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Suicide Attempt Types in College Students

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SUICIDE ATTEMPT TYPES IN COLLEGE STUDENTS

by

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ABSTRACT

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Although suicide is now being the second leading cause of death in college and university students, there continues to be a lack of research examining the three types of suicide attempts (i.e., aborted, interrupted, and actual). Interrupted suicide attempts have been found to be predictive of death by suicide, and aborted suicide attempts have been found to be highly associated with an actual suicide attempt (Barber, Marzuk, Leon, & Portera, 1998; Steer, Beck, Garrison, & Lester, 1988). Research continues to suggest a lifetime number of suicide attempts is regarded as one of the strongest predictors of future suicide (Suominen et al., 2004). However, no study to date has examined how the combination of lifetime number of suicide attempts and suicide attempt type may impact risk. The Suicide Attempt Rating Scale (SARS) was created by the author to include the three different types of suicide attempts, as well as the lifetime number of suicide attempts for each type, which was utilized as a measure of acquired capability.

This study investigated the relationships among thwarted belongingness, perceived burdensomeness, and acquired capability in predicting current suicidal ideation. Results did not support the hypotheses that thwarted belongingness and perceived burdensomeness are moderated by acquired capability when predicting suicidal ideation. However, findings suggested that both thwarted belongingness and perceived burdensomeness predicted suicidal ideation. Meaning, that when college students have an increased feeling that they do not belong and an increased feeling like they are a burden on others, they have higher rates of suicidal

thoughts. These results can be utilized in future research studies with college students to include both perceived burdensomeness and thwarted belongingness when predicting suicidal ideation. Also, in suicide prevention efforts on college campuses, rather than solely addressing depression through depression screenings, we must expand our reach to include risk and protective factors such as social isolation.

In conclusion, this study validated the Interpersonal-Psychological Theory of Suicide within the college population by utilizing the INQ-15 (Interpersonal Needs Questionnaire), which should continue to be used on college campuses to best support suicide prevention efforts. As with all studies, limitations should be noted, such as constraints placed on the study by the IRB, the leptokurtic nature of SARS, and the reliance on self-report. Future studies should consider a mediational analysis, qualitative methodology, and other theoretical models for suicidal behavior.

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Chapter 1: Introduction

Suicide is the second leading cause of death among college and university students in the United States (SPRC, 2015). In 2018, 12.1% of college students seriously considered suicide, and 1.7% have attempted suicide in the last 12 months (ACHA, 2018). Persons who have a prior suicide attempt are more likely to die by suicide (CDC, 2015). For every 1 death by suicide, there are approximately 3 hospitalizations for suicide attempts, 10 emergency department visits for suicide attempts, and 33 suicide attempts that do not result in hospitalizations or emergency department visits (SPRC, 2015). Despite these striking statistics and continued research evaluating risk factors that may lead one to attempt suicide, there continues to be a lack of research in those suicide attempts that do not result in emergency department visits.

Protective factors are those that keep us from death by suicide, which can be external factors, such as family support, and they can be internal factors, such as resilience. Risk factors are those characteristics associated with suicide, such as a previous suicide attempt(s). Clinicians are trained in risk assessments to evaluate both protective and risk factors to understand how the combination of individual, community, relationship, and societal factors contribute to the possibility of a suicide. Counselors who conduct these risk assessments understand the cumulative nature of risk factors. Essentially the more risk factors a person has, the more likely they are to attempt suicide. Although risk factors within the college population have been thoroughly investigated, few studies have researched the specific types of suicidal acts.

Research has continued to examine how interpersonal factors are integrally associated with college students' suicidal ideation. Drum, D. J., Brownson, C., Denmark, A. B., & Smith, S. E. (2009) surveyed 910 undergraduate students who reported that the most significant contributor to their suicidal ideation was interpersonal difficulties, such as relationship difficulties (59%), family issues (43%), and friends (43%). These students reported that these

interpersonal issues contributed more to their suicidal ideation than other risk factors, such as alcohol and drug use. Although studies have continued to show the importance of understanding interpersonal difficulties in college students and their relationship to suicidal ideation, little research has been examined the area (Ploskonka & Servaty-Seib, 2015). Unfortunately, high profile deaths by suicide bring striking awareness to the need in higher education to create and implement changes in suicide prevention strategies to address both risk and protective factors.

The increasing number of deaths by suicide in the college population has brought more awareness to the problem of suicide as a whole. One theory that conceptualizes the psychological pain that may lead one to attempt suicide is The Interpersonal-Psychological Theory of Suicide (IPTS). The IPTS states that a person with the unmet need to belong and the feeling of being a burden on their loved ones, may begin to think about killing themselves (Joiner, 2005). Then, to die by suicide or attempt suicide, they would need to have acquired capability, which includes the fearlessness of death. Prior studies have shown that greater acquired capability is independently associated with greater numbers of suicide attempts (Van Orden et al., 2008). It is possible that the greater acquired capability that is related to a greater lifetime number of suicide attempts may warrant more attention in the suicide literature when examining college students' risk factors.

The IPTS provides an important distinction: not all those who experience suicidal ideation will eventually attempt suicide. However, to understand how ideation turns into an act of attempted suicide, we must understand these additional risk factors and potential moderator variables. Some of the risk factors that could lead one to attempt suicide are as follows: low self-esteem, depression, loneliness, hopelessness, academic problems, relationship issues, financial stress, negative life events, substance abuse, lack of familial support, and a lack of coping skills

(Schaffer et al., 2008). One of the most predictive risk factors of a future suicide attempt is a prior suicide attempt, which is the focus of this study.

The present study focused on three types of suicide attempts: interrupted attempt, aborted attempt, and actual attempt. An interrupted suicide attempt occurs when someone or something stops an individual from death by suicide. An example would be if the person has a bottle of pills that they are planning to ingest but are then stopped by a parent walking into their room. An aborted suicide attempt is when someone stops themselves from death by suicide. An example would be if a person has a bottle of pills that they are planning to ingest, but they begin to think about their loved ones and stop themselves. The third type of suicide attempt, which most are familiar with, is an actual suicide attempt where one attempts suicide and survives. An example would be if the person has a bottle of pills that they are planning to ingest, and they ingest them, but they wake up in the morning due to the amount or type of pills they consumed not being lethal. There have been minimal studies of the three types of suicide attempts in the college population, which added to this study's importance.

Interrupted suicide attempts have been found to be predictive of death by suicide, and aborted suicide attempts are found to be highly associated with an actual suicide attempt (Barber et al., 1998; Steer et al., 1988). Research continues to highlight how a lifetime number of suicide attempts is regarded as one of the strongest predictors of future suicide (Suominen et al., 2004). However, no study to date has examined how these two risk factors (i.e., lifetime number of suicide attempts & suicide attempt type) can compound to increase the risk for suicide. Although those who attempt suicide may not differ in their intention to die by suicide (Steer et al, 1988), we know that these various types of suicidal behavior differ in their risk for a future death by suicide. Yet, suicide attempt types are often left out of research and the focus will remain solely

on the lifetime number of suicide attempts. This researcher aims to understand the cumulative properties of both suicide attempt types and the lifetime number of suicides per type, as this may serve as one's acquired capability for suicide.

Previous studies have shown that those who scored in a higher risk category for suicidal ideation at its worst point in their lives had 14 times higher odds of dying by suicide than those who scored in a low-risk category (Beck, Brown, Steer, Dahlsgaard, & Grisham, 1999). Those who scored in the higher-risk category for current suicidal ideation had six times higher odds of dying by suicide (Beck et al., 1999). Previous suicide attempt(s), previous psychiatric hospitalization, previous pharmacotherapy, and a family history of suicide are all significant markers for suicide (Brown, Beck, Steer, & Grisham, 2000). Suicidal ideation is a critical precursor to a future suicide attempt. Research has shown that persons who reported suicidal ideation at baseline were more likely during the 13-year follow-up study to report having attempted suicide (Kuo, Gallo, & Tien, 2001). Steer et al. (1988) found that over a 12-year study of suicide attempters, those with a prior interrupted suicide attempt type were approximately 3 times more likely to later die by suicide than those who did not have a prior interrupted suicide attempt (Steer et al., 1988). These studies highlight the importance of including suicide attempts within risk assessments, as well as evaluating for current suicidal ideation.

In the first week following a patient's discharge from a psychiatric hospitalization, their rate of death by suicide is 300 times higher than that of the general population (Chung et al., 2019). Suicidal ideation and a prior suicide attempt have been found to be associated with death by suicide occurring within one year (Fawcett et al., 1990). Further research has shown that three months after a major depressive episode and five years after the onset of major depressive disorder represented the highest-risk period for attempted suicide (Malone, Haas, Sweeney, &

Mann, 1995). Prior research highlights the cumulative properties of suicide risk factors, as well as transition probabilities from the onset of ideation, plans among those with suicidal ideation, and suicide attempts among those with suicidal ideation who do or do not have a plan to die by suicide (Kessler, Borges, & Walters, 1999). Results from this study showed that 34% of the respondents transitioned from suicidal ideation to a plan, 72% from a plan to a suicide attempt, and 26% from ideation to an unplanned attempt (Kessler et al., 1999). These authors also found that about 90% of unplanned attempts and 60% of planned first attempts occurred within one year of the onset of suicidal ideation (Kessler et al., 1999). These studies highlight the importance of this study to further examine risk factors and how a prior suicide attempt, as well as the type of suicide attempt, impact current suicidal ideation.

Research has shown that aborted or interrupted suicide attempts are just as prevalent as an actual suicide attempt (as cited in Burke et al., 2016). Barber et al. (1998) also found no significant differences in the intention to die ratings between those who had aborted suicide attempts and actual suicide attempts (Barber et al., 1998). Other studies have found that those with interrupted suicide attempts took significantly less precaution against getting caught than actual suicide attempters, even though the overall levels of intention to die by suicide were the same (Steer et al., 1998). Despite the research highlighted above, there is a lack of research that examines types of suicide attempts in college students, making the current study unique and vital to the suicidology literature.

Burke, Hamilton, Ammerman, Stange, and Alloy (2016) examined suicide risk characteristics (suicidal behavior, acquired capability, belongingness, burdensomeness, depressive symptoms, suicidal ideation, non-suicidal self-injurious behaviors, and suicide likelihood) with an undergraduate population at Temple University to better understand how

these differ between types of suicide (Burke et al., 2016). The authors found few clinically meaningful differences between those who had an actual suicide attempt and interrupted/aborted attempts, which supports the need for more interventions in the lesser-studied suicidal behavior group (Burke et al., 2016). One limitation of the study, which is the only study to my knowledge to examine types of suicide attempts in the college population, was that due to the small sample size, the authors combined the interrupted and aborted suicide attempt group. As discussed above, the clinical importance of better understanding the suicide risk factor of prior suicide attempts and suicide attempt types is needed within the college population to prevent future suicide attempts.

The Columbia-Suicide Severity Rating Scale (C-SSRS) has become the latest gold standard for suicide risk assessment and has made clear use of defining the differences between the three types of suicide attempts: interrupted, aborted, and actual. Evidence has shown that aborted attempts are highly associated with future suicide attempts, and interrupted suicide attempts are predictive of suicide (Hill et al., 2017). Hill et al. found that a failure to integrate interrupted and aborted suicide attempts into suicide risk assessments may result in underestimating suicide risk. According to the C-SSRS evidence, this measure has been used with young adults ages 15-24 among psychiatric patients. However, the measure has not been studied with college students specifically. The author adapted questions from the C-SSRS (Appendix M) to create the Suicide Attempt Rating Scale (SARS), which was used in this study as the acquired capability component of the IPTS. The SARS included the three different types of suicide attempts, as well as the lifetime number of suicide attempts for each type. To better understand those who have previously attempted suicide, and their associated risk factors this information must be gathered to impact suicide prevention efforts on college campuses.

Previous literature suggests an inconsistent relationship when predicting a suicide attempt due to many risk factors that could contribute to a suicide attempt. However, research has repeatedly shown that a prior suicide attempt is one of the strongest predictors for a future suicide attempt (Brown et al., 2000; Joiner, 2005). According to the interpersonal-psychological theory of suicide behavior, one cannot attempt suicide without experiencing thwarted belongingness and perceived burdensomeness, which produce the desire to die (current suicidal ideation). Then, for a person to attempt suicide, they must have the acquired capability to die by suicide, such as a prior suicide attempt.

Problem Statement

Previous literature indicates that one of the most reliable and potent predictors of future suicidal ideation, suicide attempt(s), and death by suicide across the lifespan is having a prior suicide attempt (Christiansen & Jensen, 2007; Gibb, Beautrais, & Fergusson, 2005; Van Orden et al., 2010). A 37-year longitudinal study found that over a person's lifetime, the elevation in risk for lethal suicide behavior conferred by a history of a previous suicide attempt(s) was persistent (Suominen et al., 2004). Social isolation is one of the most reliable predictors of future suicidal ideation, suicide attempt(s), and death by suicide; which can be measured by thwarted belongingness, as it is an unmet need to belong (Baumeister & Leary, 1995; Van Orden et al., 2010). However, there is a lack of research that examines suicide attempt types in the college population, as well as how risk factors such as a lifetime number of suicide attempts, perceived burdensomeness, and thwarted belongingness impact one's current suicidal ideation. Researchers have determined that a death by suicide and one's current level of suicidal ideation are often not determined by one risk factor. It is possible that the effects of thwarted belongingness and perceived burdensomeness on current suicidal ideation depend on the type of suicide attempt and lifetime number of suicide attempts, which we call moderation.

The findings of Wong et al. (2011) and Van Orden, Witte, Gordon, Bender, and Joiner (2008) have confirmed the interaction between perceived burdensomeness and thwarted belongingness as a significant predictor of concurrent suicidal ideation (Van Orden et al., 2008; Wong et al., 2011). However, other studies have found no interaction between perceived burdensomeness and thwarted belongingness predicting suicidal ideation (Anestis & Joiner, 2011; Bryan, Cukrowicz, West, & Morrow, 2010; Hill et al., 2015). These inconsistent findings are suggestive of a possible moderator. Due to numerous studies showing that a prior suicide attempt is a risk factor for additional suicide attempts or death by suicide (Brown et al., 2000; Fawcett et al., 1990; Malone et al., 1995; Steer et al., 1988), as well as suicidal ideation being a precursor for suicidal behavior (Kessler et al., 1999; Posner et al., 2011), this study hypothesized that previous suicide attempt types as well as the lifetime number of suicide attempts are a moderator between perceived burdensomeness and thwarted belongingness on suicidal ideation. Therefore, this study intended to fill the gap and expand the literature on the suicidology of college students.

One potential explanation for these inconsistent findings in predicting current suicidal ideation is that a prior suicide attempt type (i.e., actual, interrupted, or aborted) and lifetime number of suicide attempts may moderate the relationships between perceived burdensomeness and thwarted belongingness on recent suicidal ideation. Previous literature has shown evidence that both a prior suicide attempt and thwarted belongingness are significant predictors of future suicidal ideation as well as future suicide behavior, such as death by suicide (Schreiber & Culpepper, 2018; Van Orden et al., 2010). However, there has been a lack of literature on various suicide attempt types, as well as the lifetime number of suicide attempts and their relationship with recent suicidal ideation. As such, this research study proposed the importance

of investigating this relationship to better prevent future suicide attempts from occurring on a college campus.

Purpose of the Study

This study addressed a central role fulfilled by counseling psychologists in the prevention of deaths by suicide in college students. To better prevent the number of deaths by suicide in the college population, we must explore how belongingness and burdensomeness predict one's current suicidal ideation and how suicide attempt types, as well as the lifetime number of suicide attempts, may moderate this relationship. The stigma surrounding suicide is pervasive in the United States, so counseling psychologists can play a central role in the normalization of the topic of suicidal ideation as well as its prevention. Examining different types of suicide attempts provides improved statistical data surrounding college students' suicide attempts, which could ultimately assist in suicide prevention efforts.

The author recruited participants by posting flyers throughout two college campuses in Wisconsin. Then, the author met with the participants to gather demographic information, ask about their previous type of suicide attempt and lifetime number of suicide attempts per type, assess recent perceived burdensomeness and thwarted belongingness, and understand their current suicidal ideation. The author examined the relationship between these measures through the employment of a multiple regression analysis. This statistical analysis procedure allows one to predict suicidal ideation using two independent variables, such as thwarted belongingness and perceived burdensomeness. The Suicide Attempt Rating Scale, which includes all three suicide attempt types and the lifetime number of suicide attempts, was utilized as the acquired capability component, and was examined as an interaction term.

This study attempts to answer the following research questions: RQ1: Do perceived burdensomeness and thwarted belongingness predict current suicidal ideation? RQ2: Does

acquired capability moderate the relationship between perceived burdensomeness and current suicidal ideation? RQ3: Does acquired capability moderate the relationship between thwarted belongingness and current suicidal ideation? The current study focused on examining these relationships via testing the following research hypotheses: (1) thwarted belongingness and perceived burdensomeness predict suicidal ideation, (2) acquired capability moderates the relationship between thwarted belongingness on current suicidal ideation, (3) acquired capability moderates the relationship between perceived burdensomeness on current suicidal ideation. To conclude, the purpose of this study was to examine the relationship between suicide attempt types and the lifetime number of suicide attempts, thwarted belongingness, perceived burdensomeness, and current suicidal ideation in college students who have previously attempted suicide.

Chapter II: Literature Review

Definition of Major Concepts

The following are a list of terms used in this dissertation and their definitions:

- *Aborted attempt (self-interrupted):* Potentially self-injurious acts in which someone ceases their own action to die (Posner et al., 2011). An example of an aborted attempt would be a college student prepares to jump off the ledge of a building and elects not to follow through. This person stopped themselves before following through with a suicide attempt, hence, the differentiation between aborted attempts and an actual attempt.
- *Actual attempt:* Potentially self-injurious or harmful acts with having the intent to die (Posner et al., 2011).
- *College students:* Students who are currently enrolled in a college or university. In fall 2017, there was an expected attendance of 20.4 million college students ("NCES fast facts tool," 2018). Female-identified students continue to account for many college students, with about 11.5 million females compared to 8.9 million males ("NCES fast facts tool," 2018). More students attend college at full-time status compared to part-time status, 12.6 million full time, and 7.8 million part-time ("NCES fast facts tool," 2018). From 2000 to 2015, the number of 18- to 24-year-olds who attend college rose from 27.3 million to 31.2 million ("NCES fast facts tool," 2018). In 2015, there were 11.8 million college students under the age of 25 ("NCES fast facts tool," 2018). An increasing number of minority students have attended college, as evidenced by the percentage of college students who identified as Black Americans rose from 11.7 to 14.1% from 2000 to 2015 ("NCES fast facts tool," 2018). The percentage of college students who identified as Hispanic rose from 2000 to 2015, 9.9 to 17.3% ("NCES fast facts tool," 2018).

- *Interrupted attempt:* Potentially self-injurious acts interrupted by an external circumstance (Posner et al., 2011). An example would be when a college student prepares to jump off the ledge of a building but is interrupted by a roommate. This person was stopped before following through with a suicide attempt, hence, the differentiation between an interrupted attempt and an actual attempt.
- *Moderator:* Baron and Kenny (1986) discussed that a moderator is an independent variable than can be a categorical variable (e.g., race, class, gender) or a continuous variable (e.g., belongingness, level of reward) that affects the direction or strength of the relationship between an independent variable and a dependent variable. These authors posited that in simplicity, a moderator effect is an interaction where the effect of one variable depends on the level of another.
- *Perceived burdensomeness:* The perception that one is a burden on loved ones, which involves the perception that the self is so incompetent as to be a liability to others (Van Orden, Lynam, Hollar, & Joiner, 2006).
- *Protective factors:* Suicidology discusses that protective factors are those conditions that prevent an individual from engaging in intentional self-harm behaviors or decrease the likelihood that an individual will intentionally harm themselves. Protective factors can be external (e.g., social support, family accord, peer support) and internal (e.g., resilience, emotional stability), which can differ between various racial/ethnic backgrounds (Gutierrez, Osman, Kopper, Barrios, & Bagge, 2000).
- *Risk factors:* Characteristics of a person or their environment that increase the likelihood that they will die by suicide (i.e., suicide risk; SPRC, 2015).

- *Suicidal ideation:* Suicidal ideation involves a continuum of suicidal thoughts, from the wish to be dead to thinking about detailed plans to die by suicide (Joiner et al., 2003).
- *Suicide:* Diego DeLeo et al. (as cited in Silverman, 2006) defined suicide as an act with a fatal outcome, in which the decreased knowing or expecting a potentially fatal outcome, has initiated, and carried out to bring about wanted changes.
- *Thwarted belongingness:* A thwarted sense of belonging comes from an unmet need to belong to a valued relationship or group of people (Joiner et al., 2003).

As indicated in Chapter I, this study examined whether suicide attempt types and lifetime number of attempts moderate the relationship between thwarted belongingness and perceived burdensomeness on current suicidal ideation. This chapter provides a review of the literature that is relevant to this study. First, literature describing the increase of deaths by suicide in the college population is described. The second and third sections of this chapter review two components of Joiner's interpersonal-psychological theory of suicide, thwarted belongingness and perceived burdensomeness, with regard to suicide and how this may better inform the understanding of suicide attempts in the college population. The fourth section of this chapter reviews and critiques research examining relevant theories of suicide, such as Joiner's interpersonal-psychological theory of suicide.

Suicidality Among U.S. College Students

The college population continues to be a population of concern, as they face unique challenges regarding the growth that occurs within this developmental period. Studies have examined both suicidal ideation and a history of suicide attempts in college students to understand this population's needs. The population trends, as well as demographic information,

are presented to understand who is affected within the college population, as that influenced this study.

Drum et al. (2009) discussed the recent suicide-related instances on a college campus as well as the media coverage on these instances (Drum et al., 2009). These authors posited that deaths by suicide on college campuses have drawn attention to the needs of mental health resources on college campuses to address suicidality. These authors found that of those who attempted suicide, 19% were undergraduates, 28% attempted to die by suicide that required medical attention, and the most common attempted method was an overdose (Drum et al., 2009). As growing concern on college campuses related to suicidality occurs, we must better examine the assessment and treatment of these college students on campus, as well as the prevention strategies intended to decrease the risk of suicide in this population.

Drum, D. J., Brownson, C., Denmark, A. B., & Smith, S. E. (2009), were diligent in their sampling efforts, as they used a stratified random sample of 108,536 students across 70 participating universities and colleges across the United States. One of the criticisms of this article was that it relied solely on self-report. These authors also asked college students some of their reasons for not telling others about their suicidal thoughts, and the theme of being feared and judged was at the forefront of these students' reasoning (Drum et al., 2009). Although the authors did not highlight this limitation, the students' self-report about the fear of being judged could have prevented them from disclosing their thoughts, despite it being an Internet-based survey. This limitation is addressed in later sections of the study as a result of the participants in the current study being required to meet in person, which could have elicited this fear of being judged by the author when completing the survey.

In 2018, the American College Health Association-National College Health Assessment (ACHA-NCHA) found that 12.1% of the 88,178 college students surveyed reported that they had seriously considered suicide, and 1.7% reported attempting suicide in the prior year (ACHA, 2018). National organizations such as the CDC have grown increasingly concerned about these striking statistics among this age group, as they consistently show that suicide is among the top reasons for death. Literature continues to highlight that both suicidal ideation and suicide attempts tend to be common among college students.

Studies have shown the 8-15% of college students have acted on suicidal thoughts, whereas more than half of all college students have experienced some sort of suicidal ideation (Drum et al., 2009). Despite the research studies showing how prevalent suicidal ideation is among college students, studies have estimated that fewer than 20% of those who reported suicidal ideation received counseling services (Schwartz, 2006b). The National Institute of Mental Health (as cited in Paladino & Minton, 2008) found that there are 100-200 suicide attempts for every 1 death by suicide. These statistics support the need to examine mental health services on campus as well as suicide prevention strategies, which, as this study proposed, could benefit from the inclusion of prior suicide attempt types.

One of the difficulties and limitations within this sample occurs when national surveys such as the one by Schwartz (2006a) are only conducted with four-year universities taking part in the study. The generalizability of studies such as these becomes problematic when examining students who attend community colleges. The current study did not include community colleges within the population, which was addressed in the limitations regarding generalizability. One of the limitations that occurred in the study by Paladino and Minton (2008) was their use of the BASIC ID, which is a comprehensive suicide assessment tool that relies on the clinician to use

the suicide risk assessment tool correctly. This was addressed in the current study, as the author employed online measures to determine suicide risk through the Beck Scale for Suicide Ideation (BSS) to yield a higher rate of reliability and validity, rather than a clinician-based suicide assessment tool.

In a 2010 study by the National Survey of Counseling Center Directors, directors from 320 counseling centers across the country reported 133 deaths by suicide in that year alone (Gallagher, 2010). Only 13% of these students who died by suicide were current or former clients, and 81% of these deaths occurred off-campus (Gallagher, 2010). Males who died by suicide were 79%, 88% were undergraduate students, and 83% were White. Directors of counseling centers were not aware of the mental health history of 64% of these students, and for those of whom they were aware, directors found that 84% of those students who died by suicide had depression. The methods of death by suicide varied. However, the two highest rates of death by suicide were through hanging (28%) and the use of firearms (25%; Gallagher, 2010). This study collected demographic information to better understand the population studied when compared to these findings.

Although we understand that suicide is rarely caused by a single factor, through the use of risk assessments in evaluating both protective and risk factors, there is hope that more college counselors can help prevent deaths by suicide on a college campus (Schaffer et al., 2008).

Suicidal ideation occurs on a continuum of thoughts that range from those who wish to be dead to those who think about detailed plans to die by suicide (Joiner et al., 2003). Many college suicide prevention initiatives focus on depression screenings due to the symptomology of depression and suicidal ideation. However, a study of healthy college students found that nearly half who attempted suicide failed to meet a lifetime criterion for depression (Arria et al., 2009).

To create intervention strategies that do not solely focus on depression, we must better understand risk factors, such as prior suicide attempt types in college students, to prevent deaths by suicide.

Schaffer et al. (2008) examined how binge drinking and suicidal behavior are related in various ways, such as students with a previous suicide attempt are four times more likely to be solitary binge drinkers. They also found that suicidal ideation was significantly associated with drinks per solitary drinking day, but not the frequency of solitary drinking once suicide attempts were accounted for (Schaffer et al., 2008). These authors asked underage college students about binge drinking practices, which could have resulted in their difficulties with reporting honestly. These findings add to the knowledge of risk factors regarding suicide attempts and how research should continue to examine suicide risk in the college population.

As we continue to understand the various risk and protective factors associated with suicidal ideation in the college student population, we can begin to create safer college campuses and improve campus-wide prevention strategies. The college population continues to be a population of interest due to the striking statistics that this population is at increased risk for death by suicide. This study adds to the increasing need to identify and clarify risk factors in the college population to improve prevention strategies that could benefit from highlighting protective factors, such as belongingness, from preventing deaths by suicide.

Belongingness

This section examines how the variable of belongingness has been applied to various populations, including veterans, sexual minorities, adolescents, and college students. Belongingness is a critical protective factor in the college population due to one's need to feel supported during this developmental period. The various studies that have included belongingness are described below to influence the current study.

Research on college students' social connectedness confirms Joiner's interpersonal-psychological theory of suicide in the application to this population, as findings suggest that social connectedness serves as a protective factor. Empirical studies have found that those students who indicate having low social support tend to have higher rates of suicidal ideation and risk not associated with depressive symptoms (Wilcox et al., 2010). Also, research has shown that those college students who sense a lack of support tend to have higher rates of suicidal ideation (Paladino & Minton, 2008). College students have three primary interpersonal domains: their family, peers, and academic institution, and these are associated with the students' mental health (Drum et al., 2009). The lack of parental support, as well as parental conflict, have been associated with the risk for suicidal ideation (Ploskonka & Servaty-Seib, 2015). The lack of peer relationships and social connectedness within the academic institution have been shown in college students to increase depressive symptoms and risk for suicide (Pittman & Richmond, 2008). Ploskonka & Servaty-Seib (2015) found that family belongingness made a significant, unique, and negative contribution to suicidal ideation in college students at a large Midwestern university. A limitation of this study was the sampling of participants due to the lack of generalizability to those outside of the Midwest, as well as 90.2% of their participants identified as Caucasian (Ploskonka & Servaty-Seib, 2015).

Stressful life events occur during college and to cope with those stressful events, belongingness is essential. Research has shown that college students who experience stressful life events such as romantic break-ups and career indecision tend to experience an increase in suicidal ideation (Lockman, & Servaty-Seib, 2016). Joiner's interpersonal psychological theory of suicide discussed how stressful life events are distally associated with suicidal ideation, whereas perceived burdensomeness and thwarted belongingness are proximally associated with

suicidal ideation (Joiner, 2005). Thwarted belongingness – the unmet need to belong – consists of loneliness and the distrust of personal relationships, which correlates with suicidal ideation (Joiner, 2005).

Lockman and Servaty-Seib found that when controlling for the three tenets of the interpersonal-psychological theory, college students' meaning made of stress negatively and uniquely was associated with suicidal ideation (Lockman, & Servaty-Seib, 2016). The authors in this study also found that meaning made of stress predicted suicidal ideation (B = −.16) with a beta weight like thwarted belongingness (B = .015; Lockman, & Servaty-Seib, 2016). These authors had trouble in the recruitment and sampling procedures of this study, as they mistakenly sent out their survey to both undergraduate and graduate students, so all participants who were identified to be 26 or older were excluded.

One's sense of belongingness has significant associations with depression and suicidal ideation because humans have an innate need to experience feeling valued, needed, and accepted by those in their social environment (Fisher, 2013). Individuals with a lower sense of belonging are more likely to have current or past suicide attempts and suicidal ideation compared to those with a greater sense of belonging (Bailey & McLaren, 2005). An increased sense of belonging reduces the effects of depression and suicidal ideation among older adults (Fisher, 2013).

Suicidal ideation in college students has a unique etiology due to the developmental changes and transitions associated with college life, changes in relationships such as familial and peer, as well as increased opportunities for alcohol and drug use (Arria et al., 2009). Alcohol has been found to be a significant risk factor for the college population, and among those who consume alcohol younger, White females' alcohol consumption tends to be more associated with suicidality (Lamis & Malone, 2011). Drug and alcohol abuse in the college population has been

linked to both suicidal ideation and suicide attempts, which was more prevalent in men (Arria et al., 2009). Lamis & Malone (2011) found that alcohol-related problems, thwarted belongingness, and perceived burdensomeness were all significantly correlated with suicide proneness. These authors discovered that the mediation via perceived burdensomeness from suicidal ideation and alcohol use was stronger than that mediation via thwarted belongingness (Lamis & Malone, 2011). Substance use and belongingness have been found to be significant factors when assessing for past and current suicidal ideation in various populations, including residential and hospital settings. Although substance use was not evaluated in this study, there continues to be a great need for the inclusion of this risk factor when conducting a suicide risk assessment.

Some of the suicidology literature has shown the importance of populations of interest, such as LGBTQ+ youth in understanding their sense of belonging as a protective factor against suicide. Moody, Peláez, and Smith (2015) discussed how Trans adults have statistically significantly higher rates of suicide because of prejudice, oppression, and transphobia. These authors used a collective qualitative case study of 133 participants who completed an online interview survey to examine the protective factors that these participants use (Moody et al., 2015). They found five primary themes of suicide protective factors that trans persons used: social support, gender-identity-related factors, transition-related factors, individual-difference factors, and reasons for living (Moody et al., 2015). The current study gathered demographic information regarding sexual orientation and gender identity to better understand the population at two Midwestern universities of those college students who have attempted suicide.

One final study presented in this section examined how being a depressed veteran, was found to have a lower sense of belongingness, and was found to be significantly related to having had a prior suicide attempt (Fisher, 2013). Authors found that those veterans with a lower sense

of belonging had a significantly greater sense of depression, hopelessness, and suicidal ideation (Fisher, 2013). One's sense of belonging is likely to play a role in the development and recovery from depression, as the authors found that one's sense of belonging played a significant role in feelings of hopelessness (Fisher, 2013). This study relates to the current study, as the relationship between belongingness and suicidal ideation is one that continues should be explored in greater length.

Burdensomeness

Perceived burdensomeness is the view that one's existence is a burden on those around them, such as family, friends, and/or society (Joiner et al., 2009). Previous research has found that perceived burdensomeness toward family was correlated with suicidal ideation among community participants and high-risk groups (DeCatanzaro, 1995). In direct tests of the interpersonal-psychological theory of suicide behavior, as well as those not directly affiliated with the theory, evidence has shown an association between higher levels of perceived burdensomeness and suicidal ideation (Joiner et al., 2009). Joiner et al. (2002) studied two groups of suicide notes. The first study included those who intended to die by suicide and survived, versus those who died by suicide. The authors found that the notes from those who died by suicide contained more perceived burdensomeness than notes from attempters (Joiner et al., 2002). The second study included those who died by suicide via violent means versus those who died by less violent means, in which both groups of notes detected forms of burdensomeness (Joiner et al., 2002). These studies aided the current study in highlighting the importance of perceived burdensomeness and its relationship to suicidal ideation.

Opperman, Czyz, Gipson, and King (2015) found that greater perceived burdensomeness with low family connectedness was a significant predictor for suicidal ideation (Opperman et al., 2015). In a study that involved adults in an outpatient setting, perceived burdensomeness was

associated with current suicidal ideation and past number of suicide attempts, in which this was significant even after controlling for hopelessness (Van Orden et al., 2006). Van Orden et al. (2006), like the current study, utilized the Beck Scale for Suicidal Ideation (BSS) and the past number of attempts to find that perceived burdensomeness predicted both suicidality indicators. These authors found that the predictive power of perceived burdensomeness appears to be stronger for current suicidal symptoms than for the past number of attempts. The percentage of variance accounted for by the final model containing perceived burdensomeness was 41% for current symptoms and 10% for past attempt status; Van Orden et al., 2006. However, perceived burdensomeness did account for a unique variance on both current and past suicidality, suggesting that perceived burdensomeness may explain unshared variance in suicidality symptoms, not better accounted for by depression and hopelessness (Van Orden et al., 2006). This study suggests a possible moderator in suicide attempt type and lifetime number of suicide attempts, rather than past suicidality, which was measured in this study by past attempt status.

Perceived burdensomeness is a mental state characterized by thinking, such as, "Others would be better off if I was gone," which manifests when the need for social competence is unmet (Van Orden, Cukrowicz, Witte, & Joiner, 2012). Frameworks such as the self-determination theory have posited that family discord, unemployment, and functional impairment are associated with suicide across the lifespan, as these tend to create the perception that one is a burden on loved ones (Van Orden et al., 2012). Perceived burdensomeness continues to demonstrate a strong relationship with suicidal ideation and has been validated as a separate construct through the six questions assessed on the INQ-15 (Van Orden et al., 2012). The INQ-15 is addressed more in-depth in the methods section of this study, as it was used for the measurement of perceived burdensomeness.

In a recent study that addressed the suicide rate in physicians, as well as the components from the interpersonal-psychological theory of suicide, they found significant relationships among anhedonia and suicidal ideation and suicide attempts (Loas, Lefebvre, Rotsaert, & Englert, 2017). These authors found that anhedonia mediated the relationships between suicidal ideation (lifetime or recent) and perceived burdensomeness or thwarted belongingness. However, when examining suicide attempts, complete mediation was only found between anhedonia and thwarted belongingness (Loas et al., 2017). This study implemented proxy variables to measure perceived burdensomeness and thwarted belongingness instead of the INQ-15, which could have contributed to these results. The study contributes to the mix of evidence in the relationship between thwarted belongingness and perceived burdensomeness and suicide risk, which was addressed in the current study.

Negative life events, or stressful life events that were mentioned previously, have been shown to activate a suicide attempt. Results in those 110 persons who attempted suicide showed that those persons who experienced a negative life event were at higher odds of attempting suicide, and those results were driven by the presence of a negative life event that involved a romantic partner (Bagge, Glenn, Lee, & Goodman, 2013). These authors found that the relationship between interpersonal negative life events and suicide attempts was moderated by current suicide planning (Bagge et al., 2013). This study provides evidence of the importance of moderator variables in suicide research, as well as the relationship among suicide attempts, belongingness, and current suicidal ideation, which this study examined.

The current study proposed that the relationships between perceived burdensomeness and thwarted belongingness on suicide ideation are moderated by acquired capability, measured by Suicide Attempt Rating Scale – which includes suicide attempt types and the lifetime number of

attempts per type. This study intended to address the inconsistencies between how perceived burdensomeness and thwarted belongingness predict suicidal ideation by introducing a moderation variable, in the hopes that future studies can employ suicide attempt types in the prevention of deaths by suicide.

Suicide Theories

This final section reviews literature describing suicidology that has evolved throughout history and how it applies to the modern college student population. The author explored how early suicide theories, as well as how these historical influences have attributed to the societal changes and the development of suicidology. From Schniedman to Joiner's interpersonal-psychological theory of suicide, much has changed. However, the need to understand the phenomenon of suicide continues in our efforts to prevent even one person from dying by suicide.

Edwin Schniedman, widely accepted as the father of contemporary suicidology, coined the term "psychache" to describe the psychological pain that one feels, which causes suicide (Leenaars, 2010). Schniedman created 10 commonalities of suicide: (a) the common purpose of suicide is to seek a solution; (b) the common goal of suicide is the cessation of consciousness; (c) the common stimulus in suicide is psychological pain; (d) the common stressor in suicide is frustrated psychological needs; (e) the common emotion in suicide is helplessness-hopelessness; (f) the common cognitive state in suicide is ambivalence; (g) the common perceptual state in suicide is constriction; (h) the common action in suicide is egression, which is the act of leaving or going from a place; (i) the common interpersonal act in suicide is communication of intention; (j) the common consistency in suicide is with lifelong coping patterns (Leenaars, 2010). Schneidman was indeed a pioneer in suicidology as he studied various facets of the nature of suicide from suicide notes to autopsy reports, all with the explicit purpose to prevent suicide.

The field of suicidology remained untouched for centuries due to the stigma surrounding suicide until cognitive therapists began to examine how one's thoughts could also influence their wish to die by suicide. Aaron Beck, the founder of cognitive therapy, theorized that suicide can be a rational thought to persons as they experience despair, hopelessness, and depression (as cited in Wang, 2013). Beck discussed that cognitive disturbances and abnormalities occur in two ways when one is having suicidal thoughts (Beck, Kovacs, & Weissman, 1979). One is state cognitive disturbances that occur for brief periods and resolve when other psychiatric disorder symptoms decrease. The second is trait cognitive distortions, which remain relatively constant, even when other psychiatric disorder symptoms decrease. Beck et al. found that hopelessness, or the unwavering pessimism even in the face of contrary evidence, is a cognitive distortion found in both trait and state forms in those who are suicidal (Beck et al., 1979).

Sapp (2004) discussed how Beck provided major contributions to the field of suicidology in his development of the Beck Hopelessness Scale. Hopelessness is a theoretical construct that has been found to be predictive of eventual death by suicide (as cited in Sapp, 2004). Wenzel & Beck (2008) created a cognitive model of suicidal behavior. There are three main constructs: dispositional vulnerability factors, cognitive processes associated with psychological disturbance, and cognitive processes associated with suicidal acts. With the increase in "loading" of these variables, there is a greater likelihood that a person will engage in suicidal behavior in the context of stress (Wenzel & Beck, 2008). This theoretical model was intended to be utilized as a flexible heuristic in the conceptualization of individual patients due to the inability to capture ones' state following a suicidal act.

Many theorists discussed the inflexible thinking patterns of those who experience suicidal ideation as well as the seemingly dichotomous thinking that occurs when one is contemplating to

die by suicide. Baumeister created the escape theory, which hypothesized that those who die by suicide believe that there is no escape from their psychological pain due to not reaching the expectations that they held for their life (as cited in Wang, 2013). Chaos theory has been used when describing suicide, as sometimes a seemingly unimportant stressor can activate a suicide. Catastrophe theory has also been used to describe the phenomenon of suicide, and this model was applied to crisis theory by Ramsay in 1997 (as cited in Schiepek et al., 2011). The crisis theory of suicide posits the idea of the "straw that broke the camels' back" regarding how the pressure of one variable keeps increasing, and the pressure continues to mount until one day it is no longer manageable (Ramsay as cited in Schiepek et al., 2011). The emergence of nonlinear theoretical perspectives has occurred in studies that emphasize the assessment of risk factors regarding how they impact the decision to die by suicide.

The underlying hypotheses for this dissertation rely on the work of Joiner, who developed an interpersonal approach to death by suicide. The interpersonal-psychological theory of suicide behavior consists of three components attributed to a suicide attempt: thwarted belongingness, perceived burdensomeness, and acquired capability (Joiner, 2005). The third component, acquired capability for suicide, is described as fearlessness about physical pain and death itself, acquired through risky behaviors or painful and provocative experiences that habituate a person toward self-injury and suicidal behaviors (Opperman et al., 2015). Joiner suggested that acquired capability was more associated with one taking action to die by suicide, whereas thwarted belongingness and perceived burdensomeness were more associated with suicidal ideation (Joiner, 2005). The theory asserts that when people hold two specific psychological states (thwarted belongingness and perceived burdensomeness) in their mind simultaneously, and when they do so for long enough, they acquire the desire to die (Joiner, 2010). In this study, the

acquired capability will be assessed by the Suicide Attempt Rating Scale (SARS), as a prior suicide attempt would be considered as an experience that habituated a person towards suicidal behavior. This theoretical perspective provides a framework for determining possible risk factors for those college students who experience suicidal ideation.

For a suicide attempt to occur, the person must have the acquired capability to die by suicide, as our bodies naturally tend toward self-preservation rather than destruction (Joiner et al., 2003). The person must have previously fought this instinct towards self-preservation, which would be acquired through repeated exposure to painful or fearsome experiences (Van Orden et al., 2008). According to the interpersonal-psychological theory of suicide, as the person continues to have these experiences over time, they will confer a greater capacity for suicide. Van Orden et al. (2008) previously found that the number of past attempts significantly predicted levels of acquired capability and that the highest levels of acquired capability were reported by persons who had multiple suicide attempts (Van Orden et al., 2008). Research has shown that persons with past suicide attempts experienced more serious forms of future suicidality when compared to those who did not have a history of suicide attempts (Joiner, 2005). Those with a history of an interrupted suicide attempt were three times more likely to die by suicide than those who had a previous actual suicide attempt (Barber et al., 1998). This highlights the justification for including the lifetime number of suicide attempts per suicide attempt type via the Suicide Attempt Rating Scale as the acquired capability component in this study, which is consistent with the interpersonal-psychological theory of suicide behavior and could be a moderator variable.

Previous studies with undergraduates have found that the statistical interaction between high levels of burdensomeness and low belongingness predicted current suicidal ideation,

beyond important covariates, such as depression (Van Orden et al., 2008). These authors also found that acquired capability in the presence of high levels of perceived burdensomeness predicted clinical ratings of suicide risk. However, no study to date has examined how the combination of lifetime number of suicide attempts and suicide attempt type could serve as a moderator as well as potentially an acquired capability variable.

Bryan et al. (2010) aimed to understand how to combat exposure in military personnel who were deployed in Iraq related to acquired capability within the interpersonal-psychological theory of suicide components. These authors found that combat experiences, which were used as a measure of acquired capability, were not predictive of thwarted belongingness or perceived burdensomeness (Bryan et al., 2010). The authors found that combat experiences were predictive of acquired capability. However, this did not predict the desire for suicide (suicidal ideation). Although one may have the acquired capability to die by suicide, it would be unlikely for them to die by suicide without the desire to do so (Bryan et al., 2010). This study emphasized the need for future work to use other methods for measuring acquired capability to predict suicidal ideation, as the present study intended to accomplish by utilizing suicide attempt types and the lifetime number of suicide attempts as a moderator variable.

Smith, Stanley, Joiner, Sachs-Ericsson, and Van Orden (2016) examined the interpersonal-psychological theory of suicide positing that persons who experience suicidal ideation will only develop the desire to die; death by suicide occurs when they have the capability to die by suicide (Smith et al., 2016). They examined an aspect of capability for suicide, fearlessness of the pain involved in dying, and how this interacts with current suicidal ideation and a previous suicide attempt. Smith et al, (2016) found that those who identified current suicidal ideation were more likely than persons who did not have current suicidal

ideation to report having a prior suicide attempt, only if they reported greater fearlessness of the pain involved in dying. This study emphasized the importance of examining one's acquired capability for suicide in risk assessments.

The role of emotions and how they interact with the three components within the interpersonal-psychological theory of suicide was examined in how negative urgency can amplify the relationship between the three components of the theory and a lifetime number of suicide attempts (Anestis & Joiner, 2010). Negative urgency was defined as the tendency to act rashly to reduce feelings of negative affect (Anestis & Joiner, 2010). The authors found that, for certain individuals, the relationship among thwarted belongingness, perceived burdensomeness, and acquired capability is likely to indicate an extensive history of suicidal behaviors, measured by a lifetime of the number of suicide attempts. They found a four-way interaction of negative urgency, and the three previously mentioned components predicted lifetime suicide attempts and that negative urgency amplified the three-way interaction of the theory components predicted a lifetime number of suicide attempts (Anestis & Joiner, 2010). However, during the three-way interaction (i.e., thwarted belongingness, perceived burdensomeness, and acquired capability for suicide), individuals with a low score on the negative urgency measure showed a non-significant interaction. This article highlights some of the difficulty that has occurred when predicting suicidal ideation and the three components of the interpersonal-psychological theory of suicide. This study proposes that rather than solely using the lifetime number of suicide attempts, the type of suicide attempt, which was captured in the Suicide Attempt Rating Scale, can moderate the relationship between perceived burdensomeness and thwarted belongingness when predicting current suicidal ideation.

In a mixed-methodology study conducted with Asian American college students, the authors examined the relationships among perceived burdensomeness, thwarted belongingness, self-construals, and suicidal ideation (Wong et al., 2011). Self-construals are two views of the self, interdependent and independent, which are prominent in Asian American culture. Persons with an independent self-construal emphasize the role of individuals as independent and autonomous, whereas persons with an interdependent self-construal define themselves primarily in terms of their relationships with others (Wong et al., 2011). These authors found that when compared with thwarted belongingness, perceived burdensomeness was a more robust predictor of suicidal ideation. However, they found that thwarted belongingness moderated the positive association between perceived burdensomeness and suicide ideation (Wong et al., 2011). They also found that both self-construals mentioned above weakened the link between perceived burdensomeness and suicidal ideation and between thwarted belongingness and suicidal ideation (Wong et al., 2011). These findings added to the inconsistencies in the prediction of suicidal ideation by thwarted belongingness and perceived burdensomeness, which contributes to the importance of exploring moderators, such as suicide attempt types and lifetime number of suicide attempts.

This dissertation has been hypothesized through the work of the theorists discussed above, which was heavily influenced by the work of Joiner and his interpersonal-psychological theory of suicide behavior. Based on this theory, the present study examined the relationship between thwarted belongingness and perceived burdensomeness on current suicidal ideation, with the moderating variable of suicide attempt types and lifetime number of suicide attempts, measured by the Suicide Attempt Rating Scale. As research in the college population continues

to grow regarding suicidology, this is an area of great importance to continue to expand suicide prevention efforts.

The literature highlighted and discussed above aids in the understanding of suicidal ideation in the college population, suicide theories, burdensomeness, and belongingness in the college population to address the number of deaths by suicide in this population. However, if we have little to no research that includes the types of suicide attempts within in the college population and we know that one of the largest risk factors for death by suicide is a prior suicide attempt, then we are continuing to miss a large piece of the puzzle when it comes to suicide prevention strategies. This study intended to determine if the type of suicide attempt and lifetime number of suicide attempts, as measured by the Suicide Attempt Rating Scale, would moderate the relationships between thwarted belongingness and perceived burdensomeness on current suicidal ideation (BSS) in college students who have previously attempted suicide.

Chapter 3: Methodology

Purpose

The primary objective of this study was to examine the relationship between suicide attempt types and lifetime number of suicide attempts, thwarted belongingness, perceived burdensomeness, and suicidal ideation in those college students who have previously attempted suicide. This study intended to determine if the lifetime number of suicide attempts per suicide attempt type (i.e., actual, aborted, and interrupted-measured by the Suicide Attempt Rating Scale) moderated the relationship between thwarted belongingness and perceived burdensomeness on current suicidal ideation (BSS). The current study focused on examining the relationship between belongingness, burdensomeness, type of suicide attempt, and current suicidal ideation in those college students who have previously attempted suicide.

Moderation

Moderation is an interaction between X□ and X□ as predictors of Y, so when an interaction is present the slope to predict Y from X□ differs across scores on the X□. A factorial ANOVA (Analysis of Variance) is the most common type of interaction or moderation analysis in which the independent variables of the study are categorical. The statistical significance of the moderation is obtained by assessment of the *F* ratio and the effect size is computed through η^2. One benefit to conducting a moderation analysis through a factorial ANOVA is the default analysis typically includes all interactions between variables. However, in the present study all the variables are continuous to where a factorial ANOVA design would not be appropriate.

Moderation is defined as an interaction between the two predictor variables (i.e., perceived burdensomeness and thwarted belongingness) and the one moderating variable (i.e., Suicide Attempt Rating Scale-acquired capability) that better predicts the one outcome variable (i.e., BSS-current suicidal ideation) than their individual effects. Frazier, Tix, and Barron (2004)

argued that inconsistent findings over multiple studies, between a predictor (i.e., perceived burdensomeness and thwarted belongingness) and an outcome (i.e., BSS), suggest a moderating relationship. Previous research has supported moderated relationships between suicide risk factors on current suicidal ideation (Bagge et al., 2013; Loas et al., 2018; Silva, Chu, Monahan, Joiner, & Gonsiorek, 2015; Wang, Wong, Fu, & Tracey, 2013; Winer, Drapeau, Veilleux, & Nadorff, 2016). Suicidal ideation and suicidal behavior, such as a prior suicide attempt, are among the most salient as well as short- and long-term risk factors for suicide risk (Beck et al., 1999; Brown et al., 2000; Kuo et al., 2001). In this study, the inclusion of suicide attempt types was proposed to alter the strength of relationships between thwarted belongingness and perceived burdensomeness on recent suicidal ideation (BSS).

Moderation can occur in three types of interaction patterns. These patterns include enhancing interactions, buffering interactions, and antagonistic interactions (Frazier et al., 2004). Enhancing interactions occur when both the moderator (i.e., acquired capability) and the predictor (i.e., thwarted belongingness and perceived burdensomeness) influence the outcome variable (i.e., suicidal ideation) in the same direction, thus, enhancing or strengthening the relationship. Buffering interactions occur when the moderating variable (i.e., acquired capability) weakens the relationship between the predictor (i.e., thwarted belongingness and perceived burdensomeness) and the outcome (i.e., suicidal ideation). Finally, an antagonistic interaction occurs when both the predictor (i.e., thwarted belongingness and perceived burdensomeness) and the moderator (i.e., Suicide Attempt Rating Scale) influence the dependent variable (i.e., BSS). However, the interaction is in opposite directions.

A moderation analysis is used to address when, or under what circumstances, an interaction exists or does not exist and in what magnitude (Hayes & Rockwood, 2017). The

multiple regression analysis was utilized to evaluate whether perceived burdensomeness and thwarted belongingness predict one's current suicidal ideation, measured by the BSS. Many findings discussed throughout the literature, such as Wong et al. (2011), highlighted the importance of conducting separate moderation analyses of perceived burdensomeness and thwarted belongingness when predicting suicidal ideation. Authors found that perceived burdensomeness was a more robust predictor of suicide ideation when compared with thwarted belongingness (Wong et al., 2011). Hagan, Podlogar, Chu, & Joiner found that thwarted belongingness and perceived burdensomeness significantly predicted current suicidal risk when moderated by high levels of hopelessness (Hagan, Podlogar, Chu, & Joiner, 2015). Many studies have found no interaction between perceived burdensomeness and thwarted belongingness predicting suicidal ideation (Anestis & Joiner, 2010; Bryan et al., 2010; Hill et al., 2015). These findings added to the inconsistencies in the prediction of suicide ideation by thwarted belongingness and perceived burdensomeness, which contributes to the importance of exploring moderators, such as suicide attempt types and lifetime number of suicide attempts. This study was the first to this author's knowledge to test how thwarted belongingness and perceived burdensomeness are moderated by acquired capability to predict current suicidal ideation. The current study focused on examining the relationship between belongingness, burdensomeness, acquired capability, and current suicidal ideation among college students who have previously attempted suicide.

The current study employed the use of a moderation analysis to determine if the lifetime number of suicide attempts per suicide attempt type would moderate the relationship between thwarted belongingness and perceived burdensomeness on current suicidal ideation. The independent variables of this study were thwarted belongingness and perceived burdensomeness,

which were both assessed through subscales of the Interpersonal Needs Questionnaire (INQ-15). The moderator variable of this study included three types of suicide attempts: actual attempt, aborted attempt, and interrupted attempt as well as their lifetime number of suicide attempts per type, which were transformed into a continuous variable named the Suicide Attempt Rating Scale. The dependent variable was current suicidal ideation, which was assessed by the BSS.

Objective 1: To determine if acquired capability moderates the relationship between thwarted belongingness and perceived burdensomeness on current suicidal ideation.

RQ1: Do perceived burdensomeness and thwarted belongingness predict current suicidal ideation?

(H1): Perceived burdensomeness and thwarted belongingness will predict current suicidal ideation. High scores on both subscales of the INQ-15, perceived burdensomeness, and thwarted belongingness, will each be significantly associated with high scores on current suicidal ideation (BSS).

(Null hypothesis 1): Perceived burdensomeness and thwarted belongingness will not predict current suicidal ideation.

RQ2: Does acquired capability moderate the relationship between perceived burdensomeness and current suicidal ideation?

(H2): Acquired capability moderates the relationship between perceived burdensomeness on current suicidal ideation. This means that the strength of the relationship between perceived burdensomeness on current suicidal ideation changes by acquired capability.

(Null hypothesis): Acquired capability will not moderate the relationship between perceived burdensomeness on current suicidal ideation.

RQ3: Does acquired capability moderate the relationship between thwarted belongingness and current suicidal ideation?

(H3): Acquired capability moderates the relationship between thwarted belongingness and current suicidal ideation. This means that the strength of the relationship between thwarted belongingness and current suicidal ideation changes by the acquired capability.

(Null hypothesis): Acquired capability will not moderate the relationship between thwarted belongingness on current suicidal ideation.

Research Design

The study used a cross-sectional survey design method. A cross-sectional survey design is a one-time observational method that utilizes survey methods to gather information. In the case of this research study, participants were assessed at one time point, using questions adapted from the C-SSRS (see Appendix C), thwarted belongingness (subscale of the INQ-15-see Appendix F), perceived burdensomeness (subscale of the INQ-15; see Appendix F), and recent suicidal ideation (BSS; see Appendices D & E). The three types of suicide attempts – actual attempt, interrupted attempt, and aborted attempt – as well as the lifetime number of suicide attempts per type, were combined to create the continuous moderator variable, the Suicide Attempt Rating Scale score. In this study, perceived burdensomeness and thwarted belongingness were the independent variables, and the BSS was the dependent variable.

Design Strengths

A cross-sectional approach is useful when addressing research questions that are interested in understanding the relationship between the independent and dependent variables (Setia, 2016). Since the objective of the study was to determine the relationship between these variables, this type of approach was a strength. Due to the sensitive nature of this study as well as the stigma associated with a suicide attempt, this one-time cross-sectional approach was a

strength. Convenience and time were additional benefits to this design. Participants were assessed quickly, in approximately 15 minutes, which reduced the impact of participating in this study. In addition, using brief questionnaires reduced the risk of participating in this study. A cross-sectional research design may be useful for public health planning, monitoring, and evaluation (Setia, 2016). Finally, since this population of prior suicide attempters experiences a high dropout rate, a one-time survey method was beneficial in gathering information about this population.

Design Limitations

As in all research studies, there were several limitations to this research methodology, such as correlation does not prove causation. As the author intended to gather more information about the risk factors that may lead one to attempt suicide (i.e., prior suicide attempt type, perceived burdensomeness, and thwarted belongingness), this does not always predict a future suicide attempt. These results cannot be generalized to populations other than university students. In addition, because this study was conducted in the Midwest, special care should be used when generalizing to other geographic locations in the United States due to various cultural differences. This study did not ask about specific suicidal intent at the time of the prior suicide attempt, which may be important information to gather in future studies to determine if one had the intent to die when attempting suicide. Finally, this approach was a one-time assessment. Since participants were only measured at one time point rather than several time points, this decreased the internal validity of the study.

Threats to Validity

One threat to external validity would be the generalizability of the sample to college students at other universities or colleges that were not within the geographic region of the

Midwest. Being that the sample was college students who had attempted suicide, there was a lack of randomization. This study would be important to replicate in another college or university to test external validity.

One threat to internal validity was that participants may have had limited motivation to complete the self-report assessments accurately due to the researcher being in the room, as well as the concerns about following protocols if deemed to be high risk for suicide. Given the stigmatization around suicide attempts in the society at large, participants may have been reluctant to answer honestly due to fear of judgment. Another threat to the internal validity of this study was maturation, as participants were asked to recall information about a prior suicide attempt, which may have made differentiating between suicide attempt groups more difficult.

Ethical considerations were vital due to the nature of the research with human participants and the assessment of suicide. If a participant became distressed or no longer wanted to answer questions due to their sensitivity, the participant could withdraw of their own volition at any time. The researcher remained in the private room with the participant throughout their completion of the study. At any point in the study, when the participant had withdrawn or completed the measures, they received resources that included their college counseling center and national suicide prevention hotlines. As mentioned previously, participants who indicated that they were at imminent risk of suicide followed the protocols per campus deemed appropriate by the IRB. The ethical considerations of this study continued to be monitored throughout this study to care for the wellbeing of the participants.

Participants

Participants consisted of 52 college students in two large Midwestern cities who were recruited through the distribution of flyers on college campuses (see Appendix G). Anticipated demographic information was an age range of 18-24 years, predominately White women,

heterosexual, undergraduate students enrolled in 4-year universities. Individuals were considered for this study if they were college students, 18 years or older, English-speaking, and endorsed a prior suicide attempt(s). Participants were excluded from the study for the following reasons: (a) they were not enrolled in college, (b) they were non-English-speaking, or (c) they had not previously attempted suicide.

All participants were provided referral information to community providers and emergency contact information in person at the beginning of their survey (see Appendixes H & I). Participants were assessed via BSS regarding current suicidal ideation. The institutional review board (IRB) required that the researcher complete various protocols to ensure the safety of participants when the BSS determined they were at imminent risk. Some of these protocols included calling a crisis line, walking to the college counseling center, or potentially calling campus police if a participant would be unwilling to speak with a crisis worker.

Measures

Demographic Information: See Appendix B & K

The demographic information that was gathered throughout this study consisted of the following: age, gender, sexual orientation, race/ethnicity, and type of college student. The demographic information of age was included in this research study due to the prevalence of suicide among those between the ages of 18-24 years old who are enrolled in college. Gender was included in the demographic information for this study due to the prevalence of sex/gender differences previously mentioned among those who attempted suicide. Males die by suicide at a prevalence rate three times that of females due to the increased lethality of the means they choose to die by suicide, such as firearms (Schreiber & Culpepper, 2018). However, females attempt suicide at two times the rate of men, so this study predicted that more women would participate in this study (Schreiber & Culpepper, 2018). Due to this study having a criterion of

those who have attempted suicide, the author hypothesized that more women would participate in this study.

Sexual orientation has been shown to exert an independent influence on suicidal ideation and suicide attempts, which suggests that risk factors may differ for those who identify as lesbian, gay, bisexual (LGB), and others (Silenzio, Pena, Duberstein, Cerel, & Knox, 2007). The association between depression and suicide attempts was stronger among heterosexuals than those who identified as LGB (Silenzio et al., 2007). This information on the participants' sexual orientation was important to collect to understand how many participants identified in the LGBTQIA+ community, which could be helpful when creating suicide prevention strategies aimed at this population.

American Indian and Alaska Native males were more likely to die by suicide than most other gender and racial and ethnic subgroups. However, the underreporting in this racial group is ~30% (Jiang, Mitran, Minino, & Ni, 2015). Race and ethnicity demographic characteristics were collected for this study to better understand how many people per racial category previously attempted suicide. The type of college student was included to examine how many undergraduate students, graduate students, and other types of students, had a prior suicide attempt. The demographic variables that were collected were used to simply examine them as percentages to determine that they were consistent and representative of the sample. This was to examine how the current study represented those college students who had previously attempted suicide.

Suicide Attempt Type Classification: See Appendix C

To assess the history of suicide attempt(s), as that was a requirement to participate in the study, the author adapted statements and prompts from the C-SSRS, which was previously discussed as the newest gold standard of suicide risk assessment (Posner et al., 2011). Evidence

shown that aborted attempts are highly associated with future suicide attempts, and interrupted suicide attempts are predictive of suicide (Hill et al., 2017). Hill et al. found that a failure to integrate interrupted and aborted suicide attempts into suicide risk assessments may result in underestimates of suicide risk. In the C-SSRS Already Enrolled Subjects version of the screener (Appendix M) the researcher is to ask about an actual attempt they ask, "Have you made a suicide attempt?" For this study, where all participants are completing the measures on the computer themselves, this question may have misled all participants to have said "yes," to this question. Due to the concern for misinterpretation, the researcher adapted questions to best support the participants who would complete this study.

For this study to assess an actual suicide attempt, participants were asked: "Have you ever attempted to kill yourself (where you or someone or something else did not stop you)?" To assess the history of interrupted suicide attempts, participants were asked: "Has there been a time when you started to do something to end your life but someone or something stopped you before you were able to follow through?" To assess a history of aborted suicide attempts, participants were asked: "Has there been a time when you started to do something to end your life but you stopped yourself before you followed through?" Each subtype of suicide attempt that the participant endorsed they were then asked, "How many times has this happened?" (Burke et al., 2016). Burke et al., also adapted questions from the C-SSRS to conduct their study regarding suicidal behavior as they classified their subjects based on suicide attempt type.

To best utilize the different types of suicide attempts, as well as how many times each person has attempted suicide per type, the Suicide Attempt Rating Scale was created as a continuous variable. Participants who indicated that they had an interrupted suicide attempt were equivalent to "3." As previously discussed, those with a history of an interrupted suicide attempt

were three times more likely to die by suicide than those who had a previous actual suicide attempt, (the justification for the lethality in ranking the interrupted suicide attempts as a "3") (Burke et al., 2016). For each participant if they indicated that they had an actual suicide attempt, that was equivalent to a score of "2." For each participant, if they indicated that they had an aborted suicide attempt, that was equivalent to a score of "1." Research has demonstrated that those persons with at least one aborted suicide attempt were twice as likely to have an actual suicide attempt compared to those who did not report a history of an aborted suicide attempt (Barber et al., 1998). Prior research highlighted that those with an aborted attempt are more likely to have a future actual attempt, which justified the score of "1" for aborted attempt and "2" for an actual attempt for the lethality ranking.

The Suicide Attempt Rating Scale was created by the writer to better capture both risk factors for a future death by suicide: a lifetime history of suicide attempts and prior suicide attempt type. For example, one participant noted 'yes' to having an actual suicide attempt and reported that it occurred twice, which was multiplied by 2. They reported 'yes' to having an interrupted suicide attempt and reported it occurred twice, which was then multiplied by 3. The participant reported 'no' to having an aborted suicide attempt, which was a 0 for that category. Altogether, that participants' SARS score would be a total score of 10. The total SARS score was calculated for each participant and was analyzed as a moderator variable in this study.

Beck Scale for Suicide Ideation: See Appendix D

The BSS is a 19-question assessment that takes approximately 5-10 minutes to assess an individual's thoughts, attitudes, and intentions around suicide (Beck, 1991). The BSS contains two additional items that assess the number of suicide attempts and the intensity of the strength of the intent to die during the last attempt (de Beurs, Fokkema, de Groot, Keijser, & Kerkhof,

2014). Those two additional items were not used in the study due to the information regarding suicide attempts being gathered through the adaptation of the C-SSRS. Also, BSS item 20, "I have attempted suicide two or more times," does not take into consideration the various types of suicide this researcher was seeking, such as interrupted and aborted suicide attempts.

The Scale for Suicide Ideation was developed in 1979 by Beck et al. (1979) to quantify and assess suicidal intention, which was the precursor to the BSS. The authors designed this measure to quantify the intensity of current conscious suicidal intent by scaling various dimensions of self-destructive thoughts and wishes (Beck et al., 1979). The BSS measures passive and active suicidal ideation over the past week, as well as suicide plans, preparations, and access to means used to carry out these plans. The total score of the measure is obtained from adding the first 19 questions, which are scored individually on a range from 0-2. The higher the total score, which ranges from 0-38, means the more severe the current suicidal ideation (van Spijker, van Straten, & Kerkhof, 2010). To administer this protected measure, one must meet level B qualifications, which is a master's degree in counseling or in a field closely related to the intended use of the instrument, and formal training in the ethical administration, scoring, and interpretation of clinical assessments. The author met these qualifications.

The BSS has been proven to have an internal reliability with Cronbach alpha ranging from .87 to .97 for ages 17 and older (Beck, 1991). The BSS has been used among the college student population in which the authors found the measure to have adequate internal consistency, concurrent validity, and construct validity (Chioqueta & Stiles, 2006). The first five items of the BSS serve as a screener for suicidal ideation and IRB requirements, so if a participant answered items 4 and 5 indicating no active suicide intention and avoidance of death if presented with a life-threatening situation, then the participant could skip all additional 14 questions (de Beurs et

al., 2014). In common use, the first five questions are used as primarily a screener, so these questions were dropped from the data analysis.

After each participant completed this measure, the author reviewed the integrated report (see Appendix E for an example), which determined the risk of the participants' suicidal ideation. Prior research has noted that any participant who answers a "2" or greater on an item is at risk for active suicidal ideation (Beck, 1991). The IRB required that if a participant answered a "2" on the following items (1, 2, 3, 4, 12, 13, 14, 16, & 19), that the risk protocol for each university was followed. Previous studies have utilized the BSS and have found a significant interaction of perceived burdensomeness and thwarted belongingness in the prediction of suicidal ideation (Beck & Steer, 1991; Van Orden et al., 2008). That meant the higher levels of perceived burdensomeness and thwarted belongingness conferred the greatest level of risk. The author of this study utilized this measure to continue to expand from the previously mentioned studies.

Interpersonal Needs Questionnaire: See Appendix F

The Interpersonal Needs Questionnaire (INQ)-15 is a 15-item self-report questionnaire that measures both thwarted belongingness and perceived burdensomeness (Van Orden et al., 2012). Items measuring perceived burdensomeness (1-6) assess the degree to which the individual believes themselves to be a burden, such as, "These days, the people in my life would be happier if I were gone." Items measuring thwarted belongingness (7-15) assess the degree to which the individual feels disconnected to others, such as: "These days, I rarely interact with people who care about me." These items are scored on a seven-point Likert scale with higher scores indicative of a more severe perceived burdensomeness and thwarted belongingness, which ranges from "Not At All True for Me," and "Somewhat True for Me," to "Very True for Me."

The following items on the belongingness scale were reverse coded (7, 8, 10, 13, 14, and 15). This questionnaire has demonstrated convergent validity, divergent validity, and construct validity in the subscale of thwarted belongingness with an alpha coefficient of .90, which has been demonstrated as a good to excellent reliability (Van Orden et al., 2012). The perceived burdensomeness subscale of the INQ-15 obtained an alpha coefficient of .96 in a sample of participants between the ages of 18 to 30 (Lutz & Fiske, 2017).

The INQ was developed to assess perceived burdensomeness and thwarted belongingness, which are the two factors associated with the desire to die, according to the interpersonal-psychological theory of suicide (Joiner, 2005). To the author's knowledge, since its original development in 2011 by Joiner, which began with 25 questions, there have been five subsequent versions of the measure. Hill et al. (2015) evaluated the five versions of the INQ to identify the versions with the best psychometric property for use in future clinical applications. In sample 1, the participants consisted of 449 undergraduates, and in sample 2, the participants consisted of 218 undergraduates. These authors found that the 10-item and the 15-item versions demonstrated the best, most consistent, model fit in confirmatory factor analyses (Hill et al., 2015). The author of the present study elected to focus attention on the first two samples due to their population of college students, which was the current population of interest.

The INQ has been used across various populations such as military veterans, college students, adult outpatients, Asian American college students, Black American adolescents, military personnel, and college women (Hill et al., 2015). Lamis and Malone found that both thwarted belongingness and perceived burdensomeness predicted concurrent suicidal ideation using the 12-item questionnaire with college students (Lamis & Malone, 2011). The INQ-15 has been shown to be consistent and reliable in the college student population.

Procedures

The author began to seek IRB approval in August 2018; the study was not approved until December 2018 because of the full board review process and concerns related to the nature of the study's topic. The IRB raised concerns related to basic suicide myths, such as speaking with a person about suicide will make a person more suicidal. Despite the author providing them with data to counter these views, they enforced the importance of the author conducting this study in person with the participants. The IRB also required that the author only conduct this study during times in which the participant could access crisis services, which was Monday-Friday between the times of 9:00 AM to 4:00 PM at one university. At the other large-Midwestern university, the counseling center has a 24-hour crisis line, which was available when meeting with participants who were deemed by the BSS to be at imminent risk for suicide.

The Q-global BSS Integrated Report ensured the safeguarding of participants as it determined the severity of the risk of the participant. If the Q-global BSS Integrated Report indicated that the participant had a plan or intention to die by suicide. If a "2" was answered on any of the following questions: 1, 2, 3, 4, 12, 13, 14, 16, or 19, they would have been asked to walk with the researcher to seek on-campus crisis services or call the 24/7 crisis services line at UW-Madison or walked the participant to Norris Health Center. These questions were directly related to a participant having a plan to die by suicide, the intention to die by suicide, and having the means to die by suicide. Any participant who had indicated a plan or intention to die by suicide was determined to be at high risk.

The integrated report also informed the researcher on steps necessary to ensure the safety of the participant, such as seeking crisis services immediately. The researcher ensured to schedule participants only during the crisis hours and spaced the participants 45 minutes apart due to the possibility of walking the participant to seek crisis services or staying with the student

while calling the crisis line. If the participant expressed a plan or intention to die by suicide and refused to walk to seek crisis services, the writer would have called campus police to ensure the safety of the participant. Every participant was provided with a list of resources, so if they were not currently experiencing a plan or intention to die by suicide, then they could also seek services in the future if needed. Each participant received a $5.00 Subway gift card at the beginning of the meeting with the researcher and was instructed that they could withdraw at any time without penalty. In meeting with 52 participants, 2 persons were required to utilize the crisis protocols put in place by the IRB. Notably, these 2 participants were deemed by the 24/7 crisis line counselor not to be of imminent risk to themselves and could leave on their own recognizance. Four of the 52 participants' surveys were discarded because of indicating that they had not attempted suicide.

Data collection was conducted through convenience sampling of college students from two large Midwestern universities, who were recruited through the distribution of flyers (see Appendix G). Participants were also recruited through suicide prevention events across campuses by providing flyers at these events. The primary investigator collected and analyzed the data, which were collected between January 2019 and February 2020.

This chapter offered an overview of the methods to be employed in this study, including presenting the research hypothesis, identifying the study design, as well as the limitations and ethical considerations of this study. This study intended to better understand suicide attempt types in the college population in the hopes that a more comprehensive suicide risk assessment would be employed in college counseling centers. Another goal of this study was to integrate this knowledge into various suicide prevention strategies across college campuses in the Midwest that could better address the risk factors examined throughout this study. Future directions for

the nature of suicidology are vast due to societal changes around suicide and the hope is that this study could allow clinicians to better address suicidal ideation and attempts in the United States.

Chapter 4: Results

Previous literature suggests an inconsistent relationship between thwarted belongingness and perceived burdensomeness when predicting current suicidal ideation (Van Orden et al., 2008; Wong et al., 2011; Anestis & Joiner, 2011; Bryan, Cukrowicz, West, & Morrow, 2010; Hill et al., 2015). The purpose of this investigation was to clarify this relationship, while also determining if a lifetime number of suicide attempts and suicide attempt types moderates this relationship.

Statistical Analyses

Multiple regression was utilized to conduct the statistical analysis of this study as a correlational analysis to clarify the relationship between the variables previously mentioned. Analysis of covariance (ANCOVA) was considered to conduct this study. However, multiple regression is an equivalent analysis that was chosen for reasons to follow. When one or both variables are measured on a continuous scale, a regression can hold the continuous nature of the variables more clearly. This strategy was preferred over median splits to create artificial groups used to compare correlations to examine interaction effects when using ANCOVA (Frazier et al., 2004). The use of median splits, or cut points, to create artificial groups from variables actually measured on a continuous scale results in a loss of information and a reduction in power to detect the interaction effects (Frazier et al., 2004). Studies have shown that multiple regression procedures that retain the true nature of continuous variables result in fewer Type I and Type II errors when compared to those conducted with median splits (Frazier et al., 2004). These reasons led the writer to choose multiple regression for the statistical analysis of the study.

The first two assumptions when employing the use of a multiple regression analysis were that there was a continuous dependent variable, and there were two or more independent variables, which could either be continuous or categorical. The third assumption was that there

needed to be a linear relationship between the dependent variable and each independent variable, which could be addressed in creating a scatterplot. The fourth assumption was that data needed to show homoscedasticity of residuals or equal error variances, which could be checked in the scatterplot created in the previous assumption. The fifth assumption addresses the issue of multicollinearity, which occurs when two or more variables are highly correlated with one another, and this assumption can be checked through inspection of correlation coefficients (Sapp, 2017). Multicollinearity is a phenomenon in which two variables are essentially measuring the same thing, which would leave the researcher to decide to drop one of the variables or leave them within the regression equation noting multicollinearity. Multicollinearity affects the estimation of each person's individual parameters; however, it does not affect inferences regarding the full model (Cohen, Cohen, West, & Aiken, 2003). Meaning, that multicollinearity will not affect the multiple correlation or the coefficient of determination.

Another assumption for multiple regression was that the residuals (errors) must be normally distributed, which one can assess through the creation of a histogram and superimposing a normal curve on the graph (see Appendix L). For each hypothesis, the residuals were plotted and through visual inspection it is seen that there is normality. Throughout the proposal of this study, there were also several assumptions, such as that participants would self-report honestly and accurately. Another assumption was that participants were representative of the population from which they were drawn, such as those who attempted suicide in the college population. The researcher required that all participants e-mail about their participation in this study from their college e-mail, which was determined by having a .edu e-mail address.

Demographic Variables (see Appendix K)

Demographic variables were explored to better understand the participants in the study as well as the population of college students who had previously attempted suicide (see Appendix

J). The average age of the 46 participants (1 person did not report age) was 23.63, which is consistent with the author's expectations with the rate of suicides in college students between the ages of 18-24. No participants who took part in the study identified as Native Hawaiian or Pacific Islander. No participants reported "other" as a descriptor of them as a college student. No participants utilized the "prefer not to answer" option. Both universities were predominately White institutions, which was consistent with the population seen in this study, with 70% of the participants self-identifying as White. Although flyers across both campuses were placed in class buildings and extracurricular buildings/settings, it may be important in future studies to have campus collaborations to recruit a more diverse sample.

Preliminary Analysis and Descriptive Statistics

The power analysis was conducted, which is required to detect an effect of a given size with a given degree of confidence and yielded the need for 52 participants. The effect size of .20 was used in the analysis as was previously set in the study by Van Orden et al. (2010), which found that perceived burdensomeness and thwarted belongingness predicted current suicidal ideation. A sample size of 52 participants produced statistical power of greater than 80% at the .05 level of significance, which was conducted by G*Power (Faul, Erdfelder, Lang, & Buchner, 2007). Although this was considered a strong statistical power for rejecting the null hypothesis when it was, in fact, false, there was a 20% chance that the test would fail to reject the null hypothesis when the null hypothesis was false. This would be considered a type II measurement error, which would be a threat to the external validity of this study (Sapp, 2017). Power is the probability of correctly rejecting the null hypothesis when it is false. Researchers generally strive for a power of .70 or greater, which would mean there was a 70% chance of correctly rejecting the null hypothesis when there was, in fact, a difference between the two groups. The power of the statistical test was determined by the investigator by setting the level of significance, the

effect size, and the sample size, which was completed through an *a prior* analysis. The researcher collected data from 52 participants. However, due to there being some participants who did not complete all the fields necessary, they were eliminated from the data analysis, which resulted in the remaining 48. One participant was deemed as an outlier, which is discussed in later sections, so that left 47 (N) participants.

Table 1: Descriptive Statistics

				Skewness		Kurtosis	
	N Statistic	M Statistic	SD Statistic	Statistic	Std. Error	Statistic	Std. Error
AbortedSARS	47	1.66	1.578	1.426	.347	2.129	.681
ActualSARS	47	2.6809	3.23448	3.618	.347	17.350	.681
InteruptedSARS	47	2.2340	2.68824	.917	.347	−.169	.681
SARS_Score	47	6.5745	5.226646	1.568	.347	2.893	.681
BSS	47	4.9365	3.26646	.786	.347	.077	.681
BurdenScore	47	15.5957	7.78700	.816	.347	.054	.681
BelongingScore	47	31.8723	10.37266	.499	.347	−.529	.681
Valid N (listwise)	46						

Descriptive statistics are utilized in quantitative analyses to describe simple summaries about the sample and the data. The standard deviation shows the relation that the set of scores has to the mean of the sample (Cohen, Cohen, West, & Aiken, 2003). This means that in a normal distribution, approximately 95% of the scores in the given sample fall between two standard deviations of the mean. The mean score for the aborted suicide attempt type (AbortedSARS) was 1.66, actual suicide attempt type (ActualSARS) was 2.68, and interrupted suicide attempt type (InterruptedSARS) was 2.23. With the total SARS = 6.57 and *SD* = 5.22, indicating that each participant, without the weighted score, attempted suicide upward of 1 type each. For current suicidal ideation, measured by the BSS, the average score = 4.93, with *SD* = 3.26. On a 14-question scale from answers 0-2, the average = 4.93, indicating that, on average, participants' current suicidal ideation was relatively low. On the burdensomeness scale, measured by the INQ-15, with 6 questions on a 7-point Likert scale, *M* = 15.59, *SD* = 7.78. This

was indicative of the participants currently experiencing relatively low levels of burdensomeness, where they did not feel as though they were a burden on their loved ones. The mean score on the thwarted belongingness scale = 31.87, *SD* = 10.37, which was measured on the INQ-15, from questions 7-15 on a 7-point Likert scale. This average score showed that many of the participants experienced recent feelings of thwarted belongingness, in which they felt as though they did not belong to loved ones.

Multiple regression analyses were performed to examine the relationship among thwarted belongingness, perceived burdensomeness, acquired capability, and current suicidal ideation. To conduct multiple regression analyses, regression of assumptions must be tested first, such as normality, linearity, and homoscedasticity (Cohen et al., 2003). To test for normality, skewness and kurtosis are essential to reporting when interpreting descriptive statistics. Skewness refers to the symmetry of the variable's distribution, in which normal distribution is to be shaped like a bell curve. Kurtosis is a measure of whether the distribution is too peaked or too flat, where most of the variable's responses are in the middle of the distribution (Cohen et al., 2003). To determine skewness, the statistic on each measure should lie between +1 and −1, in which there was one variable of the four that was of concern.

Regarding the skewness of the SARS score, this could be due to the skewness of the Actual Suicide Attempt subscale and is addressed in the limitations section. Kurtosis statistics should also be considered normal if between −1 and +1; the SARS score was outside of this normal distribution. With the kurtosis statistic on the Actual Suicide Attempt scale reporting 17.350 and the SARS scale reporting 2.893, this subscale seemed to be negatively impacting the distribution of this moderator variable. Authors discussed that a participant's current psychological state influences the reporting of a lifetime history of suicide attempts

(Eikelenboom, Smit, Beekman, Kerkhof, & Penninx, 2014). There were individuals in the actual suicide attempt type group who reported anywhere from 5-10 suicide attempts; their reporting could have been influenced by their psychological state at the time of completing the survey. Also, despite the explanation of the three different types of suicide attempts being in the questions, participants may have been drawn to the name of "actual" to describe any of their suicide attempts, as it was an "actual" attempt to them personally.

One assumption of multiple regression is the nonindependence of residuals in which case-wise plots provide a simple method to explore whether the residuals are related to some systematic feature of the manner in which the data was collected (Cohen, Cohen, West, & Aiken, 2003). To address this assumption, a scatterplot of the residuals was conducted (see Appendix L). Each participant was met with by the author individually, and no participant completed duplicate surveys nor was data repeatedly collected from a single individual over time which would create serial dependency. Another assumption of multiple regression is homoscedasticity, which is the presence of linearity and homogeneity of variance across levels of the predictor variables. To check for violation of these assumptions, scatter plots were created using the predicted values for all pairs of independent and dependent variables. Visual analysis and inspection of plots determined that homoscedasticity was maintained.

There was one participant, as mentioned previously, who was deemed as an outlier following the visual inspection. This participant had reported "30+" for the actual suicide attempt question, responded "all of the attempts there has been," for the interrupted suicide attempt question, and "half of the attempts there has been," to the aborted suicide attempt question. The second-highest number of lifetime suicide attempts for any type was 10, which would make the 30+ for two of the suicide attempt types skew the data toward this one participant. Also, the

participant's ambiguous answers would require the author to put a threshold of "30" for each of the two attempt types and the number "15" for the aborted suicide attempts, which may not be accurate. This participant's data were eliminated from the study as an outlier to prevent skewness and kurtosis from occurring within the data set because multiple regression is sensitive to outliers.

Primary Analysis

The current study focused on the relationship among thwarted belongingness, perceived burdensomeness, suicidal ideation, and suicide attempt types among college students at two Midwestern universities via testing the following hypotheses: (1) perceived burdensomeness and thwarted belongingness predict suicidal ideation, (2) acquired capability moderates the relationship between perceived burdensomeness and current suicidal ideation, and (3) acquired capability, measured by SARS, moderates the relationship between thwarted belongingness and current suicidal ideation.

To reduce concerns surrounding multicollinearity, the predictor and moderator variables were standardized (Cohen et al., 2003). Interaction terms of thwarted belongingness x SARS and perceived burdensomeness x SARS were created and standardized. These variables were then entered into the regression equation to determine results addressing this study's hypotheses.

Perceived Burdensomeness and Thwarted Belongingness Predicts Suicidal Ideation

The first goal of this study was to determine the relationship between perceived burdensomeness (PB) and thwarted belongingness (TB) on suicidal ideation (SI). It was hypothesized that perceived burdensomeness and thwarted belongingness will predict current suicidal ideation. High scores on both subscales of the INQ-15, perceived burdensomeness, and thwarted belongingness, will each be significantly associated with high scores on current suicidal ideation (BSS). The null hypothesis is as follows: Perceived burdensomeness and thwarted belongingness will not predict current suicidal ideation.

To determine if the linear combination of PB and TB significantly predicted SI – as predicted by the interpersonal-psychological theory of suicide – a multiple linear regression model was fitted with the predictor variables. The linear combination of PB and TB was a significant predictor of SI, $F(2,44) = 4.06$, $p < .05$. An examination of the individual PB and TB coefficients revealed that, after controlling for the other, an individual's score on a measure of SI is predicted to increase by almost a point for a corresponding one-point increase in the level of PB and over half a point for a corresponding one-point increase in their level of TB. In short, when one feels that one is a burden to others and does not belong, one is predicted to have significantly higher levels of SI. The full regression results can be found in Table 4.2.

One surprise was the result that, while the omnibus model was significant, neither PB nor TB themselves were significant predictors. There appear to be two reasons for such an outcome. First, multiple linear regression with two or more predictor variables does not simply test the strength of the relationships between each variable and the outcome and add them together. Indeed, one of the strengths of fitting multiple regression models is that they are designed to test the optimal linear combination of predator variables on an outcome, not the variables individually. The second reason appears to be explained by the large correlation between the two

predictor variables (PB and TB). A simple two-tailed correlation analysis revealed that PB was correlated with TB at a high level ($r = .642$, $p < .0001$) (refer to Appendix J). Given this high degree of correlation, one can easily see that over 40% of the variability in PB can be explained by TB and vice versa. This leads to an effect in the multiple regression models where, after one of the predictor variables is controlled (or held constant), the other has little additional variability to add (and as such, is not significant at the $\alpha = .05$ level).

Table 4.2. Regression results of the linear combination of PB and TB predicting SI

Regression Model	Predictor	B	B	t	p	r^2
1. Reduced model	Intercept	1.374				
	PB	0.097	.231	1.18	.208	
	TB	0.064	.204	1.13	.264	

Notes: TB = thwarted belongingness, PB= perceived burdensomeness.

Acquired Capability as a Moderator on the Association Between Perceived Burdensomeness and Suicidal Ideation

The second goal of the study was to determine if acquired capability would moderate the between perceived burdensomeness and current suicidal ideation. The researcher hypothesized that acquired capability would moderate the relationship between perceived burdensomeness on current suicidal ideation. This means that the strength of the relationship between perceived burdensomeness on current suicidal ideation changes by acquired capability. The hypotheses' null hypothesis is as follows: Acquired capability will not moderate the relationship between perceived burdensomeness on current suicidal ideation.

To test the hypothesis that the acquired capability significantly moderated the relationship between perceived burdensomeness (PB) and suicidal ideation (SI), two regression models were constructed. First, a multiple linear regression model was fitted to evaluate the degree to which the combination of PB and SARS is a predictor of SI without testing interaction effects. In this analysis, the writer found that the linear combination of PB and SARS was a significant predictor of SI, $F(2, 44) = 3.36$, $p = .044$. A second, multiple linear regression model was fitted that included the interaction term (PBxSARS) to evaluate any possible degree of moderation. The analysis showed that SARS was not found to have a significant moderating effect on the relationship between PB and SI, $t = .133$, $p = .895$. The effect of PB on SI did not change significantly as a function of the SARS score. In other words, participants' higher senses of PB did not endorse different levels of SI depending on their number and/or type of suicide attempts. The full results of the linear and multiple regression can be seen in Table 4.0.

Table 4.0. Regression Results of SARS as a Moderator of the Relationship Between PB and SI

Regression Model	Predictor	B	B	t	p	r^2
2. Reduced model	Intercept	2.419				
	PB	0.151	.361	2.571	0.014	
	SARS	0.024	.038	0.268	0.790	
3. Full model	Intercept	2.552				
	PB	0.141	.366	1.407	.167	
	SARS	0.003	.004	.014	.989	
	PB x SARS	0.002	.047	.133	.895	.133

Notes: PB = perceived burdensomeness, SARS = suicidal attempt rating scale

Acquired Capability as a Moderator on the Association Between Thwarted Belongingness and Suicidal Ideation

The final goal of the study was to determine if acquired capability moderate the relationship between thwarted belongingness and current suicidal ideation. The researcher hypothesized that acquired capability would moderate the relationship between thwarted belongingness and current suicidal ideation. This means that the strength of the relationship between thwarted belongingness and current suicidal ideation changes by the acquired capability. The null hypothesis is as follows: Acquired capability will not moderate the relationship between thwarted belongingness on current suicidal ideation.

To test the hypothesis that acquired capability significantly moderates the relationship between TB and SI, two regression models were constructed. First, a multiple linear regression model was fitted to evaluate the degree to which the combination of TB and SARS are a predictor of SI without testing interaction effects. In this analysis, the writer found that the linear combination of TB and SARS was not a significant predictor of SI, $F(2, 44) = 3.13$, $p = .054$. A second multiple linear regression model was fitted that included the interaction term (TBxSARS) to evaluate any possible degree of moderation. The analysis showed that SARS was not found to have a significant moderating effect on the relationship between TB and SI, $t = 1.05$, $p = .300$. The effect of TB on SI did not change significantly as a function of SARS score. In other words, participants' higher senses of TB did not endorse different levels of SI depending on their number and/or type of suicide attempts. The full results of the linear and multiple regression can be seen in Table 4.1.

Table 4.1. Regression results of SARS as a moderator of the relationship between TB and SI

Regression Model	Predictor	B	B	t	p	r^2
4. Reduced model	Intercept	1.360				
	TB	0.111	.351	2.48	0.17	
	SARS	0.008	.012	0.09	.933	
5. Full model	Intercept	3.721				
	TB	0.029	.093	0.33	.744	
	SARS	-0.402	-.643	1.00	.321	
	TB x SARS	0.014	.743	1.05	.300	.146

Notes: TB = thwarted belongingness, SARS = suicidal attempt rating scale

Chapter 5: Discussion

Suicide rates have continued to increase with striking numbers, making the need for greater research and a deeper understanding of how to prevent deaths by suicide, more critical than ever. With the recent creation of theories to explain a death by suicide, such as Joiner's Interpersonal-Psychological Theory of Suicide (IPTS), researchers have begun to study the relationship between acquired capability, thwarted belongingness (TB), and perceived burdensomeness (PB). Overall, this study intended to examine whether PB and TB would predict SI; and whether acquired capability would moderate the relationships between PB and TB on current SI. Previous research has shown that PB and TB are strong predictors of current SI (Joiner, 2005; & Joiner, 2003; Van Orden et al., 2008). However, many studies have shown that when PB and TB predicted SI, they were also moderated by various factors such as lifetime number of suicide attempts, alcohol use, self-construals, negative urgency, and fearlessness of the pain involved in dying. One potential explanation for the inconsistent findings in these relationships is that research has primarily focused on a lifetime number of suicide attempts as the acquired capability component; rather than also taking into account the various types of suicide attempts along with a lifetime number of suicide attempts. Due to these inconsistencies in the literature, the purpose of this study was to first clarify the relationship between TB and PB in their ability to predict suicidal ideation within the college population. The second aim of the study was to determine if the lifetime number of suicide attempts and the suicide attempt type, would moderate the relationship between thwarted belongingness and perceived burdensomeness on suicidal ideation.

As predicted, the findings in this study support the relationship between TB and PB on SI. Indicating that those college students who experience higher levels of perceived burdensomeness and thwarted belongingness have higher levels of suicidal ideation. However,

there was no statistical significance for the moderator examined. The results for hypotheses two and three suggested that there was no significant moderator interaction when acquired capability was used when predicting both TB and PB on SI. These results suggested that when utilizing the lifetime number of suicide attempts and the type of attempt, which combined to create SARS, they did not significantly moderate this model. However, results for hypothesis one suggested that when used in the same model, both PB and TB predicted SI. Meaning that, on their own, PB and TB did not have enough variance to predict SI. This finding suggests that when predicting SI within the college population, it is important to include and evaluate both PB and TB.

The first hypothesis added to the literature base on the Interpersonal Psychological Theory of Suicide (IPTS), as it continued to validate the theory that both PB and TB predict SI. Although several studies have also established a null finding for the interaction between PB and TB predicting SI (Anestis & Joiner, 2010; Bryan et al., 2010; Hill et al., 2015), this study validated the IPTS and should be taken into consideration with future studies with college students. As discussed at length in the literature review, suicidology continues to be an evolving field. As such, the IPTS should be regarded highly in its ability to predict SI.

The second and third hypotheses, found that there was no significant interaction between thwarted belongingness and perceived burdensomeness on suicidal ideation when including acquired capability. These results were surprising, since prior research has demonstrated that the lifetime number of suicide attempts has been predictive of a future suicide and of acquired capability (Suominen et al., 2004 & Anestis & Joiner, 2010). It is possible that in the addition of suicide attempt types with the lifetime number of suicide attempts, that these risk factors combined did not capture risk more accurately than these risk factors do separately. Another hypothesis for these results is that, depending on the lethality of their prior suicide attempt, it has

become increasingly more difficult to recollect types of suicide attempts prior to their most lethal attempt. It is possible that college students with an actual suicide attempt have more difficulty recalling a prior aborted or interrupted attempt. Another possibility for the non-significant results of these hypotheses is that many college students who were drawn to this study had a prior actual suicide attempt. Out of the 48 participants, 37 noted a prior actual suicide attempt type, with five of those being people who reported having only a prior actual suicide attempt. Out of the 48 total participants, there were seven people who only reported prior aborted suicide attempts, while denying the two other types of suicide attempts. Everyone who reported interrupted attempts also reported aborted or actual suicide attempts. This could be a limitation of the recruitment of college students in this study, which was dictated by the IRB to have been solely through flyer distribution surrounding two Midwest college campuses.

This study contributed to suicidology research in general as well as when applied to college students by examining how suicide attempt types can be utilized throughout research. Rather than assuming the lifetime number of suicide attempts is always predictive of SI or a future suicide attempt, this study expanded the reach by including suicide attempt types. As discussed throughout the literature, various suicide attempt types predict a future suicide attempt at differing rates; this information was used to create the SARS. Although the results from this study do not support the utilization of SARS in this model, it may be a measure that would be important to examine with a larger sample size or in a different population. Suicidology continues to be a growing and developing field of study, where suicide attempt types should be of interest.

Implications for Counseling

This study continued to highlight the importance of inquiring about various types of suicide attempts with college students across the Midwest, as well as asking directly about

suicide. In meeting with 52 students face to face, many expressed gratitude for the study due to experiences of being told their prior suicide attempt "wasn't real." The findings of this study, although SARS was not found to be a significant moderator, highlighted the need for more prevention efforts on campus to explain and for researchers to explore various types of suicide attempts. For clinicians, examining suicide risk can feel overwhelming and anxiety-provoking due to the pressure to accurately assess for suicide to prevent a suicide attempt. As mentioned throughout this study, the importance of assessing for both risk factors, such as prior suicide attempt, and protective factors, such as family support, was essential. As shown in this study, clinicians must be willing to assess for both TB and PB if they are to predict SI more accurately. It has been found in this study that the INQ-15 would be beneficial for clinicians to use to help quantify a client's level of PB and TB, and could be helpful to distribute during intake paperwork. This would be helpful for counselors and clinicians to more accurately assess for current SI and better address risk factors to assure ethical and quality suicide risk assessments.

Suicide prevention efforts across college campuses can utilize this information to intend to address students' experiences of belongingness and burdensomeness from the moment a new student steps foot on campus. Rather than solely screening for depression and suicidal thoughts, screenings such as the INQ-15 can be used to assess feelings of social isolation, loneliness, and inadequacy in relationships. This assessment could then be used to connect students to various social organizations on campus, college counseling centers, and other campus resources intended to fuel connections to reduce TB and PB.

The time for change within college counseling centers and universities regarding deaths by suicide and suicide prevention is now. As the deaths by suicide in this population continue to increase, the importance of improving mental health and suicide prevention on campuses for

students is critical. This study highlights the change needed in our suicide risk assessments to include burdensomeness and belongingness, as well as how to challenge what society believes to be a suicide attempt and expand this to include the various suicide attempt types.

Limitations

The existing literature in suicidology may benefit from this study. As always, there are limitations to this study that should be taken into consideration. Due to the results of the study being reliant solely on self-report, this is an essential limitation to take into consideration when interpreting the results of this study. Self-report answers might be skewed by the participants' desire not to have had to engage in the suicide protocols, such as being walked to the counseling center, calling the crisis line, or having to call the police if they were high risk and unwilling to engage in the other protocols to ensure their safety. For instance, many participants expressed conflict between wanting to participate in the study to contribute to suicide research and their concern over their results on the BSS. This may have impacted participants to self-report less SI than accurate to avoid protocols, such as being walked to the counseling center. Also, self-reported answers may be influenced by their feelings during the time they filled out the questionnaire. These answers may have been merely impacted by the authors' presence in the room while each participant completed these questionnaires. These constraints imposed by the IRB should be better addressed within suicidology to make changes systematically, which would allow participating in suicide research a less intimidating or restrictive process.

Related to self-report scores was the leptokurtic nature of the SARS throughout this study. Leptokurtosis is defined as an excess of kurtosis or positive, where the tails are fatter than in a normal distribution (Cohen, Cohen, West, & Aiken, 2003). This indicated there was variability in the participants' self-reports that conclusive relationships are difficult to detect. Authors discussed that a participants' current psychological state influences the reporting of a

lifetime history of suicide attempts (Eikelenboom et al., 2014). Two participants scored in the high-risk range on the BSS and were required to complete the protocols necessary to ensure their safety. However, there may have been other participants who were currently struggling with depressive symptoms at the time of the survey which may have impacted their self-report. Authors previously found that participants who previously attempted suicide tend to recall memories more from a field perspective (Chu, Buchman-Schmitt, & Joiner, 2015). Memories recalled from a field perspective tend to be more specific, more detail-oriented, and emotional (Chu, Buchman-Schmitt, & Joiner, 2015). Qualitative research or a mixed-methodology approach may be beneficial to better understand or evaluate how one's current psychological state may impact the self-report of lifetime number of suicide attempts and suicide attempt types.

Previous studies have shown that the number of prior suicide attempts predicts elevated acquired capability, as opposed to the presence of a prior suicide attempt (Van Orden, 2008). In the utilization of the SARS as a measure of the acquired capability in the IPTS, the researcher could have used the Acquired Capability for Suicide Scale (ACSS) measure. This may have allowed for a more accurate and consistent measure of the participants' acquired capability, rather than collecting the number of suicide attempts and the type of attempt, which created the SARS. Results have consistently shown that ACSS is associated with life events believed to facilitate acquired capability as well as a lifetime history of suicide attempts (Van Orden, 2008). The ACSS has an internal consistency of α=.88 in student and clinical outpatient samples (Smith et al., 2010). Although the SARS may be essential to future suicide research in its examination of suicide attempt types, without other data to show its efficacy as a measure of acquired capability, it is difficult to evaluate how reliable or valid this measure is.

Another limitation of the study was the reliance on retrospective report regarding the participants' ability to categorize their prior suicide attempt type(s). When relying on the individual to recall their former exposure to risk variables, this recollection can be subject to biases and may be inaccurate. Participants may have struggled to define their prior suicide attempts into one of the three suicide attempt types (aborted, interrupted, and actual). For example, a participant may have read in the interrupted suicide attempt description "someone or something" stopped the attempt before occurring and misinterpreted the "someone" to be anything other than an external source. This could have led a participant to classify an aborted attempt as an interrupted attempt because they experienced thoughts of their family and friends, which stopped them from attempting suicide. Future research could benefit from an interview process with each participant to ensure that misclassifications such as these do not occur.

Another limitation of this study would be the limited sample from which the participants were drawn. The participants were sampled from two separate Midwestern universities through flyer distribution in which participants had to reach out to the author, so they self-selected to participate. This made generalizability a concern given that the participants' attraction to this study may have been because of its focus on suicide attempts, SI, belongingness, and burdensomeness. The demographic characteristics of the sample should be noted, as the population was primarily White, heterosexual, women, who were self-reported undergraduates.

Another limitation of the study would be the small sample size of 48 participants, which likely impacted the ability to detect an interaction effect. The lack of power within a study of this size would make obtaining a statistically significant interaction effect difficult. The recruitment of participants ended in February 2020 due to the increase in COVID-19 related concerns on the college campuses approved for the study.

Although having the same primary investigator and administer of measures is a strength in terms of validity and reliability, it can also be a limitation of this study. Due to this study being for the administrator's dissertation, the administrator conducted all the study's procedures and served as both the recruiter and primary investigator. The administrator developed the study's protocol, recruitment strategies, screening of potential participants, conducted the analyses, and interpreted the results on their own. Although the administrator was able to mitigate the impact of bias by checking in with committee members and stakeholders on both college campuses, it is inevitable that bias entered the study. One way this was found to be true was in the development of the demographic variables, where the writer and committee members failed to include the racial category, "Hispanic/ LatinX." This highlights bias that can infiltrate research when there is not enough diversity within a committee or when there is one main person holding various roles. However, it continues to be a strength since the administrator was aware of the purpose of the study and was able to clarify participants' questions related to the study and/or questionnaires.

Another limitation of this study is the participants' motivation to complete the questionnaires. Participants were compensated for their time, 15 minutes, by receiving a $5.00 Subway gift card which they were able to keep regardless of withdrawing from the study at any time. This compensation could have impacted the type of participants who agreed to complete the survey, such as students with a lack of access to food. Although this is unlikely, since most participants did not ask about the compensation for this study, it is still important to note.

One limitation of this study was the time between the first sample of participants at a Midwestern university and the other participants from another Midwestern university. The IRB provided many roadblocks to the approval of this study as well as mandated the protocols that

were required for participants, which may have prevented students from participating. The IRB took several months in the approval process of the study to discuss how to protect the participants, while asserting basic suicide myths, such as the belief that if one asks someone about suicide that it makes them more suicidal. The writer attended the monthly IRB meetings on three occasions to be able to field questions related to the study, which mostly consisted of concerns related to the nature of the study. IRB committee members expressed increased concern due to the participants having previously attempted suicide and their fear that asking about their prior suicide attempt, would make them increasingly upset. The IRB required within the protocols to describe how participants could withdrawal if they became emotionally upset, such as crying, pausing for extended periods of time, or agitated. This highlights alone the bias that the IRB holds regarding folx who have previously attempted suicide in the stigma that they are viewed as fragile or need to be protected, rather than for their survivorship and resilience. While the need to protect students was of utmost importance to the IRB, the delay, and misconceptions around the nature of this study contribute to the lack of research conducted in the field of suicidology.

Future Directions

In future studies, we encourage researchers to utilize both PB and TB in the model to predict SI when exploring for moderators, such as risk and protective factors. We encourage future researchers to utilize various methodologies (qualitative and mixed methodology) to better explore how suicide attempt types may moderate relationships within the IPTS. Qualitative methods may further explore the phenomenological experiences of those who have attempted suicide. Throughout meeting with participants, many were eager to "tell their story," as they were hopeful that their recollection of their prior suicide attempt could help prevent someone else from attempting suicide. There continues to be a minimal number of longitudinal studies

addressing suicide attempts, as well as suicide attempt types, which this author would recommend to researchers. Suicide attempt types continue to have varying degrees of lethality in predicting a future suicide attempt and should be researched longitudinally to contribute to the prevention of suicide.

Future studies could replicate this study and use suicide attempt types categorically to examine if suicide attempt types moderate the relationships of PB and TB to predict SI. However, as previously discussed, the grouping of these suicide attempt types categorically may prove difficult due to many participants having attempted suicide in more than one type. In the replication of this study, we would encourage using both PB and TB to predict SI in the model through the utilization of a hierarchical multiple regression analysis. We would continue to urge researchers to think critically about the lethality and risk factors of both the lifetime number of suicide attempts and prior suicide attempt type. As this was the first study to create such a score in combining these and SARS was found to not be statistically significant, it would be beneficial in future studies to examine these risk factors differently.

Wenzel & Beck proposed the Cognitive Model of Suicidal Behavior, which could be beneficial to explore in future studies due to the non-significant results from the current study. They proposed the utilization of the following variables in the cognitive model of suicidal behavior: dispositional variable factors, cognitive processes associated with psychiatric disturbance, and cognitive processes associated with suicidal acts (Wenzel & Beck, 2008). These factors, in addition to a person's threshold tolerance of distress, would lead one to experience a suicidal act. Wenzel & Beck's model is compatible to Joiner's Interpersonal-Psychological Theory of Suicide; however, it suggests that the limitations noted in Joiner's model feed into suicidal schemas, such as the hopelessness-based schema (Wenzel & Beck, 2008). The

hopelessness-based schema, defined as negative expectations for the future, is discussed within the variable of cognitive processes associated with suicidal acts. Rather than in Joiner's model utilizing thwarted belongingness and perceived burdensomeness, in the cognitive model of suicide behavior these variables would be seen within the framework of hopelessness due to them being failures in relationships (Wenzel & Beck, 2008). Instead of the acquired capability variable in Joiner's IPTS, one's ability to enact lethal harm would be viewed within the dispositional variable factors. In the dispositional variable factors, impulsivity is one of the psychological components of this variable as prior studies have found that patients who have attempted suicide report higher levels of impulsivity than those who have not attempted suicide (Wenzel & Beck, 2008). Regarding the current study, it may have been advantageous to have utilized the Cognitive Theory of Suicidal Behavior rather than Joiner's Interpersonal Theory of Suicide due the preciseness of this theory. The Cognitive Theory of Suicidal Behavior is grounded in empirical literature resulting from decades of cognitive research from Beck and associates as well as demonstrated how to utilize the components of the theory during the treatment of suicidal clients (Wenzel & Beck, 2008).

Future studies could also investigate depressive symptoms and anhedonia along with hopelessness with college students who have previously attempted suicide. Previous research has highlighted that anhedonia, or the loss of interest and pleasure in people or things, is a unique predictor of psychopathology, including suicidal ideation. The authors investigated this relationship through a large undergraduate student sample in the relationships between suicide ideation, suicide attempts, and anhedonia (Winer et al., 2016). They found that anhedonia was associated with suicidal ideation, even when accounting for depressive symptoms, and anhedonia was not associated with suicide attempts when symptoms of depression were held constant. As

mentioned previously, suicide attempts and deaths by suicide do not often occur simply because of a couple of variables and limiting our view of suicide can lead to incomplete risk assessments.

Future studies should explore a mediation model of analyses in the utilization of this study's variables (i.e. TB, PB, SI, and SARS). As prior research has shown, a prior suicide attempt is the greatest predictor for a future suicide attempt or death by suicide (Christiansen & Jensen, 2007; Gibb, Beautrais, & Fergusson, 2005; Van Orden et al., 2010). In a mediation analysis, the dependent variable would be SARS and the independent variable would be PB and TB, with the mediating variables being suicidal thoughts. Consistent with Joiner's Interpersonal Theory of Suicide, SARS would account for the acquired capability variable. Thwarted belongingness and perceived burdensomeness would continue to serve in the IPTS as independent variables. This is due to the theoretical standpoint that a person cannot attempt suicide without the acquired capability as well as failed belongingness and feeling as though they are a burden. As this current study showed, PB and TB continue to be significantly related to current suicidal ideation and could serve as a potential mediator in future studies.

Future studies should strive to have a more diverse sample, such as applying this study to regions other than the Midwest as well as community colleges. Results from various colleges and universities would be helpful in the generalizability of this study, as well as selecting colleges that are not primarily White institutions. Diversity should not be limited to demographic characteristics (e.g., age, gender, race/ethnicity, and sexual orientation). Future research should allow participants to provide examples of their own cultural considerations (e.g., socioeconomic status, geographic region, veteran status, political affiliation, birth order).

Conclusion

The current study intended to investigate the relationships between TB, PB, and acquired capability in predicting current SI. My findings did not support the hypotheses that TB and PB

are moderated by acquired capability when predicting SI. The measure for acquired capability, SARS, included the three different types of suicide attempts, as well as their lifetime number of suicide attempts for each type. These results show that the SARS did not significantly moderate the relationships of TB and PB on SI. However, findings suggested that both TB and PB predicted SI. Meaning that, when college students have an increased feeling they do not belong and an increased feeling like they are a burden onto others, they have higher rates of SI. These results can be utilized in future research studies with college students to include both PB and TB when predicting SI. Also, in suicide prevention efforts on college campuses, rather than solely addressing depression, we must expand our reach to include risk and protective factors such as social isolation.

References

American College Health Association (ACHA). American College Health Association-National College Health Assessment II: Reference Group Executive Summary Spring 2018. Silver Spring, MD: American College Health Association; 2018.

Anestis, Michael D, & Joiner, Thomas E. (2010). Examining the role of emotion in suicidality: Negative urgency as an amplifier of the relationship between components of the interpersonal–psychological theory of suicidal behavior and lifetime number of suicide attempts. Journal of Affective Disorders, 129(1), 261-269.

Arria, A. M., O'Grady, K. E., Caldeira, K. M., Vincent, K. B., Wilcox, H. C., & Wish, E. D. (2009). Suicide ideation among college students: A multivariate analysis. Retrieved January 23, 2018, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2709750/

Bagge, C., Glenn, C., Lee, H., & Goodman, S. (2013). Quantifying the Impact of Recent Negative Life Events on Suicide Attempts. *Journal of Abnormal Psychology, 122*(2), 359-368.

Bailey, M., & McLaren, S. (2005). Physical activity alone and with others as predictors of sense of belonging and mental health in retirees. *Aging & Mental Health, 9,* 82-90.

Barber, M. E., Marzuk, P. M., Leon, A. C., & Portera, L. (1998). Aborted suicide attempts: a new classification of suicidal behavior. *American Journal of Psychiatry,* 155, 385-389.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychology Bulletin 117*(3), 497-529.

Beck, A. T. (1991). Beck Scale for Suicide Ideation® (BSS™). Retrieved May 1, 2016, from: http://www.pearsonclinical.co.uk/Psychology/AdultMentalHealth/AdultMentalHealth/BeckScaleforSuicideIdeation(BSS)/BeckScaleforSuicideIdeation(BSS).aspx

Beck, A., Brown, G., & Steer, R. (1989). Prediction of Eventual Suicide in Psychiatric Inpatients by Clinical Ratings of Hopelessness. Journal of Consulting and Clinical Psychology, 57(2), 309-310.

Beck, A. T., Brown, G. K., Steer, R. A., Dahlsgaard, K., K., & Grisham, J. R. (1999). Suicide ideation at its worst point: A predictor of eventual suicide in psychiatric outpatients. *Suicide and Life-Threatening Behavior, 29*(1), 1-9.

Beck, A. T., Kovacs, M., & Weissman, A. (1979). Assessment of suicidal intention: The Scale for Suicide Ideation. *Journal of Consulting and Clinical Psychology,47*(2), 343-352. doi:10.1037//0022-006x.47.2.343

Brown, G. K., Beck, A. T., Steer, R. A., & Grisham, J. R. (2000). Risk factors for suicide in psychiatric outpatients: a 20-year prospective study. *Journal of Consulting and Clinical Psychology, 68*(3), 371-377.

Bryan, C., Cukrowicz, K., West, C., & Morrow, C. (2010). Combat experience and the acquired capability for suicide. *Journal of Clinical Psychology*. Retrieved from https://onlinelibrary-wiley-com.ezproxy.lib.uwm.edu/doi/full/10.1002/jclp.20703

Burke, T. A., Hamilton, J. L., Ammerman, B. A., Stange, J. P., & Alloy, L. B. (2016). Suicide risk characteristics among aborted, interrupted, and actual suicide attempters. *Psychiatry Research, 242*, 357-364. doi:10.1016/j.psychres.2016.05.051

Chioqueta, A. P., & Stiles, T. C. (2006). Psychometric properties of the Beck Scale for Suicide Ideation: A Norwegian study with university students. *Nord Journal of Psychiatry, 60*, 400-404.

Christiansen, E., & Jensen, B. F. (2007). Risk of repetition of suicide attempt, suicide, or all deaths after an episode of attempted suicide: a register-based survival analysis. *The Australian and New Zealand Journal of Psychiatry. 41*:257-265.

Chung, D. T., Hadzi-Pavlovic, D., Wang, M., Swaraj, S., Olfson, M., & Large, M. (2019). Meta-analysis of suicide rates in the first week and the first month after psychiatric hospitalisation. BMJ Open, 9(3), e023883. Retrieved from http://dx.doi.org/10.1136/bmjopen-2018-023883.

Chu, Carol, Buchman-Schmitt, Jennifer M, & Joiner, Thomas E. (2015). Autobiographical Memory Perspectives in Task and Suicide Attempt Recall: A Study of Young Adults with and Without Symptoms of Suicidality. Cognitive Therapy and Research, 39(6), 766-775.

Cohen, J., Cohen, P., West, S., & Aiken, L. (2003). *Applied multiple regression: Correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum.

De Beurs, Derek P, Fokkema, Marjolein, De Groot, Marieke H, De Keijser, Jos, & Kerkhof, Ad J.F.M. (2014). Longitudinal measurement invariance of the Beck Scale for Suicide Ideation. Psychiatry Research, 225(3), 368-373.

DeCatanzaro, D. (1995). Reproductive status, family interactions, and suicidal ideation: Surveys of the general public and high-risk groups. *Ethology & Sociobiology, 16*, 385-394.

Drum, D. J., Brownson, C., Denmark, A. B., & Smith, S. E. (2009). New data on the nature of suicidal crises in college students: shifting the paradigm. *Professional Psychology: Research and Practice, 40*(3), 213-222.

Eikelenboom, M., Smit, J., Beekman, A., Kerkhof, A., & Penninx, B. (2014). Reporting suicide attempts: Consistency and its determinants in a large mental health study. International *Journal of Methods in Psychiatric Research, 23*(2), 257-266.

Faul, F., Erdfelder, E., Lang, A.-G. & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*, 175-191.

Fawcett, J., Scheftner, W. A., Fogg, L., Clark, D. C., Young, M. A., Hedecker, D., & Gibbons, R. (1990). Time-related predictors of suicide in major affective disorder. *American Journal of Psychiatry, 147*(9), 1189-1194. doi:10.1176/ajp.147.9.1189

Fisher, L. B. (2013). From the outside looking in: Sense of belonging, depression, and suicide risk (Doctoral dissertation). Case Western Reserve University.

Frazier, P., Tix, A., & Barron, K. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology, 51*(1), 115-134.

Gallagher, R. P. (2010). National Survey of Counseling Center Directors. Retrieved from http://www.iacsinc.org/NSCCD%202010.pdf

Gibb, S. J., Beautrais, A. L., & Fergusson, D. M. (2005). Mortality and further suicidal behavior after an index suicide attempt: a 10-year study. *The Australian and New Zealand Journal of Psychiatry, 39*, 95-100.

Gutierrez, P. M., Osman, A., Kopper, B. A., Barrios, F. X., & Bagge, C. L. (2000).

Suicide risk assessment in a college student population. *Journal of Counseling Psychology, 47,* 403-413.

Hagan, C. R., Podlogar, M. C., Chu, C., & Joiner, T. E. (2015). Testing the Interpersonal Theory of Suicide: The Moderating Role of Hopelessness. *International Journal of Cognitive Therapy, 8*(2), 99-113. doi:10.1521/ijct.2015.8.2.99.

Harris, E., & Barraclough, B. (1997). Suicide as an outcome for mental disorders: A meta-analysis. British Journal of Psychiatry, 170(3), 205-228.

Hayes, A. F., & Rockwood, N. J. (2017). Regression-based statistical mediation and moderation analysis in clinical research: Observations, recommendations, and implementation. *Behaviour Research and Therapy, 98I*, 39-57. doi:10.1016/j.brat.2016.11.001

Hill, R., Rey, Y., Marin, C., Sharp, C., Green, K., & Pettit, J. (2015). Evaluating the Interpersonal Needs Questionnaire: Comparison of the reliability, factor structure, and predictive validity across five versions. *Suicide and Life-Threatening Behavior, 45*(3), 302-314.

Hill, R. M., Hatkevich, C. E., Kazimi, I., & Sharp, C. (2017). The Columbia-Suicide Severity Rating Scale: Associations between interrupted, aborted, and actual suicide attempts among adolescent inpatients. *Psychiatry Research, 255*, 338-340. doi:10.1016/j.psychres.2017.06.014

Holmes, R. M., & Holmes, S. T. (2005). *Suicide: Theory, practice, and investigation*. Thousand Oaks, CA: SAGE.

Jiang, C., Mitran, A., Minino, A., & Ni, H. (2015, September 30). Racial and gender disparities in suicide among young adults aged 18-24: United States, 2009-2013. Retrieved from https://www.cdc.gov/nchs/data/hestat/suicide/racial_and_gender_2009_2013.htm

Joiner, T. E., Jr., Steer, R. A., Brown, G., Beck, A. T., Pettit, J. W., & Rudd, M. D. (2003). Worst-point suicidal plans: A dimension of suicidality predictive of past suicide attempts and eventual death by suicide. *Behaviour Research and Therapy, 41,* 1469-1480.

Joiner, T. E. (2005). *Why people die by suicide*. Cambridge, MA: Harvard University Press.

Joiner, T., Pettit, J. W., Walker, R. L., Voelz, Z. R., Cruz, J., Rudd, M. D., & Lester, D. (2002). Perceived burdensomeness and suicidality: Two studies on the suicide notes of those attempting and those completing suicide. *Journal of Social & Clinical Psychology, 21*, 531-545.

Kessler, R., Borges, G., & Walters, E. (1999). Prevalence of and risk factors for lifetime suicide attempts in the National Comorbidity Survey. *Archives of General Psychiatry, 56*(7), 617-626.

Klonsky, E. D., & May, A. M. (2013). Differentiating suicide attempters from suicide ideators: A critical frontier for suicidology research. *Suicide and Life-Threatening Behavior, 44*(1), 1-5. doi:10.1111/sltb.12068

Kuo, W.-H., Gallo, J. J., & Tien, A. (2001). Incidence of suicide ideation and attempts in adults: The 13-year follow-up of a community sample in Baltimore, Maryland. *Psychological Medicine, 31*(7), 1181-1191.

Lamis, D. A., & Malone, P. S. (2011). Alcohol-related problems and risk of suicide among college students: The mediating roles of belongingness and burdensomeness. *Suicide & Life-Threatening Behavior, 41*(5), 543-553. doi:10.1111/j.1943-278X.2011.00052.x

Leenaars, A. (2010). Edwin S. Schneidman on suicide. *Suicidology Online,* (1), 5-18. http://www.suicidology-online.com/pdf/SOL-2010-1-5-18.pdf

Lockman, J. D., & Servaty-Seib, H. L. (2016). College student suicidal ideation: Perceived burdensomeness, thwarted belongingness, and meaning made of stress. *Death Studies, 40*(3), 154-164. doi:10.1080/07481187.2015.1105325

Loas, G., Lefebvre, G., Rotsaert, M., & Englert, Y. (2018). Relationships between anhedonia, suicidal ideation, and suicide attempts in a large sample of physicians. *PloS ONE, 13*(3), E0193619.

Lutz, Julie, & Fiske, Amy. (2017). Perceived Burdensomeness in Older and Younger Adults: Evaluation of the Psychometric Properties of the Interpersonal Needs Questionnaire. Journal of Clinical Psychology, 73(9), 1179-1195.

Malone, K. M., Haas, G. L., Sweeney, J. A., & Mann, J. (1995). Major depression and the risk of attempted suicide. *Journal of Affective Disorders, 34*(3), 173-185. doi:10.1016/0165-0327(95)00015-f

Moody, C., Fuks, N., Peláez, S., & Smith, N. G. (2015). "Without this, I would for sure already be dead": A qualitative inquiry regarding suicide protective factors among trans adults. *Psychology of Sexual Orientation and Gender Diversity, 2*(3), 266-280. Retrieved from ProQuest database. (UMI no. 1709215142)

NCES fast facts tool provides quick answers to many education questions (National Center for Education Statistics). (n.d.). Retrieved February 11, 2018, from: https://nces.ed.gov/fastfacts/display.asp?id=372

Opperman, K., Czyz, E. K., Gipson, P. Y., & King, C. A. (2015). Connectedness and perceived burdensomeness among adolescents at elevated suicide risk: An examination of the interpersonal theory of suicidal behavior. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4665648/

Paladino, D., & Minton, C. A. (2008). Comprehensive college student suicide assessment: Application of the BASIC ID. *Journal of American College Health, 56*(6), 643-650.

Pittman, L. D., & Richmond, A. (2008). University belonging, friendship quality, and psychological adjustment during the transition to college. *The Journal of Experimental Education, 76*(4), 343-362. doi:10.3200/jexe.76.4.343-362

Ploskonka, R. A., & Servaty-Seib, H. L. (2015). Belongingness and suicidal ideation in college students. *Journal of American College Health, 63*(2), 81-87. doi:10.1080/07448481.204.983928

Posner, K., Brown, G. K., Stanley, B., Brent, D. A., Yershova, K. V., Oquendo, M. A., . . . Mann, J. J. (2011). The Columbia-Suicide Severity Rating Scale: Initial validity and internal consistency findings from three multisite studies with adolescents and adults. *American Journal of Psychiatry, 168*, 1266-1277.

Reynolds, W. M. (1991). *Adult suicidal ideation questionnaire professional manual.* Odessa, FL: Psychological Assessment Resources.

Sapp, M. (2004). Cognitive-behavioral theories of counseling: Traditional and nontraditional approaches. Springfield, Ill.: Charles C. Thomas.

Sapp, M. (2017). *Primer on effect sizes, simple research designs, and confidence intervals*. Springfield, IL: Charles C Thomas.

Schaffer, M., Jeglic, E. L., & Stanley, B. (2008). The relationship between suicidal behavior, ideation, and binge drinking among college students. *Archives of Suicide Research, 12,* 124-132.

Schiepek, G., Fartacek, C., Sturm, J., Kralovec, K., Fartacek, R., & Plöderl, M. (2011). Nonlinear dynamics: Theoretical perspectives and application to suicidology. *Suicide and Life-Threatening Behavior, 41*(6), 661-675. doi:10.1111/j.1943-278x.2011.00062.x

Schreiber, J., & Culpepper, L. (2018, April). Suicidal ideation and behavior in adults. Retrieved from https://www.uptodate.com/contents/suicidal-ideation-and-behavior-in-adults

Schwartz, A. J. (2006a). College student suicide in the United States: 1990-1991 through 2003-2004. *Journal of American College Health, 54*, 341-352.

Schwartz, A. J. (2006b). Four eras of study of college student suicide in the United States: 1920-2004. *Journal of American College Health, 54*, 353-366

Setia, M. S. (2016). Methodology series module 3: Cross-sectional studies. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4885177/

Silenzio, V. M., Pena, J. B., Duberstein, P. R., Cerel, J., & Knox, K. L. (2007, November). Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2040383/

Silva, C., Chu, C., Monahan, K., Joiner, T., & Gonsiorek, J. C. (2015). Suicide risk among sexual minority college students: A mediated moderation model of sex and perceived burdensomeness. *Psychology of Sexual Orientation and Gender Diversity, 2*(1), 22-33.

Silverman, M. M. (2006). The language of suicidology. *Suicide and Life-Threatening Behavior, 36*(5), 519-532. doi:10.1521/suli.2006.36.5.519

Smith, P., Stanley, I., Joiner, T., Sachs-Ericsson, N., & Van Orden, K. (2016). An aspect of the capability for suicide—fearlessness of the pain involved in dying—amplifies the association between suicide ideation and attempts. *Archives of Suicide Research, 20*(4), 650-662.

SPRC: Suicidal thoughts and suicide attempts. (2015). Retrieved July 18, 2017, from: http://www.sprc.org/scope/attempts

Steer, R. A., Beck, A. T., Garrison, B., & Lester, D. (1988). Eventual suicide in interrupted and uninterrupted attempters: A challenge to the cry-for-help hypothesis. *Suicide and Life-Threatening Behavior, 18*(2), 119-128. doi:10.1111/j.1943-278x.1988.tb00146.x

Suominen, K., Isometsä, E., Suokas, J., Haukka, J., Achte, K., & Lönnqvist, J. (2004). Completed suicide after a suicide attempt: A 37-year follow-up study. *American Journal of Psychiatry, 161*(3), 562-563.

Van Orden, K. A., Cukrowicz, K. C., Witte, T. K., & Joiner, T. E., Jr. (2012). Thwarted belongingness and perceived burdensomeness: construct validity and psychometric properties of the Interpersonal Needs Questionnaire. *Psychological Assessment, 24*, 197.

Van Orden, K. A., Witte, T. K., Cukrowicz, K. C., Braithwaite, S., Selby, E. A., & Joiner, T. E. (2010, April). The interpersonal theory of suicide. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3130348/

Van Orden, K. A., Witte, T. K., Gordon, K. H., Bender, T. W., & Joiner, T. E. (2008). Suicidal desire and the capability for suicide: Tests of the interpersonal-psychological theory of suicidal behavior among adults. *Journal of Consulting Clinical Psychology,* 76, 72-83

Van Orden, K., Lynam, A., Hollar, M., & Joiner, E. (2006). Perceived burdensomeness as an indicator of suicidal symptoms. *Cognitive Therapy and Research, 30*(4), 457-467.

Van Spijker, B.A.J, Van Straten, A, & Kerkhof, A.J.F.M. (2010). The effectiveness of a web-based self-help intervention to reduce suicidal thoughts: A randomized controlled trial. Trials, 11(1), 25.

Wang, C. (2013). Depression and suicide behavior among college students: Understanding the moderator effects of self-esteem and suicide resilience. *Electronic Theses and Dissertations*. 686.

Wang, K., Wong, Y., Fu, C., & Tracey, T. (2013). Moderation effects of perfectionism and discrimination on interpersonal factors and suicide ideation. *Journal of Counseling Psychology, 60*(3), 367-378.

Wenzel, A., & Beck, A. (2008). A cognitive model of suicidal behavior: Theory and treatment. Applied and Preventive Psychology, 12(4), 189-201.

Westefeld, J. S., Homaifar, B., Spotts, J., Furr, S., Range, L., & Werth, J. L. (2005). Perceptions concerning college student suicide: Data from four universities. *Suicide and Life-Threatening Behavior, 35*, 640-645.

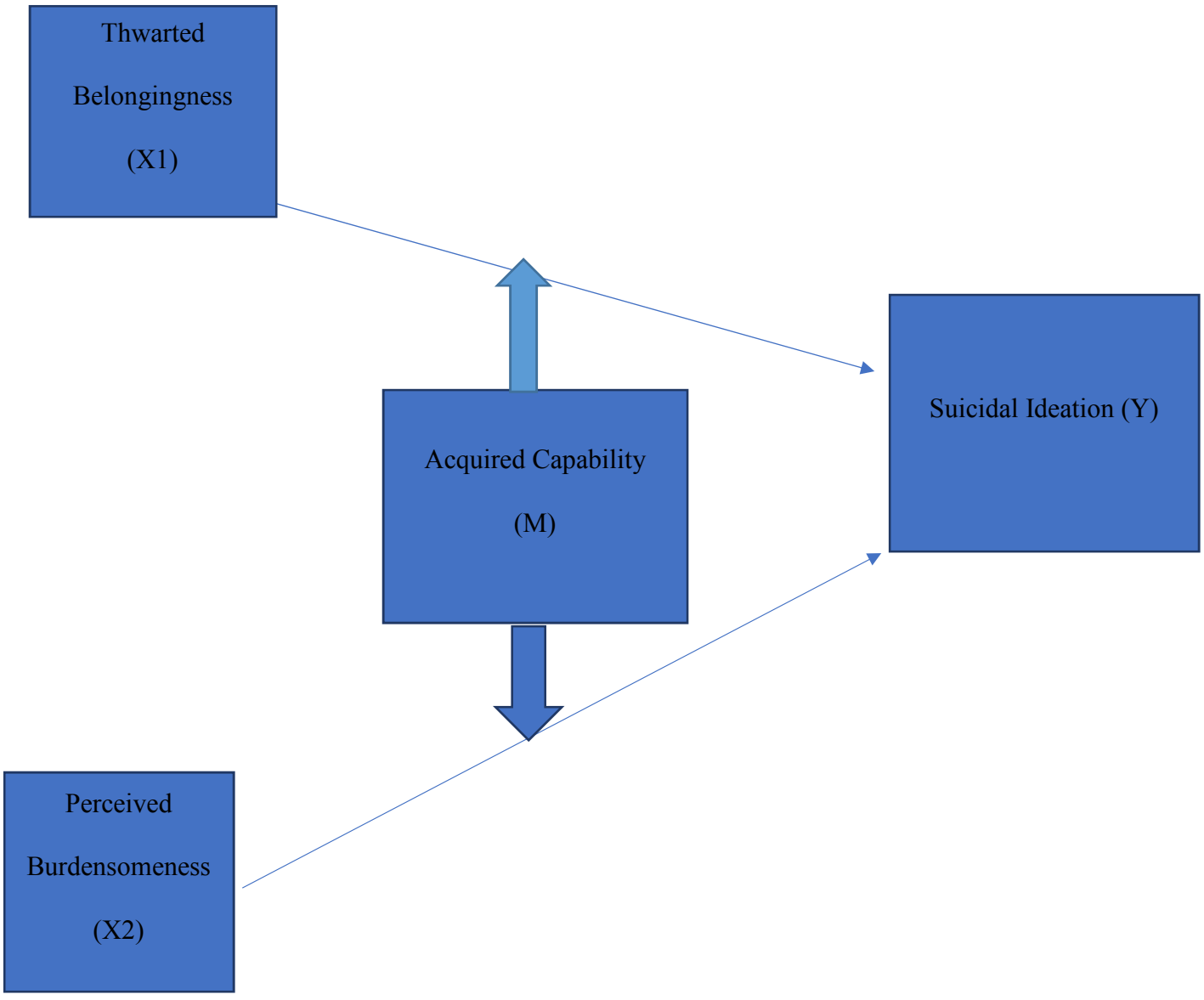
Wilcox, H. C., Arria, A. M., Caldeira, K. M., Vincent, K. B., Pinchevsky, G. M., & Ogrady, K. E. (2010). Prevalence and predictors of persistent suicide ideation, plans, and attempts during college. *Journal of Affective Disorders, 127*(1-3), 287-294. doi:10.1016/j.jad.2010.04.017

Winer, E., Drapeau, C., Veilleux, J., & Nadorff, M. (2016). The association between anhedonia, suicidal ideation, and suicide attempts in a large student sample. *Archives of Suicide Research, 20*(2), 265-272.

Wong, Y., Koo, K., Tran, K., Chiu, Y., Mok, Y., & Mallinckrodt, B. (2011). Asian American college students' suicide ideation: A mixed-methods study. *Journal of Counseling Psychology, 58*(2), 197-209.

Appendix A: Conceptual Diagram of Moderation Analysis

X1 = Thwarted Belongingness, X2 = Perceived Burdensomeness, M = Acquired Capability, Y = Recent Suicidal Ideation



Appendix B: Demographics Questionnaire

What is your age?

What best describes your race/ ethnicity?

- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Other
- Prefer Not to Answer

What best describes you as a college student?

- Undergraduate Student
- Graduate Student
- Other

What best describes your gender identity?

- Man
- Woman
- Transgender
- Gender Fluid
- Other
- Prefer not to Answer

What best describes your sexual orientation?

- Heterosexual
- Homosexual
- Bisexual
- Other
- Prefer not to say

Appendix C: Questions Adapted from the Columbia-Suicide Severity Rating Scale (C-SSRS)

Have you ever attempted to kill yourself (where someone or something else or you did not stop yourself)?

☐ Yes

☐ No

You answered "yes," to the above question, how many times has this happened?

Has there been a time when you started to do something to end your life, but someone or something stopped you before you were able to follow through?

☐ Yes

☐ No

You answered "yes," to the previous question how many times has this happened?

Has there been a time when you started to do something to end your life, but you stopped yourself before you followed through?

☐ Yes

☐ No

You answered "yes," to the above question how many times has this happened?

Appendix D: Beck Scale for Suicidal Ideation (BSS)

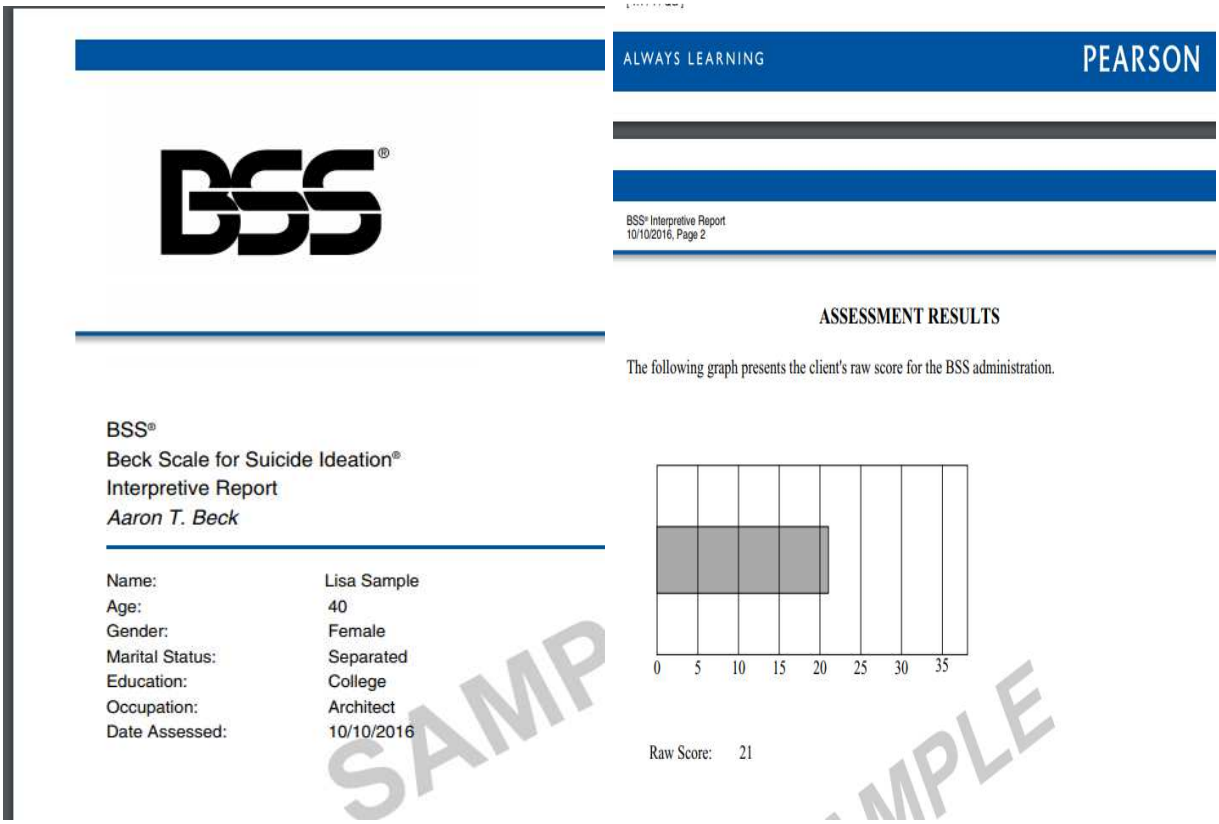
Item and rating	correlation
1. Wish to live	.51**
0. Moderate to strong	
1. Weak	
2. None	
2. Wish to die	.61**
0. None	
1. Weak	
2. Moderate to strong	
3. Reasons for living/dying	.59**
0. For living outweigh for dying	
1. About equal	
2. For dying outweigh for living	
4. Desire to make active suicide attempt	.72**
0. None	
1. Weak	
2. Moderate to strong	
5. Passive suicidal desire	.63**
0. Would take precautions to save life	
1. Would leave life/death to chance	
2. Would avoid steps necessary to save or maintain life	
6. Time dimension: Duration of suicide ideation/wish	.58**
0. Brief, fleeting periods	
1. Longer periods	
2. Continuous (chronic) or almost continuous	
7. Time dimension: Frequency of suicide	.63**
0. Rare, occasional	
1. Intermittent	
2. Persistent or continuous	
8. Attitude toward ideation/wish	.67**
0. Rejecting	
1. Ambivalent; indifferent	
2. Accepting	
9. Control over suicidal action/acting-out wish	.49**
0. Has sense of control	
1. Unsure of control	
2. Has no sense of control	
10. Deterrents to active attempt (e.g., family, religion, irreversibility)	.66**
0. Would not attempt because of a deterrent	
1. Some concern about deterrents	
2. Minimal or no concern about deterrents	
11. Reason for contemplated attempt	.50**
0. To manipulate the environment; get attention, revenge	
1. Combination of 0 and 2	
2. Escape, surcease, solve problems	
12. Method: Specificity/planning of contemplated attempt	.47**
0. Not considered	
1. Considered, but details not worked out	
2. Details worked out/well formulated	
13. Method: Availability/opportunity for contemplated attempt	.22*
0. Method not available; no opportunity	
1. Method would take time/effort; opportunity not readily available	
2a. Method and opportunity available	
2b. Future opportunity or availability of method anticipated	

Item and rating	Item-total score correlation
14. Sense of "capability" to carry out attempt	.39**
0. No courage, too weak, afraid, incompetent	
1. Unsure of courage, competence	
2. Sure of competence, courage	
15. Expectancy/anticipation of actual attempt	.56**
0. No	
1. Uncertain, not sure	
2. Yes	
16. Actual preparation for contemplated attempt	.46**
0. None	
1. Partial (e.g., starting to collect pills)	
2. Complete (e.g., had pills, loaded gun)	
17. Suicide note	†
0. None	
1. Started but not completed; only thought about	
2. Completed	
18. Final acts in anticipation of death (e.g., insurance, will)	.15
0. None	
1. Thought about or made some arrangements	
2. Made definite plans or completed arrangements	
19. Deception/concealment of contemplated suicide	.04
0. Revealed ideas openly	
1. Held back on revealing	
2. Attempted to deceive, conceal, lie	

Note. $N = 90$.
† Item-total correlation could not be computed, since all subjects had a 0 coding.
* $p < .05$.
** $p < .01$.

Due to the BSS being a protected measure, the above 19 items were produced from Beck's seminal article (Beck, 1979).

Appendix E: Sample Integrated Report for the Beck Scale for Suicide Ideation



BSS®
Beck Scale for Suicide Ideation®
Interpretive Report
Aaron T. Beck

Name:	Lisa Sample
Age:	40
Gender:	Female
Marital Status:	Separated
Education:	College
Occupation:	Architect
Date Assessed:	10/10/2016

ALWAYS LEARNING PEARSON

BSS® Interpretive Report
10/10/2016, Page 2

ASSESSMENT RESULTS

The following graph presents the client's raw score for the BSS administration.

0 5 10 15 20 25 30 35

Raw Score: 21

INTERPRETATION

The clinician should consider the possibility that the patient is at **SIGNIFICANT RISK FOR SUICIDE.** She endorses the following BSS statement reflecting active suicide ideation:

- Item Content Omitted.
- Item Content Omitted.

These responses are more alarming given the patient's reported history of one suicide attempt.

The clinician should seriously consider the need for suicide precautions.

The clinician might ask the patient what method she would use to commit suicide. The overall level of risk should be assessed in the context of the full clinical picture, including the patient's level of adaptive functioning, degree of psychosocial stress, personality structure, and clinical syndrome.

The clinician may wish to consider using the *Beck Depression Inventory II* and the *Beck Hopelessness Scale* or other appropriate procedures to assess the patient's level of depression and view of the future. Evidence of high depression and hopelessness warrant greater concern about suicide. In addition, the clinician may wish to administer the BSS again, asking the patient to respond as she would have at the worst point in her life. The resulting BSS raw score can then be used to evaluate the severity of the patient's current condition.

The clinician should carefully examine the pattern of the patient's BSS responses for indications about the reasons for and deterrents to suicide that the patient perceives, along with the extent of planning she has undertaken. The particular statements endorsed by the patient should be considered clues that require further scrutiny and that can be used to structure a clinical interview.

ENDORSED ITEMS

1. Item Content Omitted.
2. Item Content Omitted.

ENDORSED ITEMS

1. Item Content Omitted.
2. Item Content Omitted.
3. Item Content Omitted.
4. Item Content Omitted.
5. Item Content Omitted.
6. Item Content Omitted.
7. Item Content Omitted.
8. Item Content Omitted.
9. Item Content Omitted.
10. Item Content Omitted.
11. Item Content Omitted.

Special Note
The content of the test items is included in the actual reports. To protect the integrity of the test, the item content does not appear in this sample report.

12. Item Content Omitted.
13. Item Content Omitted.
14. Item Content Omitted.
15. Item Content Omitted.
16. Item Content Omitted.
17. Item Content Omitted.
18. Item Content Omitted.
19. Item Content Omitted.
20. Item Content Omitted.
21. Item Content Omitted.

ITEM RESPONSES

1: 2	2: 1	3: 1	4: 2	5: 2	6: 1	7: 1	8: 1	9: 1	10: 2
11: 0	12: 1	13: 1	14: 0	15: 1	16: 0	17: 1	18: 1	19: 2	20: 1
21: 1									

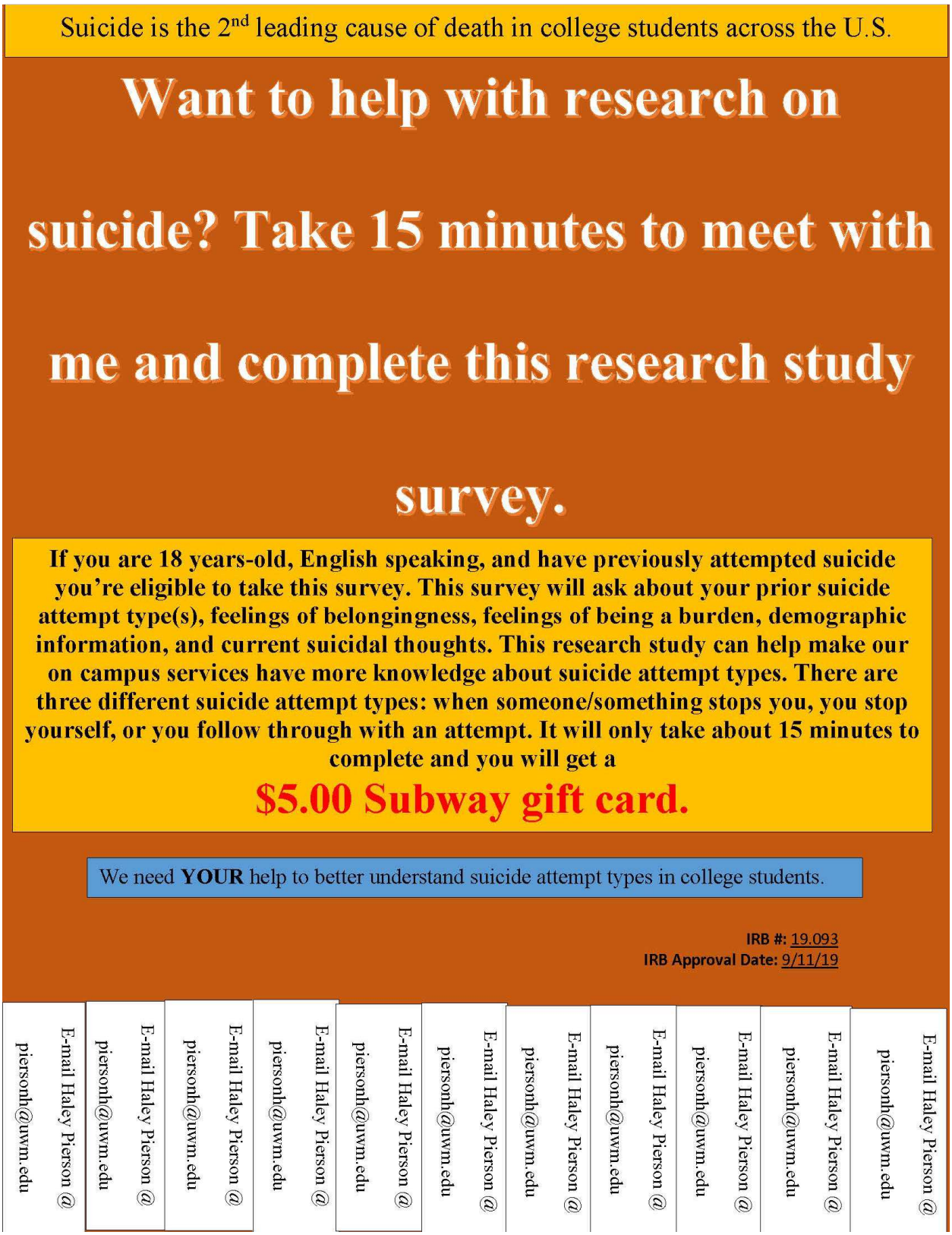
Appendix F: Interpersonal Needs Questionnaire (INQ-15)

The following questions ask you to think about yourself and other people. Please respond to each question by using your own current beliefs and experiences, NOT what you think is true in general, or what might be true for other people. Please base your responses on how you have been feeling recently. Use the rating scale to find the number that best matches how you feel and circle that number. There are no right or wrong answers: we are interested in what you think and feel.

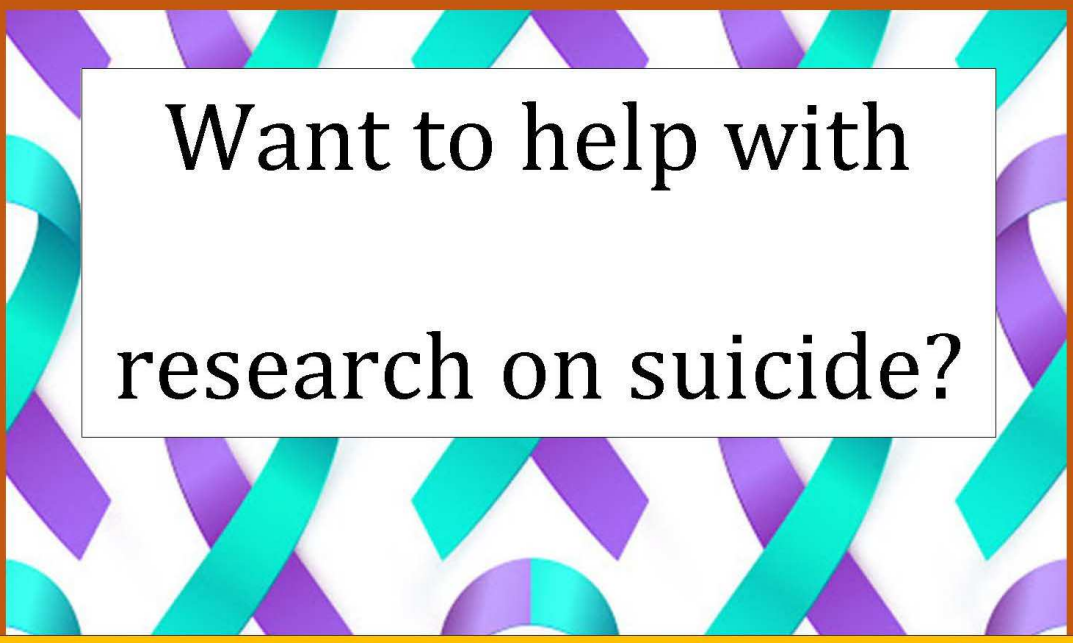
				Somewhat true for me			Very true for me	
1.	These days, the people in my life would be better off if I were gone	1	2	3	4	5	6	7
2.	These days, the people in my life would be happier without me	1	2	3	4	5	6	7
3.	These days, I think I am a burden on society	1	2	3	4	5	6	7
4.	These days, I think my death would be a relief to the people in my life	1	2	3	4	5	6	7
5.	These days, I think the people in my life wish they could be rid of me	1	2	3	4	5	6	7
6.	These days, I think I make things worse for the people in my life	1	2	3	4	5	6	7
7.	These days, other people care about me	1	2	3	4	5	6	7
8.	These days, I feel like I belong	1	2	3	4	5	6	7
9.	These days, I rarely interact with people who care about me	1	2	3	4	5	6	7
10.	These days, I am fortunate to have many caring and supportive friends	1	2	3	4	5	6	7
11.	These days, I feel disconnected from other people	1	2	3	4	5	6	7
12.	These days, I often feel like an outsider in social gatherings	1	2	3	4	5	6	7
13.	These days, I feel that there are people I can turn to in times of need	1	2	3	4	5	6	7
14.	These days, I am close to other people	1	2	3	4	5	6	7
15.	These days, I have at least one satisfying interaction every day	1	2	3	4	5	6	7

Van Orden, K. A., Cukrowicz, K. C., Witte, T. K., & Joiner, T. E. (2012). Thwarted belongingness and perceived burdensomeness: Construct validity and psychometric properties of the Interpersonal Needs Questionnaire. *Psychological Assessment, 24*(1), 197-215.

Appendix G: Flyers



Flyer #2-Approved 12/6/2019



Want to help with research on suicide?

If you are 18 years and older, a college student, English speaking, and have previously attempted suicide you're eligible to take this survey. There are three different suicide attempt types: when someone/something stops you, you stop yourself, or you follow through with an attempt. It will only take about 15 minutes to complete and you will get a

$5.00 Subway gift card.

UHS' 24-hour crisis line: 608-265-5600 (option 2)

IRB #: 19.093
IRB Approval Date: 12/6/19

E-mail Haley Pierson: piersonh@uwm.edu

E-mail Haley Pierson: piersonh@uwm.edu
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Appendix H: Suicide Prevention Resources

>For Life-Threatening Emergencies Call 911<

UWM Students: Norris Counseling Center: 414-229-4716

MENTAL HEALTH CRISIS RESOURCES - GREATER MILWAUKEE AREA

24/7 Suicide Prevention and Other Crisis Hotlines

- **National Suicide Prevention Lifeline**- 1-800-273-TALK (8255)
  - TTY Accessible 1-800-799-4TTY
  - Spanish/Español 1-888-628-9454
  - Veterans Crisis Line 1-800-273-8255, Press 1

- **Trevor Lifeline (LGBTQ)** 1-866-488-7386
- **COPE Hotline** 1-262-377-2673
- **Sexual Assault Treatment Center Crisis Line** (Milwaukee, Aurora) 414-219-5555
- **National Sexual Assault Hotline** 1-800-656-HOPE (4673
- **National Council on Alcoholism and Drug Dependence** 1-800-622-2255
- **National Domestic Violence Hotline** 1-800-799-7233

24/7 Milwaukee Emergency Mental Health Care Numbers

- **Police: Emergency (request CIT officer) 911**
- **Milwaukee County Psychiatric Crisis Service/Admissions 414-257-7260 or 414-257-7222**
- **Milwaukee County Crisis Mobile Team 414-257-7222**

Milwaukee Area Hospitals

- **Aurora Psychiatric Hospital 414-454-6600**
- **Aurora St. Luke's South Shore Behavioral Medicine 414-489-4125**
- **Children's Hospital of WI - Outpatient Psychiatry 414-266-2932**
- **Columbia St. Mary's Hospital Milwaukee 414-291-1200**

- **Milwaukee County Psychiatric Crisis Service/Admissions 414-257-7260**
- **ProHealth Care Behavioral Medicine 262-928-4036**
- **Roger's Memorial Hospital-Brown Deer 414-865-2500**

For Veterans

VeteransCrisisLine.net **Confidential help for Veterans and their families**

- **Call 1-800-273-8255, Press 1**
- **Confidential chat at Text to 838255**

Zablocki VA Medical Center 1-888-469-6614 Ext. 45760
Mental Health Urgent Care Clinic-for urgent mental health services on a walk in basis
(After hours, weekends and holidays)
VA Medical Center Emergency Room-1-888-469-6614 Ext. 41885
RN Helpline 1-888-469-6614

ADDITIONAL RESOURCES FOR CARE

Milwaukee County Access Clinic (walk-in, for uninsured) 414-257-7665

MHA-Wisconsin Mental Health and Wellness Resources for Milwaukee County (searchable) http://www.mhawisconsin.org/milw-resources-search

MHA-Wisconsin's Mental Health and Wellness Resource Guide for Milwaukee County 2015-2016

http://mkehcp.org/wp-content/uploads/2012/07/ReferralDirectory_2014_clr.pdf

HELP FROM PEERS

Warmline-414-777-4729 Saturday, Sunday, Monday, and Wednesday 6-10 PM
A peer run non-crisis support line for people living with mental health issues-adults
www.warmline-milwaukee.webs.com

FOR MORE INFORMATION ON SUICIDE PREVENTION AND EMOTIONAL HEALTH

Milwaukee/Wisconsin

- Mental Health America-Wisconsin:http://www.mhawisconsin.org
- Prevent Suicide Wisconsin:http://www.preventsuicidewi.org
- NAMI Greater Milwaukee:http://www.namigrm.org/
- Southeast Wisconsin Grief Network: http://www.sewgn.com/

- Charles E. Kubly Foundation: http://charlesekublyfoundation.org/
- Children's Hospital of Wisconsin Bereavement Services for Children: http://www.chw.org/patients-and-families/milwaukee-campus/inpatient-visit/during-your-stay/bereavement-program/
- WISE (Wisconsin Initiative for Stigma Elimination): http://wisewisconsin.org/
- UW-Milwaukee Mental Health Resources: http://www.uwm.edu/mentalhealth
- REDgen (Milwaukee children and teens): http://www.redgen.org/
- LiFE of HOPE (Washington County): http://lifeofhopeproject.org/about/
- Center for Suicide Awareness (Appleton): http://www.centerforsuicideawareness.org/

National

- Suicide Prevention Resource Center:http://www.sprc.org
- CDC Suicide Prevention Website:http://www.cdc.gov/violenceprevention/suicide/
- American Association of Suicidology:http://www.suicidology.org
- American Foundation for Suicide Prevention:http://www.afsp.org
- The Trevor Project (LGBTQ): http://www.thetrevorproject.org/
- Rape Abuse and Incest National Network: https://rainn.org/
- National Consortium on Stigma and Empowerment:http://www.stigmaandempowerment.org/
- Active Minds (College Students):http://www.activeminds.org/
- The Jed Foundation (College Students):http://www.jedfoundation.org
- ULifeline (College Students): http://www.ulifeline.org
- Rutgers University Behavioral Health Care (Youth/College): http://ubhc.rutgers.edu/tlc/suicide_awareness.html
- Rutgers MSW Resources: http://online.rutgers.edu/master-social-work/counseling-guide-for-suicide-prevention/

Apps/Social Media

PHONE APPS:

To help a suicidal friend:

- **A Friend Asks: http://jasonfoundation.com/get-involved/student/a-friend-asks-app/**

Collect items on your smartphone to use as supports when distressed or thinking of suicide:

- **Virtual Hope Box: http://t2health.dcoe.mil/apps/virtual-hope-box**

- **My3: http://www.my3app.org/**

To help make it more difficult to access a way to kill oneself:

- **Suicide Safer Home: https://itunes.apple.com/us/app/suicide-safer-home/id911530570?mt=8**

Appendix I: Suicide Prevention Resources

If you're thinking about suicide, or if you're concerned for the well-being of someone you know, call UHS to speak with an on-call crisis counselor who will help address your most pressing concerns, assess your safety, and help connect you with follow-up service needs.

608-265-5600 (option 9)

This service is always available, including weekends, holidays, semester breaks, and all summer.

We receive calls from students, but also from family members, partners, friends, roommates, faculty, housing staff, and other campus community members who are concerned about a student.

UW Hospital
600 Highland Avenue
608-262-2398
Meriter Hospital
202 S. Park Street
608-267-6206
St. Mary's Hospital
707 S. Mills Street
608-258-6800

Counseling Psychiatry Training Clinic provides confidential counseling services for individuals, families, adolescents and children. Services are provided on a sliding scale fee based on income.

Psychology Research & Training Clinic provides confidential psychotherapy and assessment services to individuals, families, and children from the UW and greater Madison community. PRTC is a fee-for-service clinic.

Journey Mental Health Center is a nonprofit agency that provides comprehensive mental health and substance abuse services.

Emergency Resources

If a situation is life-threatening, always call 911 or go to the nearest emergency room. Emergency rooms near campus:

- **UW Hospital ER** - 600 Highland Avenue
- **Meriter Hospital ER** - 202 S. Park Street
- **Mary's Hospital ER** - 707 S. Mills Street

UW Police Department: The UW-Madison Police Department is a full-service law enforcement agency that safeguards and serves the campus community.

Lifelines

UHS
(608)-265-5600 - option 9 for 24-hour crisis

National Suicide Prevention Lifeline
(800)-273-8255 (TALK)
TTY:1-(800)-799-4889 (4TTY)
Ayuda en Español: 888-628-9454

Veterans Suicide Prevention Lifeline
(800)-273-8255 (TALK) - select 1
Text message: 838255

The Trevor Project - LGBTQ Suicide Prevention
(866)-488-7386

Journey Mental Health Center - Madison
(608)-280-2600 - 24-hour crisis services
(608)-280-2700 - General reception

Appendix J: Correlational Matrix Table

Table 1

Correlations of Study Variables

Variable	SARS Score	Current Suicidal Ideation	Perceived Burdensomeness	Thwarted Belongingness
1.SARS	--	.048	.029	.102
2.Current Suicidal Ideation	.048	--	.362*	.353*
3.Perceived Burdensomeness	.029	.362*	--	.642**
4. Thwarted Belongingness	.102	.353*	.642**	--

Note. * $p < .05$. ** $p < .01$.

Appendix K: Demographic Variables

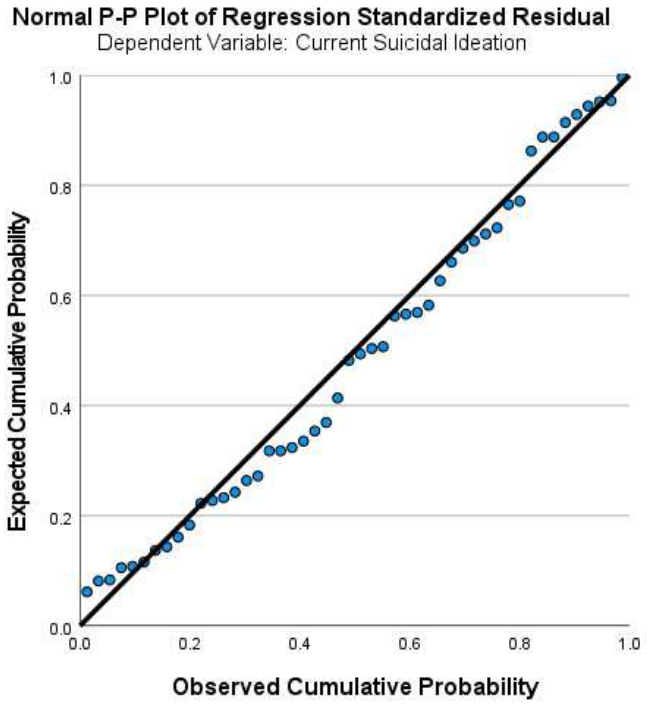
Sample Demographics provided with Total Percentage

		Total
Gender %		
	Woman	62.5
	Man	31.3
	Transgender	2.1
	Gender Fluid	2.1
	Other	2.1
Race %		
	American Indian/Alaska Native	4.2
	Asian	10.4
	Black/ African American	6.3
	Prefer not to Answer	2.1
	White	68.8
	Other	8.3
Student Status %		
	Undergraduate	75
	Graduate	25
Sexual Orientation%		
	Bisexual	27.1
	Heterosexual	56.3
	Homosexual	2.1
	Prefer not to Answer	4.2
	Other	10.4
Age%		
	18-20 years-old	27.7
	21-23 years-old	34.1
	24 and up	33.9
	Unreported	2.1

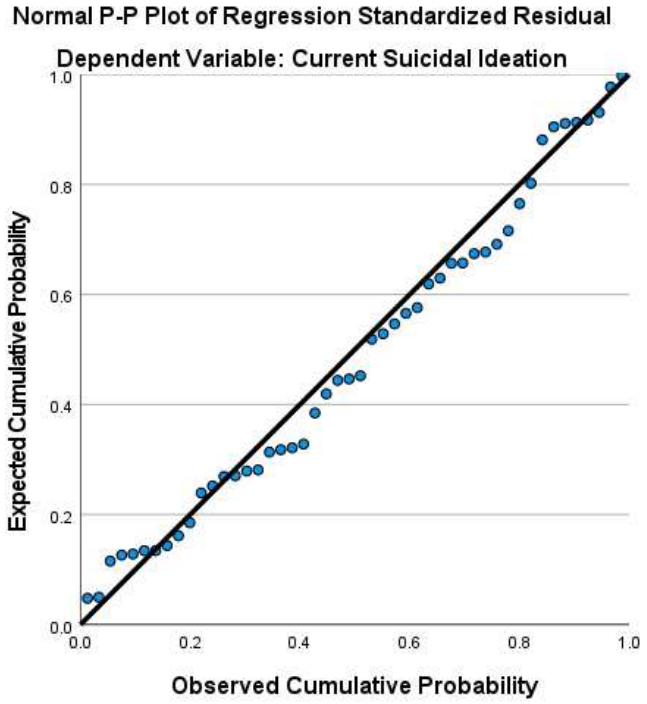
Note: Percentages are based off a total sample size 47.

Appendix L: Residual Plots

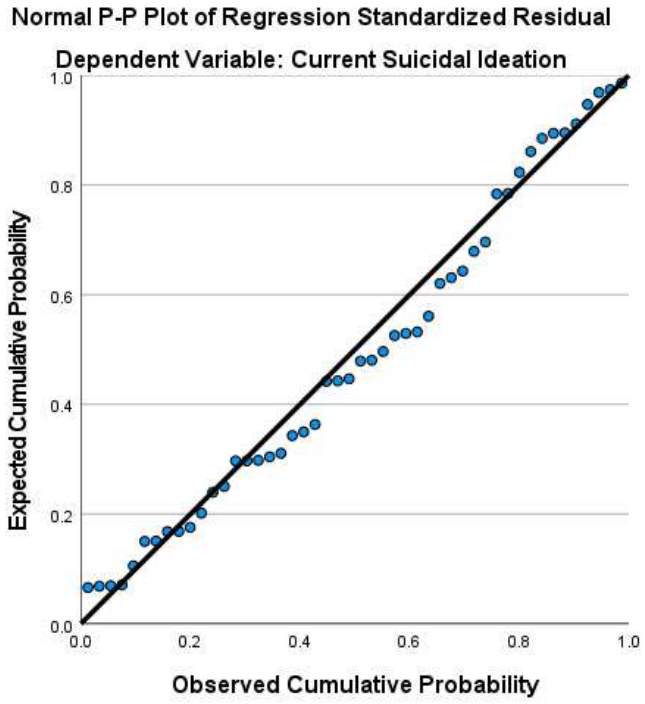
A. Hypothesis 1



B. Hypothesis 2



C. Hypothesis 3



Appendix M: C-SSRS Already Enrolled Subjects Questions about Suicidal Behavior

(Check all that apply, so long as these are separate events; must ask about all types)	**Study Entry**	**Study Start**
Actual Attempt: A potentially self-injurious act committed with at least some wish to die, *as a result of act.* Behavior was in part thought of as method to kill oneself. Intent does not have to be 100%. If there is ***any*** intent/desire to die associated with the act, then it can be considered an actual suicide attempt. ***There does not have to be any injury or harm***, just the potential for injury or harm. If person pulls trigger while gun is in mouth but gun is broken so no injury results, this is considered an attempt. Inferring Intent: Even if an individual denies intent/wish to die, it may be inferred clinically from the behavior or circumstances. For example, a highly lethal act that is clearly not an accident so no other intent but suicide can be inferred (e.g., gunshot to head, jumping from window of a high floor/story). Also, if someone denies intent to die, but they thought that what they did could be lethal, intent may be inferred. ***Have you made a suicide attempt?*** ***Have you done anything to harm yourself?*** ***Have you done anything dangerous where you could have died?*** ***What did you do?*** ***Did you_____ as a way to end your life?*** ***Did you want to die (even a little) when you_____?*** ***Were you trying to end your life when you _____?*** ***Or Did you think it was possible you could have died from_____?*** ***Or did you do it purely for other reasons / without ANY intention of killing yourself (like to relieve stress, feel better, get sympathy, or get something else to happen)?*** (Self-Injurious Behavior without suicidal intent) If yes, describe:	**Yes No** ☐ ☐ Total # of Attempts _____ **Yes No** ☐ ☐	**Yes No** ☐ ☐ Total # of Attempts _____ **Yes No** ☐ ☐
Has subject engaged in Non-Suicidal Self-Injurious Behavior?		
Interrupted Attempt: When the person is interrupted (by an outside circumstance) from starting the potentially self-injurious act *(if not for that, actual attempt would have occurred).* Overdose: Person has pills in hand but is stopped from ingesting. Once they ingest any pills, this becomes an attempt rather than an interrupted attempt. Shooting: Person has gun pointed toward self, gun is taken away by someone else, or is somehow prevented from pulling trigger. Once they pull the trigger, even if the gun fails to fire, it is an attempt. Jumping: Person is poised to jump, is grabbed and taken down from ledge. Hanging: Person has noose around neck but has not yet started to hang - is stopped from doing so. ***Has there been a time when you started to do something to end your life but someone or something stopped you before you actually did anything?*** If yes, describe:	**Yes No** ☐ ☐ Total # of interrupted _____	**Yes No** ☐ ☐ Total # of interrupted _____
Aborted Attempt: When person begins to take steps toward making a suicide attempt, but stops themselves before they actually have engaged in any self-destructive behavior. Examples are similar to interrupted attempts, except that the individual stops him/herself, instead of being stopped by something else. ***Has there been a time when you started to do something to try to end your life but you stopped yourself before you actually did anything?*** If yes, describe:	**Yes No** ☐ ☐ Total # of aborted	**Yes No** ☐ ☐ Total # of aborted

Curriculum Vitae

Doctor of Philosophy, Counseling Psychology May 2021
The University of Wisconsin-Milwaukee (UWM): Milwaukee, WI.

- Department: Educational Psychology
- APA Accredited
- Dissertation Title: Suicide Attempt Types in College Students

Master of Science, Counselor Education May 2015
East Carolina University: Greenville, NC.

- Concentration in Student Affairs & College Counseling.
- CACREP Accredited
- GPA 4.0

Bachelor of Arts, Psychology May 2013
East Carolina University: Greenville, NC.

- Minor in Child Development & Family Relations
- GPA: 3.40

CERTIFICATIONS

Licensed Professional Counselor (LPC) License #7489-125 Expires February 2021
Substance Abuse Counselor-In Training (SAC-IT) License #17622-130 Expires February 2021
National Certified Counselor (NCC) #628148 Expires September 2025

COUNSELING EXPERIENCE

The University of Wisconsin-Madison August 2019-July 2020
University Health Services: Mental Health Services-Doctoral Intern
Supervisors: Ellen Marks, PhD., Psychologist (3631) & Jennifer Moulton, Ph.D., Psychologist (3391)

- Served as a Behavioral Health Consultant, working in a medical setting, to identify and treat behavioral health problems.
- Provided individual therapy to an average of 10 individual sessions per week through a Brief Intermittent Model of care.
- Co-facilitated two groups per semester, one being an Interpersonal Therapy Group, as well as a Graduate Support Group and a substance use support group.
- Conducted crisis assessments and safety planning through weekly on-call crisis consultation services.
- Provided supervision to a masters' level practicum student to enhance the growth and development of trainees. Essential duties in the role of supervisor include the conceptualization of their clinical work with clients, their development within an agency, and their multicultural competence.

Rogers Behavioral Health-Child and Adolescent Day Treatment April 2017-July 2019

Psychological Assistant
Supervisor: Nancy Goranson, PsyD., Psychologist (1624)

- Assisted the attending psychologists with patient care in the Child/Adolescent Day Treatment Program.
- Duties included the evaluation of patients for admission to the Day Treatment Program, collaboration with other staff in the coordination of care, and the provision of direct patient services.
- Conducted DBT skills groups when needed for patients in both PHP (Partial Hospitalization) and IOP (Intensive Outpatient) levels of care.

Marquette University Counseling Center September 2017-May 2018
Doctoral Practicum Student
Supervisor: Jodi Blahnik, Ph.D., Psychologist (2847)

- Provide ongoing individual counseling services and maintain a caseload of 8-10 weekly clients who experience many conditions including: career concerns, transition issues, mood disorders, anxiety disorders, eating/body image issues, ADHD issues, alcohol/substance abuse issues, and interpersonal issues, among others.
- Participate in weekly psychiatric case conferences in the coordination of client care.
- Provide on-call crisis services weekly for those students who experience distress as well as faculty and staff who consult on student issues.
- Co-facilitate weekly group therapy sessions on mindfulness meditation strategies.
- Provide outreach programming on stress management techniques throughout critical parts of the semester such as midterm and final examinations.

The University of Wisconsin-Milwaukee September 2016-May 2017
Norris Health Center: Counseling & Consultation Services-Doctoral Practicum Student
Supervisor: JoAnne Graham, PhD., Psychologist (1171)

- Provide ongoing individual counseling services through use of a short-term therapy model.
- Conduct intake assessments as well as outreach programming such as College SOS, Let's Talk, and other programs across UWM's campus.
- Complete a Treatment Team Case Review to present a current client's case to receive feedback as well as integrated care.
- Treat clients from a college student population ranging in disorders such as eating/feeding disorders, personality disorders, substance-abuse disorders, depression, and anxiety.

TEACHING EXPERIENCE

Instructor: Multicultural Counseling COUNS 715 September 2016-May 2018
The University of Wisconsin-Milwaukee, Milwaukee, WI.

- Instruct masters' level students to examine cultural issues that are evidenced to have an impact on the psychological assessment, treatment, consultation, and education of people from different racial, ethnic, and sociocultural backgrounds.
- Cultural issues that are addressed include ethics, theory, competencies, models of identity, and discussions of marginalized groups.
- Evaluate masters' counseling students on the Multicultural Competencies in Professional Counseling.
- Multicultural education instruction includes the following: content integration, knowledge construction, prejudice reduction, equity pedagogy, and empowering school culture

Instructor: Counseling Children and Adolescents COUNS 816 January 2018-May 2018
The University of Wisconsin-Milwaukee, Milwaukee, WI.

- Instruct masters' students through an online modality to recognize emotional and behavioral problems within childhood and adolescence that may interfere with academic and social development as indicated by weekly readings and online discussions of material.
- Instruct students to become familiar with counseling interventions aimed at addressing multiple child and adolescent concerns as indicated by weekly readings and online discussions of material.
- Students should develop case conceptualizations and counseling/treatment plans for specific clients as indicated by assignments targeting these activities.
- Students will understand how school-based prevention programs and intervention techniques for children and adolescents are developed and conceptualized as indicated by weekly readings, online discussions of material, and assignments targeting this activity.

RESEARCH

- Pierson, H, & Lamborn, S. D (January, 2018). Teaching about diversity in a Multicultural Family class for graduate students. Presented at the Teaching and Learning Symposium: Intentionality and Impact for facilitating success for all students. UWM, Milwaukee, WI.

- Lamborn, S. D., & Pierson, H. (April, 2018). Methodological and developmental approaches to diversity training with graduate students regarding multicultural families. Poster presented at the Biennial Meetings of the Society for Research on Adolescence, Minneapolis, MN.

Nicolet High School's Coping and Wellbeing Survey September 2016-May 2017

Primary Investigator: Dr. Chavez-Korell

- Administered questionnaires about stress, coping, and wellbeing to high school students in hopes to improve the school climate
- Entered data and disseminated information to stakeholders at Nicolet High School upon results.

Resiliency Project: Research Team Member September 2015-May 2016

Primary Investigator: Dr. Chavez-Korell

- Study Title: Breaking the Relationship between Economic Hardship and Associated Risks: Examining the Influence of Coping and Social Support
- Administered the Achenbach Adult Self-Report and the Achenbach Child Behavior Checklist with parents and adolescents while audio recording to provide accuracy of the information.

Implications for the helping profession: A case study of First Responders' perceptions of resiliency during traumatic events. September 2014-December 2014