review form and copy of current consent form) one month prior to the expiration date.

HHS regulations and Kent State University Institutional Review Board guidelines require that any changes in research methodology, protocol design, or principal investigator have the prior approval of the IRB before implementation and continuation of the protocol. The IRB must also be informed of any adverse events associated with the study. The IRB further requests a final report at the conclusion of the study.

Kent State University has a Federal Wide Assurance on file with the Office for Human Research Protections (OHRP); FWA Number 00001853.

If you have any questions or concerns, please contact the Office of Research Compliance at Researchcompliance@kent.edu or 330-672-2704 or 330-672-8058.

Respectfully,
Kent State University Office of Research Compliance
224 Cartwright Hall | fax 330.672.2658

Kevin McCreary | Research Compliance Coordinator | 330.672.8058 | kmccrea1@kent.edu
Paulette Washko | Manager, Research Compliance | 330.672.2704 | Pwashko@kent.edu

APPENDIX B

DEMOGRAPHICS/BACKGROUND INFORMATION SHEET

Appendix B

Demographics/Background Information Sheet

Age:_____

Race/ethnicity:
_____African American/Black
_____American Indian/Alaskan Native
_____Asian American/Asian
_____Caucasian/White
_____Hispanic/Latino/a
_____Arab American
_____Native Hawaiian/Pacific Islander
_____Biracial –please describe   (_____)
_____Other-please describe
          (_____)

Year in College:
_____Freshman/First Year
_____Sophomore
_____Junior
_____Senior
_____Graduate/Professional Student Degree
_____Other-please describe
          (_____)

Cumulative GPA:
_____4.0-3.5
_____3.4-3.0
_____2.9-2.5
_____2.4-2.0
_____Below 2.0

Sexual orientation:
_____Heterosexual
_____Lesbian
_____Gay
_____Bisexual
_____Questioning
_____Other-please describe
          (_____)

Gender:
_____Male
_____Female
_____Transgender
_____Other-please describe
          (_____)

APPENDIX C

THE SUICIDE RESILIENCE INVENTORY (SRI–25)

Appendix C

The Suicide Resiliency Inventory (SRI–25)

Ψ IDENTIFICATION # / NAME: _____ GENDER: MALE FEMALE AGE: _____ (SRI-25)

MARITAL STATUS: _____ ETHNIC BACKGROUND: _____ EDUCATION: _____

INSTRUCTIONS:
Please answer each statement as *carefully* and *honestly* as you can; your answers will be kept confidential. Circle a number to the right of each statement to indicate how much it describes your attitudes, beliefs, or feelings.

1 = Strongly DISAGREE, 2 = Moderately DISAGREE, 3 = Somewhat DISAGREE, 4 = Somewhat AGREE, 5 = Moderately AGREE, 6 = Strongly AGREE

Statement	1	2	3	4	5	6
1. There are many things that I like about myself.	1	2	3	4	5	6
2. Most of the time, I see myself as a happy person.	1	2	3	4	5	6
3. People close to me would find the time to listen if I were to talk seriously about killing myself.	1	2	3	4	5	6
4. I can deal with the emotional pain of rejection without thinking of killing myself.	1	2	3	4	5	6
5. I like myself.	1	2	3	4	5	6
6. I could openly discuss thoughts of killing myself with people who are close to me, when it is necessary.	1	2	3	4	5	6
7. I can find someone close to me to give me support (e.g., financial, shelter) if I find myself in a jam.	1	2	3	4	5	6
8. I can resist thoughts of killing myself when I feel emotionally hurt.	1	2	3	4	5	6
9. Most of the time I set goals that are reasonable for me to meet.	1	2	3	4	5	6
10. I can resist the urge to kill myself when I feel depressed or sad.	1	2	3	4	5	6
11. I am satisfied with most things in my life.	1	2	3	4	5	6
12. I can resist thoughts of killing myself when faced with a difficult or life-threatening situation.	1	2	3	4	5	6
13. I am proud of many good things about myself.	1	2	3	4	5	6
14. I can control the urge to harm or hurt myself when I am criticized by someone.	1	2	3	4	5	6
15. I can ask for emotional support from people close to me if I were to think about killing myself.	1	2	3	4	5	6
16. Even if people close to me are angry with me, I can approach them if I want to talk about my personal problems.	1	2	3	4	5	6
17. I can find someone (parent, friend, spouse, or relative) who can help me cope if I should think about killing myself.	1	2	3	4	5	6
18. I can handle thoughts of killing myself when I feel lonely or isolated from other people.	1	2	3	4	5	6
19. I feel that I am an emotionally strong person.	1	2	3	4	5	6
20. Regardless of the problem situation I face, I can be happy with myself.	1	2	3	4	5	6
21. If I am in trouble, I can ask for help from people close to me rather than attempt to kill myself.	1	2	3	4	5	6
22. I have close friends or family members that I could turn to for emotional support if I were to think of killing myself.	1	2	3	4	5	6
23. I can resist thoughts of killing myself when faced with humiliating or embarrassing situations.	1	2	3	4	5	6
24. I can resist thoughts of killing myself when I feel hopeless about the future.	1	2	3	4	5	6
25. I feel cheerful about myself.	1	2	3	4	5	6

APPENDIX D

THE SUICIDE BEHAVIORS QUESTIONAIRE–REVISED (SBQ–R)

Appendix D

The Suicide Behaviors Questionnaire–Revised (SBQ–R)

Ψ **ID/Name (Leave Blank)**_____   **Sex:** Male   Female   **Age:**_____

Ethnicity (*Please check only ONE*)

_____ 1. Caucasian/White   _____ 4. Hispanic/Latin American (S. American

(Mexican American, Puerto Rico…)

_____ 2. African American   _____ 5. American Indian/Indigenous Alaskan

_____ 3. Asian American   _____ 6. Other (specify:_____☐

_____ 7. Biracial ☐_____☐

Education (*Please check only One*)

High School☐_____ 1 year _____ 2 years _____ 3 years _____ Graduated/GED certificate

University☐_____ 1 year _____ 2 years _____ 3 years _____ 4 years/Graduated

Marital Status (*Please check only One*)

_____1. Single   _____2. Married   _____3. Separated   _____4. Divorced

_____5. Engaged (_____)   months   _____6. Live-in partner   _____7. Widowed

---

SBQ-R

Instructions: Please *circle* the number beside the statement or phrase that best applies to you:

1. **Have you ever thought about or attempted to kill yourself? (*Please circle only one*):**

1 = Never
2 = It was just a brief passing thought

3a = I have had a plan at least once to kill myself but did not try to do it
3b = I have had a plan at least once to kill myself and really wanted to die

4a = I have attempted to kill myself, but did not want to die
4b = I have attempted to kill myself, and really hoped to die

2. **How often have you thought about killing yourself in the past year? (*Please circle only one*):**

1 = Never   2 = Rarely (1 time)   3 = Sometimes (2 times)
4 = Often (3-4 times)   5 = Very Often (5 or more times)

3. **Have you ever told someone that you were going to commit suicide or that you might do it? (*Please circle only one*):**

1 = No

2a = Yes, at one time, but did not really want to die
2b = Yes, at one time, and really wanted to do it

3a = Yes, more than once, but did not want to do it
3b = Yes, more than once, and really wanted to do it

4. **How likely is it that you will attempt suicide in the future? (*Please circle only one*):**

0 = Never   3 = Unlikely   5 = Rather Likely
1 = No chance at all   4 = Likely   6 = Very Likely
2 = Rather Unlikely

© Osman et al. (2001).

APPENDIX E

THE MULTIDIMENSIONAL SCALE OF PERCEIVED

SOCIAL SUPPORT (MSPSS)

The Multidimensional Scale of Perceived Social Support (MSPSS)

Multidimensional Scale of Perceived Social Support							
(Zimet, Dahlem, Zimet & Farley, 1988)							
Instructions: We are intersted in how you feel about the following statements. Read each statement carefully. Please circle the number that represents how you feel about each statement.	1=Very Strongly Disagree	2=Strongly Disagree	3=Mildly Disagree	4=Neutral	5=Mildly Agree	6=Strongly Agree	7=Very Strongly Agree
1. There is a special person around when I am in need.	1	2	3	4	5	6	7
2. There is a special person with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
3. My family really tries to help me.	1	2	3	4	5	6	7
4. I get the emotional help and support I need from my family.	1	2	3	4	5	6	7
5. I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7
6. My friends really try to help me.	1	2	3	4	5	6	7
7. I can count on my friends when things go wrong.	1	2	3	4	5	6	7
8. I can talk about my problems with my family.	1	2	3	4	5	6	7
9. I have friends with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
10. There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7
11. My family is willing to help me make decisions.	1	2	3	4	5	6	7
12. I can talk about my problems with my friends.	1	2	3	4	5	6	7

APPENDIX F

PERMISSION TO USE THE SRI–25, SBQ–R, AND MSPSS

Appendix F

Permission to use the SRI–25, SBQ–R, and MSPSS

Seeking permission to use Inventories for Dissertation purposes
> To: augustine.osman@utsa.edu
> Sent Items
> Friday, January 31, 2014 1:15 PM
> Dr. Osman,
>
> Thank you for the contact we have had in the past. I am getting close to my proposal
> for dissertation, and I wanted to update permission for use of the SRI–25 and SBQ–R to
> be used in my dissertation study. If you could respond via email, that would be most
> helpful to me. Please let me know if you need any further information.
>
> Thank you,
>
> Kristin Bruns, MA, NCC
> Counseling and Human Development Department
> College of Education and Human Sciences
> South Dakota State University
> Wenona Hall 301
> Brookings, SD 57007-095
> Ph: (605) 688-5062

Augustine Osman [augustine.osman@utsa.edu]

Monday, February 03, 2014 11:55 AM
 To:Bruns, Kristin

Greetings Kristin—this email will confirm permission for you to use the SRI–25 and SBQ–R for your
dissertation project. If you need additional information regarding these instruments, please do not
hesitate to let me know.

Good luck with your project,
---Augustine
==
Augustine Osman, Ph.D., ABAP
Professor & Associate Dean--- COLFA
The University of Texas at San Antonio
San Antonio, TX 78249-0641
Ph: (210) 458-6854
Fax: (210) 458-4347

Permission for use of MSPSS for Dissertation Study
Bruns, Kristin
 Actions
To:gzimet@iupui.edu
Sent Items
Friday, January 31, 2014 1:19 PM

Dr. Zimet,
I would like to receive permission to use the MSPSS for my dissertation study, to be used with college students. Could you assist me in my next step of receiving permission? If you need any more information. Please contact me via email or if you have any further questions.

Thank you,

Kristin Bruns, MA, NCC
Counseling and Human Development Department
College of Education and Human Sciences
South Dakota State University
Wenona Hall 301
Brookings, SD 57007-095
Ph: (605) 688-5062
Zimet, Gregory D [gzimet@iu.edu]
To: Bruns, Kristin
Attachments:
(2)Download all attachments
MSPSS.doc (34 KB)[Open as Web Page]; MSPSS References.doc (46 KB)[Open as Web Page]
Inbox
Wednesday, February 12, 2014 1:54 PM

Dear Kristin,
I do not recall if I replied to your request yet. If not, I apologize. You have my permission to use the MSPSS for your dissertation study. Attached is a copy of the scale and a document listing several articles that have reported on the psychometric properties of the MSPSS.

Best regards,
Greg Zimet
===
Gregory D. Zimet, PhD
Professor of Pediatrics & Clinical Psychology
Section of Adolescent Medicine
Indiana University School of Medicine
Health Information & Translational Sciences
410 W. 10th Street, HS 1001
Indianapolis, IN 46202
USA
                              Phone: +1-317-274-8812

APPENDIX G

RECRUITMENT EMAIL TO STUDENTS

Appendix G

Recruitment Email to Students

To: Graduate and Undergraduate Students at Kent State University
From: Kristin Bruns
Dissertation Study: Protective Factors

Hello!

My name is Kristin Bruns and I am a doctoral candidate at Kent State University in the area of Counseling and Human Development Services. I am sending you this email to ask you to be a participant for my dissertation study. The purpose of my dissertation is to look at protective factors (a person's strengths and resources) and their relationship to suicidal ideation and behavior for college students. If you are a graduate or undergraduate student currently attending Kent State University, and 18 years of age or older, you are invited to participate in this study. In order to participate in the study, click on the link below, which will allow you to read information about the study and check a box indicating that you have read and agree to participate in this study. Once you have agreed, you will then complete the online survey, which includes demographic information and 3 short inventories. It will take approximately 10 minutes to complete.

As an incentive for participating in the study, three participants will be randomly selected to receive a $75 gift card to Target!

Thank you for your time and please consider serving as a participant for this dissertation study.

Sincerely,
Kristin Bruns, M.A., NCC, P.C.
Doctoral Candidate
Kent State University

APPENDIX H

INFORMED CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Appendix H

Informed Consent to Participate in a Research Study

Informed Consent to Participate in a Research Study

Study Title: *PROTECTIVE FACTORS AS PREDICTORS OF LEVELS OF SUICIDAL IDEATION AND SUICIDAL BEHAVIOR IN THE COLLEGE POPULATION*

Principal Investigator: *Dr. Lynne Guillot Miller*
Co-Investigator: *Kristin Bruns, MA, NCC, PC*

You are invited to participate in a research study. This consent form will provide you with information about the research project, what you will need to do, and the associated risks and benefits of the research. Your participation is voluntary. Please read this form carefully.

Purpose: The purpose of this study is to explore if protective factors (an individual's strengths and resources) predict levels of suicidal ideation and behavior among college students.

Procedures
If you decide to participate, you will be asked to complete a demographic information form (age, race/ethnicity, sexual orientation, etc.), and inventories asking about experience(s) of suicidal thoughts or behaviors, your support, and other protective factors for suicide. All parts of the online survey are on a secure website. It should take you approximately 10 minutes to complete.

Benefits
This research will not benefit you directly. However, your participation in this study will help us to understand what protective factors (an individual's strengths and resources) are important to the college population, and may enhance various intervention and prevention efforts on college campuses.

Risks and Discomforts
Since the online survey assesses matters related to suicidal behaviors, it is possible that negative feelings could be aroused. You may skip any items that make you uncomfortable and/or may withdraw from the study at any time. If you find that you become upset after completing the online survey, counseling resources and crisis response are available to you. On-campus counseling services are available in the Counseling and Human Development Center (330) 672-2208, which is free of charge to students, DeWeese Health Center (330) 672-2487, or the Psychological Clinic (330) 672-

2372. Also, if past clinic hours or you would prefer to talk to someone on a suicide hotline, you can call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255) 24 hours a day/7 days a week if you are experiencing a suicidal crisis or emotional distress.

Privacy and Confidentiality
Your online survey answers will be totally anonymous, meaning that no one will be able to link the information you provide with your identity. Identifying information will not be included in the data that you provide. Since participation is anonymous, your individual results cannot be shared with you. The study will be conducted online and the records will be kept on a secure server.

Compensation
As an incentive for participation in this study, three participants will be randomly selected to receive a $75 gift card to Target. Information to enter the drawing for the gift card will be provided at the end of the survey. Information provided for the drawing will be collected separately from your survey responses.

Voluntary Participation
Taking part in this research study is entirely up to you. You may choose not to participate or you may discontinue your participation at any time without penalty or loss of benefits to which you are otherwise entitled.

Contact Information
If you have any questions or concerns about this research, you may contact Kristin Bruns at (605) 770-7383, Dr. Lynne Guillot Miller at (330) 672-0697, or Dr. Jane A. Cox at (330) 672-0698. This project has been approved by the Kent State University Institutional Review Board. If you have any questions about your rights as a research participant or complaints about the research, you may call the IRB at (330) 672-2704.

Consent Statement and Signature
I have read this consent form and I voluntarily agree to participate in this study. I may print a copy of this consent statement for future reference.

If you are 18 years of age or older, understand the statements above, and freely consent to participate in the study, click on the "I Agree" button to begin the online survey.

I Do Not Agree

APPENDIX I

CONCLUSION STATEMENT

Appendix I

Conclusion Statement

Thank you for completing this survey.

As a reminder, if any questions in this survey have caused you to become upset, counseling resources and crisis response are available to you. On-campus counseling services at Kent State University are: The Counseling and Human Development Center (330) 672-2208, which is free of charge to students, DeWeese Health Center (330) 672-2487, or the Psychological Clinic (330) 672-2372. Also, if it is past clinic hours or you would prefer to talk to someone on a suicide hotline, you can call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255) 24 hours a day/7 days a week if you are experiencing a suicidal crisis or emotional distress.

If you would like to enter yourself in the drawing for a $75 gift card, send an email to Dr. Lynne Guillot Miller at Lguillot@kent.edu, with the subject line: *Protective Factors Raffle*. Dr. Guillot Miller will collect all email submissions until data collection is complete and then randomly draw 3 students information. Dr. Guillot Miller will then contact the chosen winners of the drawing with details of how to pick up the designated gift cards.

APPENDIX J

CORRELATIONS FOR EXTERNAL AND INTERNAL PROTECTIVE

FACTORS

Appendix J

Correlations for External and Internal Protective Factors

Summary of Correlations Between Primary External Protective Factor Variables for All N

Variable	1	2	3	4
SRI–25 EPF (1)	-			
MSPSS SO (2)	.628	-		
MSPSS FAM (3)	.623	.685	-	
MSPSS FRI (4)	.615	.655	.589	-

Note. EPF = external protective factors, SO = significant other, FAM = family, FRI = friend. **$p < .01$

Summary of Correlations Between Primary Internal Protective Factor Variables for All N

Variable	1	2
SRI–25 IPF (1)	-	
SRI–25 ES (2)	.672	-

Note. IPF = internal protective factors, ES = emotional consistency. **$p < .01$

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