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Does Self-Compassion Serve as a Protective Factor Against the Development of Suicidal Ideation?

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Does Self-Compassion Serve as a Protective Factor Against the Development of Suicidal Ideation?

by

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Does Self-Compassion Serve as a Protective Factor Against the Development of Suicidal Ideation?

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Suicide is believed to be the second leading cause of death among college students, and recent data on the prevalence of suicidal ideation on college campuses signifies the need for suicide prevention efforts. Historically prevention efforts have emphasized identifying and shepherding into specialized mental health treatment those students who are currently in a heightened state of risk. One limitation of this approach is that college mental health services find themselves stretched to capacity, with utilization rates steadily on the rise. Thus, several scholars have called for suicide prevention efforts to take a public health approach, seeking to intervene more broadly by improving the mental health of the larger population. One way of broadening these prevention efforts is to investigate factors that preserve the emotional and mental resilience of college students facing similar life stressors and distress levels. Thus, the suicidality literature has seen an increase in the investigation of these protective factors.

Self-compassion emerges in the literature as a promising protective factor that may have applicability in shielding individuals from entering the continuum of suicidality.

This study aims to build upon existing research by examining within a college student population the relationship between suicidal ideation and possessing a self-compassionate attitude, a relationship that has yet to be examined in the literature. Further goals of this research include the following: determining if any of the six subscales of the self-compassion construct in particular convey more robust protection from developing suicidal ideation, examining the potential mediating effect of self-compassion on the relationship between depression and suicidal ideation, and investigating whether self-compassion has a differential influence on developing suicidal ideation for women as compared to men. The proposed study will use a stratified randomized case control design in which those endorsing suicidal ideation in the past month will be matched with those indicating the absence of suicidal ideation in the past month on perceived impact of recent life stress and demographic characteristics. Self-report methods will include a measure of self-compassion, depression, life events, and an item aimed at examining presence or absence of suicidal ideation during the past month. Findings from this study will contribute to an understanding of resilience factors that protect from the development of suicidality and will have implications for intervening broadly at the population level.

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Introduction

College student suicide is an issue that garners much attention from researchers, campus stakeholders, parents, students and the media alike. Suicide is the third leading cause of death among individuals 15-24 years old (Centers for Disease Control and Prevention [CDC], 2007) and it is believed to be the second leading cause of death among the college student population (Suicide Prevention Resource Center [SPRC], 2004).

The need for suicide prevention and mental health promotion is given prominence by recent data on the widespread prevalence of suicidal ideation on college campuses (Drum, Brownson, Burton Denmark, & Smith, 2009), highly publicized lawsuits brought against universities for student deaths by suicide (Hoover, 2005), and increased coverage and discussion of these matters amongst the popular media (Haas, Hendin, & Mann, 2003). This recent scrutiny among the popular press and lay public of the issue of suicide and the role universities play in preventing it has created expectations that colleges and universities claim some responsibility for the prevention of student suicide (Franke, 2004; Sontag, 2002). This has caused universities to examine the existing policies focused on suicide prevention and to increase their efforts in this domain (Arenson, 2004; Pavela, 2006). In response to this shift, the increasing recognition of the role of the university to serve as stewards of college students' mental health led Congress to pass the Garrett Lee Smith Memorial Act (2004), which provides funding to develop and supplement suicide screening and prevention programming on college campuses (Stephenson, Pena-Shaff, & Quirk, 2006).

Current approaches to college suicide prevention are conceptualized as primary and secondary modes of prevention. The primary mode focuses on every member of a population of risk, aiming prevention efforts toward individuals regardless of whether they are currently in a state of heightened risk, while secondary prevention prioritizes those individuals who are exhibiting increased risk (Schwartz, 2006c). College counseling centers play a role in secondary prevention, tending to focus efforts on shepherding at-risk students into treatment, whereas university policies (e.g. restricting access to means) and other population-based prevention strategies function within the primary mode of prevention (Schwartz & Friedman, 2009).

Staying focused on secondary prevention at the exclusion of primary prevention is limited in that counseling centers already feel that resources are stretched to capacity (Gallagher, 2009). Further, of those students who complete suicides, a mere 20% received services from their campus counseling center (Kisch, Leino, & Silverman, 2005; Schwartz, 2006b). This suggests that the demand is high for campus mental health services but that those students most in need may not be finding their way into treatment. Several researchers have called for suicide prevention efforts to take a public health approach, operating from Rose's (1985) theorem that large numbers of individuals at low risk may result in more instances of a disorder than small numbers of individuals at high risk (Drum et al., 2009; Knox, Conwell, & Caine, 2004, Schwartz, 2006c).

Further, some efforts have been made to move away from merely examining the disease end of the spectrum in investigating what leads to the development of suicidality and mental disorder in favor of focusing on what keeps college students mentally hardy.

College life brings with it certain levels of stress and challenge, yet most students never consider suicide or become mentally ill. This has led to increased investigation of those factors that protect individuals from developing a mental disorder or exhibiting suicide-related behaviors (Beautrais, Collings, & Ehrhardt, 2005; Beautrais, Gibb, Fergusson, Horwood, & Larkin, 2009; Birckmayer & Hemenway, 1999; Cha & Nock, 2009; Grossman et al., 2005; Rutter, Freedenthal, & Osman, 2008; Taliaferro et al., 2009). Others have gone so far as to suggest that fostering the positive mental health of the broader population deserves due attention in the spectrum of mental health intervention (National Research Council and Institute of Medicine [NAS-IOM], 2009). Developments in our understanding of these protective elements of intervention will serve to expand the offerings that universities can make in the area of suicide prevention and broad mental health promotion.

The construct of self-compassion emerges as a promising protective factor in the realm of suicide prevention and advancing positive mental health among university students. Broadly, self-compassion entails treating oneself with kindness when confronted with challenging or difficult periods in one's life, observing one's emotions while holding them in balanced awareness and recognizing that by being human, we all suffer (Neff, 2003a). Given the extreme negative context within which suicidality comes to bear on the student mind, it is expected that holding a self-compassionate attitude may serve as an adaptive approach in the face of hard times, lowering one's risk for engaging in suicidal ideation and suicide-related behaviors.

The proposed study examines the protective effects of self-compassion against the development of suicidal ideation. This information will contribute to an improved understanding of the underlying mechanisms that cause some individuals to turn to suicide as a solution while others do not. Further, this study can inform campus intervention efforts aimed at promoting the mental health of the broader campus community.

Integrative Analysis

Suicide Rates Among College Students

Despite being considered the second leading cause of death on college campuses (Suicide Prevention Resource Center [SPRC], 2004), gathering accurate data on suicide rates among college students poses a challenge, as suicide completions are a low base rate phenomenon. Further, data collection methods of suicide rates have historically lacked standardized survey methodologies or sampling techniques, creating difficulty in coming to precise conclusions about the true incidence of college student suicide (Lipschitz, 1995; Silverman, 1993; Silverman, Meyer, Sloane, Rafell, & Pratt, 1997). Challenges reporting accurate completion rates are further compounded by the underreporting of suicides—between 25 and 50%—that occurs due to campuses neglecting to gather data on those suicides that are not classifiable as suicides (i.e. suicides mislabeled as accidents) or that occur outside the realm of university involvement (e.g. during winter or summer breaks, soon after a student drops out) (Rudd, 1989; Silverman, 1993; Silverman et al., 1997).

These methodological limitations have resulted in wide variation of reported suicide rates. In one review of the literature, Lipschitz (1990) reported that rates of college student suicide have been highly inconsistent, ranging from 5 to 50 per 100,000. Lipschitz (1990) attributes this variation in findings to methodological limitations, namely sampling from populations with wide variation in a variety of student and institutional characteristics, such as socioeconomic status (SES), ethnicity, and

geographic location, among others. More recently, researchers have agreed that a more accurate suicide rate is between 6.5 and 7.5 per 100,000, and that this figure is approximately half of college students' age- and gender-matched counterparts (Silverman et al., 1997; Schwartz, 2006b; Schwartz & Whitaker, 1990). Further, these authors report that nearly all this reduction is attributable to the reduced access to firearms on college campuses (Schwartz, 2006c; Silverman et al., 1997).

Gender differences in completed suicides have been well documented in the literature, with female students having rates approximately half that of male students through the undergraduate years (Silverman et al., 1997; Schwartz & Whitaker, 1990). This difference has been attributed to the comparative lethality of methods favored by men (e.g. firearms) (Rudd, 1989). However, attending college appears to convey greater benefit to males given that male students have lower suicide rates relative to their nonstudent peers than female students. Again, this difference is likely to be connected with the close regulation of firearms on campus (Schwartz & Whitaker, 1990).

The relative benefits of college life that may convey protection to all college students include access to free or low-cost health services on campus, student support services, greater peer support and mentorship, restrictions on accessibility to firearms, closer monitoring of alcohol use and a clearer sense of purpose among college students (Haas, Hendin & Mann, 2003; Schwartz, 2006c; Silverman et al., 1997; Silverman, 2005). In spite of the relative protective environment a college campus provides, the prevalence of completed suicide remains a key concern among administrators and campus health care providers.

College Student Suicidality

The lexicon of suicidality.

Suicidality describes the totality of suicide-related ideations and behaviors, and while the term is frequently used to suggest completed suicides, in this context suicidality will refer to suicidal thoughts and desires and a range of behaviors related to suicide, up to and including attempts to die by suicide (O'Donnell, L., O'Donnell, C., Wardlaw & Stueve, 2004; Silverman, Berman, Sanddal, O'Carroll, & Joiner, 2007a).

Suicidal ideation has evolved in its definition, ranging from passive thoughts or fantasies about suicide to distinct plans or even attitudes toward suicide (Beck, Kovacs, & Weissman, 1979; Maris, 1992; McAuliffe, 2002). Following the nomenclature proposed by O'Carroll, Berman, Maris and Moscicki (1996), for the purpose of this study suicidal ideation will refer more succinctly to any self-reported thoughts of engaging in suicide-related behavior. The nomenclature proposed by O'Carroll and colleagues (1996) was later revised by Silverman, Berman, Sanddal, O'Carroll and Joiner (2007a, 2007b), and this revision attempts to detail various sub-types of suicidal thoughts and behaviors based on the presence of intent and/or injury. This distinction is worth making, in that the presence of suicidal ideation does not guarantee the presence of strong suicidal intent, and in fact a low percentage of ideators endorse a strong intent to die (King, 1997; Maris, 1992; McAuliffe, 2002). Further, O'Carroll and colleagues (1996) define *suicide* as any death resulting from intentional self-inflicted injury, *suicide attempt* as any potentially self-injurious behavior in which there is evidence of intent to die, and *suicide*

threats are those behaviors that stop short of action but suggest that the individual intended self-harm.

Prevalence of suicidality on college campuses.

In contrast to completed suicides, suicidal ideation is fairly prevalent on college campuses. The National College Health Risk Behavior Survey [NCHRBS] is a large-scale, national study that is a frequently referenced survey on college health issues. This study found that approximately 10% of students had seriously considered suicide in the past year, with approximately 1.5% reporting attempting suicide (CDC-NCHRBS, 1995). However, two relatively recent and oft-cited wide-ranging, nationwide surveys on college student health—the American College Health Association's annual National College Health Assessment [ACHA-NCHA] and the survey conducted by the National Research Consortium of Counseling Centers in Higher Education—report that approximately 4 to 6% of these samples endorsed seriously considering suicide in the past 12 months, with just under 1% reporting making an attempt in the past year (ACHA-NCHA, 2008; Drum, Brownson, Burton Denmark & Smith, 2009). Yet another survey has found that as many as 43.7% of students reported having suicidal ideation in the past year, with 5.5% reporting having made an attempt (Rudd, 1989).

Rudd (1989) discovered that an equal percentage of males and females experienced suicidal thoughts, and no significant difference emerged between the percentage of males and females reporting having made an attempt. This finding is in agreement with other data that shows nearly equal percentages of males and females attempting suicide, with the qualification that males are more likely to be successful

when making an attempt (Gispert, Wheeler, Marsh, & Davis, 1985; Maris, 1985). Further, other surveys report that the prevalence of suicidal ideation does not vary by gender (Brener, Hassan, & Barrios, 1999; Langhinrichsen-Rohling, Arata, Bowers, O'Brien, & Morgan, 2004; Westefeld et al., 2005). In contrast, some evidence suggests that female students may experience suicidal thoughts more frequently than male students (Stephenson, Pena-Shaff, & Quirk, 2006).

Suicidality can be conceptualized as a continuum, originating with lower-level morbid ruminations, such as "I wish this all would end" (Rudd and Joiner, 1998), progressing to active suicidal thoughts, and finally advancing to the severe end of the spectrum including creating a plan or making preparations for a suicide attempt up to attempting suicide once or multiple times (Drum et al., 2009; Silverman et al., 2007a, 2007b). Students who begin to consider suicide as an option have a tendency to progress further along the continuum, and repeated episodes of suicidal thoughts or behaviors can serve to habituate the individual to suicidal actions and thus lower the threshold for taking action on the suicidal thought (Drum et al., 2009; Joiner et al., 2005; Schwartz, 2006b; Westefeld et al., 2005). Thus, it is important to gain insight into how protective and risk factors affect a student's progression along the continuum of suicidality.

Risk Factors for Suicidality

In the suicidality literature, much emphasis has been placed on determining those markers that have a significant relationship to suicide and suicidal behavior, and thus can be identified as risk factors (Schwartz, 2006b). Recently, theorists have sought to classify risk factors for suicide as either fixed or variable and proximal or distal (Berman, Jobes,

& Silverman, 2006; Moscicki, 1995). Risk factors that are fixed are those characteristics that cannot be changed within a person, such as race or gender, whereas variable risk factors, such as depression or hopelessness, can resolve of their own accord or through intervention (Kraemer, Kazdin, Offord, & Kessler, 1997). Distal risk factors are those qualities present within a person that predispose them to suicidal thoughts or behavior, such as the character trait of impulsivity or increased vulnerability due to the presence of a preexisting mental disorder (Berman, Jobes & Silverman, 2006). Proximal risk factors include situational or life events that may prompt a suicide attempt, such as a recent negative life event (Moscicki, 1995). Without the presence of a distal risk factor, other more proximal risk elements might not build up to a breaking point resulting in a suicide attempt. To date, the literature lacks a clear, integrated model for how these variables interact in contributing to suicide while also accounting for the myriad individual differences that underlie each case (Reinecke & Didie, 2005; Rudd, 2004). In effect, there is not yet a coherent understanding of the causal mechanisms underlying vulnerability factors and how they develop into suicide-related thoughts and behaviors.

Fixed risk factors.

As mentioned above, the majority of research suggests suicidal ideation and attempts do not vary by gender (Rudd, 1989; Westefeld et al., 2005), although men exhibit higher rates of suicide completions (Brent, Baugher, Bridge, Chen, & Chiappeta, 1999; Silverman et al., 1997; Schwartz & Whitaker, 1990). Sexual orientation plays a role in suicidal risk in that lesbian, gay and bisexual students are at higher risk for seriously considering suicide (Kisch, Leino, & Silverman, 2005) and suicide attempts

(D'Augelli et al., 2006). Although Rudd (1989) did not find any racial differences in suicidal thoughts or behaviors, several studies have identified increased risk for particular racial and ethnic groups. In analyzing the 2000 NCHA data, Kisch, Leino, and Silverman (2005) discovered that being of Asian descent increased the risk of seriously considering suicide. Further, European American students are reported as endorsing more suicidal ideation than African American students (Bingham, Bennion, Openshaw & Adams, 1994; Gutierrez, Muehlenkamp, Konick, & Osman, 2005; Kisch, Leino & Silverman, 2005). Lastly, evidence suggests that Latina adolescents (Canino & Roberts, 2001) & American Indian/Alaska Native adolescents (LeMaster, Beals, Novins, Manson & the AI-SUPERPFP Team, 2004) are at higher risk for attempts than other racial and ethnic groups.

Distal risk factors.

Cognitive and emotional factors have been examined for their association with suicide risk. Several studies suggest that problem-solving deficits are a risk factor for suicidal behavior (Rudd, Rajab, & Dahm, 1994; Wingate, Van Order, Joiner, Williams, & Rudd, 2005) and the brooding subtype of rumination has been found to be predictive of suicidal ideation beyond the impact of negative life events (Chan, Miranda, & Surrence, 2009). It has been well established that depression and hopelessness are linked with suicidality (Davila & Daley, 2000; Konick & Gutierrez, 2005; Weber, Metha, & Nelson, 1997; Weishaar & Beck, 1992; Westefeld & Furr, 1987). However, not all students who endorse depressive symptoms have considered suicide, but nearly all who have considered suicide endorse depressive symptoms (Abramson et al., 1998; Furr,

Westefeld, McConnell, & Jenkins, 2001; Kisch, Leino, & Silverman, 2005). Some evidence has pointed toward self-esteem as a predictor of suicidal ideation, after controlling for depression (Bhar, Ghahramanlou-Holloway, Brown, & Beck, 2008; Vella, Persic, & Lester, 1996). In a review, O'Connor (2007) concluded that a subtype of perfectionism—self-critical evaluative concerns—and more concisely self-criticism were repeatedly correlated with suicidality. However, a robust evidence base supports that the strongest and most consistent predictor of a future attempt is the presence of a past attempt (Brent et al., 1999; Joiner et al., 2005; Maris, 1992; Schwartz, 2006b).

Proximal risk factors.

Availability of firearms has been identified as a key risk factor in connection with attempted suicides (Miller, Barber, Azrael, Hemenway, & Molnar, 2009; Papadopoulos et al., 2008) and in fact account for as many as half of all suicides (Schwartz & Whitaker, 1990). Social isolation and feeling subjectively alone appears to be strongly and consistently correlated with the development of suicidal thoughts and behaviors (Joiner & Rudd, 1996; Rubenstein, Heeren, Housman, & Rubin, 1989; Stravynski & Boyer, 2001). The phenomenon of negative life events (NLE) or negative life stress precipitating suicidal ideation and attempts has been well established in the literature (Bonner & Rich, 1987; Konick & Gutierrez, 2005; Schotte & Clum, 1982). In the suicidality literature, negative life events are often measured using Sarason, Johnson, and Siegel's (1978) Life Experiences Survey (LES), which is a self-report measure that allows individuals to rate the perceived positive or negative impact of events they have experienced over the past year. Some evidence suggests that, for the 6 months prior to the study time period,

college student ideators (Schotte & Clum, 1982) and 18- to 65-year-old attempters (Paykel, Prusoff, & Myers, 1975) reported higher levels of life stress as compared to their nonideating and nonattempting counterparts. Several studies have indicated that life stressors influence suicidal ideation for college students through hopelessness and/or depression (Bonner & Rich, 1987; Konick & Gutierrez, 2005; Rudd, 1990). This suggests that despite variable pathways to suicidality, either direct or mediated by some other psychological construct, adverse events can play a role in the cultivation of suicidal thoughts. It is therefore crucial to determine to what extent recent life events are impacting a student's suicidality.

Understanding the function of life stress in a suicidal individual's crisis deserves consideration when examining theories of how suicidality emerges. In his chapter on suicide and depression in a book targeted to suicidality in military populations, suicidologist David Rudd (2009) discusses the use of empirically supported theory to explain the causal mechanisms at play in the development of suicidal thoughts and behaviors. He reviews literature on the most prevalent theory of the development of suicidality: the many permutations of the diathesis-stress model (see Rudd, 2009, for a review). He indicates that most of these models center around a cognitively-based diathesis that is complex with multiple determinants, including difficulties with attributions, distorted automatic thoughts, schemas and core beliefs, impaired memory functioning and attentional bias, and finally challenges with problem-solving and coping. In sum, an individual is exposed to a certain load of stressors that overwhelms his/her capacity to cope, which is at some level determined by the existence of a diathesis, or

level of vulnerability, that predisposes the person to negatively appraise the event or his/her role in the event. This in turn results in negative affect, which leads to increased symptomotology, thereby triggering suicidal thoughts and behaviors.

Theories of Suicidality

Beyond the diathesis-stress model enumerated above, several recently developed theories have emerged attempting to explain the multiple pathways to suicidality. Two of the more prominent theories in the field of suicidology will be discussed to give the reader a sense of these concepts as they relate to the suicidal process.

Joiner's Interpersonal-Psychological theory of suicidal risk.

One conceptualization that has gained some purchase in the field is Joiner's (2005) interpersonal-psychological theory of suicidal behavior. In his theory, Joiner posits that self-injury and suicidal behaviors are such fear-inducing acts that to be capable of attempting suicide requires an enormous ability to surmount that fear. Joiner suggests that the only individuals who have the ability to attempt suicide are those who have, due to repeated exposure to past pain and self-injury (i.e. past attempts), become habituated to the suicidal act and are thus less prone to experiencing the fear associated with the self-destructive urge. Joiner explains that this habituation promotes the capacity and subsequently increases competence in attempting to take one's life, but not necessarily the desire. In order to desire dying by one's own hand, Joiner hypothesizes that two interpersonal perceptions must occur on the part of the suicidal individual: *perceived burdensomeness* (misconceiving that by existing one is a burden to one's loved ones and they would be better off if the individual were gone) and *failed belongingness* (the ties of

social connection are diminished, and one begins to feel isolated from others and not an integrated part of a group or circle). In this way, Joiner asserts that the desire for death develops as the individual begins to perceive that there is nothing left worth living for.

This theory has begun to receive empirical support to validate the three main components of the theory (see Joiner et al., 2009, for a review). Joiner et al. (2005) discovered that, even after controlling for established correlates of suicide, those with a history of attempts will experience increasingly severe forms of suicidality in the future as compared to others. Joiner interprets this finding to suggest that the multiple attempter becomes inured to the suicidal act, becoming more practiced and thus less afraid of this type of self-injury. In a sample of undergraduates, it was discovered that high burdensomeness and low sense of belonging was predictive of suicidal ideation after controlling for correlated risk factors (Van Orden, Witte, Gordon, Bender, & Joiner, 2008). In two studies among a community sample of young adults, Joiner et al. (2009) tested the interactive nature of the three constructs of the theory: perceived burdensomeness (measured using Rosenberg's General Mattering Scale), low belonging (measured using family social support) and habituation (measured using lifetime number of suicide attempts). The authors discovered the model to predict ideation and attempts even after controlling for depression and other key suicidality covariates.

Rudd's Suicidal Mode: A cognitive-behavioral theory of suicidality.

Another potentially fruitful and empirically derived model is found in Rudd's (2000) cognitive-behavioral conceptualization of the *suicidal mode*. Emerging from a search for an integrated framework that translates well into the therapy room, this theory

is a derivation of Beck's (1996) theory of cognitive modes. As Beck conceptualizes them, modes serve to organize schemas into a higher-order unit that structures a client's belief systems. Rudd (2000) states that suicidal clients hold a *suicidal belief system* that includes the meaning clients assign to themselves, others and the future, consisting of the *cognitive triad,* and thereby relating this triad to the client's suicidality. Consistent with Beck's (1995) conceptualization, the core of this belief system includes feelings of helplessness (i.e. "I can't do anything about my problems"), unlovability (i.e. "I'm worthless"), and poor distress tolerance (i.e. "I can't tolerate these feelings"). Pervading all of these core beliefs is a sense of hopelessness (i.e. "My life is hopeless"). For those modes that are constant or habitual in a client's life, Rudd (2000) hypothesizes that the threshold for activation of these modes is lower than those that are less charged for the individual. Rudd goes on to elaborate that the suicidal mode, which exists when an individual has an active intent to die, is most often self-limiting (i.e. not chronic), and clarifies that those individuals who experience persistent suicidality tend to become more sensitized to activating triggers and have lower thresholds for provoking the suicidal mode. Either the occurrence of a negative life event or the flooding of an intensely negative mood can activate the suicidal mode. During the activation of this suicidal mode, the level of suicidal risk for the individual is heightened.

While empirically derived and well grounded in an established theory, direct empirical tests of Rudd's theory have yet to be examined. However, the concept of a suicidal mode has indirect support in the literature given the evidence supporting the efficacy of cognitive-behavioral therapy (CBT) on the treatment of depression and the

preliminary evidence that cognitive therapy can reduce suicidal ideation and behavior, particularly in the short term (see Reinecke & Didie, 2005, for a review). This suggests that Rudd's principle of a suicidal mode has utility in the conceptualization and treatment of the suicidal individual.

Protective Factors

Historically, suicidality research has placed substantial emphasis on determining those factors that aid in our identification of who is at risk for suicide (Brent et al., 1999; Gould, Greenberg, Velting, & Shaffer, 2003). In a review commissioned by NIMH of over 50 instruments used to assess suicidal behaviors and risk among youth, nearly all assessed for negative factors with an emphasis on assessing for pathology (Goldston, 2000). This focus in the literature on risk factors has been largely at the expense of examining what helps people to successfully adapt. The large majority of individuals who confront stress in their lives or experience negative life events never consider suicide or develop a psychological disorder, yet this area of the literature remains relatively unexamined (Cha & Nock, 2009; Gould et al., 2003; Rutter, Freedenthal, & Osman, 2008). Further yet, many individuals who exhibit suicidal behavior, depression, or possess a variety of risk factors for suicide never go on to commit suicide. A singular focus on risk factors neglects an examination of those strengths and resilience characteristics that keep people alive. Gould and colleagues (2003) explicitly advocate for the ongoing identification of factors that protect against suicidal behavior and mitigate the impact of risk factors so that those protective factors might be enhanced in at-risk populations.

Defining protective factors.

Several definitions of protective factors have emerged in the literature. Linehan, Goodstein, Nielsen, and Chiles (1983) first operationalized suicidal protective factors. Their research explored the belief systems of those individuals who do *not* engage in suicidal behaviors to determine if this population possesses adaptive beliefs or outlooks that are not shared by those individuals who do act on their suicidal thoughts. From this inquiry emerged the Reasons for Living Inventory (RFL), which identified six primary reasons for living in the face of seriously considering suicide (Linehan et al., 1983). More broadly, protective factors have been defined as those variables that allow a person to defend against negative behaviors (Rutter, Freedenthal, & Osman, 2008). Rutter et al. (2008) further classify protective factors as either external (e.g. social support, peer accord) or internal (e.g. positive self-concept, emotional stability). Most recently, the National Research Council and Institute of Medicine's consensus report *Preventing Mental, Emotional, and Behavioral Disorders Among Young People: Progress and Possibilities* defined protective factors as "characteristics…that are associated with a lower likelihood of problem outcomes" (NAS-IOM, 2009, p.82).

There is not clear evidence that protective factors are not simply the inverse of risk factors (see NAS-IOM, 2009, p. 82, for a review), however some research suggests that a variable can contribute to vulnerability without conveying protection at the other end for the protective impact, and inversely as well (Luthar & Latendresse, 2005). This suggests that for some variables it seems likely that the effects of both the risk and

protective ends of the spectrum sum to create an overall risk of engaging in negative behaviors, while other variables may function solely as risk or protective variables.

Protective factors examined.

Efforts are currently underway to identify those protective factors that are most associated with suicidal thoughts and behaviors, and a small number of instruments have been developed to assess for these protective factors (Rutter, Freedenthal, & Osman, 2008). Emotional intelligence, parent and family connectedness, adaptable temperament, internal locus of control, strong problem-solving skills, spiritual faith or regular church attendance have all been identified as protective factors for suicidal ideation and behaviors (see Beautrais, Collings, & Ehrhardt, 2005, for a review; Cha & Nock, 2009). Taliaferro and colleagues (2009) identified possessing existential well-being, or having a purpose in life, as protecting against suicidal ideation for college students. Environmental protective factors have been identified, including restricted access to firearms (Grossman et al., 2005), barriers for potential jumping sites (Beautrais, Gibb, Fergusson, Horwood, & Larkin, 2009), and restricted access to alcohol (Birckmayer & Hemenway, 1999). Much as many risk factors do not carry the same level of risk for varying groups, protective factors may not generalize to all populations. For example, while religious faith and regular church attendance have generally been found to protect against suicidal thoughts and behavior, this finding has not held true for abused women (Coker et al., 2002).

In the past ten years, efforts have been underway to develop instruments that measure protective factors separately from or in tandem with risk factors (Linehan et al.,

1983; Osman, Downs, et al., 1998; Osman, Gutierrez, Kopper, Barrios, & Chiros, 1998; Osman et al., 2004). In addition to the aforementioned Reasons for Living Inventory (Linehan et al., 1983), other existing protective self-report scales include the Reasons for Living Inventory of Adolescents (Osman, Downs, et al., 1998), the Positive and Negative Suicide Ideation Inventory (Osman, Gutierrez, et al., 1998), and most recently the Suicide Resilience Inventory-25 (Osman et al., 2004). This last instrument was developed by Osman and colleagues (2004) to incorporate the construct of resilience into the assessment of suicide risk protection. The authors operationalized suicide resilience as the "perceived ability, resources, or competence to regulate suicide-related thoughts, feelings and attitudes" (p.1351). Items in the measure were found to tap three distinct domains of suicide resilience: internal protective, external protective and emotional stability (Osman et al., 2004; Rutter, Freedenthal, & Osman, 2008). The *internal protective* domain refers to a positive belief structure surrounding oneself and one's satisfaction with life. The *external protective* domain represents one's thoughts with respect to the ability to seek out perceived helpful external resources when confronted with life stressors or suicidal ideation. Finally, the *emotional stability* domain refers to one's sense of self-efficacy with regard to regulating suicidal thoughts and behaviors when confronted with psychological symptoms or negative life events (Osman et al., 2004). Rutter et al. (2008) recently validated this measure with a sample of college students and utilized a multivariate analysis to combine risk and protective factors in the assessment of suicidal risk. Findings support its validity as an assessment of characteristics that are preventive of suicidal behavior.

Suicide prevention and mental health promotion.

It is clear that suicide behaviors are complex and consist of multiple determinants. Both risk and protective factors may occur simultaneously, merging to create an overall level of risk, and understanding how these factors function in combination can shed light on suicide prevention efforts. First, this requires a clearer understanding of those factors that are protective of suicidal risk. Understanding why some college students adapt in the face of stress while others turn to suicide can contribute to our differentiation of vulnerable and hardy individuals. In their chapter reviewing risk and protective factors for adolescents, Grosz, Zimmerman and Asnis (1995) state that understanding how protective and risk factors work in concert could assist in our identification of high-risk individuals and prevention of their movement along the continuum of suicidality. Thus, developing preventive approaches to change those risk and protective factors that have been identified as modifiable can in the end prevent the development of suicidal thoughts and behaviors.

Protective factors may also play a role in mental health promotion of the broader population. The most recent Institute of Medicine report calls for broadening the scope of treatment and prevention interventions, targeting interventions to the general population rather than honing in on those individuals diagnosed with a disorder (NAS-IOM, 2009). Mental health promotion is thus defined in the NAS-IOM report (2009) as an emphasis on strengthening the population's well-being and ability to cope with adversity rather than merely preventing illness (see Figure 1). Thus, health is not just the absence of disease. Interventions that are aimed at promoting positive mental health

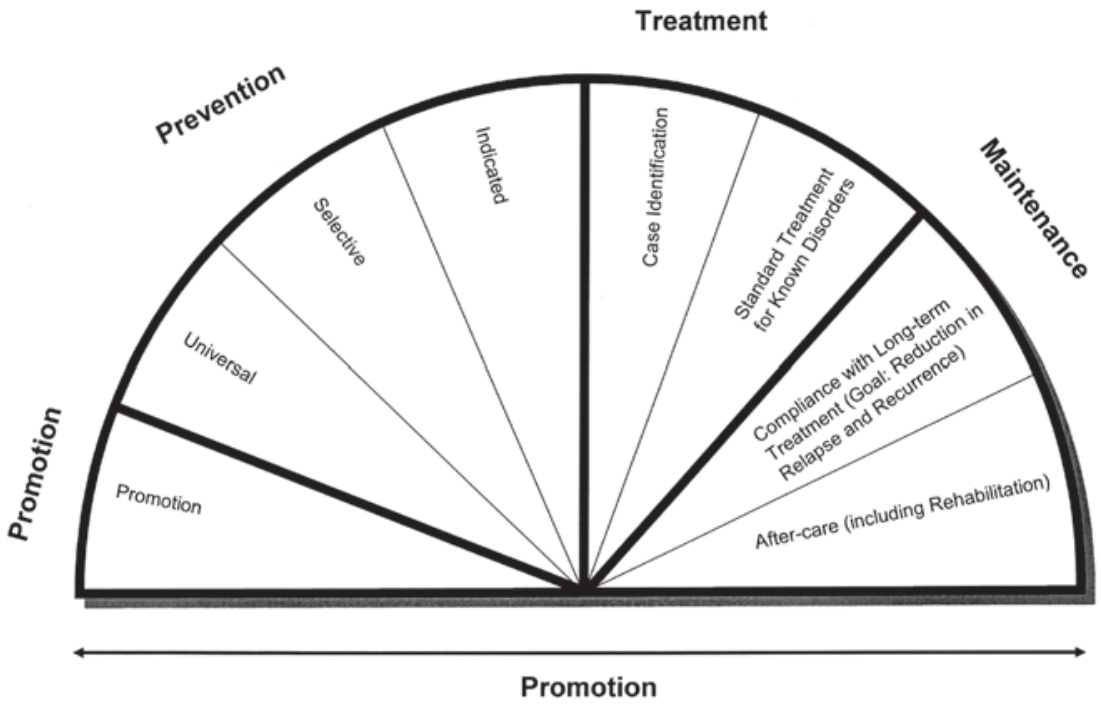
development may have the added benefit of reducing the prevalence of a disorder or negative behavior (i.e. suicidal behaviors) in a population. Drum and colleagues (2009) state,

> By shifting the entire distribution of individuals to a lower risk level, not only are those at high risk being shifted to a lower status, but the overall prevalence of suicidality in the population is also decreasing and the overall population health is increasing. (p. 220)

In this way, there is much overlap between the goals of suicide prevention and general mental health promotion. Some evidence suggests that programs aimed at preventing negative behaviors also demonstrate increased positive aspects of development. For example, in a summary article of youth development programs, the authors discuss the outcomes of not only increasing competency in several targeted areas for development (e.g. social, cognitive, emotional) but also reducing problem behaviors such as alcohol and drug use (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004).

In sum, the goals of suicide prevention and mental health promotion are harmonious. Mental health promotion has received relatively little attention in the suicidality literature, particularly in the United States, however some attention has been given to approaching suicide prevention from a population-level or public health perspective (Drum, et al., 2009; Knox, Conwell, & Caine, 2004). Whichever focus, universal prevention or health promotion, greater efforts to define protective factors may advance our ability to consider the role of mental health promotion alongside the complementary and overlapping goals of suicide prevention.

Figure 1: Mental health intervention spectrum



Note. From *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities,* by the National Research Council and Institute of Medicine, 2009, Washington, DC: The National Academies Press, p. 67. Copyright © 2009 National Academy of Sciences.

Self-Compassion

Self-compassion was first introduced in the psychological literature by Neff (2003b) as an alternative conceptualization of the self to the oft-used construct of self-esteem. The concept of self-compassion draws from the philosophy of Eastern ideologies, particularly Buddhist philosophy, yet the notion of self-compassion is a relatively new concept in Western cultures (Neff, 2003b; Neff, Pisitsungkagarn, & Hsieh, 2008). Neff (2003b) theorizes self-compassion within the broader context of compassion

toward others, suggesting that being open to experiencing one's pain and directing feelings of kindness toward oneself in the face of suffering, much in the same way that compassionate individuals are touched by and moved to alleviate the pain of others, can lessen the suffering that is common to all of us. In this way, pain is not avoided but rather connected with, and one cultivates nonjudgmental understanding of the shared human experience and is thus kinder toward oneself in the face of failure or personal shortcomings. This is not the same as being self-centered, but rather is a recognition that all people, even oneself, are worthy of compassion (Neff, 2003a).

Specifically Neff (2003b) proposes that self-compassion consists of three components: self-kindness, common humanity and mindfulness. *Self-kindness* suggests that, in the face of failure or perceived shortcomings, one treats the self with kindness and understanding rather than self-flagellating or judging oneself harshly. *Common humanity* involves seeing one's experience as part of the broader experience of being human, rather than, when life takes a turn for the negative, seeing oneself as isolated and separate from others. Finally, *mindfulness* refers to cultivating nonjudgmental and balanced awareness of one's struggles and attempting not to over-identify with those struggles. An individual high in self-compassion would thus understand that one's shortcomings or the reality of facing trials in our lives is common to us all, also extending kindness to oneself during difficult times much as one would to a close friend, all the while maintaining a balanced awareness of one's emotions as the challenging period is endured. Neff (2003b) suggests that while each of these components is likely to interact

and strengthen the others, the elements of self-compassion retain their distinct contribution to the overall construct of self-compassion.

Empirical support for self-compassion.

Although a comparatively new construct in the literature, a fair amount of research has been conducted examining the correlates of self-compassion. In the validation study for the Self-Compassion Scale (SCS), self-compassion was discovered to be associated with several markers of psychological health or disorder, including negative associations with self-criticism, depression, anxiety, rumination, thought suppression, and neurotic perfectionism along with positive associations with life satisfaction and social connectedness (Neff, 2003a). In this study, Neff (2003a) found that women had significantly lower self-compassion scores than men; specifically women were more likely to feel isolated, engage in self-judgment and to over-identify with and be less mindful of negative emotions. However, women did not exhibit significant differences from men on the self-kindness and common humanity subscales of the measure. In a study of the relationship between self-compassion and markers of positive psychological functioning and personality traits, self-compassion was correlated with happiness, optimism, positive affect and wisdom (Neff, Rude, & Kirkpatrick, 2007). Further, personal initiative, curiosity and exploration were found to be associated with self-compassion, suggesting that individuals high in self-compassion are more self-motivated to improve their lives and perhaps show greater curiosity about the world around them (Neff, Rude, & Kirkpatrick, 2007). Of the NEO Five-Factor personality inventory, self-

compassion had the strongest correlation in the negative direction with neuroticism (Neff et al., 2007).

In a cross-cultural study examining self-compassion in Thailand, Taiwan and the United States, levels of self-compassion were found to differ across the countries but were significantly associated with well-being in all three cultures (Neff, Pisitsungkagarn, & Hsieh, 2008). The authors concluded that self-compassion is linked to specific cultural features of these disparate countries, rather than these differences being solely a result of general Eastern or Western cultural influences (Neff et al., 2008). In a comparison of global self-esteem and self-compassion, self-compassion was more strongly negatively correlated than the self-esteem construct with social comparison, public self-consciousness, self-rumination, anger and need for closure (Neff & Vonk, 2009). Neff and Vonk (2009) also discovered that self-compassion was more strongly associated than global self-esteem with a less reactive and less contingent sense of self-worth. Another study discovered self-compassion was predictive of students' abilities to maintain well-being during the process of reengaging with more attainable goals (Neely, Schallert, Mohammed, Roberts, & Chen, 2009), thus suggesting that self-compassion plays a role in healthy goal management. Lastly, the development of self-compassion intervention techniques has begun to show promise in the literature (Adams & Leary, 2007; Gilbert & Irons, 2004; Neff, Kirkpatrick, & Rude, 2007).

Self-compassion and negative life events.

Self-compassion has found some support in the literature as mitigating the effects of negative life events in the lives of individuals. In a study assessing real and imagined

unpleasant life events, presence of self-compassion predicted more balanced responses to those negative events, including less extreme emotional and behavioral reactions (Leary, Tate, Adams, Batts Allen, & Hancock, 2007). Further, following a self-compassion mood induction, Leary and colleagues (2007) discovered that holding a self-compassionate view led respondents to take more responsibility for their roles in negative events without succumbing to the negative emotions that can often emerge alongside self-blame. This suggests that individuals higher on self-compassion, while willing to examine their contribution to negative events, are able to maintain self-kindness in the face of this honest appraisal. With respect to academic failure, Neff, Hsieh, and Dejitterat (2005) discovered that students higher in self-compassion were more likely to utilize emotion-focused coping strategies of acceptance and positive reinterpretation when confronted with a low midterm grade. This suggests that self-compassionate individuals are more likely to see failure as a learning opportunity, choosing to make the best of a situation rather than catastrophizing the outcome (Neff et al., 2005). Neff, Kirkpatrick and Rude (2007) discovered that self-compassion conveyed protection against experiencing anxiety when considering one's greatest weakness, whereas self-esteem did not offer this protective benefit. Further, in an analysis of participants' writing samples, self-compassion was associated with the use of more inclusive language (i.e. use of the pronouns "we" rather than "I"), thus suggesting that self-compassionate individuals possess a more interconnected, rather than isolated, sense of self.

Self-compassion and suicidality.

Self-compassion may prove particularly helpful as a protective factor against engaging in suicidal thoughts and behaviors. Perhaps surprisingly, this relationship has yet to be studied in the suicidality literature. Given the known correlation of self-compassion with established covariates of suicidality (e.g. anxiety, depression, self-criticism), it is plausible that self-compassion would convey similar protection to the development of suicidal thoughts during times of distress. In the face of life stressors and negative events, Leary and colleagues (2007) discovered that self-compassionate individuals maintained equanimity. It stands to reason that this perspective-taking characteristic of the self-compassionate individual might buffer him/her from the stress and emotion overload that can potentially develop into suicidal thoughts and behaviors for the more vulnerable individual.

Considering self-compassion within the context of influential theories of suicidality may provide further insight into the role self-compassion plays in buffering against suicidality. In light of Joiner's (2005) theory of suicidality, an individual in touch with his/her common humanity will be unlikely to experience the low feelings of belonging that are essential in Joiner's hypothesis of the development of suicidality. Further, self-compassionate individuals are able to honestly appraise situations by cultivating mindful awareness of events as they occur. This runs counter to the misperception that one is a burden to others that occurs in Joiner's conceptualization of the suicidal individual. Further, rather than becoming immune and habituated to pain, as occurs within Joiner's theory, individuals high in self-compassion tend to approach their

emotions (Neff, Hsieh, & Dejitterat, 2005), allowing themselves to experience their feelings, all the while treating themselves with kindness and not over-identifying with those emotions.

Similarly, it appears improbable that the self-compassionate individual will enter into Rudd's (2000) suicidal mode. Meta-cognitive awareness, a defining feature of mindfulness, shields a person from becoming caught up with the automatic thoughts, such as "I am unworthy," that occur for someone with an activated suicidal mode. Further, as negative emotions do arise at the onset of life stressors, self-compassionate individuals are able to hold those emotions in balanced awareness, managing not to identify too deeply with their reactions and thereby limiting the additional flooding of negative affect. Thus, these individuals are able to withstand unfavorable emotions. An individual tapped into their self-kindness during times of pain or failure may also be less likely to experience the automatic thoughts of the suicidal mode of helplessness, hopelessness and feeling unworthy (Rudd, 2000). Appreciating this self-kindness component of self-compassionate attitudes may prove key to understanding the potential for self-compassion to diminish likelihood of engaging in suicidal thoughts and behaviors.

Both of the aforementioned theories offer a unique conceptualization as to the way self-compassion might function to attenuate the suicidal urge in the face of hardship. Given the nature of the self-compassionate manner of coping when confronted with adversity and the construct's association with positive mental health factors, it is

predicted that individuals high in self-compassion would be less likely to engage in suicidal ideation.

Proposed Research Study

Statement of Purpose

Researchers have called for increased examination of protective factors and their relationship to various markers of suicidality (Cha & Nock, 2009; Gould et al., 2003; Rutter, Freedenthal, & Osman, 2008). The primary purpose of the proposed study is to examine the relationship between self-compassion and suicidal ideation. Self-compassion emerges in the literature as a promising protective factor that may have applicability in shielding individuals from entering the continuum of suicidality. Prior research has linked self-compassion to various indicators of mental health, including negative associations with self-criticism, depression, anxiety, rumination, thought suppression and neurotic perfectionism and positive associations with life satisfaction and social connectedness (Neff, 2003a). Although the relationship between self-compassion and various markers of mental health and mental illness have begun to be examined in the literature (Neff, 2003a; Neff, Kirkpatrick, & Rude, 2007; Neff, Rude, & Kirkpatrick, 2007; Neff & Vonk, 2009), no research to date has explored the influence of self-compassion as a protective factor for suicidality or suicidal ideation.

This study aims to build upon existing research by examining the relationship between suicidal ideation and possessing a self-compassionate attitude. Further goals of this research include the following: determining if any of the six subscales of the self-compassion construct in particular convey more robust protection from developing suicidal ideation, examining the potential mediating effect of self-compassion on the

relationship between depression and suicidal ideation, and investigating whether self-compassion has a differential influence on developing suicidal ideation for women as compared to men.

The proposed study will use a stratified randomized case control design in which cases—those indicating suicidal ideation in the past month (hereafter called *ideators*)—will be matched with controls—those indicating the absence of suicidal ideation in the past month (hereafter called *nonideators*)—on perceived impact of recent life stress and demographic characteristics. Self-report methods include a measure of self-compassion, depression, life events, and a forced-choice item aimed at examining presence or absence of suicidal ideation in the past month. These measures will be utilized to explore the answer to the following questions.

Research Questions

Research Question 1: Matching for perceived impact of negative life events and major demographic variables, is self-compassion negatively associated with membership in the suicidal ideation group?

Expectation: After matching for levels of life stress and demographic variables, those participants with a higher self-compassion score as measured by the Self-Compassion Scale (SCS) will have decreased odds of endorsing suicidal ideation over the past month as compared to those with lower SCS scores.

Rationale: A strong link has been established in the literature between suicidal ideation and depression (Furr, Westefeld, McConnell, & Jenkins, 2001; Kisch, Leino, &

Silverman, 2005; Konick & Gutierrez, 2005; Weber, Metha, & Nelson, 1997; Westefeld & Furr, 1987) and a negative association has been demonstrated between self-compassion and depression (Neff, 2003a). Further, support is emerging that holding self-compassionate attitudes can attenuate the impact of life stressors (Leary et al., 2007; Neff et al., 2005; Neff, Kirkpatrick, & Rude, 2007). These associations suggest that self-compassion may serve as a protective mechanism against developing suicidal ideation in the face of negative life stress, which often precipitates periods of suicidal ideation (Bonner & Rich, 1987; Konick & Gutierrez, 2005; Schotte & Clum, 1982). Further, various elements that are highlighted within theories of the development of suicidality, including Joiner's (2005) interpersonal-psychological theory of suicide and Rudd's (2000) suicidal mode, parallel Neff's (2003a) construct of self-compassion. Specifically, Joiner's (2005) concept of thwarted belongingness will likely be countered by the self-compassionate individual's sense of belongingness that is fostered by a strong feeling of common humanity. Further, the mindful self-compassionate individual is unlikely to misconstrue his or her impact on others as burdensome or become habituated to the negative emotions that arise during a suicidal crisis, as Joiner (2005) posits suicidal individuals are apt to do. The self-compassionate individual is also unlikely to become caught up in the destructive combination of cognitive, behavioral and affective outcomes that is characteristic of Rudd's (2000) suicidal mode.

Research Question 2: Of the six subscales that Neff (2003a) has identified as existing within the construct of self-compassion—mindfulness, over-identification,

common humanity, isolation, self-kindness, and self-judgment—which is most predictive of protection from belonging to the group of recent ideators?

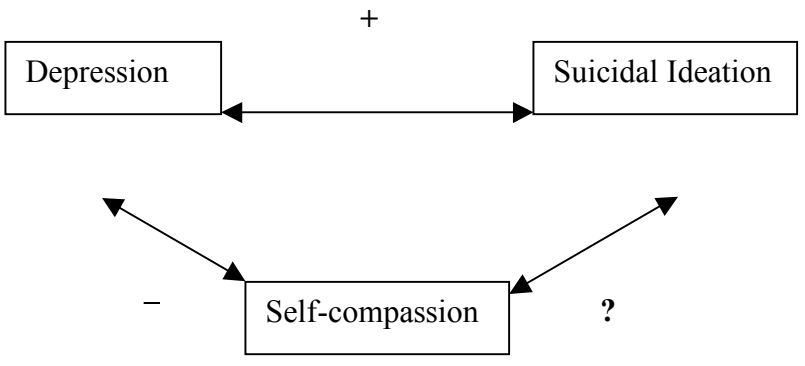
Expectation: No specific predictions are made and this research question will remain largely exploratory.

Rationale: Despite the fact that Neff (2003a) established correlations between the Self-Compassion Scale (SCS) and various constructs associated with suicidality, including social connectedness, self-criticism, depression, and rumination, none of these correlations was regressed alongside the subscales of the SCS. Therefore, while it is possible that one (or more) of the six subscales of the SCS may emerge as most (or more) predictive of belonging to the group of suicidal ideators, no clear forecasts can be made.

Research Question 3: Do self-compassion levels mediate the relationship of depression and likelihood of membership in the suicidal ideation group?

Expectation: Self-compassion will partially mediate the relationship between depression and recent suicidal ideation. (See Figure 2)

Figure 2: Mediation effects of self-compassion on relationship between depression and suicidal ideation



Rationale: Neff (2003a) discovered a moderate negative correlation between self-compassion and depression ($r = -.51$, $p < .01$) and depression has been well established as a covariate of suicidal ideation (Furr, Westefeld, McConnell, & Jenkins, 2001; Kisch, Leino, & Silverman, 2005; Konick & Gutierrez, 2005; Weber, Metha, & Nelson, 1997; Westefeld & Furr, 1987). Given these findings, it is anticipated that self-compassion will serve to attenuate the relationship between the predictor variable, depression, and the outcome variable, recent suicidal ideation.

Research Question 4: Does self-compassion differentially affect likelihood of presence of suicidal ideation for women versus men?

Expectation: No specific predictions are made. However, it is anticipated that any gender differences that might emerge for the nonideator group will not emerge for the recent ideators group.

Rationale: While full consensus does not exist in the literature regarding differences in suicidal ideation prevalence between women and men, the vast majority of research suggests that suicidal ideation does not vary by gender (Brener, Hassan, & Barrios, 1999; Langhinrichsen-Rohling, Arata, Bowers, O'Brien, & Morgan, 2004; Rudd, 1989; Westefeld et al., 2005). In the validation study of self-compassion, Neff (2003a) discovered that women had lower levels of self-compassion than men, exhibiting higher levels on the negatively-valenced isolation, self-judgment, and over-identification subscales and lower levels on the positively-valenced mindfulness subscale. This suggests that because the population of suicidal ideators is likely to be more

homogeneous than the general population, any differences that might exist among the general population on self-compassion are likely to disappear once the population exhibits suicidal ideation.

Method

The current study is a proposed analysis of a cross-sectional survey that will be administered in the spring of 2011 as part of the next large-scale, national study conducted by National Research Consortium of Counseling Centers in Higher Education. This organization was founded in 1991 to conduct original research on college student mental health and is based in the Counseling and Mental Health Center of The University of Texas at Austin.

Participants

Participants for the proposed study will be 35,000 undergraduate and graduate students at 100 colleges and universities participating in a survey distributed by the National Research Consortium of Counseling Centers in Higher Education. In the Research Consortium's prior suicidality study, response rates for this similar nationwide study returned a sample size of 26,451 students. Of those, results indicated that approximately 6% of undergraduate students and 4% of graduate students endorsed seriously considering suicidal ideation in the past year, totaling approximately 1,340 students (Drum et al., 2009). Further, 5% of another large sample of undergraduates reported suicidal ideation in the past month (Konick & Gutierrez, 2005). Anticipating a slightly higher response rate for this study of 35,000 students, the sample size for this

study—taking into account examining student experiences with suicidal ideation in only the past month rather than the past 12 months—is conservatively expected to be approximately 225. This sample size is the sum of both cases and controls, or those individuals endorsing suicidal ideation in the past month (approximately N = 112) *and* the nonideating matched controls (approximately N = 112). This sample size exceeds recommendations made by Tabachnick and Fidell (2001), who suggest that the sample size exceed 104 + m, where m = number of independent variables, or that there should be at least 20 times as many cases as independent variables. Given that six predictor variables is the highest number of independent variables examined in any single model in this study, an expected sample size of 225 exceeds these recommendations. Because to date no studies have examined this unique combination of variables, a power analysis could be conducted for the logistic regression; however, the odds ratios required to conduct this analysis would at best be estimates.

Procedures

The selection procedure will consist of a stratified random sampling across the various participating U.S. colleges and universities that will be involved in the study. For those campuses with 5,000 or more undergraduates, 1,000 students will be randomly selected; for those campuses with 500 to 4,999 undergraduates, 500 students will be randomly selected. The same sample size guidelines will be used to select graduate students. The survey will be distributed online in an effort to maximize the response rate and diversify the obtained sample.

Prior to data collection, a research proposal and draft of the survey, including informed consent and treatment referral procedures, will be submitted to the Institutional Review Board (IRB) of The University of Texas at Austin and each participating college and university. Randomly selected students will be sent an email invitation from their local campus counseling center with a link to the survey. Recipients will be provided an incentive to participate, namely the opportunity to be entered into one of several drawings to receive gift cards for Amazon.com. These drawings will include several smaller prizes and three "grand prizes." The email invitation will include a link to the online survey web page and will be customized according to each college's and university's colors and logo.

After consenting to participation in the study, students will be asked a variety of questions regarding their demographics, presence of coping assets and risk variables, experiences managing life stressors, and experiences with suicidal ideation and other aspects of suicidality along a continuum of risk. The survey will take approximately thirty minutes for participants to complete. Participants will be allowed to skip questions and withdraw from the survey at any point, although they will not be able to enter the survey drawing if they exit prematurely. Randomly generated identification numbers will be use to avoid connecting any identifying information to participant's responses. All participants, including those who exit the survey early and/or if they exhibit indicators of active suicidality, will be provided with referral sources specific to their institution, such as contact information for their university's counseling center on campus and other local mental health and emergency contact information. In this way, for students who indicate

that they are experiencing an acute level of distress, such as active suicidal ideation, the survey is designed to assist in intervening with these students.

Measures

Demographic survey. Participants will be asked to respond to questions providing information about their demographics, including age, gender, race/ethnicity, sexual orientation, and student status (i.e. graduate versus undergraduate). Gender will be determined by the participant's response to a forced choice between male and female. Racial/ethnic information will be assessed by asking participants to check all descriptions that apply to them from the following categories: African America/Black, Alaska Native/American Indian, Asian American, Caucasian/White, Hispanic American/Latino, and International/Foreign Student. Sexual orientation will be determined by asking participants to check the description that most accurately describes their orientation from the following options: bisexual, gay/lesbian, heterosexual and questioning. Each participant's student status will be provided automatically by the institution, which will be reported as either Undergraduate or Graduate.

Self-Compassion Scale (SCS). The Self-Compassion Scale (SCS) is a 26-item scale developed by Neff (2003a) to capture the six hypothesized constructs of self-compassion, with negative items reverse-coded. These subscales are self-kindness, common humanity, mindfulness, self-judgment, isolation and over-identification. The SCS uses a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). Sample items include, *"When I'm going through a very hard time, I give myself the caring and tenderness I need," "When I feel inadequate in some way, I try to remind*

myself that feelings of inadequacy ore shared by most people," and *"When I'm feeling down I tend to obsess and fixate on everything that's wrong"* (reverse scored) (Neff, 2003a). The SCS has been found to demonstrate convergent and discriminant validity (Neff, 2003a; Neff, Rudd, & Kirkpatrick, 2007) and has shown stable test-retest reliability and internal consistency, with Cronbach's alpha ranging from .91 to .94 (Leary, Tate, Adams, Batts Allen, & Hancock, 2007; Neff, 2003a; Neff, Hseih, Dejitterat, 2005; Neff & Vonk, 2009). Several of the inter-correlations between the six factors were found to be quite strong; however, a higher-order factor of self-compassion was found to fit the data marginally well, thus accounting for the strong inter-correlations between the subscales (Neff, 2003a).

Life Experiences Survey (LES). The Life Experiences Survey (LES) is a 57-item self-report measure developed by Sarason, Johnson, & Siegel (1978) to assess for the occurrence and perceived impact of positive or negative events that have occurred in the past year. Ten of the items are specific to the experience of college students, including sample items, "*Academic probation," "Failing an important exam," "Changing a major," "Failing a course."* For each item, respondents are asked to rate the time period in which the event occurred (0 to 6 months or 7 to 12 months) and then asked to rate the perceived impact of the event on a 7-point Likert scale ranging from -3 (extremely negative) to +3 (extremely positive) with zero indicating no impact. The negative change score, or the sum of the negatively endorsed items, is calculated to indicate an individual's degree of life stress. Higher scores suggest higher levels of life stress. For the current study, the negative change score will be used exclusively, as Sarason and

colleagues (1978) indicate that to most accurately determine life stress, negative life changes should be examined. This suggestion is a result of the negative change score emerging as significantly correlated with several stress-related measures. More specifically, the LES has demonstrated adequate convergent validity, correlating in the predicted direction with constructs typically associated with life stress, such as anxiety, depression, academic achievement and locus of control (Sarason et al., 1978). Additionally, the LES has shown high to moderate and stable test-retest reliability for negative change scores across 5 and 6-week intervals, with reliability coefficients of .56 and .88 (ps<.001) (Sarason et al., 1978). Lastly, the LES is one of the most widely used measures of recent stressors or negative life events in the suicidality literature (Bonner & Rich, 1987; Chan, Miranda, & Surrence, 2009; Konick & Gutierrez, 2005; Joiner et al., 2005; Joiner et al., 2009, Schotte & Clum, 1982).

Beck Depression Inventory-II (BDI-II). The Beck Depression Inventory-II (Beck, Steer, & Brown, 1996) is a 21-item measure designed to assess for severity of depressive symptoms during the past two weeks in adults and adolescents. For each item, respondents are asked to rate level of severity of symptoms on a 4-point Likert scale ranging from 0-3. Respondents are asked to choose their ratings based on what best describes how they've been feeling over the past two weeks, including today. A total score is calculated by summing the endorsed values, with higher scores indicating increased depressive symptomotology. Minimal depressive symptoms correspond to a total score ranging from 0-13, 14-19 suggest mild depressive symptoms, 20-28 reflect moderate symptoms and 29-63 are considered severe depressive symptoms. The BDI-II

has been validated with college student samples with an internal consistency ranging from .89 to .93 (Beck et al., 1996; Osman et al., 1997; Whisman, Perez, & Ramel, 2000), and it has demonstrated adequate convergent and construct validity. More specifically, the BDI-II has exhibited correlations in the predicted directions with related measures of depression, anxiety, self-esteem and stress (Osman et al., 1997).

Recent Suicidal Ideation. Because thoughts of suicide are common among university students, are amenable to a self-report, and are associated with increasingly severe suicide-related behaviors in the future (Drum et al., 2009; Konick & Gutierrez, 2005), those respondents who have recently seriously considered suicide will be the focus of this study rather than those exhibiting more serious suicide-related behaviors. Questions in this section of the survey will be aimed at assessing respondents' experiences with suicidal thinking during the past month. Participants will be forced to select either *"Yes"* or *"No,"* and this dichotomous outcome will determine membership in the recent ideators group. Recent ideators status will be determined with the item: *"During the past month, have you* ***seriously*** *considered attempting suicide?"* This item will be generated and agreed upon by the members of the National Research Consortium, with input and final approval provided by directors of participating counseling centers across the nation. A minimum of two prominent experts in the field of college student suicidality will also review and provide input on this particular question.

Data Analysis

Preliminary Data Analysis

Prior to data analysis, data will be prepared by matching respondents on level of impact of negative life stressors with an equal number of nonideators sampled to match the same number of individuals endorsing recent suicidal ideation. Further, participants will be matched on key demographic variables shown to correlate with suicidality, including gender, race/ethnicity and student status. This equal sample of matched groups will be calculated using propensity scores, which, using negative life events as an example, models the probability of being a recent ideator or nonideator as a function of respondents' perceived impacts of recent life stressors (Rosenbaum & Rubin, 1985). Thus, this balancing procedure ensures randomization of the nonideator group and safeguards against systematic differences occurring between the two groups on the recent life stressor and demographic variables.

Data will be prepared for the binary logistic regression analysis by dummy coding responses to the suicidal ideation question (0 = absence of thoughts, 1 = presence of thoughts), and the categorical variable will be called "Suicidal Ideation." Analysis will be conducted to ensure that the assumptions of logistic regression are met (i.e. absence of multicollinearity, adequacy of expected frequencies, absence of outliers). To ensure the absence of multicollinearity among predictor variables, the tolerance statistic for each of the independent variables in a linear regression with the other independent and dependent variable(s) will be examined. The functional form of the overall model is irrelevant in

this analysis, as the concern is with the relationship among the independent variables. Following guidelines set forth by Menard (2002), a tolerance statistic less than .20 would be cause for concern and would suggest high levels of collinearity among the independent variables. Should this occur, this will be acknowledged as inflating Type II error, thus concealing the presence of significant effects.

Standardized residuals will be plotted against a normal curve to ensure that they follow a binomial distribution. Presence of outliers will be assessed by examining the leverage, DBETA and Pearson residual statistics (Menard, 2002). Participants with missing data will not be included in the analysis. Expected frequencies will be examined in crosstabs to ensure that the categorical independent variables do not exhibit frequencies less than one, with no more than 20% having fewer than five cases. To handle potential clustering effects as a result of creating cases and controls, possible dispersion will be assessed for by calculating the deviance statistic. Should under- or over-dispersion be detected, correction for the dispersion will be conducted by calculating the deviance χ^2. Additionally, a potential clustering effect exists because students will be randomly sampled from within schools, and as such the assumption of independent error terms is violated. To assess for any significant effects caused by clustering of students within schools, regression models will be run separately for each school and the coefficients across schools will be compared.

For each analysis, all potential interactions between variables will be tested for significance using a maximum likelihood test. The full model, including the interactions, will be compared to the reduced model with each interaction removed. If the model chi-

square is significant, then the interaction term contributes significantly to the variance of the full model and will need to be preserved in the model.

Primary Data Analysis

Research Question 1: A binary logistic regression (SPSS NOMREG) will be conducted to examine the relationship between self-compassion and whether an individual endorsed recent suicidal ideation after matching for similar levels of impact of negative life events and key demographic variables. Self-compassion will be entered as the independent variable into the regression model, with Suicidal Ideation as the dichotomous independent variable. To test the significance of the overall model, the model chi-square for goodness of fit (G_M) will be examined, using $p<.05$ as the criterion for rejecting the null hypothesis. Nagelkerke's pseudo R-square (R^2_N) will be used as a measure of the substantive significance of the model. Should the full model be significant, odds ratios will be examined as a measure of effect size and interpreted as the increased odds that membership within the Suicidal Ideation group is associated with having lower levels of self-compassion.

Research Question 2: This research question will be addressed using the analysis outlined above. In this case, the six subscales of the SCS will be examined using likelihood ratio tests to examine the unique contribution of these subscales. These tests will be examined to determine if a significant reduction occurs in the -2 Log Likelihood (D_M) upon successively dropping each subscale from the full model. If any of these unique effects is significant, effect size will be measured by examining odds ratios for

each subscale. These results will be interpreted as the increased odds that membership within the Suicidal Ideation group is associated with having lower levels of specific subscales within the SCS.

Research Question 3: Conducting a mediation analysis within a logistic regression poses a unique issue in that, due to the dichotomous outcome variable in the model, the independent and dependent variables are in different scales. Following recommendations made by MacKinnon and Dwyer (1993), the coefficients will be transformed and made comparable by multiplying each coefficient by the standard deviation of the predictor in the model and then dividing by the standard deviation of the outcome variable. The remainder of the analysis can then be conducted following the standard procedures for mediation analysis within a linear regression. Following Baron and Kenny's (1986) suggestions for conducting a mediation analysis, the data will be analyzed using four distinct steps to determine the presence or absence of mediation effects. First, depression will be entered into a model with Suicidal Ideation as the dependent variable, and the model chi-square will be examined to assess significance of the overall model. Second, to establish that the predictor variable affects the mediator variable, depression scores will be regressed (using a linear regression model) onto self-compassion scores and analyzed for significance. Third, the meditation variable, self-compassion, will be entered into the model with Suicidal Ideation absent depression, and the analysis outlined above for assessing the significance of the model for self-compassion and Suicidal Ideation will be conducted.

The final step will be to establish a relationship between the mediator, self-compassion, and the outcome, Suicidal Ideation, controlling for depression. All three variables (self-compassion, depression and Suicidal Ideation) will be entered into the model simultaneously, and the overall model will be assessed for fit using the model chi-square. To test for the mediation, a Sobel test will be conducted and analyzed to determine if there is a significant mediation between depression and Suicidal Ideation, controlling for self-compassion. If the relationship remains significant and the strength of the association is reduced between depression and Suicidal Ideation, this will be interpreted as evidence of a partial mediation by including self-compassion in the model.

Research Question 4: A binary logistic regression (NOMREG) will be conducted to examine the relationship between the interaction of self-compassion and the demographic variable Gender and whether an individual falls in the Suicidal Ideation group, after matching for similar levels of impact of negative life events and key demographic variables, including gender. Self-compassion and the interaction term of Gender paired with self-compassion (i.e. Self-compassion X Gender) will be entered as independent variables into the regression model, along with Suicidal Ideation as the dichotomous dependent variable. To test the significance of the overall model, the model chi-square for goodness of fit will be examined, using $p<.05$ as the criterion for rejecting the null hypothesis. Nagelkerke's pseudo R-square (R^2_N) will be used as a measure of the strength of the model. Should the full model with the interaction be significant, odds ratios will be examined as a measure of effect size and interpreted as the increased odds that membership within the Suicidal Ideation group is associated with having lower levels

of self-compassion and that this effect is moderated by participant's gender. To provide additional interpretation of the results and following recommendations by Aiken and West (1991), post hoc probing of a significant interaction will be conducted by creating two new conditional moderator variables and running separate regressions incorporating these new variables. Predicted probabilities will be plotted to visually display the location and size of the interaction.

Discussion, Limitations, and Directions for Future Research

The primary aim of this study is to examine the protective effects of the emerging adaptive construct of self-compassion over and above the influence of depression and recent life stressors on suicidal ideation forming in the minds of college students. This study will address gaps in our knowledge and address the call made by suicidologists to examine protective elements in greater depth with respect to the effect these factors have on the development of suicidal ideation (Cha & Nock, 2009; Gould et al., 2003; Rutter, Freedenthal, & Osman, 2008).

If the predicted associations are found significant, this will have implications for possible approaches university administrators might take in developing population-level suicide prevention programming as well as interventions that clinicians could utilize to assist a student in coping with and/or preventing suicidal ideation. Future research might involve testing an intervention of self-compassion and its impact on ameliorating the effect of depression and negative life events on students. This self-compassion training could be implemented not only at the individual client-level, but also more broadly in the classroom and for the entire campus population. As Drum et al. (2009) remark, decreasing the entire distribution of suicidal ideation risk in a community to a more adaptive level will in effect improve the health of the overall population.

It is important to recognize that this study is not without its limitations. First, the measures employed are all self-report measures, and this type of data is open to several sources of bias. By relying on the respondent to accurately report his or her experience with the various domains that are being examined, the study is vulnerable to distortion of

these responses, either intentionally or unintentionally. Respondents may have difficulty accurately recalling their experiences with serious suicidality in the past month. Further, participants may guess the hypothesis of the study and alter their responses to make themselves appear either more distressed than they truly are, or—due to a desire to appear socially desirable—less distressed than they truly are. The SCS, BDI and LES have shown adequate discriminant validity alongside a social desirability measure (Neff, 2003a; Osman et al., 1997; Sarason et al., 1978), but the suicidal ideation question would be open to this source of bias. However, the benefit of understanding participants' own perceptions of the studied constructs, thus the phenomenological perspective of these variables, provides support for utilizing self-report measures in this study. Nevertheless, future research would benefit from a prospective examination of how these variables relate to one another.

Using a student population from traditional colleges and universities may hinder generalizability as well. These results may not generalize to other age groups, individuals attending nontraditional institutions such as online colleges, or those not enrolled in school. Thus, care should be taken in drawing conclusions as to how self-compassion affects suicidality in groups outside traditional universities and colleges. However, for the purpose of this study, the student population is the group of interest for intervening with, as this community provides broad opportunity for intervention given that students are a fairly captive audience and college campuses are relatively amenable to population-based prevention efforts.

A voluntary survey may lack generalizability due to the potential for self-selection bias. This suggests that individuals who volunteer to participate in the survey may be systematically different in some way from the population at large. The matching procedure will reduce, but not eliminate, some of this bias. Additionally, inferences should not be made about how self-compassion operates for specific individuals experiencing suicidal thinking, as the data generated here is aggregated. This would typify an "ecological fallacy" (McIntosh, 2002, p.50), which assumes that individual members of a group have the average features of the larger group. In this way, a clinician should not assume that a client with a high level of self-compassion is thereby at little-to-no risk for developing or already possessing some form of suicidal ideation or suicidality. Results from this study should be used to inform public health interventions or to add to our existing knowledge about what contributes to the protection of individuals at high risk for developing suicidal ideation.

Further, certain limitations occur when conducting a correlational study, and any significant results discovered in this study cannot on their own imply causation. Suicidal ideation is a multi-determined phenomenon; therefore, any number of factors could influence the materialization of these thought patterns for university students. Presence of depression was examined due to its established connection with developing thoughts of suicide (Abramson et al., 1998; Furr, Westefeld, McConnell, & Jenkins, 2001; Kisch, Leino, & Silverman, 2005; Konick & Gutierrez, 2005; Weber, Metha, & Nelson, 1997; Westefeld & Furr, 1987), but additional factors known to be associated with suicidal ideation, such as specific demographic variables, ruminative style, self-esteem, presence

of hopelessness, and social isolation, may also influence the ameliorative effects self-compassion have on suicidal ideation. Thus, results from the study should be considered exploratory and tentative, and significant results would signify a need for additional research to provide further empirical support for the connections that might emerge in this study.

Several questions of interest for this topic are outside the scope of the current project and are worth noting. First, suicidality has been described as a continuum originating with low-level morbid ruminations and progressing to increasingly severe suicide-related behaviors and ultimately attempts (Drum et al., 2009; Rudd and Joiner, 1998; Silverman et al., 2007a, 2007b). Few studies examine which protective factors are associated with the transition from one stage along the continuum to an increasingly severe stage, and future research could examine whether self-compassion conveys decreasing protection as one moves to heightened degrees of crisis. Lastly, students' levels of self-compassion may change as they develop in their self-concept from the time they enter college to the time they graduate. It is conceivable that students may improve their ability to face life stressors with greater equanimity, sense of common humanity and self-kindness as they move from freshman year on to graduation. Thus, the question arises whether the protection self-compassion provides on suicide risk varies across the development of students as they advance in years in their education. Further research examining these questions may be warranted to enhance existing knowledge about this subject matter.

In sum, this study is exploratory in nature, and while elements are based on established theory, the associations proposed in this investigation have never been examined before. Thus, results from this study should continue to be refined and tested with diverse populations to provide further support for the connection between self-compassion and theories of the development of suicidality and suicidal ideation.

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