Self-Compassion as a Protective Factor for Sexually Assaulted College Students

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Abstract

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Sexual assault is a common type of traumatic event on college campuses. It is associated with mental health disorders, including anxiety and depression. However, not all people who experience sexual assault will go onto develop psychopathology because of the presence of protective factors. The current study examined the protective effect of self-compassion for young adults sexually assaulted in their first year at the University of Washington (N = 145), and also examined whether the relationship between self-compassion and mental health would be moderated by stressful event exposure, resilient coping, and assault severity. Findings showed that self-compassion was associated with better mental health for sexual assault survivors, regardless of stressful event exposure, assault severity, and resilient coping. Self-judgment showed a stronger relationship with outcomes than self-tolerance, and assault quarter was also a meaningful predictor of mental health outcomes.

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Chapter 1: Introduction

The Mental Health Consequences of Traumatic Events for College Students

College is where many young adults first experience independence. College can mark the transition to adulthood and provides an environment in which young adults can explore their identities, values, and interests (Montgomery & Cote, 2003). While college can be an enjoyable time for many, researchers have also identified that 22.1% of surveyed students report significant anxiety, 8.6% have seriously considered suicide, and 19.7% report significant depression over the prior 12 months (American College Health Association, 2019). Exposure to potentially traumatic events is common, with 85% of college students reporting exposure to at least one potentially traumatic event in their lifetimes, and another 21% reporting at least one exposure over the previous 2 months (Frazier et al., 2009).

Traumatic events are associated with distress, with over a third of college students exposed to some form of traumatic event reporting symptoms consistent with traumatic stress, like hyper-vigilance or sleep disturbance (Overstreet et al., 2017). Post-traumatic stress and Post-Traumatic Stress Disorder (PTSD) are associated with increased risk of other mental health disorders as well as substance use (Amstadter et al., 2013; Overstreet et al., 2017). Women are more likely to report psychopathology post-trauma then men (Amstadter et al., 2013; Overstreet et al., 2017). In Amstadter et al.'s (2013) study of the mental health correlates of traumatic events in young adults, participants who developed PTSD were 10 times more likely to also have symptoms consistent with agoraphobia, 7 times more likely to have symptoms consistent with panic disorder, and over 5 times more likely to experience dysthymia.

However, not all traumatic events are equally likely to yield psychopathology (Frazier et al., 2009; Guina et al., 2018; Overstreet et al., 2017). Interpersonal trauma (e.g., physical and

sexual abuse) is more likely to yield symptoms of post-traumatic stress than other types (e.g., natural disasters) (Frazier et al., 2009; Guina et al., 2018). In Overstreet et al.'s (2017) study of college students, interpersonal trauma demonstrated the strongest association with anxiety, alcohol use, and depression. For example, only 17.5% of students exposed to a non-interpersonal traumatic event developed post-traumatic stress, while post-traumatic stress was reported by 55% of students whose traumatic event was interpersonal in nature. Understanding how interpersonal trauma influences college students' mental health is therefore an important topic of study. Given that women are especially likely to be distressed post-trauma (Amstadter et al., 2013; Overstreet et al., 2017), it is additionally important to examine traumatic events which are disproportionately experienced by female college students.

Sexual Assault

Sexual assault is a relatively prevalent form of interpersonal trauma (Frazier et al., 2009) that female college students experience at higher rates than other demographic groups (Carey et al., 2015; Overstreet et al., 2017). While estimates vary across studies and definitions used, 6%-44% of female college students report some form of sexual assault, while 1.4%-3.2% of male students report an experience on the sexual assault spectrum (Fedina et al., 2016). Sexual assault is associated with increased risk of most forms of psychopathology, including depression, anxiety, suicidality, PTSD, and OCD (Dworkin et al., 2017; Dworkin, 2018). Female college students who experience a sexual assault early in their first semester of college are over twice as likely to experience both depression and anxiety symptoms when compared to their non-assaulted counterparts (Carey et al., 2015). This effect holds even when controlling for baseline mental health symptoms and sexual assault experiences that occurred prior to college (Carey et al., 2015). Thus, sexual assault is clearly a problem on college campuses, clearly associated with

mental health problems, and worthy of study in college students. However despite the mental health challenges that can accompany traumatic event exposure and sexual assault specifically, not all college students go onto develop psychopathology (Galatzer-Levy et al., 2012). This suggests that students' mental health outcomes are likely shaped by both risk and protective factors (Burris et al., 2009; Kahn, 2016), yielding either resilience to trauma or prolonged suffering.

Risk-Resilience Framework

Resilience likely results from the interaction of protective and risk factors over time, resulting in what has been called a risk-resilience framework (Masten, 2001; Masten & Powell, 2003). Thus, protective factors can buffer the impact of risk factors on mental health outcomes, and help explain why individuals exposed to the same type of traumatic event (e.g., sexual assault) may experience significantly different outcomes over time. Protective factors which are modifiable (e.g., exercise) as opposed to static (e.g., sex or family history) are especially useful to study as they can be incorporated into interventions for vulnerable or trauma exposed populations.

Coping as a Resiliency Variable

Coping is one such modifiable protective factor (Zimmermann et al., 2020). The ways in which people cope with their traumatic experiences predict the distress they will experience over time (Grasso et al., 2012; Thompson et al., 2018). Sexual assault survivors who use active, approach-oriented coping generally report less distress and greater post-traumatic growth over time (Frazier et al., 2004; Ullman, 2014). Approach oriented coping consists of direct attempts to modify a stressor, or the emotions or extenuating circumstances associated with a stressor (Carver & Connor-Smith, 2010; Grasso et al., 2012). For example, a student who is stressed by

an upcoming exam and who makes the decision to increase their studying would be employing approach oriented coping. However, active, approach oriented coping is not the only form of coping associated with resilience in trauma survivors.

Self-Compassion

Self-compassion, which reflects high levels of self-kindness and low levels of self-judgment, is an adaptive form of emotion-focused coping that appears to buffer the impact of stressors on college students (Terry et al., 2013) and promote adjustment and resilience in trauma-exposed youth (Zeller et al., 2015) and adults (Seligowski et al., 2015). Indeed, self-compassion appears to not only be a protective factor, but modifiable, as it has been found to increase when targeted in treatment (Allen et al., 2020; Au et al., 2017; Gilbert & Procter, 2006). Interest in self-compassion as an intervention tool is driven by the challenges that clinicians can face in treating shame or self-criticism, particularly for those clients who experience these feelings as severe and persistent (Gilbert & Procter, 2006; Gilbert, 2009). When incorporated into intervention self-compassion may be more effective in treating shame and self-criticism for some people than traditional cognitive-behavioral strategies (Gilbert & Procter, 2006).

Given the effectiveness of self-compassion in ameliorating shame, self-compassion may be particularly important for sexual assault survivors. Sexual assault is associated with shame and self-blame (Amstadter & Vertion, 2008; Miller et al., 2010; Saraiya & Lopez-Castro, 2016), both of which are associated with distress and PTSD post-trauma (Saraiya & Lopez-Castro, 2016). Despite this, self-compassion is understudied in sexual assault survivors in general, and in college student survivors specifically. Thus, the literature on self-compassion and trauma recovery is both intriguing and limited. An exploration of some these limitations follows.

Gaps in Self-Compassion Research

Incomplete Understanding of Unique Effects as well as Moderation. A deep understanding of how protective factors and risk factors operate in the lives vulnerable populations can generate interventions which support resilience in the lives of young people (Fritz et al., 2018). However, this requires understanding protective factors both in Isolation (e.g., with other protective factors controlled for), and in interaction with other protective factors and risk factors (Fritz et al., 2018). In Fritz et al.'s (2018) literature review of resiliency factors they noted that few studies examined the protective variable of interest both in Isolation and in interaction with other risk and protective factors. They emphasize the importance of using both approaches as it yields a more nuanced understanding of how protective and risk factors operate.

Self-compassion research conducted on sexual assault samples is sparse, and certainly reflects the limitations noted by Fritz and colleagues in their 2018 review. For instance, social support is considered a robust protective factor for sexual assault survivors (Borja et al., 2006; Chivers-Wilson, 2006), however none of the research examining self-compassion and mental health outcomes in sexual assault samples controls for the role of social support in enhancing resilience. It is therefore unknown whether self-compassion plays a significant role in mental health outcomes for sexual assault survivors above and beyond social support.

At the same time, other protective and risk factors which may moderate the effectiveness of self-compassion for sexually assaulted college students have not been explored. Active coping increases the likelihood of resilience in people coping with sexual assault (Frazier et al., 2004), however there is no study examining self-compassion and active coping together in this population. Self-compassion may be more or less protective depending on the skill with which students use active coping skills, however this has not been tested.

In addition, there appears to be some tension in the self-compassion literature as some researchers have found that self-compassion explains relatively little variance in mental health outcomes (Raes, 2011), while others have found it to be more robust (Stutts et al., 2018). One distinguishing factor appears to be whether self-compassion is being studied under conditions of high or low stress (Kaurin et al., 2018; Stutts et al., 2018). Thus, self-compassion may be moderated by cumulative stress, such that it is not particularly protective at low levels of cumulative stress, but becomes more so as stress increases (Kaurin et al., 2018; Stutts et al., 2018). Self-compassion may become more protective for assaulted college students whom are also experiencing higher levels of cumulative stress, however this has not been tested.

Limited Research Focused Exclusively on Self-Compassion and Sexual Assault. An examination of the literature on self-compassion reveals that it is primarily focused on general trauma samples (e.g., Bistricky et al., 2017; Kaurin et al., 2018; Maheux & Price, 2016; Seligowski et al., 2015, Thompson & Waltz, 2008; Zeller et al., 2015) as opposed to sexual assault samples exclusively. Given this, more research is needed to understand how self-compassion functions in the lives of sexual assault survivors specifically. While different types of traumatic events may have shared features (e.g., a sense of helplessness and fear) they may also differ in their mental health outcomes (Krupnick et al., 2004). Sexual assault is distinctive as a traumatic event because it occurs within a culture that frequently blames victims for their assaults (Schwartz et al., 2017). Therefore, rather than assuming that self-compassion functions in the same way for sexual assault survivors as it does for the survivors of others sorts of traumatic events, research must explore self-compassion in sexual assault survivors specifically. And, regarding the literature on sexual assault and self-compassion that does exist, most of it is conducted on older adult samples (e.g., Close, 2013; Dicks, 2014; Hamrick & Owens, 2019;

Schindler, 2021) and examines self-compassion in the context of an assault that occurred years in the past (e.g., Close, 2013; Dicks, 2014; Hamrick & Owens, 2019). Self-compassion may function differently in college students with recent assaults, however this requires more exploration.

Incomplete Understanding of the Construct of Self-Compassion. Finally, most studies examining self-compassion and traumatic events use only the total score of the most common self-compassion measures available, the Self-Compassion Scale (SCS; Neff, 2003b) and the Self-Compassion Scale-Short Form (SCS-SF; Raes, 2011). Because researchers have found different relationships between self-compassion subscales and mental health outcomes (Muris & Petrocchi, 2016) it makes sense to examine which aspects of self-compassion contribute the most to mental health outcomes in sexual assault survivors.

Purpose of the Present Study

The present study meets the need for a more comprehensive analysis of self-compassion in college student sexual assault survivors by intentionally addressing the limitations in the self-compassion literature described above. This study examines the relationship between self-compassion and mental health (as indicated by symptoms of anxiety and depression) in a sample of college students from the University of Washington who experienced some form of sexual assault in their first year at the university (N = 145). It controls for stressful event exposure and social support to better understand the unique effects of self-compassion on mental health in sexual assault, and also examines how active coping and stressful event exposure moderate the effects of self-compassion on survivor mental health. It also examines how the relationship between self-compassion and mental health outcomes differs based on sexual assault severity. The focus on moderation enables an examination of the conditions under which self-compassion

becomes more or less protective in mitigating the mental health consequences of sexual assault on young college students (M =19.72) for whom sexual assault is relatively recent (i.e., past year). This study also examines the unique relationship between self-compassion sub-domains and survivor mental health outcomes, which further contributes to the literature base on self-compassion and coping with sexual assault.

Chapter 2: Literature Review

Sexual assault is a common form of trauma on college campuses (Carey et al., 2015). It is associated with mental health disorders like anxiety, depression, and PTSD (Dworkin et al., 2017; Dworkin, 2018), yet many people who experience a potentially traumatic event will never develop serious psychopathology (Bonanno, 2004). Self-compassion is a protective factor that supports adjustment to college in young adults (Terry et al., 2013) and supports the mental health of trauma exposed adults (Seligowski et al., 2015). Limited research suggests that self-compassion may also be a protective factor for adult (non-college aged) sexual assault survivors (Close, 2013; Dicks, 2014; Hamrick & Owens, 2018; Schindler, 2021), however college students with recent assault have been understudied. Self-compassion has not been studied while controlling for salient confounding variables, nor has it been studied as part of an interconnective web of other risk and protective factors, as would be indicated by using a risk and resilience framework (Fritz et al., 2018). The following section will introduce the concept of a risk-resilient framework as it provides a guiding lens through which to interpret mental health outcomes after sexual assault, and the potential role of self-compassion in supporting survivors.

Risk and Resilience: Understanding Differences in Adjustment Post-Trauma

A risk-resilience framework examines how the interaction of risk and protective factors explains why some people display resilience in response to trauma, while others are less able to do so (Masten & Powell, 2003). This framework has been used by researchers (Corcoran & Nichols-Casebolt, 2004) to guide research into how protective factors and risk factors shape outcomes for vulnerable youth and adults. Longitudinal research has established that it is a valid and valuable structure in which to understand adaption over time (Corcoran & Nichols-Casebolt, 2004; Masten et al., 2004). A risk-resilience framework acknowledges that children and youth

suffer poor mental health and life outcomes as risk factors accumulate, and that the inverse is also true—positive outcomes for vulnerable children and youth also become more likely as protective factors accumulate (Masten, 2001). The presence of one protective or risk factor may indicate the presence of additional protective factors and risk factors as protective factors tend to be associated with each other, with risk factors following a similar pattern (Corcoran & Nichols-Casebolt, 2004).

The risk-resilience framework has received empirical support across a range of populations examining a variety of risk and protective factors and outcome variables (Fritz et al., 2018). For instance, trauma exposed adults with better coping skills experience less depression than those with less developed coping skills (Sinclair et al., 2016); parental support is associated with better mental health in youth exposed to community violence (Hardaway et al., 2016); distress tolerance is associated with less anxiety in the face of parental emotional abuse for adolescents (Banducci et al., 2017); and stressed college students who believe that they can control the outcomes in their life (high self-efficacy) are better able to maintain mental health than their peers (Bovier et al., 2004).

However, after reviewing literature on resilience, Fritz et al. (2018) write "findings strongly underpin the need for a complex model that can account for various RF [resiliency factors] following adversity, when predicting psychopathology" (p. 11). They note that protective factors that predicted positive outcomes when studied in isolation may no longer be significant when studied in more complex models with other protective factors, or, that protective factors may be most protective in interaction with each other. This has implications for intervention, as interventions may be more likely to support resilience if they target both risk

and protective factors, as opposed to addressing risk factors alone (Masten, 2001), or only individual protective factors.

Fritz and colleagues' (2018) assert that models which examine multiple resiliency factors simultaneously are lacking. This may in turn reflect that research based in a risk-resiliency framework is a relatively new development within psychology (Campbell-Sills et al., 2006; Fredrickson, 1998). Campbell-Sills et al. (2006) note that researchers have generally been more oriented toward examining the relationship between risk factors and psychopathology (Campbell-Sills et al., 2006). This is especially true when adults as opposed to children are the population of interest (Campbell-Sills et al., 2006). The present study has adopted a risk-resilience framework to structure the examination of self-compassion, active coping, sexual assault severity and stressful event exposure on the mental health outcomes of sexual assault survivors, addressing the gaps indicated by Fritz et al. (2018).

Risk and Protective Factors Associated with Resilience

A risk factor refers to those processes or traits which decrease the likelihood of resilience in the face of stress, trauma or adversity (Mrazek & Haggerty, 1994). Trauma severity (Sayed et al., 2015), childhood trauma (Sayed et al., 2015), negative life events (Beasley et al., 2003), perceived stress (Bovier et al., 2004), social withdrawal (Thompson et al., 2018), self-criticism (Cox et al., 2004), rumination (Spinhoven et al., 2015) thought or emotion suppression, and avoidance coping (Beasley et al., 2003; Grasso et al., 2012) are all risk factors impacting resilience in the aftermath of a traumatic event.

A protective factor refers to processes or traits which increase the likelihood of resilience (Lee et al., 2013). A variety of protective factors have been found to predict resilience or post-traumatic growth for youth and adults, regardless of the type of trauma or adversity (e.g.,

interpersonal vs. natural disaster) (Prati & Pietranoni, 2009). Among these are social support (Bovier et al., 2004; Prati & Pietranoni, 2009), perceived control over trauma recovery (Frazier et al., 2011), optimism (Grasso et al., 2012; Lacoviello & Charney, 2014), spirituality (Prati & Pietranoni, 2009) acceptance coping (Folkman, 2008; Lacoviello & Charney, 2014), positive re-appraisal (Folkman, 2008; Prati & Pietranoni, 2009), competence/mastery (Bovier et al., 2004; Masten, 2001), extraversion (Campbell-Sills et al., 2016), approach-oriented coping strategies (Beasley et al., 2013; Campbell-Sills et al., 2016), and the ability to access positive emotions in the face of stress (Folkman, 2008; Fredrickson, 2001).

Table 1

Risk and Protective Factors Associated with Resilience

Risk Factors	**Protective Factors**
Trauma severity	Social support
Childhood trauma	Perceived control over trauma recovery
Negative life events	Optimism
Perceived stress	Spirituality
Social withdrawal	Acceptance coping
Self-criticism	Positive re-appraisal
Thought or emotion suppression	Competence
	Extraversion
	Approach/active coping
	Ability to access positive emotions in face of stress

Note. This table is a visual representation of the risk and protective factors described in the proceeding paragraphs for ease of reference.

Defining Resilience

Resilience has been defined in a variety of ways (Thompson et al., 2018; Masten 2001). Thompson et al. (2018, p. 153) note that resilience can be defined as the ability "to thrive in the face of adversity" or as a dynamic and unfolding process that occurs over time that ultimately promotes recovery from trauma. Others have described resilience as the "ability to rebound from and positively adapt to significant stressors" (Sinclair & Wallston, 2004, p.94). Still others have defined resilience in the face of trauma "as the absence of psychopathology," and well-being and achievement in the face of adversity (Masten, 2001, p. 229).

The capacity for resilience also can be conceptualized as either a stable internal trait or as an unfolding process that is amenable to skill development and which can vary over time (Jacelon, 1997; Leys et al., 2020; Wagnild & Young, 1993). Conceptualizing resilience as a trait essentially means that some people are resilient because of internal, supposedly stable traits like personality (Leys et al., 2020; Wagnild & Young, 1993). This same viewpoint also assumes that the capacity for resilience is fairly stable across time and therefore possibly less amenable to intervention (Leys et al., 2020). Conversely, conceptualizing resilience as more of a process or skill assumes that the capacity for resilience can be enhanced and supported (Jacelon, 1997; Leys et al., 2020). Thus, there are multiple ways to define resilience, however all definitions incorporate the general idea that resilience involves adapting to stress or adversity in such a way that negative outcomes are minimized.

Resilience as a Process. This study is guided by the larger philosophy that resilience is not so much an internal stable trait as it is a moldable developmental process (Masten, 2011; Thompson et al., 2018) which reflects protective factors that many people have access to

(Masten, 2001). This in turn enables recovery from traumatic events (Lacoviello and Charney, 2014) as reflected in lower levels of impairing mental health symptoms than might otherwise be expected.

Conceptualizing resilience as an unfolding process that can be enhanced with support, as opposed to a trait, best reflects recent frameworks and trends in resilience research (Masten, 2007; Masten, 2011) and is an extension of literature indicating that resilience can be enhanced through intervention (Leys et al., 2020). Conceptualizing resilience as a dynamic process also highlights the degree to which resilience can result from ecological factors that may vary over time, like social support, financial resources, and access to mental health care. The benefit of this framework is that it allows resilience to vary with individuals' life circumstance (Thompson et al., 2018). Resilience thus reflects a process that incorporates both risk and protective factors into the child's or young adult's unfolding adaptation to stressors or adversity (Masten, 2007; Masten, 2011).

The Broaden and Build Theory of Positive Emotions

The ability to access positive emotionality is a protective factor that can enhance resilience (Fredrickson, 1998, 2001; Garland et al., 2010). Fredrickson's (1998, 2001) broaden and build theory of positive emotions describes the benefits of positive emotions from an evolutionary framework. Dr. Fredrickson contrasts the role of positive emotions to that of negative emotions, stating that negative emotions yield specific behavioral scripts that may be adaptive under conditions of threat, but which also narrow attention only to details which are adaptive for survival in that moment (Fredrickson, 1998, 2001; Garland et al., 2010). For instance, the emotion of anger is associated with the urge to attack, and the emotion of fear is associated with the urge to flee or retreat (Fredrickson, 1998; Garland et al., 2010). This

narrowed attention also decreases flexible thinking and flexible coping, particularly when negative emotions become chronic; it is simply hard to be creative when one does not have the capacity to notice resources that can be used for coping.

Conversely, positive emotions facilitate approach behavior, enhance creative thinking, broaden people's awareness of coping strategies, and help de-activate negative emotions (Fredrickson, 1998, 2001). Thus, positive emotions can also help people move past habitual ways of responding and try novel coping strategies. Better coping in turn enables people to develop resources which are more durable than the transient nature of positive emotional states themselves, and these resources can then help people cope with stress or experience more positive affect (Fredrickson, 1998, 2001). This suggests that positive emotions can help disrupt the entrenchment of rigid thought and behavior patterns in the context of chronic stress or trauma. Positive emotions are also resilience enhancing because they diminish the power of negative emotions and reduce the intensity of them more quickly, helping the body's stress response system to de-activate (Fredrickson, 2001; Garland et al., 2010). They therefore provide a buffering effect when people encounter stressors (Garland et al., 2010).

In sum, positive emotions yield a broadened attentional state that differs markedly from the narrowed attentional state associated with negative emotions. Thus, someone experiencing negative emotions is more likely to experience 'tunnel vision,' whereas someone experiencing positive emotions is more likely to experience a more expansive 'bird's eye view' of their current experience, which is ultimately resilience enhancing.

Garland et al. (2010) connects Fredrickson's theory to the degree to which both positive and negative emotions can become self-perpetuating and reinforcing. Chronic stress and related experience of chronic negative emotionality appear to alter brain architecture in such a way that

mood disorders become more likely (Garland et al., 2010). Whether a result of chronic stress or genetics, people who struggle with anxiety and depression can display pronounced biases to negative stimuli. The experience of positive emotion is necessary to counteract this tendency (Garland et al., 2010) and disrupt the tunnel vision that persistent negative emotionality can generate. Therefore, resilience and well-being emerge not only from risk reduction, but from cultivating positive emotionality so that internal and external resources can be accumulated over time and become self-perpetuating.

Fredrickson (1998) describes how psychology's traditional focus on psychopathology and risk factors has obscured the role of positive emotion in resilience. She notes that people generally experience three to four negative emotions for every positive emotion, which, in combination with psychology's traditional focus on fixing problems and addressing psychopathology, has yielded an under-emphasis on the role of positive emotionality in coping with stressors. This has unfortunately yielded an incomplete understanding of how people cope with adversity. Combined, a risk-resilience framework and Fredrickson's broaden and build theory support the necessity of better understanding protective factors that can yield positive emotional experiences even in the midst of trauma or ongoing stress. Understanding the role of self-compassion in helping undergraduate students recover from sexual assault experiences is a natural extension of both theories.

Integrating Self-Compassion Within Broaden and Build Theory

Self-compassion seems to generate emotion states most similar to the positive emotion of contentment, which Fredrickson (1998) states emerges when people are in predictable environments perceived to be safe and as requiring minimal energy expenditure. She notes that contentment has been associated with a mental state that helps people generate new worldviews

because of the degree to which it facilitates the absorption of new learning and experiences. As would be predicted by the broaden and build theory of positive emotions, self-compassion appears to help people broaden their attentional awareness, and increases their experience of positive emotion (Neff, 2003a, 2003b). It also decouples the relationship between stress and increased risk of psychopathology (Stutts et al., 2018) and reduces perceived threat in response to stressors (Chishima et al., 2018). Thus, self-compassion can be considered a protective variable within both a risk-resilience framework and Fredrickson's broaden and build theory of positive emotions because of how it increases positive emotion, de-actives negative emotions, and helps people broaden their attention. Self-compassion exercises, like loving-kindness meditations, have been found to increase positive emotionality (Garland et al., 2010), indicating that self-compassion is potential protective factor that appears amenable to intervention, in line with the view that resilience can be learned and honed with support.

Self-Compassion

Defining Self-Compassion

Self-compassion can be considered an emotion regulation and stress coping strategy which asks people to place their own suffering within the larger context of human struggle and fallibility, to treat themselves with kindness despite mistakes, and to maintain low levels of self-judgment (Leary & Allen, 2010; Neff, 2003a, 2003b). Strauss et al. (2016) reviewed the major measures of compassion and self-compassion in an effort to develop a unified theory of self and other compassion which incorporates core definitional components sourced from works in the area. They describe both self and other compassion as:

> 1) Recognizing suffering; 2) Understanding the universality of suffering in human experience; 3) Feeling empathy for the person suffering and connecting with the distress

> (emotional resonance); 4) Tolerating uncomfortable feelings aroused in response to the suffering person (e.g. distress, anger, fear) so remaining open to and accepting of the person suffering; and 5) Motivation to act/acting to alleviate suffering. (p. 19)

Self-compassion is also heavily rooted in Buddhism (Neff, 2003b). In Buddhist philosophy, compassion is rooted in the desire not only to alleviate suffering for others, but to alleviate suffering for oneself (Barnard & Curry, 2011; Neff, 2003b). In this perspective, the suffering individual extends the same compassion to themselves that they extend to others because they recognize that they are part of the larger human community (Neff, 2003b). In this view it would be inconsistent to extend compassion to others but withhold it from oneself. Self-compassion can also trace its roots to the Buddhist concept of equanimity, mindfulness (nonjudgmental awareness of the present moment), and acceptance. Equanimity means maintaining composure and relaxed calm despite vagaries in experience and emotional states (Weber, 2017). In Buddhist traditions suffering is theorized to emerge not only from obviously challenging experiences like loss or failure, but from the understandable desire to maintain those things or experiences which maintain positive emotional states, and to reject stimuli or experiences which cause negative emotional states (Makransky, 2012). Thus, mindfulness and acceptance enable people to stay present in their experiences while accepting reality as it is, which reduces suffering. The leading researcher in this area in Western psychology, Dr. Kirsten Neff, has drawn on Buddhism in her own definition, described below.

Neff's Conceptualization of Self-Compassion. Neff (2003a) defines self-compassion as:

> being touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness.

> Self-compassion also involves offering nonjudgmental understanding to one's pain, inadequacies and failures, so that one's experience is seen as part of the larger human experience (p. 87)

Neff (2003a) further states that self-compassion is about accepting imperfections and failures, and extending to oneself the kindness and self-acceptance that one would extend to another. Given this, Neff (2003a, 2003b) specifically operationalizes self-compassion as a construct which involves the synergistic interaction between three sub-facets, each of which has a positive and negative pole: self-kindness (versus self-judgment), mindfulness (versus over-identification), and common humanity (versus isolation). Neff defines self-kindness as "extending kindness and understanding to oneself," (Neff, 2003a, p. 89), mindfulness as "holding one's painful thoughts and feelings in balanced awareness" (Neff, 2003a, p. 89), and common humanity as "seeing one's experiences as part of the larger human experience," (Neff, 2003a, p. 89). Self-Judgment (the negative pole of self-kindness) is defined as being disapproving or critical or judgmental of mistakes or flaws (Neff, 2015). Isolation (the negative pole of common humanity) is defined as feeling cut off from others or the rest of the world because of one's suffering or when one contemplates mistakes or failures (Neff, 2015). Over-Identification (negative pole of mindfulness) is defined as being overly involved or enmeshed with one's suffering, such that one is fixated on it (Neff, 2015). Neff (2015) clarifies that her definition of isolation does not describe perceived or actual social support, but is rather about how the interpretations people make about their suffering either connects them to others or causes them to feel that they are unique in their suffering. Neff describes isolation as a "egocentric fallacy that it's just me" (p. 2).

Neff believes that self-compassion requires being higher on the positive poles while also being lower on the negative poles (Neff, 2015) so that in totality, a self-compassionate mindset involves higher self-kindness and less self-judgment, greater mindfulness and less over-identification, and greater feelings of common humanity and less feelings of isolation (Neff, 2015). It is Neff's view that each of these sub-facets promote and engender each other. For example, mindfulness facilitates common humanity because it prevents people from becoming over-identified in their emotions. When people are over-identified this can cause them to feel separated from other people and minimize the awareness that all people suffer. Thus, Neff (2015) is clear that her conceptualization of self-compassion cannot be fully captured by the positive poles only, and that of necessity a self-compassionate mindset also involves limited self-judgment, isolation, and over-identification.

Self-Compassion as Defined by Paul Gilbert. Gilbert has conducted research in the area of shame, self-criticism and self-compassion (Gilbert & Procter, 2006). He analyzes the role of self and other compassion using social mentality theory (Gilbert, 2014). Briefly, social mentality theory refers to the idea that evolution has shaped basic motivational systems which in turn yield templates or scripts which are also associated with specific and coordinated physiological, emotional, behavioral and cognitive components. These social mentalities are intimately rooted in ongoing social interactions and social histories (Gilbert, 2014). Gilbert proposes that the capacity for self and other compassion emerges from evolved tendencies to care for the young and members of one's social group, reflecting the human attachment system (Gilbert, 2017). Given this, Gilbert defines self and other compassion as a basic orientation toward wanting to relieve perceived pain in oneself and others, which also requires a basic sensitivity toward noticing suffering in others or in oneself (Gilbert, 2017). He specifies that the

execution of compassion requires “two basic psychologies” one of which is focused on noticing and engaging with suffering, and the other focused on helping others or oneself, that is, alleviating suffering (Gilbert, 2017, p. 221). These two mindsets each reflect underlying attributes and skills, like distress tolerance and empathy.

Because compassion and self-compassion have evolutionary roots in attachment and affiliative systems, children raised in threatening and critical environments may fail to develop compassion for themselves or others, which can manifest as being high in shame and self-criticism in adulthood (Gilbert & Procter, 2006; Gilbert, 2017). People who present with this profile have an over-active threat detection system, and therefore struggle to feel safe with themselves or others (Gilbert, 2017). Gilbert proposes that self-compassion can directly counter this tendency, and that a main mechanism of action is the degree to which self-compassion generates *feelings* of warmth and support, while also activating the parasympathetic nervous system. This also aligns with the broaden and build theory of positive emotion outlined by Frederickson (1998, 2001). That is, Gilbert proposes that self-compassion helps people transition out of the narrowed attentional state and negative emotionality associated with stress and activation of the sympathetic nervous system, as would be predicted by Frederickson’s theory.

Self-Compassion and Mental Health

Self-compassion has been associated with a range of positive outcomes, including improved stress coping, social connectedness and overall well-being (Allen & Leary, 2010; Neff, 2003b; Neff et al., 2007). Self-compassion has been associated with better mental health in college students, as well as less risk-factors for psychopathology in college students (Neff, 2003b). Neff (2003b) found an inverse relationship between self-compassion and self-criticism (r = -.65), depression (r = -. 51), anxiety (r = -.65), and maladaptive perfectionism (r = -.57), and a

positive correlation with social connectedness (r = .41) and satisfaction with life (r = .45) in a sample of 391 undergraduate students. These relationships were maintained even after Neff controlled for self-criticism, though the correlations were generally halved ($r_{depression}$ = -.21, $r_{anxiety}$ = -.33, $r_{lifesatisfaction}$ = .20, $r_{perfectionism}$ = -.20, p's <.01). Despite the weakened association between self-compassion and mental health outcomes, the continued significant associations between self-compassion and mental health suggests that self-compassion may support mental health even with self-criticism controlled for.

Neff (2003b) also found a moderate relationship between self-esteem and self-compassion (r = .59), and a moderate inverse association between self-compassion and rumination (r = -.50) and thought suppression (r = -.37). Neff's (2003b) research indicates that one reason why self-compassion may be inversely related to symptoms of anxiety and depression is because it reduces thought suppression and rumination, which are associated with increased risk of anxiety and depression (Michl et al., 2013; Petkus et al., 2012). However, because this study did not examine the different sub-scales of self-compassion (Self-Tolerance and Self-Judgment) it is hard to say whether increased levels of self-kindness, mindfulness and common humanity are more responsible for student mental health outcomes, or whether lower levels of self-judgment, isolation and over-identification are really driving the effect. Moreover, these relationships were only examined at the bivariate level, which can make it hard to understand directionality.

College Student Adjustment and Mental Health

Self-compassionate undergraduates may experience an easier transition to college in their freshman year (Terry et al., 2013). In Terry et al.'s (2013) study of 114 undergraduates, there was no relationship between students' perceived social life/challenges and homesickness for

students who were categorized as high in self-compassion (+ 1 *SD* above the mean), but for students who were low in self-compassion (-1 *SD* below the mean), the more social challenges they perceived, the more homesickness they reported. That is, students high in self-compassion reported roughly equivalent levels of homesickness at low satisfaction (approximately 18 points on the homesickness questionnaire), and at high satisfaction (approximately 17 points on the homesickness questionnaire). Conversely, students with low self-compassion and who were also unhappy with their social lives had a total score of 24 on the homesickness questionnaire; at high levels of social satisfaction they reported an average score of about 19 points on the homesickness measure.

A similar pattern was found for academic satisfaction. Students who were one standard deviation below the mean in self-compassion and who were also dissatisfied with their academics experienced significantly more homesickness than students who had high self-compassion and were also dissatisfied with their academic life-in fact, for these students, there was no association between academic dissatisfaction and homesickness. Finally, students' contentment with their social life only predicted happiness with their decision to attend college if they were low in self-compassion, otherwise there was no association. There was also a main effect of self-compassion on depression ($\beta = -0.49$, $sr^2 = .24$).

This study suggests that self-compassion can buffer the effects of transition stress for freshman year students; self-compassion seemed to help students contain their frustrations with one area of life (e.g., social life) so that it did not influence their larger happiness with their decision to attend college. Terry et al. (2013) noted that the benefits of self-compassion may become especially salient in the context of chronic stress, when frustrations may accumulate or emotional pain may become amplified. Raes (2011) concurs with Terry et al.'s assertion that

self-compassion may become particularly important under conditions of chronic stress, noting that in his own prospective study of undergraduate depression and self-compassion (N = 439), only 3% of the variance in depression change scores over time were accounted for by self-compassion. Though this was not tested, Raes theorized that self-compassion may have possibly explained more variance in depression change scores in interaction with chronic stress, as self-compassion may become increasingly important under situations that provoke negative emotion.

Indeed, in Stutts and colleagues' (2018) study of 462 university students, self-compassion was not particularly protective against depression unless students were experiencing high levels of stress. The study authors controlled for both neuroticism and optimism to better isolate the effects of self-compassion on student mental health as both constructs have been found to correlate with mental health outcomes. There was a significant interaction such that highly self-compassionate students (+ 1 *SD* above the self-compassion mean) experienced less depression under conditions of high stress than students low in self-compassion (-1 *SD*'s below the self-compassion mean) (p =.009). Highly self-compassionate students had an average score of approximately 16 points on the SCL-90-R, the study's depression measure, while students low in self-compassion averaged over 20 points. As predicted by previous literature (e.g., Raes, 2011) suggesting that self-compassion may be less necessary when people are not under stress or suffering, self-compassion did not moderate the relationship between stress and depression under low stress. That is, students both high and low in self-compassion reported approximately similar depression scores, at about 10 and 12 points respectively, at low levels of perceived stress. Anxiety followed a similar pattern in Stutt et al.'s study. There was a main effect of self-compassion (b = -1.98, R^2 = .02) and perceived stress (b = 0.53, R^2 = .18) on anxiety, and students with high levels of self-compassion were less likely to experience anxiety under high

levels of perceived stress when compared to students low in self-compassion. Self-compassion did not yield any protective effects on anxiety when students reported low levels of perceived stress. Self-compassion was also positively associated with positive affect (b = 0.26, R^2 = .03).

This study is a clear example of a risk resilience framework; the protective factor of self-compassion clearly helped buffer students against depression and anxiety when they perceived high levels of stress. It is additionally intriguing that self-compassion was protective even with optimism controlled for as it suggests that self-compassion provides something unique to resilience above and beyond this well-established protective factor. Similarly, because the investigators controlled for neuroticism, it is easier to argue that self-compassion is not inadvertently being conflated with low levels of neuroticism.

Self-compassion was also identified as a buffer and resilience factor for college students in Hope et al.'s (2014) prospective study of college students' adjustment to their freshman year (N = 159). Hope et al. conducted their study over multiple time points, and also had students report on their daily experience of negative affect, progress toward meaningful goals, and positive affect every night for 7 days, which enabled the researchers to examine whether self-compassion would moderate the effects of perceived poor progress toward goals on affect. They found both that self-compassion had a direct negative relationship with negative affect (β = -0.68) and that highly self-compassionate students (+ 1 *SD*) did not experience an increase in negative affect on days when they perceived limited progress toward goals. Conversely, negative affect did significantly increase for students low in self-compassion (-1 *SD*) on days where they perceived limited progress on their goals. Self-compassion was associated with positive affect (β = .30), and more self-compassionate students also experienced more stable affect over the course of the week, such that they experienced less variation in negative affect (β = -.26) and less

variation in positive affect (β = -.40). Self-compassion measured at the start of students' freshman year also prospectively predicted changes in negative affect over time (β = -.29), explaining 7% of the variance in the change in negative affect. Self-compassion also explained a small (2%) but significant amount of the variance in changes in life satisfaction over freshmen year (β =.17), but failed to demonstrate a unique relationship with positive affect.

It may be that one reason why self-compassion supports students' adjustment to freshman year and undergraduate mental health is because self-compassionate students may find mistakes less threatening (Neff et al., 2007). In Neff et al.'s (2007) study, more self-compassionate undergraduates displayed less anxiety after writing about their perceived greatest weakness (*r* = -.21), even with negative affect controlled. These same undergraduate students with greater levels of self-compassion also used more plural pronouns like 'we' (*r* = .23) and used fewer singular pronouns (*r* = -.21) in their writing. This aligns with the common humanity component of self-compassion, which is the idea that when mistakes or imperfections are viewed as universal rather than unique to the individual, they become less threatening. In this study, Neff et al. also found that decreases in self-criticism (*r* = -.39) and thought suppression (*r* = -.44) and increases in social connectedness (*r* = .29) occurred in response to an exercise designed to decrease self-judgment and feelings of unworthiness and increase self-kindness, when controlling for trait anxiety. This aligns with other research which has found that more self-compassionate undergraduate students are better able to process negative feedback and manage their own emotional reactions to mistake making, challenges, or embarrassment than their less self-compassionate peers (Leary et al., 2007).

Cumulatively, self-compassion does seem to be a protective factor that can reduce the likelihood that students will develop anxiety and depression. It has been found to explain

university student mental health outcomes even when controlling for neuroticism (Stutts et al., 2018) and optimism (Stutts et al., 2018), and is inversely related to thought suppression, rumination, anxiety and depression even when controlling for self-criticism (Neff, 2003b). Self-compassion may make mistakes, embarrassment, or failure feel less threatening (Leary et al., 2007; Neff et al., 2007), and help stabilize students' emotional states when frustrated in pursuit of their goals, decreasing negative affect (Hope et al., 2014). At the same time, while self-compassion does reveal a direct relationship with mental health outcomes in general non-clinical student samples, it may be relatively less protective under conditions of low stress (Raes, 2011; Terry et al., 2013), and explain relatively little variance in depression for students who are not particularly impacted by adversity (Raes, 201l).

Self-Compassion and Marginalized Groups

Self-compassion is protective for young people and facilitates adjustment to college (Hope et al., 2014; Neff et al., 2007; Stutts et al., 2018; Terry et al., 2013). However, it is also important to consider whether self-compassion manifests differently across identity groups. This section will briefly discuss self-compassion in the context of race, gender, and sexual minority status. Women generally report lower levels of self-compassion than men, though effects are small (Yarnell et al., 2015). In their meta-analysis of sex differences in self-compassion, Yarnell et al., also found that sex difference in self-compassion were greater across ethnic minority groups. They hypothesize that in some ethnic minority cultures women are especially socialized to focus on the needs of others, to their own detriment.

GLBTQ youth have also been found to have lower levels of self-compassion than their heterosexual and cis-gender peers, (d = 0.39)(Vigna, Pohlmann-Tynan, & Koenig, 2018a). At the same time, Vigna et al. found that self-compassion was protective for these youth, such that

identifying as GLBTQ had a weaker effect on mental health outcomes in the context of self-compassion. In another study, Vigna, Poehlmann-Tynan, & Koenig (2018b) found white sexual minority youth reported lower levels of self-compassion than sexual minority youth who were also students of color (*Hedges g* = .29, small to moderate effect). They also found that the highest levels of self-compassion were reported by students of color who were also heterosexual and cis-gender, and that the greatest effect size in differences in self-compassion across groups was found when comparing these youth to sexual minority white students (*Hedges g* = .63). In another study Vigna, Poehlmann-Tynan and Koenig (2020) found that minority teens reported significantly higher levels of self-compassion than their white counterparts.

Vigna et al., (2018b) suggest that the resilience strategies that youth of color learn from family and community members to cope with discrimination may translate to resilience strategies for dealing with bullying and discrimination related to sexual minority status. In turn, self-compassion is an important source of resilience for youths of color who are also sexual minorities. Vigna et al. (2020) also state that certain aspects of white culture, including individualism, may yield lower self-compassion scores in white youth. Other research, conducted on college students seeking counseling, has failed to find significant differences in self-compassion across sex, sexual orientation, and race/ethnicity (Lockard et al., 2014).

Thus, the literature on differences in self-compassion across identity groups is somewhat mixed, but on the whole suggests that young people who occupy multiple marginalized identities do not necessarily experience decreases in self-compassion. Rather, childhood trauma, including being raised in a critical and emotionally abusive environment (Gilbert & Procter, 2006; Gilbert, 2017), may have a stronger negative effect on self-compassion than identity status.

Self-Compassion and Trauma

Self-compassion has been found to benefit veterans (Hiraoka et al., 2015), disaster survivors (Zeller et al., 2015), and survivors of interpersonal violence (McLean et al., 2018; Seligowksi et al., 2015). There are a variety of reasons why self-compassion may help trauma survivors cope with their experiences:

- One, researchers have found that stressors in general increase the risk for rumination (Michl et al., 2013), that rumination is in turn a risk factor for PTSD (Kleim et al., 2007) and depression (Johnson & O'Brien, 2013), and that higher levels of self-compassion are associated with reduced rumination (Raes, 2010). Furthermore, self-compassion has been associated with less catastrophizing and greater equanimity in non-clinical samples (Leary et al., 2007), which may also reduce rumination.
- Two, one of the more robust predictors of PTSD and poor trauma recovery more generally is avoidance coping (Thompson et al., 2018), and self-compassion is inversely related to avoidance coping (Allen & Leary, 2010; Chishima et al., 2018; Thompson & Waltz, 2008) as well as thought suppression (Neff, 2007).
- Three, positive re-appraisal is a predictor of post-traumatic growth (Prati & Pietrantoni, 2009), and self-compassion has been found to facilitate positive re-appraisal (Allen & Leary, 2010; Chishima et al., 2018; Diedrich et al., 2016).
- Four, high levels of shame and self-blame can predict poor post-traumatic recovery and PTSD (Saraiya & Lopez-Castro, 2016) and self-compassion has been found to reduce or interrupt shame and self-blame (Au, 2017; Chishima et al., 2018). It has also been found to reduce harsh self-judgments (Leary et al., 2007) which also can fuel shame and self-blame.

- Five, adaptive, approach-oriented coping has generally been associated with better trauma recovery and less PTSD, and self-compassion has been positively associated with approach-coping and other adaptive coping styles in non-clinical samples (Chishima et al., 2018) and in people living with chronic health conditions (Sirois et al., 2015).

In sum, there are many reasons why self-compassion should theoretically be able to help people with trauma histories display resilience because of its ability to reduce many of the known risk associated with mental health outcomes post-trauma. The following section will explore literature examining the association between diverse types of trauma and self-compassion, with a section on sexual assault to follow.

Self-Compassion, Trauma, and Mental Health Outcomes

Seligowski et al. (2015) examined the predictive relationships among self-compassion, PTSD symptom clusters (re-experiencing, hyperarousal, avoidance/numbing), overall psychological health, and psychological inflexibility in 453 Midwest undergraduate students (*M* = 19.75) who had experienced at least one traumatic event at some point in their life. Psychological inflexibility refers to the tendency to avoid or repress unpleasant internal states and to de-prioritize goals or values in the face of strong emotion, and to be judgmental toward oneself (Bond et al., 2011; Seligowski et al., 2015). Seligowski et al. also examined overall psychological health, which comprised a composite score reflecting subjective happiness, overall well-being, and physical health. The authors used Neff's SCS, however divided the scale into positive and negative components (e.g., mindfulness, self-kindness and common humanity loaded onto one subscale and self-judgment, isolation and over-identification loaded onto another subscale).

At the bivariate level, the positive and negative subscales each correlated with most of the three PTSD symptom clusters, however the negative self-compassion components subscale had a stronger relationship with the clusters (*r*'s ranged from -.28 and -.39) than the positive components subscale (*r*'s ranged from -.08 to -.17). There was no statistically significant association between re-experiencing and the positive components. These correlations somewhat mirror another study (Thompson & Waltz, 2008) which found an inverse correlational relationship between the SCS full-scale and the avoidance symptom cluster of PTSD in an undergraduate sample (r = -0.24), though self-compassion was not significantly associated with the other two symptom clusters in Thompson & Waltz's (2008) study.

In Seligowksi et al.'s (2015) study student well-being/psychological health was positively predicted by the SCS positive components scale (β = .31) and was also predicted by the negative components scale (β = -.14) explaining unique variance above and beyond the effects of PTSD symptoms and when controlling for psychological inflexibility. However, unlike the relationships between self-compassion and PTSD symptoms found at the bivariate level, there was no relationship between self-compassion and PTSD symptoms in their predictive model.

Conversely, Bistricky et al. (2017) did find that self-compassion predicted symptoms of post-traumatic stress in their sample of 132 adults (M = 35.7). The participants in this study had all experienced interpersonal trauma or non-interpersonal trauma at some point in their life, and were experiencing symptoms of post-traumatic stress. They found that self-compassion directly predicted symptoms of post-traumatic stress (b = -.10), and yielded less post-traumatic stress symptoms by increasing social competence. They also found that self-compassion decreased as participants reported greater exposure to traumatic events (r = -.24).

Maheux and Price (2016) found that self-compassion directly predicted PTSD, GAD and depression, while mediating the relationship between social support and these mental health outcomes in a sample 599 of trauma exposed adults (M = 34). However, like most studies examining self-compassion and trauma recovery, this study used the SCS short form full scale only.

Maheux and Price (2016) found an inverse association between self-compassion and PTSD (r = -.37), self-compassion and GAD (r = -.54), and self-compassion and depression (r = -.57) at the bivariate level, as well as a positive association between social support and self-compassion (r = .36). Social support was negatively correlated with PTSD (r = -.30) and GAD (r = -.32) and positively correlated with depression (r = .56) at the bivariate level. Both self-compassion and social support had direct negative relationships with PTSD symptoms ($b_{\text{selfcompassion}}$ = -0.65, $b_{\text{socialsupport}}$ = -0.34). Social support positively predicted self-compassion (b = 0.22) and self-compassion partially mediated the relationship between social support and PTSD (indirect effect = -0.12). Self-compassion also directly negatively predicted GAD (b = -0.29) and depression (b = -0.33) and mediated the relationship between social support and GAD (indirect effect = -0.06) and depression (indirect effect = -0.06).

In total, self-compassion explained 38% of the total effect of social support on PTSD symptoms, 54% of the effect of social support on GAD symptoms, and 43% of the total effect of social support on depression symptoms. Social support has been linked to better mental health outcomes post-trauma (Prati & Pietrantoni, 2009) and this study indicates that this may occur because social support influences survivors' capacities to treat themselves with compassion. This is aligned with Gilbert's (2014) social mentality theory which posits that the capacity for self-compassion is intimately related to one's experiences of warm and supportive social interactions.

While limited by its cross-sectional design, this study illuminates how protective factors (e.g., social support and self-compassion) can work together to build resilience. However, this study also raises larger questions about whether self-compassion continues to support survivors' mental health when social support itself is controlled for. It may be that some of the protective effects of self-compassion, particularly for interpersonal trauma survivors, have been confounded with high quality social support.

Self-compassion in Prospective Research. Zeller et al. (2015) examined whether self-compassion, as measured by Neff's SCS long form total score, prospectively promoted resilience in an Israeli teenage sample ($N = 64$; $M = 17.5$) who had been exposed to a fire in their community. All of the students included in the sample reported feeling horror and helpless during the fire, and they were all from a low-income background and experiencing chronic stressors in addition to the trauma of the fire. The researchers assessed the students' levels of self-compassion and its relationship to depression, panic, trauma symptoms, suicidality, and well-being. Students completed measures within 4 weeks of the fire (Time 1), and at 3 (Time 2) and 6 months (Time 3) post-fire. Study authors controlled for trait mindfulness. This study is important because it is the only study examining self-compassion longitudinally and prospectively as it relates to trauma recovery, to the knowledge of this writer. Zeller et al. noted that much of the trauma and self-compassion literature has examined trauma survivors multiple years after the initial trauma and that this generates an incomplete understanding of the protective effects of self-compassion, as it may function differently (e.g., be more or less protective) at different points in survivors' recovery.

The study found that self-compassion levels decreased over time ($\beta = -.48$), and that higher levels of self-compassion at 4-weeks and 3-months was associated with less depression at

these same intervals (β = -.23). Self-compassion explained 25% of the variance in depression. Students reported increasing levels of panic over time, however higher levels of self-compassion at Times 1 and 2 also predicted less elevations in panic at times 2 and 3, with self-compassion explaining 32% of the variance in panic (β = -2.01). Zeller et al. (2015) also found that symptoms of post-traumatic stress increased across all three timepoints, but that participants with higher levels of self-compassion at Times 1 and 2 had less significant increases over time (β= -.17), with self-compassion explaining 14% of the variance in PTSD symptoms. Finally, Zeller et al. (2015) found that self-compassion prospectively predicted lower suicidality (β = -.22), explaining 15% of the variance in symptoms. Time was not significant in any of these models, indicating that self-compassion was the primary driver of symptom change, as opposed to changes related to the ongoing passage of time. Self-compassion did not predict well-being, in contrast to some literature which was found that self-compassion may predict well-being in traumatized samples (Seligowksi et al., 2015). Mindfulness was not a significant predictor of outcomes.

The results of the study are generally consistent with self-compassion as a protective factor; higher levels of self-compassion were associated with less psychopathology over time. The study's longitudinal design is a strength, however the study authors also failed to examine which aspects of self-compassion explained the most variance in participant mental health.

Self-Compassion and Cumulative Adversity. There is emerging evidence that the effectiveness of self-compassion in supporting mental health in trauma survivors is moderated by cumulative trauma exposure (Kaurin et al., 2018). In contextualizing their research, Kaurin et al. (2018) describe how the protective/buffering effects of self-compassion is most likely under conditions of significantly elevated stress, as self-compassion may not be particularly necessary

under conditions of low stress. Kaurin et al. examined whether self-compassion mitigated the effect of potentially traumatic events on depression in German firefighters (N = 123; M = 38.4), hypothesizing that more self-compassionate firefighters would be less likely to experience risk factors like negative emotion and rumination in the context of traumatic events, thus protecting them against depression. Specifically, they examined whether the relationship between self-criticism and depression would be attenuated for participants higher in self-compassion, and whether the amount of traumatic event exposure would moderate the effect of self-compassion on depression. They used Neff's SCS long form and divided the measure into two subscales, Self-Criticism and Self-Compassion, each reflecting the negative and positive aspects of self-compassion respectively.

Results at the bivariate level showed that the only significant relationship was between self-criticism and depression (r = .57) and self-criticism was the only predictor significantly associated with depression across all steps of their regression. However together in the final model self-criticism (β = 2.75), self-compassion (β = -2.27) and multiple interactions (self-compassion x self-criticism; self-compassion x cumulative traumatic event exposure; self-compassion x self-criticism x cumulative traumatic event exposure) explained 44% of the variance in depression. The 3-way interaction yields interesting insights into the conditions under which self-compassion becomes more or less effective in supporting mental health. Under conditions of low cumulative traumatic event exposure, high (+1 *SD*) and low levels of self-compassion (-1 *SD*) failed to moderate the effects of self-criticism on depression. In this case, highly self-compassionate fire fighters and fire fighters with low levels of self-compassion both reported an average score of 10 points on the study's depression measure. However for those firefighters with greater exposure to potentially traumatic events (e.g., +1 *SD)*, reporting high

levels of self-compassion attenuated the relationship between self-criticism and depression, such that they reported an average of 6 points on the study's depression measure compared to those with low levels of self-compassion, who reported an average of 16 points on the study's depression measure when exposed to high levels of potentially traumatic events.

This study suggests that self-compassion may not become a protective mechanism until individuals have experienced a greater degree of trauma. Similar results have been found in non-clinical samples (e.g., Stutts et al., 2018). It is a valuable contribution to the literature on self-compassion, trauma and depression because it disentangles the SCS subscales, such that the 'pure' effects of self-compassion can be assessed in the context of risk factors for depression. Kaurin et al.'s work does suggest that self-compassion can benefit mental health in vulnerable populations.

Self-compassion does appear to support resilience in both trauma exposed samples and in general, non-clinical samples. It may be particularly useful under conditions of high stress rather than low stress (Kaurin et al., 2018; Stutts et al., 2018) and predicts less depression, suicidality, and panic over time (Zeller et al., 2015). It also appears to be one of the ways that social support exerts its powerful protective influence on trauma survivors (Maheux & Price, 2016). At the same time, decreases in self-compassion may be one of the mechanisms through which chronic stress and trauma yields escalating psychopathology (Bistricky et al., 2017). This literature suggests that self-compassion would likely also be protective for sexual assault survivors. An overview of sexual assault will follow, and then self-compassion will be examined as it relates to this specific form of trauma.

Sexual Assault

Sexual assault is one of the most common yet under-reported traumas for both the general population and for college students (National Center for Victims of Crime, 2018; Schwartz et al., 2017). Sexual assault occurs within a broader cultural milieu that can make the experience of sexual assault particularly devastating, as survivors often witness the under-prosecution of perpetrators and experience victim blaming (Schwartz et al., 2017). These cultural and legal responses to sexual assault can complicate recovery and decrease the likelihood that survivors feel comfortable sharing their assaults with others or reporting their assaults to the police or other authorities (Schwartz et al., 2017). The following section will provide a definition of sexual assault, describe its prevalence on college campuses, provide information on variables relevant to sexual assault on college campuses, and detail its consequences for survivors. The section will conclude with a discussion on the extant literature on self-compassion and sexual assault.

Defining Sexual Assault

Sexual assault is a broad term that can incorporate:

> attempted and completed forcible vaginal, anal, or oral rape (physical force or threat of force), physically forced or coerced unwanted sexual contact (fondling, kissing, or other sexual touching), incapacitated rape (completed or attempted vaginal, anal, or oral inter-course while unable to consent due to intoxication or influence of drugs), and sexual coercion (completed or attempted unwanted sexual contact or completed or attempted vaginal, anal, or oral intercourse through the means of pressure, lies, intimidations, arguments, etc.). (Fedina et al., 2016, p. 86)

Thus, the term ‘sexual assault’ incorporates a range of abuses, and the reported

prevalence of sexual assault will to some degree reflect how it is both operationalized and measured (Adams-Curtis & Forbes, 2004). For instance, when rape is described in terms of specific perpetrator behaviors as opposed to simply using the word ‘rape’ or ‘sexual assault’ on self-report measures, college women report higher rates of sexual assault (Adam-Curtis & Forbes, 2004). In the current study, the term sexual assault will refer to the broad spectrum of behaviors outlined earlier (from unwanted sexual touching to completed rape).

Prevalence

Women consistently report more sexual assault spectrum experiences than men (Fedina et al., 2016), and college age women in particular are at elevated risk compared to women in the general population, with female college students reporting rates of sexual assault up to 5 times higher than women who are not in college (Carey et al., 2015). Fedina et al. (2016) conducted a systematic review of 34 studies examining sexual assault prevalence on college campuses, using studies from 2000 to 2015. The included studies all used behavioral definitions of sexual assault, and the most commonly used measure of sexual assault was Koss & Oros’s (1982) Sexual Experiences Survey. Generally, Fedina et al. (2016) found that sexual assault prevalence varied by the type of experience that was elicited (e.g., unwanted touching or coercion vs. completed rape) Fedina et al. also found that younger college women (e.g., freshman and sophomore students) experienced higher rates of sexual assault than their older peers.

Studies which collapsed different categories of sexual assault into one broader measure found that 6% to 44.2% of college women reported some form of sexual victimization, in comparison to 1.4% – 3.2 % of men. Fedina et al. (2016) were also able to examine prevalence by sexual assault type (e.g., completed rape vs. attempted raped). Completed rape (completed vaginal, oral, or anal intercourse obtained by force or threat of force) ranged from 0.5%-8.4% for

women, and 0.6% to 0.7% for men across the included studies. Attempted rape (attempted vaginal, oral, or anal intercourse using force or threat of force) ranged from 1.1% to 3.8% for women (statistics for men were not included). Rates of incapacitated rape (completed vaginal, anal, or oral intercourse while intoxicated by alcohol or drugs) ranged from 1.8% to 14.2% for women. The rate of incapacitated sexual assault reported by men was similar to the low end of the spectrum reported by women, at 1.9%. Unwanted sexual contact, defined as "attempted or completed unwanted kissing, fondling, petting or other sexual touching using physical force, threat of physical force, verbal coercion or a combination of these but excluding vaginal, anal and oral intercourse" ranged from 1.8% to 34% of college women (p. 86). College men reported similar rates of unwanted touching at 4.8% - 31%. Most included studies found rates of over 20% for unwanted sexual contact for women. The prevalence rates for sexual coercion, defined as "unwanted touching or completed vaginal, anal or oral intercourse using nonviolent means such as intimidation, pressure, lies, threats to end a relationship, or continual arguments" ranged from 1.7% to 32% for women (p. 86). Fedina and colleagues' review is significant because it highlights the relative ubiquity of sexual assault experiences on college campuses for young men and women, with unwanted sexual contact and coercion, followed by incapacitated sexual assault being the most common experience.

Freshman year has been identified as a high-risk time for sexual assault (Carey et al., 2015). Carey et al. (2015) performed a longitudinal study of prevalence rates of forced and incapacitated rape among 438 female freshman college students at a private university in the northeast. Over the course of their freshman year, 9% of the young women experienced an attempted or completed forcible rape, and an additional 15.4% reported attempted or completed incapacitated rape. The biggest predictor of experiencing rape in college was a history of

attempted or completed rape prior to college. It is noteworthy that the rates of incapacitated sexual assault and forcible raped identified in this study of freshman women aligns with the rates of incapacitated assault identified in Fedina et al.'s (2016) systematic review. In addition to illustrating the relative ubiquity of sexual assault spectrum experiences among college students, these prevalence estimates highlight students' sexual assault experiences may share common features, like substance use, which will now be explored.

Common Features of the College Sexual Assault Experience

There are a variety of patterns that have been identified in college student sexual assault experiences (Flack et al., 2016; Lawyer et al., 2010; Littleton & Breitkopf, 2006; Messman-Moore et al., 2008). These patterns and features are important because they have the potential to shape how the survivor feels about the choices they made during their assault. Victims are typically female, and perpetrators are typically male, though as reviewed previously, young men also report being sexually assaulted (Fedina et al., 2016). The victim knows the perpetrator in the vast majority of college sexual assaults (Flack et al., 2016; Littleton & Breitkopf, 2006) and may have consumed substances at the time of the assault (Lawyer et al., 2010; Messman-Moore et al., 2008). The victim may be particularly likely to experience the assault in the context of a 'hook-up' (Flack et al., 2016). The victim may also struggle to mount a robust physical resistance (Gidycz et al., 2008), may be incapacitated and unable to resist or provide consent (Littleton & Breitkopf, 2006), and if female, fear angering the assailant and invoking a more aggressive attack (Gidycz et al., 2008; Littleton & Breitkopf, 2006).

In a 2016 study of college women who experienced sexual assault, of the 33.24% which reported rape or attempted rape, 85% of participants reported that it happened during a hook-up, with hooking up with an acquaintance or ex-romantic partner as the two categories most

associated with rape and attempted rape (Flack et al., 2016). This aligns with Gross et al.'s (2006) study of sexually assaulted college women, in which a little over half reported being assaulted by an acquaintance or friend, with 41.1% reporting assault by a boyfriend. Similarly, in Littleton and Breitkopf's (2006) study of 216 college women with histories of sexual assault over the previous three years, most of the young women were incapacitated by drugs or alcohol during their assault (63%), and the vast majority knew their assailant in some way, with only 1% reporting assault by a stranger.

Consequences of Sexual Assault

Survivors of sexual assault experience elevated rates of fear, distress, general anxiety, alcohol and drug use, and mental health conditions (Campbell et al., 2009; Dworkin et al., 2017; Dworkin, 2018). These outcomes can derail the academic and social functioning of college students and are therefore worthy of a more focused examination.

Shame and Self-Blame. Post-traumatic shame deserves particular attention as it can predict PTSD intensity, even when controlling for peri-traumatic fear (La Bash & Papa, 2014). In Saraiya & Lopez-Castro's (2016) review of 47 studies examining the relationship between shame and PTSD in diverse samples of adults, many of whom had experienced sexual assault, they consistently found a relationship between shame and PTSD, regardless of study design, sample characteristics and operationalization of constructs. Unfortunately, survivors' shame and self-blame are also associated with avoidance coping, which is itself a risk factor for worse mental health outcomes (Littleton & Breitkopf, 2006), as well as deciding not to report the assault (Shwartz et al., 2017).

Interpersonal trauma is generally associated with greater shame than non-interpersonal trauma (La Bash & Papa, 2014). Sexual assault survivors may be particularly likely to

experience shame at higher rates than survivors of other trauma types (Amstadter & Vertion, 2008; Au, 2017; La Bash & Papa, 2014; Miller et al., 2010). Amstadter & Vertion (2008) examined how feelings of shame, guilt, sadness, anger and fear both during and after four types of traumatic events (sexual assault, physical assault, transportation accident, and illness/injury) changed over time in a sample of 165 undergraduate students. They were interested in exploring whether the intensity of these emotions would differ by trauma type and whether these different types of trauma predicted different trajectories or intensities of these emotional states.

They found that participants in all four groups reported equivalent levels of emotional intensity during their reference trauma, but that the sexual assault group *(n* = 31; 90.3% female) experienced significantly greater increases in emotional intensity post-trauma than did the other three trauma groups. For instance, the sexual assault group reported a total emotion score (the sum of participants reported anger, shame, fear, sadness and guilt) of 58.62 points post-trauma, whereas the physical assault group reported a total emotion score of48.83 points, the transportation accident group reported a total emotion score of 42.57 points, and the illness/injury group reported a total emotion score of 39.03 points. The transportation and illness/injury groups reported either stable or decreasing emotional intensity or in the case of the group who had experienced physical assault, slightly increasing emotional intensity.

In addition, the sexual assault sample experienced greater increases in anger and shame post-trauma compared to the other groups, whereas the illness/injury and transportation group reported stable or decreasing anger and shame, and the physical assault group reported slightly increased anger. The sexual assault group also reported significantly higher levels of guilt than the other groups. Both the physical assault and sexual assault groups reported sadness that

increased over time from the initial reference trauma, whereas this effect was not seen with the other two trauma types.

Study results indicate that sexual assault survivors may be particularly likely to develop painful emotions like shame, anger, and sadness over time, even when compared to other traumatic event survivors. It is notable that only the group reporting physical assault also reported increased sadness, possibly illustrating the unique sense of disconnection or Isolation that can be associated with interpersonal trauma, which may be shared across physical and sexual assaults. As discussed earlier, the emotion of shame is particularly problematic because of its relationship to PTSD (La Bash & Papa, 2014).

Cognitive Distortions and Shifts in World View. Part of what can make a traumatic event of any type so challenging for survivors is that it can cause shifts in how they think both about the world and themselves within it (Park et al., 2012). It is not uncommon for trauma to alter how people think about their future, while reducing their sense of safety (Park et al., 2012). These shifts in world view have been correlated with PTSD and can impede recovery (Park et al., 2012). People who experience sexual assault may endorse cognitions like ‘nowhere is safe,’ ‘I can’t trust my own judgments,’ ‘I am disgusting,’ or ‘it was my fault’ (Dunmore et al., 2001). These cognitions can also fuel PTSD and broader internalizing symptoms while contributing to feelings of shame and self-blame (Dunmore et al., 2001). For instance, Dunmore et al. (2001) examined the cognitive factors that predicted PTSD in adult men and women who had experienced physical or sexual assault (N = 57; M = 35.4) in the previous 4 months across 3 time points (initial assessment, 6 months, 9 months). They found that the cognitive factors of “mental defeat, detachment, negative appraisal of initial symptoms, negative appraisal of other’s responses, perceived permanent change, and avoidance/safety seeking” all predicted PTSD

severity above and beyond assault severity and abuse history across all three time-points, yielding R^2 change values between .06 (initial appraisal of post-trauma symptoms) and .25 (avoidance coping) (Dunmore et al., 2001, p. 1076).

The factors identified by Dunmore et al. (2001) increase emotional intensity related to the event which can also make it harder for survivors to confront and process their emotions and trauma memories. If, for example, the appraisal a survivor initially makes of their emotional reaction is that 'it means I am going crazy' (negative appraisal of initial symptoms), they are less likely to be able to tolerate and express their emotions (Dunmore et al., 2001). Negative appraisal of other's responses not only increases survivors' feelings of isolation, but may decrease help seeking as the survivor assumes that others cannot understand their experience or suffering (Dunmore et al., 2001). Perceived permanent change can cause people to give up on goals and report a sense of a foreshortened future (Dunmore et al., 2001).

Miller et al.'s (2010) study of the underlying cognitions related to self-blame in a 149 female college student sexual assault survivors extends Dunmore et al.'s (2001) work. By focusing specifically on how trauma cognitions can fuel self-blame, Miller found that both negative self-cognitions (r = .56) and negative cognitions about the world (r = .40) had the strongest correlations with self-blame for the assault at the bivariate level. Negative self-cognitions (B = 5.39) and counter-factual thinking (B = 2.79) (thinking about how the assault would have changed if the survivor had done things differently) both predicted self-blame post sexual assault, explaining 38% of the variance in self-blame. Thus Miller et al.'s study reflects how the common features of students' sexual assault experiences described earlier (e.g., known perpetrator, substance use, passive resistance) may unfortunately provide survivors the fodder

they need to ruminate on perceived mistakes during the assault and the degree to which these cognitive patterns yield self-blame, thereby complicating recovery.

Mental Health Disorders. Sexual assault is associated with a variety of mental health disorders, above and beyond PTSD (Dworkin et al., 2017; Dworkin, 2018). Dworkin et al. (2017) note that over-focusing on PTSD as an outcome of sexual assault can obscure the degree to which other mental health disorders, like anxiety and depression, can develop post-trauma. Dworkin et al. (2017) addressed this issue by conducting a review and meta-analysis of the relationship between sexual assault and different mental health disorders. Dworkin found a moderate relationship between sexual assault and mental health disorders (g = 0.61), with the largest effect size for suicidality (g = 0.74). Sexual assault also significantly increased the risk for bi-polar symptoms (g = 0.66) and obsessive-compulsive symptoms (g = 0.71), anxiety (g = 0.53), depression (g= 0.60), and eating disorders (g = 0.39) and traumatic stress (g = 0.71). In general, Dworkin's (2017) analysis found that sexual assault survivors were more likely to experience mental health disorders than people who had not experienced sexual assault.

Dworkin (2018) followed up on her 2017 study by examining the prevalence of mental health disorders in the past year and across the lifespan in un-assaulted versus assaulted populations and used this information to calculate the likelihood of developing mental health conditions for people with sexual assault histories, as opposed to those without this history. The lifetime prevalence for anxiety disorders was 20% for sexual assault survivors, and was 10% for people without a sexual assault history; people with a sexual assault history were 2.59 times more likely to develop an anxiety disorder. Sexual assault groups had a past year prevalence of anxiety disorders of 7%, as compared to the non-sexual assault group prevalence of 3%. Sexual assault samples also had higher rates of bipolar disorder, with a lifetime and past year prevalence

of 9%, compared to a lifetime prevalence of 2% for non-exposed groups and a past year prevalence of 3%. This yielded a past year odds ratio of developing bipolar conditions of 4.33 for the sexual assault group, and a lifetime prevalence odds ratio of 3.51. The sexual assault groups also had significantly higher rates of depression than the non-assaulted groups, with a lifetime prevalence of 39% (versus 17% for non-exposed groups) and a past year prevalence of 24% (versus 11% for un-assaulted groups). The past year odds ratio of sexual assault survivors developing depression was 3.10, and lifetime odds ratio was 3.44. Sexual assault survivors also manifested higher rates of eating disorders with a lifetime prevalence of 8% (odds ratio of 1.92) and past year prevalence of versus 2% for non-survivors. Finally, past year prevalence of obsessive-compulsive disorder (OCD) was 8% for survivors, with an odds ratio of 5.80, as compared to 2% for the non-sexually assaulted groups. The lifetime prevalence of OCD for survivors was 6%, compared to 2% for non-sexually assaulted samples. This literature emphasizes the degree to which sexual assault increases the risk for a range of mental health problems, as compared to people who have not experienced sexual assault.

Academic Outcomes. Students who enter college with sexual assault histories or who experience a sexual assault in college are more likely to struggle academically (Jordan et al., 2014). Jordan et al. (2014) found that young women (N = 760) who entered college with a sexual assault history, or who were sexually assaulted during their first or second semester of college were more likely to obtain GPAs below 2.5 than non-assaulted students. A greater percentage of young women who were assaulted during their first semester reported GPAs below 2.5, compared to non-assaulted young women (7.4% vs. 4.7%). College rape specifically was associated with an even greater likelihood of a college GPA below 2.5; 14.7% of the young women who reported a rape during their first semester had a GPA below 2.5 by the end of their

second semester, in comparison to 5.9% without a rape history. Decreases in academic performance may be related to the mental health effects of sexual assault, which can impede studying, attending class, and concentration and organization (Jordan et al., 2014). Moreover, the more sexual assaults college women experience, the more likely they are to obtain a lower GPA even at graduation, and the more likely they are to drop out (Jordan et al., 2014).

The relationship between sexual assault and lowered academic performance may be related not only to mental health factors, but to how the experience of sexual assault shapes students' feelings about their academic institution and their academic self-efficacy (Barnyard et al., 2017). Barnyard et al. (2017) examined how different types of interpersonal violence (sexual assault, partner abuse, and stalking) influenced college men and women's academic conscientiousness, self-efficacy, academic stress, and institutional commitment in a sample of 6,482 students. Institutional commitment was operationalized as how committed the students were to staying in their current college. The authors found that rape was associated with increased academic stress (e.g., students felt more overwhelmed by course work), less commitment to continuing to attend their current college, and less academic conscientiousness (e.g., less commitment toward educational performance) (partial η^2 of .003). Sexually assaulted students were more likely to experience these outcomes than non-sexually assaulted students. Both Jordan et al. (2014) and Barnyard et al. (2017) illustrate that sexual assault is associated not only with mental health outcomes, but with academic performance.

University Sexual Assault Resources and Protocol

Universities have responded to sexual assault on campus by devoting financial and personnel resources to sexual assault prevention and support for victimized students (Association of American Universities (AAU), 2017). Prevention often focuses on education about risk factors

for assault, rape-myth busting, workshops and trainings for incoming students on consent, bystander intervention, and assault reporting (AAU, 2017). Colleges will also fund advocates to help survivors navigate the reporting process, and fund specialized therapists to help victims recover from their assault (AAU, 2017). Colleges also regularly survey their undergraduate and graduate students to obtain prevalence information on sexual assault, student perception of college responsiveness to sexual assault, and barriers to reporting (AAU, 2017). However, despite these efforts, most students do not report their assault to campus authorities and fail to access campus support services (Sabina & Ho, 2014).

Sabina and Ho (2014) reviewed 45 studies focused on sexual assault disclosure patterns (e.g., to formal sources like police or campus authorities or to peers) and university response to disclosure as well as service utilization among college students on college campuses. Most studies found very low rates of reporting to police and dissatisfaction with the reporting process, with victims perceiving that police were unsupportive. Survivors were more likely to report to the police if the assault was more severe and if they were assaulted by a stranger, and less likely to report to the police if they had consumed alcohol or drugs and blamed themselves for the assault. Across included studies, most survivors chose not to disclose to campus authorities (e.g., counseling center, advisors, faculty, campus police, health center), with the rate of reporting to campus authorities ranged from 0% to 15.8%. In contrast, the included studies generally found higher rates of reporting to friends, especially among female survivors to female friends (ranged from 41% to 100%).

Conclusion

Shame is a potent-predictor of PTSD (La Bash & Papa, 2014; Saraiya & Lope-Castro, 2016) and sexual assault survivors may be particularly likely to experience increased emotional

intensity, shame and sadness after their assaults, even in comparison to survivors of other traumatic events (Amstadter & Vertion, 2008). Shifts in worldview and cognitive factors like perceived permanent change can fuel PTSD (Dunmore et al., 2001), and rumination on those aspects of the assault that the survivor feels that they did not handle well can fuel self-blame (Miller et al., 2010), which impedes resilience and recovery. Sexual assault may be additionally isolating because of a larger culture that blames victims for their assaults and frequently fails to hold perpetrators accountable (Shwartz, 2017), and deeply confusing because most victims know their assailant to some degree (Flack et al., 2016; Littleton & Breitkopf, 2006). All of these factors may help to explain the robust association between sexual assault and mental health disorders (Dworkin, 2017; Dworkin, 2018), and, while more modest, the association between sexual assault and decreased academic performance (Barnyard et al., 2014; Jorden et al., 2014). These risk factors for psychopathology post-assault illuminate cognitive and emotional processes that can be targeted in intervention, and understanding these risk factors has certainly been a necessary foundation for treatment. However, a risk-resilience framework suggests that protective factors also contribute to post-assault adjustment and should be studied in their own right.

Sexual Assault and Self-Compassion

The research conducted on self-compassion in general non-clinical samples, and on other trauma types, suggests that self-compassion may be a protective factor that would support resilience in sexual assault survivors. This is because self-compassion is not evaluative and rooted in comparisons to others or benchmarks of achievements. Rather, its motivational strength lies in its capacity to generate a mental landscape shaped by the same kindness individuals would share with loved friends and family members. As stated by the broaden and build theory of

positive emotions (Fredrickson, 1998, 2001) this kinder and more tolerant mental landscape may generate greater positive emotionality and broadened awareness of coping resources. In turn, one would expect that this would help counteract the shame (Amstadter & Vertion, 2008; Au, 2007; La Bash & Papa, 2014), isolation, self-blame (Dunmore et al., 2001; Miller et al., 2010), rumination (Frazier, 2011) and avoidance coping (Frazier et al., 2004; Ullman, 2014) experienced by some sexual assault survivors. Both the literature on self-compassion and the literature on sexual assault emphasize that the interpretations people make of their suffering (Dunmore et al., 2001; Miller et al., 2010), and the meaning they derive from their experiences, are core processes in either resilience or psychopathology. Thus, it may be that self-compassion promotes resilience for sexual assault survivors by generating healthier interpretations of their assaults and their subsequent emotional experiences. Despite this, there has been relatively greater effort devoted to studying self-compassion and mental health and self-compassion and broad trauma types than to studying self-compassion and sexual assault specifically.

This lack of attention is interesting, given the comparatively higher rates of shame and self-blame experienced by sexual assault survivors as compared to other types of trauma (Amstadter & Vertion, 2008; Miller et al., 2010) and the degree to which self-compassion is theorized to be especially helpful in targeting shame and self-blame (Johnson & O'Brien, 2013). The present study was able to identify only seven studies examining the relationship between sexual assault recovery exclusively and self-compassion, four of which were dissertations. Two other studies were found whose samples were primarily, though not entirely, comprised of sexual assault survivors, and these will also be described here.

Higher levels of self-compassion have been associated with mental health benefits for sexual assault survivors, such as less shame (Close, 2013), self-blame (Close, 2013;Hamrick &

Owens, 2019), distress (Close, 2013), anxiety and depression (Hamrick & Owens, 2019; Strickland et al., 2019), avoidance/disengagement coping (Hamrick & Owens, 2019) and PTSD, as well as increased life satisfaction (Close, 2013) and well-being (Kjose, 2018; Schindler, 2021). Self-compassion has also been associated with self-acceptance for sexual assault survivors and the capacity to carve out space for self-care so that healing can occur (Dicks, 2014). Moreover, increases in self-compassion over the course of a mental health intervention have yielded subsequent decreases in PTSD symptoms in sexual assault survivors (Au et al., 2017). Trait level self-compassion and induced state level self-compassion have yielded more adaptive responses to an imagined sexual assault scenario in college students (Allen et al., 2020).

Self-Compassion and Distress

Close's (2013) dissertation examined whether self-compassion was associated with better mental health outcomes after a sexual assault in 141 Canadian women (M = 27) who had been sexually assaulted within the past five years. Close examined the relationship between self-compassion, distress, shame, self-criticism, negative thoughts related to the trauma, and life satisfaction. Half of the sample identified as European-Canadian, and 30% as 'other,' and they were recruited from community counseling centers and rape support centers. A little over 26% of the sample reported sexual assault by a stranger, 22% reported sexual assault by an ex-boyfriend, 19.1% reported sexual assault by an acquaintance or friend, 7.8% sexual assault by a coworker or boss, 5% by a neighbor, 4.3% by father, 4.3% in context of dating, 2.1% by current boyfriend, and 25.4% reported sexual assault by 'other.' A little over 42% of the sample reported attempted rape, while 26.2% reported completed rape, and 19.1% reported sexual coercion. Close controlled for childhood trauma and stressful life events in her analyses.

Using the total score of the SCS long-form as her self-compassion measure, Close (2013) found moderate to strong correlations between self-compassion and distress (r = -.56), unhelpful thoughts post-trauma like "people can't be trusted" (r = -.60), shame (r = -.51*)* and self-criticism (r = -.71*)* at the bivariate level. There was also a moderate positive relationship between life satisfaction and self-compassion (r = .46). Close found that self-compassion explained 24% of the variance in distress (β = -.51), 30% of the variance in unhelpful post-trauma cognitions (β = -.57), 42% of the variance in self-criticism (β = -.68), and 20% of the variance in shame (β = -.46), above and beyond the variance explained by childhood trauma and stressful life events. She also examined whether sexual assault severity predicted self-compassion and the previously described outcome measures. She generally did not find a significant difference in outcome measures that depended on sexual assault severity, though she did find that participants who had experienced sexual coercion had significantly lower levels of self-criticism than participants reporting attempted rape, though the effect was small (η_p^2 = .05).

Close (2013) interprets her findings as indicating that self-compassion can support sexual assault recovery, as it was inversely related to maladaptive outcomes like distress and shame in this sample, and moderately positively related to life satisfaction. She also noted that self-compassion predicted outcomes above and beyond two known contributors to post-sexual assault mental health outcomes (stressful life events and childhood trauma history). This study does seem to suggest that self-compassion can be protective for sexual assault survivors, however it does not yield insights into which aspects of self-compassion are driving these relationships. It also does not explore how the relationship between self-compassion and mental health may differ in young adults who have experienced sexual assault more recently than within the past five years. Moreover, this research is preliminary in that it does not examine moderators of the

self-compassion-mental health relationship for sexual assault survivors. Finally, Close does not control for social support, a known protective factor for sexual assault survivors (Ullman, 2014), and which has also been linked to self-compassion (Demirtas et al., 2018). Thus, the study does not indicate whether self-compassion has unique protective effects above and beyond that demonstrated by high quality social relationships.

Close's (2013) study provides a nice foundation for exploring the relationship between sexual assault, self-compassion, and mental health outcome, but it also raises questions about the actual mechanisms behind self-compassion's effectiveness in reducing distress. Hamrick and Owens (2019) built on Close's (2013) work by examining whether the relationship between self-compassion, depression and PTSD in female sexual assault survivors can be explained through how self-compassion impacts behavioral (e.g., "the assault occurred because of what I did") and characterological self-blame (e.g., "the assault occurred because of who I am"), as well as disengagement coping. These are all known risk factors for worse mental health outcomes post-sexual assault (Frazier, 2003; Hamrick & Owens, 2019; Ullman, 2014). Their work is important because as they themselves note, while there is very little research being published which examines the degree to which self-compassion is a protective factor for sexual assault survivors, self-compassion is still being incorporated into trauma treatments. Their sample was comprised of 207 women with a mean age of 27.7. Over half of the sample reported more than one sexual assault, with the majority of the sample reporting that the most recent assault was over six years ago and was perpetrated by a man they knew. Study authors used the total score of the SCS short form.

Hamrick and Owens (2019) found that self-compassion was inversely related at the bivariate level to both behavioral (r = -.36) and characterological self-blame (r = -.41),

disengagement coping (r = -.45), depression (r = -.38), and PTSD symptoms (r = -.31), and that both types of self-blame, disengagement coping, PTSD and depression were all positively correlated in the small to moderate range. Consistent with other literature in non-trauma survivors, self-compassion directly predicted depression (β = -.19) and also had indirect effects through lowered characterological self-blame (β = -.18), indicating that higher levels of self-compassion were associated with lower levels of characterological self-blame, which in turned decreased depression. Behavioral self-blame and disengagement coping did not significantly mediate the relationship between self-compassion and depression. Conversely, self-compassion had no direct effects on PTSD, but did have indirect effects through lowering disengagement coping (β = -.12) and both forms of self-blame ($\beta_{behavioralself\text{-}blame}$= -.07, $\beta_{characterologicalself\text{-}blame}$= -.15).

In sum, Hamrick and Owens (2019) found that self-compassion was protective for this group of women with sexual assault experiences. It reduced depression by lowering blame associated with perceived character flaws or perceived negative traits (characterological self-blame), and reduced PTSD by minimizing avoidance coping and self-blame. This is consistent with self-compassion's theorized capacity to make emotions more tolerable and less distressing, thus making avoidance less necessary (Allen & Leary, 2010). However, like Close's (2013) study, this study examined the protective benefits of self-compassion for women whose assaults generally occurred many years prior to when self-compassion was measured, and who were well into adulthood. It also did not look at moderators of the self-compassion-depression association or control for stressful event exposure or social support.

In contrast, Strickland et al. (2019) examined whether self-compassion was a protective factor in a sample of 785 Canadian college students who reported drinking over the past term

(75.2% female; *M*= 18.9). Because a percentage of this larger sample also reported alcohol facilitated sexual assault (6.1%) the authors were able to examine how self-compassion moderated the effects of this type of trauma on symptoms of anxiety and depression. They used the SCS long form and disentangled the SCS subscales into two subscales reflecting the positive and negative items of the measure, labeling these subscales Self-Caring and Self-Criticism. They also examined the associations between the 6 subscales individually (e.g., Common Humanity, Over-Identification etc.) and anxiety and depression scores. Experiences of alcohol fueled sexual assault were assessed over the previous term.

In total, gender (β = -.08), alcohol facilitated sexual assault (β = .06), and the Self-Caring (β = -.13) and Self-Criticism (β = .37) subscales of the SCS explained 21% of the variance in anxiety. Neither subscale of the SCS moderated the effects of alcohol facilitated sexual assault on students' anxiety symptoms, nor in this model was alcohol facilitated sexual a significant predictor of student anxiety. In a separate model examining the SCS lower order individual subscales (e.g., Common Humanity, Mindfulness etc.), only Self-Kindness (β = -.25) and Over-Identification (β = .24) predicted anxiety symptoms, while alcohol facilitated sexual assault demonstrated a small association with student anxiety (β = .07). This model explained 24% of the variance in anxiety scores.

Alcohol facilitated sexual assault did increase depression (β = .08). As occurred with the anxiety model, the self-compassion subscales failed to moderate the effects of alcohol facilitated sexual assault on depression. However, self-compassionate students (as reflected in the Self-Caring subscale) reported less depression (β = -.24), while more self-critical students reported more depression (β = .44). In total, alcohol facilitated sexual assault and the two self-compassion subscales explained 36% of the variance in depression symptoms. Of the individual lower order

subscales (e.g., Common Humanity, Mindfulness etc.), only Self-Kindness (β = -.21), Self-Judgment (β = .13), Isolation (β = .22) and Over-Identification (β = .12) significantly predicted depression. In this model alcohol facilitated sexual assault and gender were also both significant and in total all the predictors accounted for 37% of the variance in student depression scores. Neither of the models examining the lower order individual self-compassion facets found any significant interaction effects when predicting either depression or anxiety.

Strickland et al. (2019) interpret their results as suggesting that self-compassion is a broad protective factor as it is inversely related to anxiety and depression. However, self-compassion failed to demonstrate unique protective effects for students who reported alcohol facilitated sexual assault; self-compassion did not moderate the relationship between assault and mental health outcomes. This study is the only published, non-dissertation work on the effects of self-compassion on a college student sexual assault sample, and is therefore a valuable contribution to the literature. However, it is weakened by the specific measure it used to determine sexual assault history. Previous research has found that multi-item measures that use behavioral descriptions of assault yield more accurate reflections of students' assault experiences (Fisher, 2009), whereas this study used only a single item "As a result of using alcohol... I was taken advantage of sexually," to capture what the study authors considered sexual assault experiences that involved alcohol (Strickland et al., 2019, p. 58). This item also had participants rate the frequency of this experience, as opposed to severity. Given prior research in other trauma samples has found that self-compassion becomes most protective under conditions of more significant trauma (Kaurin et al., 2018), it may be that the lack of moderation found in this study reflects the measure used to capture potentially assaultive experiences, rather than the actual moderating influence of self-compassion. Further, this study would have benefited from

controlling for social support and cumulative stress to obtain a better understanding of the protective effects of self-compassion in the presence of other variables associated with resilience or psychopathology. The study's exclusive focus on sexual assaults that involved alcohol certainly reflects how common this type of assault is on college campuses, however also intentionally neglects students whose assaults did not involve alcohol. Thus, it would be interesting to examine the effects of self-compassion in a sexual assault sample reflecting a greater diversity of assault characteristics.

Self-Compassion and Well-Being

A recently published dissertation (Schindler, 2021) supports that self-compassion is associated with well-being. Rather than examining the association between self-compassion and psychopathology, Schindler examined whether self-compassion moderated the effects of sexual assault on flourishing-- a composite measure reflecting self-esteem, optimism, purpose and relationship health, in an adult sample of women (N = 511) 140 of whom reported sexual assaults in the past year. Women who were sexually assaulted reported experiencing unwanted oral sex, anal and vaginal rape, and genital soreness associated with impaired memory of the cause (implying a potential alcohol or drug-facilitated assault). Most of the women were middle aged (M = 40.93). Schindler's study used the SCS long-form total score and also examined whether unique relationships among the Self-Kindness, Mindfulness, and Common Humanity subscales accounted for any relationship with flourishing. While she did find that both sexual assault (b =-0.11) and self-compassion (b = 0.23) predicted flourishing, she did not find a moderating effect for self-compassion using either the SCS total score or as reflected in participants levels of mindfulness, common humanity, and self-kindness. In total, her final model explained 17% of the variance in participant flourishing. Thus, self-compassion was broadly

protective in this sample, as there was a positive relationship between self-compassion and flourishing. And as one would expect, sexual assault over the past year was associated with lower flourishing scores. While this study differs from Strickland et al.'s (2019) research because it focuses on flourishing as opposed to anxiety and depression, like Strickland (2019), Schindler (2021) failed to find any moderating effects of self-compassion on recent (i.e., past year) sexual assault experiences. And, unlike the Strickland study, Schindler used a more comprehensive measure of sexual assault that uses behavioral descriptors of a variety of experiences that differ in severity.

At the same time, a different dissertation (Kjose, 2018) also found a relationship between self-compassion and well-being (a reflection of optimism, happiness, healthy relationships energy and agency) both for college student who experienced an assault after age 18, and college students who experience sexual abuse prior to age 18. Kjose (2018) did not examine a moderation model and focused on college students (N = 286; 73% female). Kjose also examined whether mindfulness explained additional variance in well-being above and beyond self-compassion. Kjose found that the combination of the six self-compassion subscales and a separate measure of mindfulness explained 40% of the variance in well-being for college students with a history of sexual abuse/assault prior to age 18. In the final full model the separate measure of mindfulness ('mindful awareness') (β = .50) and self-kindness (β = .41) were the only two significant predictors. For college students' who reported a sexual assault in college, all 6 facets of the SCS and the separate mindfulness measure explained 33% of the variance in well-being. In the final model the non-SCS construct of mindful awareness (β = .29) and the SCS's Self-Kindness (β = .44) and Isolation (β = -.24) subscales significantly predicated well-being. Thus both Schindler (2021) and Kjose (2018) found that self-compassion predicted well-being

for college student sexual assault survivors, though Schindler only found significant results for the SCS full scale, while Kjose fond unique effects for some of the subscales. Kjose's work suggests that self-compassion may be useful in supporting resilience in college aged women, however she did not control for cumulative stress or social support in her analyses.

Dicks' (2014) qualitative study of how Canadian women with sexual assault histories (N = 10) perceive self-compassion and its relationship to their recovery helps to shed light on why self-compassion may be associated with less distress and enhanced well-being post-assault. She explored self-compassion in an adult sample (M = 26) whose most recent assaults occurred between one and 13 years prior to study start date. All the women had been assaulted by men they knew in some capacity.

Dicks' study illustrates many of the themes previously discussed in both the self-compassion and trauma literature. For instance, the women she interviewed reported feeling self-loathing, self-blame, worthlessness and shame in the aftermath of their assaults. She also notes that no woman in her sample was able to experience self-compassion immediately after the sexual assault. However, the women Dicks interviewed felt that self-compassion over time helped them develop feelings of worthiness, and helped them decide to care for themselves as they would care for a struggling friend, with Dicks observing that "This reflection assisted participants to affirm their self-worth as they recognized and accepted that if others are deserving of compassion, they were too*"* (p. 62). Note that this small sample of survivors seemed to naturally come to the conclusion that the compassion and kindness they extend to others can be turned inward, and that this trend aligns with Neff's definition of self-compassion and her understanding of how it operates (Neff, 2003a, 2003b).

Study participants also connected self-forgiveness and self-acceptance even in light of perceived mistakes or failures as an aspect of self-compassion. One woman stated "Self-compassion is about embracing yourself, not punishing yourself for things that may have happened or things that may still bug you about yourself" (p. 64). The women also identified self-compassion as ameliorating self-blame. One woman described the relationship between self-compassion and self-blame after her sexual assaults this way, "Self-compassion definitely made me feel like it wasn't my fault. It took me a long time, but eventually I stopped feeling like it was my fault…just because I trusted someone does not mean he had a right to assault me" (p. 65). Another woman stated, *"*When you're being self-compassionate, you're not constantly saying it was your fault" (p. 66). Still another stated "Self-compassion was probably the biggest part of healing. For me the struggles were internalized self-blame reinforced of course by societal structures [and self-compassion helped me] to then move past that" (p. 66). The mindfulness components of Neff's (2003a, 2003b) definition of self-compassion is also revealed in these women's narratives. For instance, many reported that self-compassion involved acknowledging their emotions rather than pushing them away, "I would like to go there and just meditate or think or cry or whatever I needed to do at the time" (p. 67). Other components of self-compassion for these women included prioritizing self-care, and spending time with friends and loved ones. Time with friends was also connected to accepting help, and the decision to avoid withdrawal and isolation.

Interestingly, self-compassion was also linked to moving past feelings of powerlessness and toward self-definition which deprioritizes the assault. One woman captures this dynamic by reporting:

> When I'm being self-compassionate it gives me little pockets of time when I don't feel oppressed by the sexual assault or it doesn't have as much weight. Self- compassion gives me relief from it so that later on I can go back to it...Not to be melodramatic but the world isn't over. I'm not always going to feel horrible so I guess the better you get at being self-compassionate the less you feel like you are drowning. (p. 76)

This last quote reflects Neff's (2003a, 2003b) assertion that self-compassion helps people experience their emotions without getting stuck in them, or losing the larger perspective that all humans suffer. In general the benefits of self-compassion for trauma, as well as for other problems, may be that it allows a *felt* sense of comfort rooted in human's evolved attachment systems (Au et al., 2017; Gilbert & Procter, 2006), which may be one method of inhibiting the self-criticism that can maintain shame. The last significant theme which emerged from Dicks' work with the women was 'celebrating progress.' For this group of women, self-compassion incorporated celebrating any progress they had made in their recovery, which frequently involved a greater ability to withstand stress, as illustrated by one woman who reported:

> Self-compassion has become the biggest buffer I know against stress. A bomb can go off and there's a centered piece within me that I can deal with. This centre of peace is undisturbed by external events. I feel grounded and connected and while I may feel flustered at times, the core of myself is grounded. The rest is just small stuff. (p. 80)

Dick's qualitative study illustrates how self-compassion is defined by women with sexual assault histories and captures the psychological shifts that are potentially behind the reduced avoidance coping (Hamrick & Owens, 2019), self-blame (Close, 2013; Hamrick & Owens, 2019), distress (Close, 2013), shame (Close, 2013), depression (Hamrick & Owens, 2019) and wellbeing (Kjose, 2018; Schindler, 2021) found in quantitative studies. For example, self-

compassion helped shift these women's perception of culpability for the assault from themselves to their assailants. Given that self-blame is associated with greater depression and ongoing PTSD (Fazier, 2003; Najdowski & Ullman, 2009; Ullman, 2014), this illustrates how self-compassion may reduce both depression and PTSD through how it impacts perceptions of culpability for sexual assault. A similar process can be seen in how the women used self-compassion to experience their emotions in a centered and balanced way. This is aligned with what would be predicted given research which has found an inverse association between self-compassion and thought suppression (Neff, 2007), and self-compassion, self-blame, and avoidance coping (Hamrick and Owens, 2019). It is possible that self-compassion makes thought suppression and avoidance less necessary by making emotions less threatening and overwhelming, which would in turn support resilience (Valdez & Lilly, 2015).

Self-Compassion Interventions and Sexual Assault Recovery

Additional evidence for the benefits of self-compassion in sexual assault recovery is provided by Au et al. (2017) in their multiple baseline single case design treatment study of 10 mostly female survivors of sexual assault with shame-maintained PTSD. The participants ranged in age from 18 to 32. The authors were piloting a self-compassion intervention to see if it would decrease shame, self-blame, and PTSD symptoms. The treatment involved loving-kindness meditations, a self-compassion letter oriented toward the trauma experience, as well as psycho-education on trauma and mindfulness techniques. Participants received a total of six sessions, and the first three sessions were focused on helping participants translate the skills of mindfulness and self-compassion to their day to day life without directly addressing their trauma. After a basic foundation in self-compassion was achieved, sessions four through six were focused on helping participants apply self-compassion practices to their trauma experiences. The

study used Neff's SCS long-form total scale as the self-compassion measure. Participants completed baseline assessments of shame intensity, PTSD symptoms and self-blame throughout the intervention window at 2, 4, and 6 weeks, and at 2 and 4 weeks post-intervention. All participants commenced the study with moderate to severe levels of PTSD symptoms.

Participants experienced a decrease of 31.40 points on the PLC-5, the study's PTSD questionnaire, as measured from baseline to follow up. All of the participants no longer met criteria for PTSD at post-treatment, which was maintained at the 2 and 4 week follow up. Shame also significantly reduced for eight participants, and across the entire sample decreased an average of 34.14 points from baseline to 4 week follow-up (from an average of 59.65 points at baseline to 25.50 points at 4 week follow-up). Participants also reported generally stable or decreasing self-compassion over the 6 week baseline prior to intervention, which then significantly increased over the course of the intervention for nine of the participants. Self-compassion scores increased an average of 1.84 points from baseline to 4 week follow-up. The authors did not disentangle self-compassion subscales so they were unable to identify which aspects of self-compassion changed. Finally, self-blame also decreased from baseline to follow-up for eight participants, and by the second follow up nine participants had self-blame scores below their initial baseline (average reduction of 3.20 points, from an average baseline of 5.57 points). In total, the magnitude of these changes yielded large effect sizes across outcome measures from baseline to follow-up (*d*'s ranged from 2.12 – 2.71). Further, larger increases in self-compassion from baseline to post-treatment and from baseline to follow-up were associated with greater reductions in shame, self-blame and PTSD symptoms. Eight of the participants reported that the treatment improved their quality of life either "extremely" or "quite a bit." The participants also reported other beneficial outcomes like greater sociability and distress tolerance

skills. The study authors note that significant reductions in symptoms actually occurred over the first three sessions where the content was not directly addressing trauma, but rather was supporting participants in integrating self-compassion into their daily life.

While this study is exploratory and clearly quite small, it yields a few intriguing implications. First, it suggests that learning self-compassion practices can decrease shame, self-blame and PTSD in sexual assault survivors, and that there may be benefits associated with self-compassion practices even if they are not directly applied to someone's experience of sexual assault. This also suggests that integrating self-compassion practices into social-emotional learning programs for college students may be one way to create programs which are trauma-informed but appropriate to the structure and limitations of these curricula. Second, the relationship between greater improvements in self-compassion and corresponding greater reductions in shame, PTSD, and self-blame bolsters the larger argument of researchers like Gilbert who argue that self-compassion can target and reduce shame and self-blame (Gilbert & Procter, 2006).

However, this study also has limitations. The study would have benefited from a control group of participants exposed to non-directive supportive therapy as well comparison to a more well established treatment to see if its effects on outcomes was more or less powerful than the former. Regardless, this is one of the only available studies examining a self-compassion intervention primarily directed toward sexual assault survivors, and some of the components of the treatment (learning how to apply self-compassion in one's general life) may translate to other formats like social-emotional learning curricula.

Allen et al. (2020) built on Au et al.'s (2017) study by examining the effects of a self-compassion induction and trait self-compassion on participant responses to an imagined sexual

assault scenario. Allen at al. first conducted a pilot study (N = 54) on undergraduate women (M = 19.80) to identify effectiveness of a written sexual assault scenario in evoking an emotional reaction and to test a self-compassion induction. Thirty-three of the women in the sample reported some form of prior sexual assault, including rape. In the pilot study women were asked to imagine themselves in a written sexual assault scenario featuring a rape perpetrated by an initially nice young man that they met at a party, and who later raped them in his car after having offered to drive them home. The study used Neff's SCS, and every participant completed the measure (reflecting trait self-compassion), in addition to a series of questions developed by the researchers designed to measure what they termed 'state self-compassion.' These items asked participants how likely they would be to either be kind to themselves in the imagined rape scenario, or to be self-critical. They also completed a measure of negative affect after the scenario that asked them to rate how likely they would be to feel a range of negative emotions, such as scared, hopeless, or humiliated, as well as a measure focused on possible changes in self-view/identity as a result of the rape. For instance, this measure included an item measuring self-perceived weakness post-assault and also included items assessing how participants felt others would view them, as well as more adaptive self-perceptions. Finally, participants were asked to indicate how likely they were to blame themselves for the rape in the imagined scenario.

Participants reported finding the imagined scenario realistic and believable. At the bivariate level, participants who reported more trait self-compassion also reported greater levels of post-assault scenario state self-compassion (r = .61), and both state and trait self-compassion were positively associated with more positive post-assault self-views, including a survivor identity (r's between .25 and .51). State and trait self-compassion were also inversely related to negative perceived identity, negative affect, and self-blame (r's between -.32 and -.66). In

general state self-compassion had a stronger association with outcomes. Thus this initial pilot study established a correlational association between self-compassion and participant reactions to scenario, as well as establishing that the scenario was able to activate an emotional reaction in participants and meet necessary criteria for believability.

Having established this, Allen et al. (2020) conducted another experiment focused on comparing the effects of a self-compassion induction on the outcomes examined above to a control group who did not receive the induction, in a new sample of undergraduate women (N = 141; M = 22.06). Both groups were exposed to the sexual assault scenario. Because this sample also included women with previous sexual assaults, the researchers were able to compare their responses to women without sexual assault histories. Seventy-two of the women reported some form of sexual assault, including rape. The women in the self-compassion induction condition read text about the benefits of self-compassion, answered questions focused on their comprehension of the material, read another explanation of the benefits of self-compassion and were then asked to explain how they understood self-compassion, given what they had just read. They then read the sexual assault scenario. The control group did not receive the self-compassion psychoeducation prior to the sexual assault scenario. After they finished reading about the scenario, participants in the self-compassion group were asked to "Think back to the event you just imagined. Imagine you are talking to yourself about this event from a compassionate and understanding perspective. What would you say?" (p. 10). In contrast, the control group was asked to consider the event and talk to themselves about it, writing their thoughts down for several minutes, without any explicit guidance to be self-compassionate. All participants then completed the measures assessing affect, self-perception, self-blame and self-compassion.

The self-compassion condition succeeded in enhancing participant self-compassion (*d* = 0.18), decreasing self-blame (*d* = 0.36), and increasing positive self-views (*d* = 0.25), as compared to the control condition. Study authors found that more self-compassionate participants in general (as reflected by Neff's SCS) were more likely to identify as survivors (β = .26), more likely to specifically demonstrate self-compassion in response to the scenario (state self-compassion β =.62), more likely to hold a positive self-view/identity (β =.32), more likely to feel that others would see them positively despite the assault (β =.18) and were also less likely to report a negative self-view/identity in the context of the imagined assault scenario (β = -.42).

Sexual assault history also impacted the women's emotional reactions to the scenario. As compared to women without an assault history, women who had previously been assaulted were generally harsher on themselves, reporting a less positive self-views (*d* = 0.46), greater self-blame (*d* = 0.37), greater negative self-views *(d* = 0.45) and a greater tendency to assume that others would perceive them negatively post-assault (*d* = 0.36). While self-compassion was generally broadly protective for women regardless of whether or not they had a previous experience of sexual assault, this was not the case for negative affect. Women with sexual assault histories did not report less negative affect in the self-compassion condition, whereas women without sexual assault histories did demonstrate less negative affect if they received the induction. Thus it appears that the brief psycho-education on self-compassion was insufficient for women with actual assault experiences as it relates to negative affect specifically. In total, 42% of the variance in state self-compassion, 16% of the variance in negative affect, 24% of the variance in self-blame, and 11% of the variance in survivor identity was explained by the predictors and their interactions. The models also explained 35% of the variance in negative identity/self-view, 18% of the variance in positive self-view/identity, 33% of the variance in

positive identity and 8% of the variance in participants' perception of how others would view them after the assault.

This study is a valuable addition to the expanding literature base on college student sexual assault and self-compassion, as it demonstrates that both trait self-compassion and enhanced state self-compassion can yield more adaptive and kind responses to imagined sexual assault scenarios for young women with and without histories of sexual assault. And, this brief psycho-educational intervention was able to increase self-compassion and enhance more adaptive cognitive and emotional reactions for victims and non-victims alike on many of the outcome variables. This suggests that self-compassion may be protective for college students who experience assaults, and in line with Au et a.'s (2017) work, suggests that increases in self-compassion can support the recovery of sexual assault survivors. It also aligns with the studies conducted by Schindler (2021) and Kjose (2018), both of whom found associations between self-compassion and well-being post-sexual assault in undergraduate samples.

Coping

Defining Coping

The present study examines how coping moderates the effect of self-compassion on mental health in sexual assault survivors, and coping will therefore be reviewed here. Coping can be defined as the behaviors and internal cognitive processes that people engage in to manage adversity and stressors, as well as how they manage their own stress response in reaction to adversity and stressors (Nielsen and Knardahl, 2014). Coping can also be defined as the process through which people reduce or mitigate loss, threat, or harm (Carver & Connor-Smith, 2010; Krohne, 2001). Thus coping is intimately tied to the concept of stress, and one of the most

prominent models of coping is Lazarus's (1984) transactional model of coping (Suldo et al., 2008).

Lazarus (1990) describes stress as emerging from transactional processes between individuals and their environment, with stress occurring when environmental demands exceed an individual's perceived coping ability. In contrast, if a person perceives their coping skills to be sufficiently matched to the intensity of the environmental demand than the stressor is more likely to be perceived as merely a challenge, which is associated with proactive and optimistic engagement with the challenge (Lazaraus, 1990). Thus, in Lazaraus and Folkman's (1984) transactional model of coping, appraisal is an important part of the coping cascade because it determines whether the environmental event is perceived as a challenge or a stressor, how the person will subsequently cope, and how this coping will in turn either mitigate or exacerbate the original event, as well as the coper's own feelings of stress (Lazarus, 1990). For something to be viewed as a stressor, it must elicit the belief that the environmental demand presents harm or threat (Lazarus, 1990). Thus, the two core features of stress management within this transactional model of stress are appraisal and coping (Krohne, 2001). Because these processes are foundational to sexual assault recovery they will be described in greater detail here.

Appraisal. Appraisal is the process through which people determine whether the environmental event or demand is a threat or challenge (Lazarus, 1990; Krohne, 2001). Appraisal can be further divided into primary and secondary appraisal (Lazarus, 1991). Primary appraisal is the process through which people determine whether something has occurred which will impact their well-being (Lazarus, 1991). When people determine that they are not personally impacted by an event they are less likely to experience stress (Lazarus, 1991). Secondary appraisal references how the person chooses to cope with the event (e.g., engagement coping versus avoidance coping, to be described below) (Lazarus, 1991).

Appraisal, and therefore coping, is influenced by a variety of factors (Lazarus, 1991; Krohne, 2001) including locus of control (Lazarus, 1991), self-efficacy (Krohne, 2001), perceived control (Frazier et al., 2011), the predictability, proximity, and controllability of the stressor (Krohne, 2001), the nature and severity of the stressor or event (Zimmer-Gembeck & Skinner, 2016), prior success or failure coping with challenges or adversity, optimism (Grasso et al., 2012), social support (Prati & Pietrantoni, 2009) and self-compassion (Chishima et al., 2018; Leary et al., 2007; Sirois et al., 2015).

Furthermore, appraisal is always changing because it is rooted in ongoing interactions with the environment, and is influenced by the success or failure of coping strategies (Lazarus, 1991). Therefore, coping decisions may influence the appraisal process in such a way that stressors start to be viewed as merely challenges as people gain confidence in their coping capacity, or the converse may occur. Despite the dynamism of the appraisal process, people may also develop habitual appraisal styles which may promote or hinder adaption and resilience (Lazarus, 1991). Thus, appraisal and coping can be viewed as both state-like processes, as well as more stable trait like processes (Lazarus, 1991; Lazarus, 1993; Nielsen & Knardahl, 2014).

Categorizing Coping

There are different categories of coping (Krohne, 2001; Nielsen & Knardahl, 2014). Primary coping refers to direct efforts to change or address the stressor, while secondary coping refers to efforts to accept or accommodate the stressor (Zimmer-Gembeck & Skinner, 2016). Broadly speaking, coping strategies can be described as active or passive, adaptive or maladaptive, problem versus emotion focused, engaged or disengaged and avoidant (Carver & Connor-Smith, 2010; Nielsen & Knardahl, 2014; Krohne, 2001). In turn, whether a specific coping strategy is considered adaptive or maladaptive may depend on the nature of the stressor itself (Carver & Connor-Smith, 2010; Nielsen & Knardahl, 2014). For instance, emotion focused

coping may be less adaptive if the stressor is controllable, and more adaptive if the stressor is outside of personal control (Carver & Connor-Smith, 2010; Nielsen & Knardahl, 2014; Zimmer-Gembeck & Skinner, 2016). Acceptance and re-appraisal may become especially important when facing ongoing and uncontrollable stressors (Zimmer-Gembeck & Skinner, 2016). However, in general, active, engaged, proactive forms of coping have been associated with less externalizing symptoms and less anxiety and depression for children, youth and adults (Zimmer-Gembeck & Skinner, 2016). Importantly, distinguishing the different categories of coping does not mean that coping strategies are always mutually exclusive; resilience likely relies on the integration of multiple strategies and the capacity to flexibly use different types of coping as necessary (Galatzer-Levy et al., 2012; Zimmer-Gembeck & Skinner, 2016). The judicious integration of engagement and active coping approaches with secondary coping methods like positive-re-appraisal can address multiple aspects of a stressor, especially stressors which are ongoing.

Engagement, Problem-Focused, Approach and Active Coping. While these terms are frequently used interchangeably, there are definitional nuances (Carver & Connor-Smith, 2010; Zimmer-Gembeck & Skinner, 2016). Problem focused coping typically refers to directly addressing the stressor, perhaps by actively trying to change it (Carver & Connor-Smith, 2010). Problem focused coping may also refer to the process though which people try to minimize the effects of a stressor on their life if the stressor is in fact unchangeable. Engagement coping is similar, however may also refer to actively engaging not only with the stressor itself, but with the emotions triggered by the stressor (Carver & Connor-Smith, 2010). Thus, if the stressor cannot be directly altered or addressed, one may still be using engagement coping if one is actively processing one's emotions, as opposed to avoiding or denying them. Positive re-appraisal would

be an example of an emotion-focused form of engagement coping (Carver & Connor-Smith, 2010). Active and approach coping are other terms used to describe proactive, engaged, focused coping (Grasso et al., 2012). Research has generally found that engaged, active, problem-focused/approach coping strategies yield the best mental health outcomes across a variety of ages ranges and stressor types (Beasley et al., 2003; Campbell-Sills et al., 2006; Lacoviello & Charney, 2014; Zimmer-Gembeck & Skinner, 2016). Active, engaged, coping strategies are also associated with resilience in the face of traumatic events (Grasso et al., 2012; Lacoviello & Charney, 2014; Thompson et al., 2018), and have also been found to be correlated with each other in college students (Grasso et al., 2012). Thus students using one form of adaptive coping are likely using other variations of adaptive coping.

Resilient Coping. The current study uses Sinclair & Wallston's (2004) coping measure, the Brief resilient Coping Scale (BRCS), to capture adaptive, approach oriented coping strategies that have generally been associated with resilience, and which can therefore be used to predict individuals that will display "positive adaptation despite high stress." (p. 95). Sinclair and Wallston (2004) define resilient coping as the "tendency to effectively use cognitive appraisal skills in a flexible, committed approach to active problem solving despite stressful circumstances" (p. 95). The measure reflects specific coping strategies that are thought to reflect a relatively stable approach which manifests across time and stressors (Sinclair & Wallston, 2004). The scale is comprised of the following items: "I look for creative ways to alter difficult situations," "Regardless of what happens to me, I believe I can control my reaction to it," "I believe I can grow in positive ways by dealing with difficult situations," and "I actively look for ways to replace the losses I encounter in life."

In Sinclair and Wallston's (2004) initial validation study of the scale, resilient coping moderated the effects of arthritis pain over the past month (ß = –.19) and general life stress over the previous six months (ß = –.26) on depression in a sample of adult women (N = 90). Participants who were categorized as low resilient copers experienced significant increases in depression symptoms as their pain symptoms increased (e.g., CES-D depression scores increased from approximately 10 to 21 points), whereas the depression scores of the high resilient copers stayed steady and flat (e.g., did not exceed a CES-D score of 11 at either low or high pain). Average resilient copers also experienced an increase in depression however it was significantly less than the low resilient copers. Importantly, high resilient copers did not significantly differ from the other two groups (low and average copers) in terms of their depression under low pain conditions, indicating that resilient coping becomes more protective under conditions of increased stress. The authors found the same pattern when they examined general life stress on depression. Sinclair and Wallston state that these results reflect the degree to which participants high in resilient coping were able to re-appraise the stressors in their life and find ways to focus on those aspects of their situations which they could control, which benefited their mental health.

Later research focused on validating the BRCS in Spanish undergraduates (N = 362) (Limonero et al., 2014) found that the active re-appraisal oriented coping captured by the BRCS correlated with other constructs in predicted directions; it was positively associated with optimism (r = .47), perceived personal competence (r = .47), life satisfaction (r = .31), positive affect (r = .52), problem solving (r = .26), social support (r = .15), cognitive restructuring (r = .19) and problem avoidance (r = .15). Conversely it was negatively associated with depression (r = -.43), anxiety (r = -.40), and negative affect (r = -.44). Interestingly, the BRCS did not have a significant negative association with self-criticism, socially isolating, or wishful thinking,

suggesting that the proactive, re-appraisal oriented coping captured by the measure may not inhibit maladaptive emotion-focused strategies. That is, the skills reflected in resilient coping are useful but appear potentially insufficient in coping with adversity, which highlights that resilient copers who also employ adaptive emotion focused strategies like self-compassion may be more likely to maintain well-being under stress, though this has not yet been examined.

Passive, Disengaged, Avoidant, and Emotion Coping. Emotion focused coping is defined as the strategies people engage in to manage the suffering they experience as result of encountering stressors, adversity, or trauma (Carver & Connor-Smith, 2010). Given this, emotion focused coping can be beneficial or maladaptive, depending on the strategies people use (Carver & Connor-Smith, 2010). Passive, disengaged, and avoidant coping strategies are maladaptive emotion-focused coping strategies. These strategies refer to the degree to which people manage stressors and adversity, as well as their emotional and stress reactions, by withdrawing from active engagement with the stressor or stressor-related emotionality. Rather than using more approach oriented strategies to manage emotion, people employing these strategies use rumination, suppression, avoidance, denial, self-blame, and excessive and amplified emotional displays (Zimmer-Gembeck & Skinner, 2016) to manage distress intensity or duration (Carver & Connor-Smith, 2010). Avoidance includes physically or behaviorally distancing oneself from feared stimuli, or psychologically distancing oneself from uncomfortable or upsetting thoughts, images, memories or sensations (Zimmer-Gembeck & Skinner, 2016). Suppression is a similar construct but emphasizes the degree to which people actively inhibit unwanted thoughts or emotions (Zimmer-Gembeck & Skinner, 2016). Passive and disengagement coping strategies like denial and avoidance are associated with higher levels of anxiety (Evans et al., 2015), depression (Grasso et al., 2012) and increased risk of PTSD after a traumatic event (Thompson et

al, 2018). College students who experience potentially traumatic events who use social support, optimism, and active coping are less likely to develop PTSD than those students who used disengagement and avoidant coping strategies (Grasso et al., 2012).

Adaptive emotion focused coping strategies include self-soothing, the appropriate use of distraction, acceptance, positive-re-appraisal, seeking social support, and healthy emotional expression (Carver & Connor-Smith, 2010). Focusing on meaning and developing positive emotions are other healthy emotion focused coping strategies which may become especially useful in ongoing stressors or when the traumatic event cannot be changed (Folkman, 2008). Self-compassion is an example of positive emotion focused coping (Allen & Leary, 2010).

Coping, Cumulative Stress, and Mental Health Outcomes

When researchers fail to account for the role of more chronic low level stressors in predicting mental health from acute stressors, they may overestimate the role of traumatic events and underestimate the role of cumulative stress over time (Hammen et al., 2009). Anders et al. (2012) examined the lifetime prevalence of traumatic and non-traumatic events and how this related to undergraduate students' current mental health, physical health, and GPA, as well as life-satisfaction. They found that experiencing a greater number of stressful life events across the lifespan was associated with impairments in mental health, life satisfaction, distress and symptoms of PTSD to a greater degree than events that meet the traditional criteria for PTSD as specified in the Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV). Similarly, Gold, Marx, Soler-Baillo and Sloan, (2005) found that undergraduates with a greater exposure to lifetime adversity, including loss of loved ones, relationship dissolution, changing schools and parental divorce reported more PTSD symptoms than undergraduates reporting traumatic events according to DSM-IV criteria. Thus, research focused on the mental health outcomes of discrete

traumatic events may inadvertently intermingle the effects of stressful event exposure with the effects of the traumatic event being studied if cumulative stress is not controlled.

In another study of depression onset in adult women, women with symptoms of depression reported higher levels of chronic stress than women without symptoms of depression (d = 0.81) as well as more time-limited adverse events (d = 0.67) (Hammen et al., 2009). That is, depression is predicted not only by isolated incidents of acute stress, but by the cumulative toll of stressors. Daily hassles have also been found to increase depression in college students and display a small to moderate relationship with depression at the bivariate level (r = .33) (Bouteyre et al., 2007). Thus, understanding how depression emerges from stress requires differentiating acute stressors from chronic adversity, because failing to do so may over-estimate the degree to which acute events contribute to depression onset (Hammen et al., 2009). At the same time, not all people who experience potentially traumatic events or chronic stress develop mental health disorders, indicating that protective factors, particularly coping, play a role in resilience.

Coping as a Moderator of Cumulative Stress. Coping can be viewed as a moderator that buffers the effects of stressors and adversity on mental health outcomes (Beasley et al., 2003; Zimmer-Gember & Skinner, 2016). For example, Troy et al. (2010) were interested in how cognitive reappraisal would moderate the relationship between cumulative stress and induced feelings of depression in a laboratory experiment in of adult women (N = 76). They found that cumulative stress did not predict depression symptoms in women with above average cognitive re-appraisal ability (+1 *SD* above the mean), whereas it did predict feelings of depression in women with low cognitive re-appraisal ability (-1 *SD* below the mean) (β = .64). They also found that participants did not differ in their depression symptoms at low stress, regardless of re-appraisal ability, but that at high stress, participants with above average re-appraisal ability had

less feelings of depression (β = -.39). Specifically, women who were skilled in re-appraisal received an average score of 13 points on the study's depression measure under high levels of cumulative stress, whereas women who were weak in re-appraisal obtained an average score of 21 points under high stress. Similarly, high achieving high school students who more frequently use positive re-appraisal experience less precipitous declines in life satisfaction under conditions of stress than high achieving students who less frequently use this coping strategy (Suldo et al., 2008).

Coping (as reflected in the Brief Resilient Coping Scale) has also been shown to buffer the impact of childhood adversity on adult mental health (Beutel et al., 2017). Beutel et al. (2017) examined the relationship between adverse childhood experiences and adult physical and mental health in a survey of German adults (N = 2,486; M = 49.7). This study also used the Patient Health Questionnaire (PHQ-4) as its measure of depression and anxiety. As expected, the study found that adults with challenging childhoods experienced about twice as much physical and mental distress than those without adverse childhood experiences. However, resilient coping moderated this effect. Participants who were high in resilient coping experienced roughly equivalent levels of distress when compared to their more advantaged peers, regardless of the amount of childhood adversity they reported. Low childhood adversity was associated with an average of 1.12 points on the PHQ-4, and high levels of adversity was associated with an average of 1.50 points on this measure for skilled resilient copers. In contrast, participants who had low resilient coping skills reported an average of 1.97 points on the PHQ at low levels of childhood adversity, but at average of 3.40 points if they experienced high levels of childhood adversity.

Coping and Sexual Assault

Much of the broader literature on coping with stressors and traumatic events applies to sexual assault recovery. Perceived control over the sexual assault recovery (Frazier, 2003; Frazier et al., 2004) internal locus of control (Walsh et al., 2007), using social support and approach-oriented coping (Frazier et al., 2004) are all linked to better outcomes post-assault. Additionally, given the association between avoidance coping and self-blame and poor outcomes post-sexual assault (Ullman et al., 2007; Ullman, 2014), the absence of these coping strategies are also predictive of better mental health outcomes (Walsh et al., 2007).

Ullman (2014) examined the relationship between sexual assault characteristics, child sexual abuse, negative coping strategies (behavioral avoidance, denial, substance use, self-blame), positive coping strategies (active coping strategies that directly address the assault or the assault recovery, including positive social support), core beliefs, a larger measure of self-blame for the assault, and three measures of social reaction: positive social support (acceptance and believing the woman), negative social support (e.g., blaming and rejecting), and mixed social support (acknowledging that the assault occurred but engaging in unhelpful responses like becoming controlling of the woman) with post-traumatic growth in a large diverse sample of adult female sexual assault survivors (N = 1,863; M = 31.1). Post-traumatic life growth was defined as "positive psychological change experienced as a result of the struggle with highly challenging life circumstances" (p.1).

Forty percent of post-traumatic growth was explained by study variables, in combination with demographic factors. As one would expect, maladaptive coping (β = -.02), self-blame (β = -.07) and unsupportive reactions from others (β = -.09), predicted less post-traumatic growth, and approach oriented coping (β = .04), perceived control (β = .21), altered core beliefs (β = .15), and positive social support (β = .15) were positively related to post-traumatic growth. Thus, as

expected by the larger body of literature on coping and resilience, perceived control, approach oriented coping, social support and expanded and positive core beliefs all predicted resilience.

Frazier et al. (2004) also found an association between the coping strategies that sexual assault survivors use and post-traumatic growth after assault. In her study of 171 female sexual assault survivors (M =27) Frazier examined whether perceived control, approach coping, avoidant coping, self-blame, social support, and religious belief were associated with positive life change (e.g., post-traumatic growth) that occurred in response to sexual assault. Frazier found that women who reported higher levels of approach coping, social support, religiosity, and perceived control over recovering from the sexual assault also reported post-traumatic growth at two weeks post-assault. Moreover, increasing levels of these variables was associated with increasing positive growth within participants. Social support influenced positive change by increasing participants' perceived control over the sexual assault recovery process. This study also adds to the body of literature on avoidance coping and trauma recovery; those participants who experienced decreases in avoidance coping and self-blame over time also experienced increasing growth.

The results of these studies (Frazier et al., 2004; Ullman, 2014) suggest that active re-appraisal oriented (resilient) coping should in fact buffer the effects of sexual assault on mental health outcomes. The BRCS incorporates the action oriented, control oriented coping that these studies have found to be supportive of sexual assault recovery in particular and trauma recovery in generally. The larger literature base on coping and cumulative stress further suggests that cumulative stress can negatively influence mental health (Anders et al., 2102; Hammen et al., 2009) and it is therefore useful to examine the relationship between sexual assault and mental

health outcomes both individually and in interaction with cumulative stress and coping (Anders et al., 2012; Beutel et al., 2017; Hammen et al., 2009).

Purpose of Proposed Study

As discussed throughout the current study, self-compassion appears to be a resilience-promoting factor under a variety of conditions and has also been examined as a protective factor in trauma. However, there is a dearth of literature examining self-compassion in sexual assault survivors, and the existing literature has not examined how self-compassion interacts with other protective factors (e.g., resilient coping) and risk factors (e.g., stressful event exposure) to promote sexual assault survivor mental health. No research focused on sexual assault survivors and self-compassion has yet controlled for the effects of social support on well-being, a well-established protective factor in sexual assault recovery (Frazier et al, 2004; Ullman et al., 2014). In addition, more recent research has found different patterns of relationship between self-compassion and mental health outcomes depending on whether or not the measure's total score is used or its subscales are used (e.g., Kjosse, 2018; Strickland et al., 2019). Thus, while many studies only examine the total score of the SCS/SCS-SF (e.g., Allen et al., 2020), trauma focused studies which examine more than just the total score of the SCS or SCS-SF can yield a more nuanced understanding of how self-compassion operates. Further, no studies have yet examined self-compassion and the mental health outcomes of college students while doing all of the above, that is, controlling for social support and stressful event exposure, while disentangling subscales of the SCS-SF and examining moderators of the self-compassion – mental health relationship.

Cumulatively, these gaps in the literature hinder researchers' ability to understand self-compassion as a construct, and to assess the degree to which self-compassion really is a protective factor for sexual assault survivors in their college years. Therefore, the larger purpose

of this study is to examine the protective effects of self-compassion for sexual assault survivor mental health while also addressing these gaps in the literature. This examination involves controlling for social support and stressful event exposure, and examining self-compassion in the context of potential moderators (e.g., resilient coping, stressful event exposure, sexual assault severity).

Research Question #1:

What are the correlational relationships among sex, assault quarter, age, social support, stressful event exposure, self-compassion, self-tolerance, self-judgment, resilient coping and sexual assault severity?

Hypothesis #1: Self-compassion is associated with well-being (Neff, 2011) and is inversely associated with mental health problems like anxiety and depression (Macbeth & Gumley, 2012). Social support (Borja et al., 2006; Chivers-Wilson, 2006) and active/engaged coping (Frazier et al., 2014; Ullman, 2014) are associated with better mental health for sexual assault survivors. It is therefore predicted that there will be significant positive relationships between social support, active coping, and self-compassion. Cumulative stress is associated with increased risk for internalizing symptoms (Anders et al., 2012), as is being female (Albert, 2015). It is therefore predicted that there will be a significant positive relationship between stressful event exposure and mental health, and that female students will experience more internalizing symptoms than male students. Because self-compassion and social support are protective factors, it is predicted that they will be inversely associated with stressful event exposure.

Research Question #2:

a) *What is the unique relationship between self-compassion and mental health outcomes for sexual assault survivors when controlling for sex, assault quarter, age, social support, and stressful event exposure?*

   Hypothesis #2a: It is hypothesized that self-compassion will account for unique variance in student mental health, above and beyond the effects of social support and stressful event exposure. This hypothesis is rooted in Close's (2013) work which found that self-compassion explained unique variance in mental health outcomes above and beyond stressful life events for sexual assault survivors, and other research showing that while self-compassion correlates with social support in youth and young adults, these correlations are in the low to moderate range (*r*'s ranging from .24 to .36) (Jeon et al., 2016; Maheux & Price, 2016). This suggests that self-compassion and social support are sufficiently different constructs to enable self-compassion to explain mental health outcomes in sexual assault survivors even when controlling for social support.

b) *What are the unique and overlapping contributions of each self-compassion subscale individually (Self-Tolerance and Self-Judgment) in predicting mental health outcomes for sexual assault survivors, controlling for study covariates?*

   Hypothesis #2b: Prior literature has found that the negative items of the SCS have a stronger influence on internalizing symptoms than positive items (Muris & Petrocchi, 2016). It is therefore hypothesized that the negative items of the SCS, as reflected in the Self-Judgment (negative items) subscale, will explain more unique variance in

mental health for sexual assault survivors than the positive items of the SCS, as reflected in the Self-Tolerance subscale.

Research Question #3:

To what degree does resilient coping and stressful event exposure moderate the relationship between self-compassion and mental health outcomes for sexual assault survivors, when controlling for study covariates?

Hypothesis #3: Cumulative stress has been found to moderate the relationship between self-compassion and mental health outcomes (Kaurin et al., 2018), and coping strategies like re-appraisal also have been found to moderate the relationship between stress and mental health (Troy et al., 2010). Therefore, it is predicted that the protective effects of self-compassion in sexual assault survivors will depend on their level of stressful event exposure and active/resilient coping skills.

Research Question #4

To what degree does sexual assault severity moderate the relationship between self-compassion and mental health outcomes for sexual assault survivors, when controlling for study covariates?

Hypothesis #4: Self-compassion appears to become more protective under conditions of stress (Kaurin et al., 2018). Thus, it is hypothesized that self-compassion will demonstrates a stronger relationship with mental health outcomes for students who have experienced more severe assaults (completed rape vs. attempted/forcible touching).

Chapter 3: Methods

Study Overview

The current study is a secondary data analysis of an earlier longitudinal study examining mental health outcomes in University of Washington undergraduate students, conducted by the University of Washington Resilience Lab. The present study focused on a subset of students of this larger study who reported some form of sexual assault in either their fall or spring quarter of their first year at the university. The following section will describe both the participants and procedures of the original study as well the participants and procedures for the present study.

Participants

Original study. The original Resilience Lab study is comprised of N = 6,614 students. Fifty-six percent of the larger Resilience Lab sample identified as female (n = 3,727) and participants reported an average of 20.16 years of age (SD = 2.85). The larger sample was diverse, with 52% identifying as white (n = 3,412), 30% as Asian (n = 1,999), 5% as Black (n = 295), 2% as American-Indian (n = 145), 9% as Hispanic (n = 613), 2% as Hawaiian/Pacific Islander (n = 117). The remaining 20% of the sample (n = 1,292) did not disclose race. Of students who reported demographic information for sexual orientation (n = 1,873), 80% reported being heterosexual (n = 1,507), 146 (2%) identified as bisexual, and the remainder of students identified with a variety of identities in the GLBTQ community. Fifty percent of the sample were in their freshman year (n = 3,310), 27% were students in their sophomore year (n = 1,770), 23% were students in their junior year (n = 1,503), and 0.5% were students in their senior year (n = 31).

Current study. Initially, the present study included a pool of 145 students who reported experiencing attempted or completed sexual assault or unwanted touching in either the fall or

spring quarter of their first year of college at the University of Washington. The experience of sexual assault was the only inclusion criteria in the present study. There were five participants who were missing data on either key predictor variables or the outcome variable, yielding a final sample of $N = 140$ students with complete data. Importantly, for purposes of analysis, data from across two quarters were collapsed into a single cross-sectional dataset, with the rule that if a student had reported a sexual assault in both quarters (fall and spring), then the student's data from the second quarter of report (spring quarter) was retained for analysis (this included $n = 6$ students). Selecting spring as the quarter of analysis was acceptable as there was no mean difference in mental health symptoms based on quarter.

This sample was found to have demographic characteristics very similar to the larger study from which the sample was drawn. Of those students who responded to the question on sexual orientation, 72% identified as heterosexual ($n = 94$), 21 identified as bisexual (16%), six preferred not to disclose (5%), five identified as gay (4%), two as queer (2%), and one student identified as questioning (0.70%) and another as a lesbian (0.70%), respectively. One hundred and eleven students identified as female (79%), with the remaining 29 students identifying as male (21%). The students reported an average age of 19.74 years ($SD = 1.82$), with a range between 18 and 32 years. Seventy-three students identified as Caucasian (52%), 26 as Asian-American (19%), 19 as Hispanic (14%), 12 preferred not to disclose (9%), six as African-American (4%), three as Hawaiian/Pacific Islander (2%), and one as American Indian (0.70%). Most of the sample experienced general sexual assault (66%) rather than rape, and 43% of the sample experienced their assault in the fall quarter.

Procedures

The original Resilience Lab study surveyed students at three timepoints: August of 2017, at the end of fall quarter of 2017, and at the end spring quarter of 2018. The principal investigators obtained IRB approval prior to commencing the study. The Resilience Lab administered a range of measures to students focused on resilience, wellness, sports involvement, peer and family relationships, mental health, stress, important aspects of college life and the transition to college, as well as demographics. Combined, the larger study administered 69 measures at different time points, including demographic items and assessments of GPA. The Resilience Lab provided the surveys to 8,351 incoming students via an online portal when they were completing a mandatory internet based informational session about the University of Washington. In the original sample, 6, 614 students (79% response rate) initially took the survey at Time 1 in summer of 2017, of these, 1,300 returned the survey at the end of fall quarter at Time 2 (January), and 1,800 returned surveys at the end of spring quarter in 2018. Only 11% of students completed measures across both the fall and spring quarter assessments (Kroshus et al. 2020). While this indicates that many students failed to engage with the survey as it progressed, it is not uncommon for surveys administered to college students to have similarly low engagement across time (Kroshus et al., 2020; Sax et al., 2003).

As indicated earlier, participants were included in the current study if they indicated that they had experienced some form of sexual assault in either their fall or spring quarter, and if they had complete data on all core variables. While students completed self-report measures in both fall and spring quarters, students were only analyzed on the data from their quarter of assault. Thus, it was decided that students who reported some form of assault in both quarters (n = 6) would be analyzed only on their spring quarter data (e.g., the data corresponding to their spring assault).

Measures

Self-Compassion. For the present study, scores were averaged across items to create composite scores for use in analysis. The Self-Compassion Scale-Short Form (SCS-SF; Raes, 2011) was used to assess self-compassion. The SCS-SF is a 12-item measure designed to assess for self-compassion. Raes et al. (2011) created a 12-item version of the 26-item SCS in order to increase the utility of the measure and increase administration speed. Raes et al. wanted to create a measure that was consistent psychometrically and structurally to the SCS long form. The measure presents a series of 'I' statements directing participants to indicate how often they display a series of compassionate or uncompassionate reactions. Individuals can respond on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). However, the Resilience Lab modified participants' response options into a 7-point Likert scale that ranges from 1 (strongly agree) to 7 (strongly disagree), and directed them to consider how self-compassionate they felt in the moment of filling out the form. This modification was done in error by the Resilience Lab, however they have successfully submitted studies for publication using this modified scale. Negative items are reverse scored, and higher scores reflect higher levels of self-compassion. Neff does not provide specific guidance around when a score is considered to reflect low, moderate, or high levels of self-compassion. However, in Raes' (2011) norming sample of American college students, the mean total score was 36 points (SD = 7.33). Regardless, any pre-existing guidelines will not apply as the Resilience Lab altered the response options into an expanded 7-point Likert scale.

The SCS-SF has 6 interacting subscales which measure self-kindness, common humanity, mindfulness, self-judgment, isolation and over-identification (enmeshment in one's emotions). Each subscale is comprised of 2 items. Raes et al. (2011) found that the full-scale scores of the

short and long-form versions of the measure correlated at r = .97 and that the short form subscales demonstrated strong correlations with their long-form partners at r = .91 for Self-Kindness, r = .93 for Self-Judgment, r = .84 for Common Humanity, r = .86 for Isolation, r = .87 for Mindfulness, and r = .88 for Over-Identification. Internal consistency was more variable; the SCS-short form full scale score demonstrated high internal consistency, but the individual subscales were generally less reliable. In the American sample, the Self-Kindness subscale had a Cronbach's alpha of .54, the Self Judgment subscale had a Cronbach's alpha of .63, the Common Humanity subscale had a Cronbach's alpha of .68, the Isolation subscale had a Cronbach's alpha of .69, the Mindfulness subscale had a Cronbach's alpha of .75, and the Over-Identification subscale had a Cronbach's alpha of .86. Cronbach's alphas were similar in the Dutch sample.

Because each of the two item subscales has relatively weak internal consistency, Neff (2016) does not advocate disentangling the lower order subscales (e.g., examining Mindfulness and Self-Judgment etc. individually). However, depending on need, there is ample support for not only using the total score of the SCS and SCS-SF, but for dividing the measure into two subscales reflecting the positive and negative self-compassion items (Hayes et al., 2016; Lopez et al., 2015; Neff, 2016). In this case the self-judgment, isolation and over-identification items are combined into one subscale reflecting uncompassionate ways of responding, and the self-kindness, mindfulness, and common humanity items are combined into one subscale reflecting compassionate ways of responding. This division allows flexibility for researchers, depending on the goals and needs of their study (Neff, 2016). The present study used the total score and also divided the measure into positive and negative items subscales, termed Self-Tolerance and Self-Judgment, respectively. In the present sample, the SCS-SF full scale had an estimated

Cronbach's alpha of .79; the Self-Tolerance and Self-Judgment subscales had estimated Cronbach's alphas of .77 and .79, respectively.

Student Mental Health. The Patient Health Questionnaire for Depression and Anxiety-4 (*PHQ*-4*;* Kroenke et al., 2009) was used to assess student internalizing symptoms as an indicator of student mental health. For the present study, scores were averaged across items to create a composite score for use in analysis. The PHQ-4 is a 4-item measure designed to screen for symptoms of anxiety and depression. The PHQ-4 is a combination of the 2-item PHQ-2 (Kroenke et al., 2003), a depression screener, and the 2-item GAD-2 (Kroenke et al., 2007), an anxiety screener. Both of these measures have been found to accurately capture people struggling with anxiety and depression (Kroenke et al., 2009). The measure asks people to rate the frequency of their anxiety and depression symptoms over the previous two weeks on a 4-point Likert rating scale: Not at all (0), several days (1), more than half the days (2), nearly every day (3). For example, to assess for depression the measure asks, "Over the last 2 weeks, how often have you been bothered by: Feeling down, depressed, or hopeless?" Scores can range between 0 and 12 points, and higher scores reflect greater levels of anxiety and depression. Symptoms of depression and anxiety are considered to be within normal limits with a total score of 2 or less, mild with a score between 3 and 5 points, moderate with a score between 6 and 8 points, and severe with a score between 9 and 12 points (Kroenke et al., 2009). Alternatively, anxiety and depression can be disentangled on this measure. Kroenke et al. (2009) state that scores equal to or greater than 3 points on either the depression (items 3 and 4) or anxiety (items 1 and 2) subscales are suggestive of depression or anxiety, respectively.

In the PHQ-4 norming study (Kroenke et al., 2009) the measure demonstrated good construct validity, correlating highly in predicted directions with longer measures of anxiety and

depression and life functioning. For instance, the PHQ-4 correlated with the mental health subscale of the SF-20 Functional Status scale at r =. 80, and had correlation strengths to the SF-20 equivalent to longer PHQ measures (e.g., the PHQ-8 and the GAD-7). As PHQ-4 scores increased, so did functional impairment, providing further evidence of the scale's construct validity. The scale also showed Cronbach's alpha > .80. The PHQ-4 was also found to have acceptable psychometric properties in a large sample of college students (N = 934) (Khubchandani et al., 2016). This study supported the measure's criterion validity; students with prior diagnoses of anxiety and depression also obtained significantly higher scores on the PHQ-4. Khubchandani et al. (2016) obtained internal consistency reliability similar to Kroenke et al.'s (2009) study at $\alpha = 0.81$. In the present sample, Cronbach's alpha was estimated at .87.

Stressful Event Exposure. Stressful event exposure was assessed by a modified version of the College Student's Stressful Event Checklist (ASU, n.d.) created by the University of Washington Resilience Lab. For the present study, scores were averaged across items to create a composite score for use in analysis. This modified version of the scale includes both significant time limited stressors, like sexual assault, as well as chronic stressors like challenges navigating relationships and different types of discrimination. The original version of the scale has students mark whether a variety of stressors have occurred in their lifetime or will occur soon; each stressor is assigned a numeric value on a 20-100 scale, designed to reflect the perceived intensity of the stressor (e.g., the death of a family member receives a score of 100). Students then receive a total score which qualifies them as experiencing mild, moderate, or intense stress. The Resilience Lab modified the College Student's Stressful Event Checklist by asking students to reflect only on stressors experienced over the past quarter, and by altering the scale so that each stressor was no longer associated with different weights. In addition, based on focus group

feedback with University of Washington students, some stressors were dropped and others were added which reflected the most pressing and common forms of acute and chronic stress experienced by college students. These adaptations resulted in a scale with 11 stressful life events when administered in the fall quarter, and 12 items when administered in the spring quarter. Each stressor is associated with one point which can be used to generate a total score reflective of cumulative stress over the previous quarter. To be consistent across quarters, only the 11-item version of the scale was used in the current study.

There are two questions used to assess sexual assault on this questionnaire ("Has anyone physically forced you to have sex against your wishes, or when you were helpless, such as being asleep or intoxicated," and "Other than experiences in the previous question, has anyone touched private parts of your body, made you touch their body, or tried to make you have sex against your wishes?"). The decision was made to measure stressful event exposure using only the 9 items that do not measure sexual assault to better capture stressful life events unrelated to the sexual assault items. The 9-item version of the scale had a sample-based estimated Cronbach's alpha of .62; however, this did not differ substantially from the 11-item version of the scale (sample-based estimated alpha of .60), and so the decision was made to retain the 9-item version of the scale for the theoretical reasons described above.

Social Support. Social support was assessed using Zimet et al.'s (1988) Multidimensional Scale of Perceived Social Support (MSPSS). For the present study, scores were averaged across items to create a composite score for use in analysis. The MSPSS is a 12-item measure that assesses perceived social support from partners, family, and friends (e.g., "I get emotional help and support I need from my family"). The scale yields a total score however it also yields three subscales associated with the different types of social support listed earlier

(partners, family, and friends). Respondents respond to the items using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores reflecting higher levels of perceived social support.

The measure was originally normed on a sample of Duke University students (N = 275) who ranged in age from 17 to 22. In that sample, the average reported social support score was 5.80 points (SD = 0.86), and the full-scale total score had an internal consistency of .88, and test re-test reliability of .85. The subscales also demonstrated sufficient internal consistencies, with Cronbach's alphas of .85, .87, and .91 for the partner, family, and friends subscales, respectively. Additionally, test-re-test reliability coefficients for the subscales were .72, .75, and .85 for the partner, friends, and family subscales, respectively. In the current study, only the total score was used, and the sample-based internal consistency was estimated at .89.

Resilient Coping. Active coping was measured by the Brief Resilient Coping Scale (BRCS; Sinclair & Wallston, 2004), which is a 4-item scale designed to measure the cognitive aspects of coping that predict resilience despite high stress. For the present study, scores were averaged across items to create a composite score for use in analysis. The measure presents a series of 'I' statements that people respond to on a 5-point Likert scale ranging from 1 *(does not describe me at all)* to 5 (*describes me very well).* As an example, the first item is *"*I look for creative ways to alter difficult situations," and the third item is "I believe I can grow in positive ways by dealing with difficult situations." Higher scores reflect greater resilient coping, and scores can range between 4 and 20 points. Sinclair and Wallston (2004) do not provide specific guidance around when a score can be considered to reflect low, moderate or high resilient coping in their original study, but do note that in their original study they considered scores below 13 to reflect low coping, and scores above 17 to reflect high coping. Individuals who score between 14

and 16 points would therefore be considered medium copers. Other researchers have used a median split to categorize the low and high copers in their studies (e.g., Beutel et al., 2017).

In the original norming study, Sinclair and Wallston (2004) reported test-retest reliability across a six-week testing interval at $r = .71$, and internal consistencies ranging from .64 to .76 across two norming samples. While a Cronbach's alpha of .64 does not quite meet threshold standards of what is typically considered sufficient reliability, it is not unusual for measures with fewer items to exhibit lower Cronbach's alphas (Ziegler et al., 2014). Additionally, the measure displayed good construct validity, correlating in predicted directions and strengths with other indices of coping and mental health. For instance, greater levels of self-efficacy, optimism, re-appraisal, positive affect, life satisfaction, social support seeking and problem solving correlated with higher scores on the BRCS, with correlations ranging in strength from .18 to .60. Conversely, the BRCS displayed small negative associations with feelings of helplessness, feelings of vulnerability, catastrophizing, venting, and negative affect (*r*'s ranged from -.17 to -.38). The BRCS demonstrated acceptable reliability in the present sample, with a Cronbach's alpha of .71.

Data Analysis Plan

Multiple linear regression analyses were used to evaluate the research questions for the present study. For each model, normality, linearity, and homoscedasticity assumptions were checked. The assumption of independence is reasonable, as students were pulled from across a large campus and there was no evidence of systematic clustering in the data (i.e., students were not from a few majors or dorms, etc.)

Statistical Power

Prior to analyzing the data, a power analysis was conducted to determine whether the sample would be sufficient for the planned models. A power analysis using *G*Power* showed that, assuming an alpha of .05, 2-tailed, a sample size of at least 123 participants would be required to achieve 80% power to detect a significant coefficient with a medium-sized effect (f = .15) for regression analyses involving 11 predictors. The final sample used in the present study exceeds this size (N = 140).

Predictors Selected for Inclusion

A preliminary analysis was conducted to determine whether all available demographics should be included in analyses. Results showed that neither first-generation college status, ethnicity, nor sexual orientation were correlated with the outcome; further, substantive results did not change when these predictors were included in the regression models (to be discussed next). As such, these demographic variables were not included for final analyses. This said, student sex, quarter of assault, and age were included in all analyses as control variables, since these variables are related to the outcome and/or other predictors.

Statistical Models

Research question 1. For question one, zero-order (bivariate) correlational relationships among sex, assault quarter, age, self-compassion, self-tolerance, self-judgment, resilient coping, social support, stressful event exposure, social support, sexual assault severity, and sexual assault survivor internalizing symptoms (mental health) were examined using Pearson's correlation.

Research question 2. Multiple regression with sequential predictor entry was used for testing question 2a, which focused on assessing the unique relationships between self-compassion and mental health, controlling for social support and stress. Similarly, question 2b focused on the unique contributions of the two self-compassion subscales to mental health. All

predictor variables were effect coded or standardized into *z*-scores prior to entry. The final models were as follows.

Model 2a: $Y_{PHQ4'} = b_o + b_1 sex + b_2\, assaultQ + b_3 age + b_4 social\ supp + b_5 cumul\ stress$

$+ b_6$ self-compassion + residual error

Model 2a: $Y_{PHQ4'} = b_o + b_1 sex + b_2\, assaultQ + b_3 age + b_4 social\ supp + b_5 cumul\ stress$

$+ b_6$self-judgment + $b_7$self-tolerance + residual error

Research question 3. The third question explored the degree to which resilient coping and stressful event exposure moderated the relationship between self-compassion and mental health of sexual assault survivors when controlling for social support and demographic covariates. It builds upon Model 2a (new terms in boldface) as follows.

Model 3: $Y_{PHQ4'} = b_o + b_1 sex + b_2\, assaultQ + b_3 age + b_4 social\ supp + b_5 cumul\ stress$

$+ b_6$ self-compassion

$+ b_7$resilient coping

$+ b_8$cumul stress*self-comp + $b_9$cumul stress*resil coping

$+ b_{10}$resil coping*self-comp + b_{11}resil coping*cumul stress*self comp

+ residual error

Research question 4. The final multiple regression model tested whether sexual assault severity moderated any potential association between self-compassion and mental health, again controlling for relevant demographics. The final model was as follows.

Model 4: $Y_{PHQ4'} = b_o + b_1 sex + b_2\, assaultQ + b_3 age + b_4 social\ supp + b_5 cumul\ stress$

$+ b_6$ self-compassion

$+ b_7$assault severity + $b_8$self-comp*assault severity

+ residual error

Chapter 4: Results

Hypotheses were tested using multiple linear regression with sequential predictor entry to examine the association between predictors and student mental health. Descriptive statistics, including means, standard deviations, and zero-order correlations for study variables are provided in Table 2.

Results for Question #1a: Correlations and Descriptive Statistics

The sample reported an average PHQ-4 score of 5.55 points (SD = 3.33; N = 140), which per PHQ norms indicates mild levels of internalizing symptoms (anxiety and depression symptoms). This suggests that the sample is not experiencing significant levels of mental health challenges, though is experiencing a mild level of distress, as the average mental health symptoms score is not within normal limits. However, survivors of rape reported worse mental health than participants of non-rape sexual assault, with an average PHQ-4 score in the moderate range (M = 6.13, SD = 3.30; n = 48). The sample reported average levels of resilient coping skills (M = 14.45, SD = 2.92; n = 138). Per the interpretation guidelines of the BRCS, average coping is reflected in total scores which range between 14 and 16 points. This information is provided to describe the sample in clinical terms. All analyses were run on averaged scores, not total scores, to deal with missingness associated with total scores.

Correlations (Table 2) show that social support, self-compassion, self-tolerance and resilient coping are all negatively associated with mental health symptoms (internalizing symptoms) with r's ranging from -.27(resilient coping) to -.53 (self-compassion), p's <.01. This indicates that these factors reduce internalizing symptoms at the bivariate level. Self-judgment and cumulative stress are both positively associated with mental health symptoms (r's of .48 and .37 respectively, p's < .01). At the bivariate level, self-judgment and cumulative stress are

associated with elevated internalizing symptoms. Assault quarter, sex, age, and assault severity demonstrated no association with mental health symptoms at the bivariate level.

Results for Question # 1b: Multiple Regression for Unique Association Between Self-Compassion and Mental Health Symptoms

Multiple linear regression with sequential predictor entry was used to examine the association between self-compassion and mental health symptoms, shown in Table 3. Results showed that age, assault quarter, and sex, which comprised the first block, did not account for significant variation, $R^2 = 0.04$, $p = 0.122$. Controlling for these demographic factors, the control variables of social support and stressful event exposure (in Block 2) did account for significant variance in mental health symptoms, $R^2_{change} = 0.23$, $p < .001$. In the third block, self-compassion accounted for an additional 17% of the variance in sexual assault survivor mental health symptoms, above and beyond age, assault quarter, sex, social support and stressful event exposure, $R^2_{change} = 0.17$, $p < .001$.

Results from the final block, with all predictors entered in the model, showed that the average participant mental health symptoms rating was 1.35 points holding all other variables constant, which was significantly different from zero. Age failed to uniquely predict mental health symptoms ($p = 0.686$), which is unsurprising given the lack of significance of Block 1. While sex was significant in Block 2 ($b = 0.22$, $p = .006$), it was not significant in Block 3. Interestingly, assault quarter uniquely predicted mental health symptoms, with students assaulted in the fall reporting worse mental health symptoms than students assaulted in the spring by an estimated average of 0.28 points (double the coefficient since it was effect coded), holding all else constant. Social support also uniquely predicted sexual assault survivor mental health symptoms. Specifically, for every standard deviation increase in social support, internalizing

symptoms were predicted to decrease by 0.15 points, holding all else constant. Stressful event exposure also had a unique relationship with mental health symptoms. For every standard deviation increase in stressful event exposure, internalizing symptoms were predicted to worsen by 0.24 points, holding all else constant. Finally, self-compassion also uniquely predicted mental health symptoms. Specifically, for every standard deviation increase in self-compassion, internalizing symptoms were predicted to decrease by 0.38 points.

Results for Question #2: Multiple Regression for Unique Relationships between Self-Compassion Subscales and Mental Health Symptoms

Multiple linear regression with sequential predictor entry was used to examine the association between the self-compassion subscales (Self-Judgment and Self-Tolerance) and mental health symptoms, shown in Table 4. Results showed that age, assault quarter, and sex, which comprised the first block, did not account for significant variation, $R^2 = 0.04$, $p = .122$. Controlling for these demographic factors, the control variables of social support and stressful event exposure (in Block 2) did account for significant variance in mental health symptoms, $R^2_{change} = 0.23$, $p < .001$. In the third block, self-judgment accounted for an additional 17% of the variance in sexual assault survivor mental health symptoms, above and beyond the demographic variables, social support and stressful event exposure, $R^2_{change} = 0.17$, $p < .001$. In the fourth and final block, self-tolerance accounted for an additional 2% of the variance in survivor mental health symptoms, above and beyond self-judgment and the control variables, $R^2_{change} = 0.018$, $p < .05$.

Results from the final block, with all predictors entered in the model, showed that the average participant mental health symptoms rating was 1.36 points, holding all other variables constant, which was significantly different from zero. Age failed to uniquely predict mental

health symptoms (p = .958), which is unsurprising given the lack of significance of Block 1. As occurred in Question 2, sex was significant in Block 2 (b = 0.22, p = 0.021), but not significant in either Block 3 or the final block. Assault quarter uniquely predicted mental health symptoms in this question as well, with students assaulted in the fall reporting worse mental health symptoms than students assaulted in the spring by an estimated average of .39 points (double the coefficient since it was effect coded), holding all else constant. Social support also uniquely predicted sexual assault survivor mental health symptoms. Specifically, for every standard deviation increase in social support, internalizing symptoms were predicted to decrease by 0.18 points, holding all else constant. Stressful event exposure also had a unique relationship with mental health symptoms. For every standard deviation increase in stressful event exposure, internalizing symptoms were predicted to worsen by 0.23 points, holding all else constant.

Finally, both self-judgment and self-tolerance uniquely predicted mental health symptoms. Specifically, for every standard deviation increase in self-judgment, internalizing symptoms were predicted to increase by 0.34 points, and for every standard deviation increase in self-tolerance, internalizing symptoms were predicted to decrease by 0.12 points.

Question #3: Multiple Regression for Moderation of Self-Compassion-Mental Health Symptoms Association by Stressful Event Exposure and Resilient Coping

Multiple linear regression with sequential predictor entry was used to examine the degree to which stressful event exposure and resilient coping moderate the relationship between self-compassion and mental health symptoms, shown in Table 5. Results showed that age, assault quarter, and sex, which comprised the first block, did not account for significant variation, R^2 = 0.04, p = 0.122. Controlling for these demographic factors, the control variable of social support (in Block 2) did account for significant variance in mental health symptoms, R^2_{change} = 0.16, p <

0.001. In the third block, the main effects of stressful event exposure, self-compassion and resilient coping together accounted for an additional 24% of the variance in sexual assault survivor mental health symptoms, above and beyond the demographic variables and social support, $R^2_{change} = 0.24$, $p < 0.001$. The addition of the interaction terms did not account for significant unique variation in participant mental health symptoms, $p > .05$.

Results from the final block, with all predictors entered in the model, showed that the average participant's mental health symptoms rating was 1.33 points, holding all other variables constant, which was significantly different than zero. Age again failed to uniquely predict mental health symptoms ($p = 0.72$). Sex was neither significant in Block 3 ($p = 0.21$) nor was it significant in Block 4, $p = 0.19$. Assault quarter uniquely predicted mental health symptoms, with students assaulted in the fall reporting worse mental health symptoms than students assaulted in the spring by an estimated average of 0.40 points (double the coefficient since it was effect coded), holding all else constant. The control variable of social support also uniquely predicted sexual assault survivor mental health symptoms. Specifically, for every standard deviation increase in social support, internalizing symptoms were predicted to decrease by 0.15 points, holding all else constant. The main effect of stressful event exposure also had a unique relationship with mental health symptoms. For every standard deviation increase in stressful event exposure, internalizing symptoms were predicted to worsen by 0.27 points, holding all else constant. The main effect of self-compassion also uniquely predicted mental health symptoms. Specifically, for every standard deviation increase in self-compassion, internalizing symptoms were predicted to decrease by 0.37 points. The main effect of resilient coping did not have a significant relationship with mental health symptoms ($p = 0.71$). None of the interaction terms were significant, p's $> .05$.

Research Question #4: Multiple Regression for Moderation of Self-Compassion-Mental Health Symptoms Association by Assault Severity

Multiple linear regression with sequential predictor entry was used to examine the degree to which sexual assault severity moderated the relationship between self-compassion and mental health symptoms, shown in Table 6. Results showed that age, assault quarter, and sex, which comprised the first block, did not account for significant variation, $R^2 = 0.04$, $p = 0.122$. Controlling for these demographic factors, the control variables of social support and stressful event exposure (in Block 2) did account for significant variance in mental health symptoms, $R^2_{change} = 0.23$, $p < 0.001$. In the third block, sexual assault severity and self-compassion together accounted for an additional 17% of the variance in sexual assault survivor mental health symptoms, above and beyond the demographic variables, social support and stressful event exposure, $R^2_{change} = 0.17$, $p < .001$. The addition of the interaction term (self-compassion*assault severity) did not account for significant unique variation in participant mental health symptoms, $p > .05$.

Results from the final block (Block 4), with all predictors entered in the model, showed that the average participant reported an average of 1.35 points on the study's mental health symptoms measure, which was significantly greater than zero. As was the case in other models, neither age or sex uniquely predict mental health symptoms (p's >.05). Assault quarter continued to uniquely predict mental health symptoms, with students assaulted in the fall reporting worse mental health symptoms than students assaulted in the spring by an estimated average of 0.39 points (double the coefficient since it was effect coded), holding all else constant. The control variable of social support also uniquely predicted sexual assault survivor mental health symptoms. Specifically, for every standard deviation increase in social support, internalizing

symptoms were predicted to decrease by 0.16 points, holding all else constant. The control variable of stressful event exposure also had a unique relationship with mental health symptoms. For every standard deviation increase in stressful event exposure, internalizing symptoms were predicted to worsen by 0.23 points, holding all else constant. Self-compassion also uniquely predicted mental health symptoms. Specifically, for every standard deviation increase in self-compassion, mental health symptoms were predicted to decrease by 0.38 points. Assault severity did not demonstrate a significant unique relationship with mental health symptoms (p >.05) and assault severity did not significantly moderate the relationship between self-compassion and mental health symptoms (p > .05).

Chapter 5: Discussion

The purpose of the present study was to examine the relationship between self-compassion and mental health outcomes in college students who have experienced sexual assault. The study used a series of multiple regression analyses with sequential predictor entry to examine the unique contribution of self-compassion to mental health outcomes above and beyond social support and stressful event exposure. As part of this, the study examined two different perspectives: 1) which aspect of self-compassion (self-judgment or self-tolerance) is most important for mental health outcomes in sexual assault survivors; and 2) whether the association between self-compassion and mental health outcomes is moderated by stressful event exposure, resilient coping, and sexual assault severity (i.e., rape vs. other).

Self-Compassion and Mental Health Outcomes

Self-compassion was the primary variable of interest across all analyses and was significant across all models. Previous research has failed to control for both social support and cumulative stress when examining the role of self-compassion in supporting the mental health of sexual assault survivors (e.g., Close, 2014; Hamrick & Owens, 2019). Therefore, the current study controlled for both and found that self-compassion explained unique variance in outcomes above and beyond both of these factors.

Self-compassion's ability to explain unique variance above and beyond social support suggests that it is a protective factor in its own right, rather than being confounded with social support. Social support is a well-established protective factor for sexual assault survivors (Ullman, 2014), so it is important to control for this when examining the protective effects of self-compassion in this population. This finding is a new contribution to the literature on sexual

assault and self-compassion, as no previous research that this author is aware of has controlled for social support when examining self-compassion in sexual assault survivors.

Self-compassion not only uniquely predicted mental health outcomes, it explained by far the most unique variance in survivor mental health symptoms across all models (sr^2 = 0.14 - 0.17). Thus, more self-compassionate participants reported less internalizing symptoms than less self-compassionate participants, indicating that self-compassion may be a resilience factor for sexual assault survivors. This finding is consistent with research that has found that self-compassion can attenuate the relationship between stress, adversity, and distress (Hope et al., 2014; Stutts et al., 2018; Terry et al., 2013), reduce perceived threat to stressors (Chishima et al., 2018), and that it can be protective for survivors of a variety of traumatic events (Hiraoka et al., 2015; McLean et al., 2018; Seligowski et al., 2015; Zeller et al, 2015). The fact that self-compassion not only had unique effects above and beyond social support, but a stronger effect, indicates that self-compassion may be at least as important as social support in enhancing the mental health of survivors.

Further, while previous research has also found that self-compassion can reduce distress or enhance well-being in sexual assault survivors, this research was generally conducted on adult samples comprised of survivors of more severe assaults, and whose assaults occurred multiple years prior (Close, 2013; Hamrick & Owens, 2019; Schindler, 2021). Qualitative research on self-compassion in sexual assault survivors has suggested that it may take years for sexual assault survivors to experience the benefits of self-compassion as it relates to their assaults (Dicks, 2014). The findings of the present study are therefore important as they highlight that being generally more self-compassionate benefits young adult sexual assault survivors, is

protective in the context of experiencing a recent assault, and is equally protective for young adult survivors of both rape and other types of sexual assault.

Self-Judgment and Self-Tolerance and Mental Health Outcomes

Self-compassion as a construct can be considered larger than the sum of its sub-components (Neff, 2015), and yet there are benefits to examining those components of self-compassion which are most beneficial for sexual assault survivors as this can inform intervention development. Previous research has generally examined the protective effects of self-compassion for sexual assault survivors without examining which aspects/sub-domains of self-compassion are most important for resilience (e.g., Close, 2013; Hamrick & Owens, 2019). Therefore, it has been relatively less clear whether it is high levels of self-tolerance (reflecting the Self-Kindness, Common Humanity, and Mindfulness subscales), or low levels of self-judgment (reflecting the Isolation, Over-Identification and Self-Judgment subscales) that most strongly predict mental health in the aftermath of sexual assault.

The present study found that both the Self-Tolerance and Self-Judgment subscales displayed unique associations with mental health, but that the Self-Judgment subscale explained more variance in mental health than did the Self-Tolerance subscale (14% and 2% respectively). Greater self-judgment, perceived isolation, and over-identification was associated with worse internalizing symptoms. Another interpretation of this is that the *lack* of self-judgment, isolation and over-identification may be more important in supporting the mental health of sexual assault survivors than the presence of self-kindness, common humanity, and mindfulness. Thus, the observed benefits of self-compassion may primarily reflect the advantages of being less hard on oneself, rather than the benefits of treating oneself with kindness or recognizing that all people suffer. While both aspects of self-compassion are likely important to target, as occurs in self-

compassion interventions like loving-kindness meditations (Au et al., 2017), this finding does suggest that it is the relative lack of judgmental and harsh cognitive patterns which becomes protective in its own right.

The results of this study also align with previous research in sexual assault survivors which has found that the Self-Judgment subscale of the SCS/SCS-SF has a stronger relationship with internalizing symptoms than the Self-Tolerance subscale (Strickland et al., 2019). In contrast, Kjose (2018) found that the Self-Kindness subscale had a stronger relationship with well-being (composite measure reflecting different aspects of positive psychology like happiness and optimism) than the Isolation subscale of the SCS. Thus, it may be that cultivating the positive aspects of self-compassion is important for generating well-being, and reducing self-judgment is important for reducing risk of psychopathology. Therefore, self-compassion, measured as a larger interactive construct, may enhance resilience through its capacity to address both.

Demographic Variables and Mental Health Outcomes

Assault quarter was a significant predictor of mental health outcomes across all final models, which was an unexpected finding. Specifically, students assaulted in the fall consistently reported greater internalizing symptoms than students assaulted in the spring. It may be that there is something uniquely stressful about experiencing a sexual assault in one's first quarter of college. A sexual assault during these first few months may complicate students' adjustment to college and impede their capacity to develop a sense of safety on campus, and thus be experienced as especially devastating. It is possible that students who experience a sexual assault in their first quarter of college may develop the belief that the world is an especially dangerous place, or that they are particularly incapable of living safely independently; most of the sample

were in their freshman year, and for many freshman students the first quarter of college is the first time they have lived outside the family home. Dangerous world beliefs are associated with mental health problems post-trauma (Park et al., 2012).

Research has established that young women in their first year of college are at greater risk for sexual assault than their older counterparts (Carey et al., 2018), and that mental health challenges and adjustment issues can be common in first-year students (Ebert et al., 2019; Pedrelli et al., 2015; Terry et al., 2013). Thus, it may be that the interaction between a first-quarter assault, in combination with the general challenges associated with adjusting to college, yielded worst mental health outcomes for these students. In contrast, students assaulted in the spring may experience their assaults as relatively less damaging as they have had more time to adjust to college, feel safe on campus, and develop their social networks.

At the same time, some of the students in the sample were older, and may not have been in their freshman year (though all were in their first year at the University of Washington). However, a similar dynamic likely applies to these students as well. For instance, research has found that depression onset is associated with cumulative stress, and that this relationship follows a dose-response pattern (Tennant, 2002). As stressors accumulate, the risk for psychopathology increases (Tennant, 2002). Even for older students, their first quarter at the University of Washington likely brought unique stressors that they felt better equipped to handle by the end of the year. Similarly, these older students may have started at the University of Washington with either no social connections or under-developed social networks. Thus, regardless of the age of the student, or their year in school, the first quarter in a new college likely brings heightened stress that decreases as the year progresses.

Another interesting finding was the role of sex in predicting mental health outcomes. Being female was associated with worse mental health symptoms (greater internalizing symptoms) when examined in the context of social support and stressful event exposure, but was not a significant predictor of mental health outcomes in the context of self-compassion. There is a substantial literature base demonstrating that women and girls consistently report elevated levels of anxiety and depression (Altemus et al., 2014; Hankin, 2009), and that in the aftermath of traumatic events, that they are at increased risk of post-traumatic stress when compared to boys and men (Olff, 2017). Thus, that young women in the study reported greater internalizing than young men is consistent with this larger literature base.

The addition of self-compassion across models caused sex to no longer be a significant predictor of mental health. This indicates that it is not participants' sex per se that is important in determining their risk for mental health problems, rather it is their capacity for self-compassion. The fact that self-compassion was able to essentially counteract the mental health risks associated with being female highlights that self-compassion may be especially useful in interventions focused on young women.

Stressful Event Exposure and Resilient Coping as Potential Moderators of the Relationship Between Self-Compassion and Mental Health

Previous literature has supported the importance of examining individual protective factors in interaction with other risk and protective factors, as well as in isolation (Fritz et al., 2018). Researchers who study resilience have argued for the importance of examining broad protective effects of various variables, as well as the importance of examining the conditions under which these protective factors become more or less salient (Fritz et al., 2018). Because this author is unaware of any previous literature that has examined potential moderators of the

association between self-compassion and mental health among sexual assault survivors, the present study examined whether active coping strategies (e.g., resilient coping) and stressful event exposure would enhance or diminish the effects of self-compassion on participant mental health outcomes.

It is unsurprising that experiencing a greater number of stressors over the previous quarter (stressful event exposure) was associated with greater internalizing symptoms; this is aligned with established research on stress and psychopathology (Hammen et al., 2009). However, it is surprising that resilient coping failed to predict mental health outcomes as this does not align with previous studies which have found protective effects for resilient coping (Beutel et al., 2017; Sinclair & Wallston, 2004). It was hypothesized that students who were both highly self-compassionate and high in resilient coping would have better mental health outcomes than those who only reported high levels of one or the other. That is, resilient coping would amplify the protective effects of self-compassion for sexual assault survivors.

This hypothesis was rooted in previous literature which has found that active/approach oriented coping is associated with better mental health and reduced risk for PTSD in the aftermath of traumatic events (Grasso et al., 2012; Lacoviello & Charney, 2014; Thompson et al., 2018), and that avoidance coping is in turn a risk-factor for worse mental health (Dunmore et al., 2001; Thompson et al., 2018). Other research has found that adaptive coping strategies are correlated with each other in college students (Grasso et al., 2012). Indeed, self-compassion and resilient coping displayed a moderate relationship (r = 0.43) at the bivariate level in the present study, suggesting that more self-compassionate students in this sample are also more likely to use resilient coping strategies

There could be several reasons why resilient coping failed to predict outcomes either independently or as a moderator, and several reasons why stressful event exposure was only significant as a main effect and not as a moderator. Regarding resilient coping, it may be that the lack of significance reflects the nature of the Brief Resilient Coping Scale itself. The measure is short (only 4-items) and focuses on the cognitive components of active coping strategies, or adaptive stress coping beliefs (e.g., "Regardless of what happens to me, I believe I can control my reactions to it" and "I believe I can grow in positive ways by dealing with difficult situations."). Thus, the measure does not assess actual behaviors associated with active coping (e.g., seeking out resources) and is not specifically tailored for sexual assault survivors either.

Prior research (Frazier, 2003; Frazier et al., 2004) has demonstrated that perceived control over the recovery process facilitates resilience post-sexual assault. While the BRCS does measure stress coping beliefs that reflect an internal locus of control (which itself is related to better outcomes post-assault) (Walsh et al., 2007), items on the BRCS are not specifically related to perceived control beliefs as they relate to sexual assault recovery. It is possible that a more comprehensive measure, and one which is specifically oriented toward how approach oriented coping and perceived control can manifest in sexual assault survivors, would have yielded significant results and results which are more generally aligned with previous literature on approach coping and sexual assault recovery.

Stressful event exposure, while demonstrating a significant relationship with mental health symptoms as a main effect, also failed to moderate the self-compassion-mental health association. Previous research has found that self-compassion explains relatively little variance in mental health in non-stressed samples (Raes, 2011) and that it becomes more protective against depression as stress increase (Stutts et al., 2018). For instance, Stutt's non-clinical sample

of college students found that higher and lower levels of self-compassion yielded essentially equivalent levels of depression when perceived stress was low.

There are a few possible explanations for the lack of moderation by stressful event exposure in the current study. One, the stressful event exposure measure reflects exposure to a variety of stressors commonly experienced by college students, *not* perceived stress itself. While there is research supporting that as stressors and challenges accumulate, distress increases (Anders et al., 2012; Gold et al., 2005), it may be that the students in this sample simply were not perceiving significant stress, regardless of the number of stressors in their lives. Thus, the measure of stressful event exposure may not have been an effective measure to capture moderation. However, given that stressful event exposure was independently associated with elevated internalizing symptoms across all models, it is harder to support this hypothesis. Students exposed to a greater number of stressors over the previous quarter (higher stressful event exposure score) likely reported higher internalizing symptoms precisely because these challenges elevated their stress levels.

Another possible explanation centers on the nature of sexual assault itself. Sexual assault in the current study was measured by two items; one which assessed for completed rape, and another which assessed for attempted rape or forcible touching. One might hypothesize that the type of sexual assault captured by these two items would be sufficiently severe to yield a high level of stress. If this were true, it would be expected that the sample in the present study was already highly stressed, and thus the full protective benefits of self-compassion were fully activated. This would suggest that moderation by stressful event exposure would not be a necessary condition for self-compassion to reach its full potential as a protective variable.

In this case one might expect to see higher levels of distress in the sample. While rape survivors reported moderate levels of internalizing symptoms, the sample as a whole (collapsed across assault types) reported mild levels of anxiety and depression. Given the mild level of symptomatology in the sample as a whole, it is hard to make the argument that the participants are highly stressed.

It may be that the lack of moderation reflects the nature of the items used to measure sexual assault. Specifically, one of the questions asked about attempted rape and forcible touching at the same time. Therefore, these two types of experiences are conflated in one item. This means that while it is possible to distinguish rape from other types of sexual assault, it is not possible to distinguish attempted rape from forcible touching. Thus, it is possible that most of the participants in this sample experienced forcible touching and found this experience to be relatively less distressing than other types of assault. This result would not support the hypothesis that a lack of moderation by stressful event exposure reflects an already highly stressed sample; the participants in the sample simply are not that stressed or distressed on average.

In sum, it is unclear as to why stressful event exposure did not moderate the association between self-compassion and mental health outcomes. However, the lack of moderation may be viewed positively; self-compassion may broadly protect sexual assault survivors, regardless of how much or how little stressful event exposure is present in their lives.

Sexual Assault Severity and Mental Health

Sexual assault severity (operationalized as rape vs. other type of assault) failed to demonstrate unique effects with mental health outcomes and also failed to moderate the association between self-compassion and mental health. It had been hypothesized that

participants who experienced rape may actually derive greater benefits from self-compassion than the survivors of non-rape assaults because of literature indicating that greater/more severe stressors tend to amplify the benefits of self-compassion in trauma-based samples (Kaurin et al., 2018). The failure of sexual assault severity to moderate the association between self-compassion and mental health thus follows the pattern found in the stressful event exposure interactions. However, a lack of moderation can be interpreted as a positive sign; self-compassion was as effective for survivors of rape as it was for survivors of attempted rape or forcible touching in reducing internalizing symptoms.

Implications for Research and Practice

Research

Results from the current study have a variety of implications for further research. Clearly, self-compassion was protective for this group of sexually assaulted young people; the more self-compassion participants reported, the better their mental health. Therefore, researchers may want to consider integrating self-compassion exercises into existing trauma treatment protocols to see whether this yields either quicker, more enduring, or more robust shifts in mental health outcomes. Researchers have found that coaching depressed individuals in self-compassion can facilitate cognitive reappraisal of depressive thoughts (Diedrich et al., 2016), thus amplifying the effects of standard cognitive-behavioral treatment. This suggests that researchers should attend to the sequence or timing of their self-compassion exercises to determine whether self-compassion is most useful at various points in treatment or should be cued prior to standard trauma treatment activities.

Other research has found that self-compassion exercises focused on general life stress can reduce post-traumatic distress without being focused on participants' specific traumas (Au et al.,

2017). Self-compassion can also increase in response to intervention (Allen et al., 2020; Au et al.). Combined with the protective effects of self-compassion found in the current study, this research suggests that researchers may want to explore how to implement self-compassion exercises as a trauma-informed strategy for tier 1 SEL curricula at the college level. That is, all college students would likely benefit from self-compassion exercises and students with sexual assault histories may actually experience a drop in distress related to their sexual assaults in response to general self-compassion interventions (e.g., Au et al., 2017).

The current study found that self-judgment had a stronger association on mental health than self-tolerance. Given this, researchers may want to explore the relationship between changes in the components of self-compassion in response to self-compassion focused interventions, and changes in internalizing symptoms. This may help clarify how self-compassion responds to intervention, and whether increases in self-tolerance yield changes in self-judgment, or the other way around. It may be interesting to examine if it is even possible to increase one's self-tolerance without reducing self-judgment. This in turn would yield more effective interventions for sexual assault survivors by allowing clinicians to tailor self-compassion exercises to their unique needs. For instance, Au et al.'s (2017) study on change in self-compassion overtime in interpersonal trauma survivors found that increasing self-compassion was associated with significantly reduced shame, self-blame, distress, and PTSD. However, Au and colleagues used the total score of the SCS and were thus unable to determine what was really driving change (changes in self-tolerance or self-judgment). The current study suggests that decrease in self-judgment might have been the driving change in improvement, though this would need to be tested.

The current study did not find any moderators of the self-compassion-mental health association. However, this does not mean that no moderators exist. It may be that the effectiveness of self-compassion as a resiliency tool really does differ across groups or depends on other resiliency variables and coping resources. The development of self-compassion is deeply rooted in early caregiving and social experiences, and children who were raised in abusive and self-critical environments are therefore more likely to struggle with self-compassion, and even to be fearful of it (Gilbert, 2006; 2017). Given this, researchers may want to study whether fear of self-compassion or childhood abuse histories actually moderate the effectiveness of self-compassion interventions for sexual assault survivors. Given how beneficial self-compassion was for survivors of sexual assault in the present study, it seems important to systematically study what might prevent self-compassion interventions from being accepted or useful for this population.

Practice

The current study indicates that self-compassion is associated with less internalizing symptoms for survivors of rape and non-rape forms of sexual assault, and for young men and women. Results suggest that self-compassion is associated with less internalizing symptoms regardless of other sorts of stressors young adult survivors may be exposed to. This suggests that clinicians can be relatively confident in using self-compassion focused interventions with men and women, and for survivors of different types and degrees of sexual assault. The fact that self-compassion was more strongly associated with mental health outcomes than social support suggests that self-compassion may be especially useful for sexual assault survivors. Indeed, while social support can be an important source of resilience of sexual assault survivors, it is not uncommon for assault survivors to feel either unable to share about their experience, or that

disclosure does not result in the sort of support they were hoping for (Bhuptani et al., 2018). The current study indicates that self-compassion may help counteract the risks associated with social isolation/lack of social support or shaming and inadequate social support from peers or family. This suggests that self-compassion focused interventions may help cultivate a sense of internal warmth, strength and acceptance, regardless of the quality of social support a young person has access to.

Limitations

The present study was limited because it was a secondary data analysis, was correlational in nature, and because some variables of interest may have been better captured using different measurement tools. These limitations will be described further below.

Measurement Challenges

Self-compassion was the focal variable, however the Resilience Lab modified that the Self-Compassion Scale-Short Form so that participants responded on a 7-point Likert scale rather than a 5-point scale. In addition, the Resilience Lab altered the SCS-SF so that participants were asked to reflect on how much they agreed with the self-compassion items, rather than how frequently they practiced being self-compassionate. This means that any norms associated with the SCS-SF do not apply to the current study. It was therefore impossible to determine the significance of participants' self-compassion in a clinical sense, or in comparison to established norms. While the changes to the SCS-SF were slight, it is also possible that a different pattern of results could have been found had the SCS-SF been used with its original language intact. Thus, it is relatively harder to generalize from the results of this study to the pre-existing body of literature on self-compassion. However, the general concordance of the findings in this study with previous literature (e.g., Close, 2013) suggests that this is not a major issue.

In addition to the modification to the SCS-SF, the current study only measured internalizing symptoms as the proxy of mental health outcomes and did not measure symptoms of PTSD or post-traumatic stress specifically. There is a strong association between sexual assault and symptoms of post-traumatic stress (Dworkin et al., 2017), and it would have been useful to examine the association between self-compassion and post-traumatic stress symptoms, if feasible. However, because the larger University of Washington Resilience Lab study did not examine post-traumatic stress, a measure reflecting these symptoms was unavailable for the current study.

The current study used the Brief Resilient Coping Scale (BRCS) as its coping measure, and coping failed to either predict mental health or to moderate self-compassion. It is possible that either a longer and broader active coping measure, or one targeted to sexual assault survivors more specifically, would have yielded significant results. The BRCS measures internal locus of control and stress coping beliefs associated with active coping, however a measure of perceived control over the sexual assault recovery process might have better captured the adaptive nature of active coping as it applies to sexual assault. This in turn, might have increased the likelihood of coping predicting mental health in the current study.

Another measurement challenge of the present study was its failure to control for childhood sexual abuse. Childhood sexual abuse is one of the most significant predictors of sexual assault in college (Carey et al., 2018) and is associated with enduring mental health challenges (Hailes et al., 2019). Therefore, when feasible, researchers studying college sexual assault control for childhood sexual abuse to isolate the unique effects of college sexual assault on mental health outcomes (Carey et a., 2018). However, the larger Resilience Lab study that is the basis for the current study did not include any measure of childhood sexual abuse. For this

reason, it is possible that mental health in the aftermath of college sexual assault was confounded with the ongoing mental health consequences of childhood sexual abuse for some participants.

Structural Limitations

The present study is correlational in nature, as participant mental health was only measured in the same quarter in which participants reported a sexual assault. This challenges causal inference because bidirectional influences cannot be ruled out. Self-compassion was conceived as the independent variable for theoretical reasons and because this is aligned with previous literature (e.g., Hamrick & Owens, 2019; Strickland et al., 2019). However, it is also possible that self-compassion was not predicting reduced internalizing symptoms so much as greater internalizing symptoms were influencing self-compassion. The study may have benefited from controlling for baseline levels of mental health challenges and using a longitudinal structure to address this issue. At the same time, other researchers have been able to address these methodological weaknesses and have indeed found that self-compassion continues to predict mental health outcomes (e.g., Zeller et al., 2015). This prior research supports the results of the current study.

Future Directions for Research and Practice

Future Research

Future research on self-compassion and college student sexual assault survivors should control for childhood sexual abuse, be longitudinal in structure, control for baseline mental health problems, and use a standard (non-altered) version of the SCS or SCS-SF. It may also benefit future researchers to use longer and more internally consistent measures of coping. Future researchers may want to continue to study the relative importance of self-compassion in interaction with other protective variables, and with other protective variables controlled for.

This will deepen researchers' understanding of the relative importance of self-compassion in resilience when compared to other protective factors. Future researchers may want to use statistical models better suited to inferring causality, such as SEM and longitudinal prospective research.

It may also be worthwhile to conduct more qualitative studies on the role of self-compassion in resilience for college students who have experienced recent sexual assaults. This would enable researchers to have a deeper understanding of exactly how self-compassion manifests in the lives of survivors struggling with recent assaults, which may help develop interventions or yield avenues for future quantitative analysis.

The present study did not examine self-compassion in sexual assault survivors who identify as GLBTQ, nor did it examine self-compassion as it differs by cultural or racial group. The decision to forgo these analyses was rooted in preliminary analyses indicating that neither GLBTQ status nor race were significant predictors of outcomes. At the same time, this does not mean that self-compassion does not function differently or have a different meaning for members of different marginalized identities in the context of sexual assault. This would be an important avenue for future research.

While self-compassion focused interventions for a variety of mental health challenges are gaining in popularity (Neff & Germer, 2013), self-compassion interventions for sexual assault survivors specifically continue to be under-researched. While the present study suggests that it may be warranted to incorporate self-compassion focused interventions into treatments for sexual assault survivors, more research focused on the benefits of self-compassion as a treatment tool for this population needs to be conducted. This research may want to compare standard trauma treatments with self-compassion added to standard treatments without self-compassion

exercises. Future researchers may also want to examine whether self-compassion is more beneficial for some subsets of sexual assault survivors than others; there is the potential that self-compassion interventions may be more or less acceptable to sexual assault survivors depending on their current life circumstances, comorbid mental health conditions, or childhood histories.

Future Practice

It may be useful for school psychologists to learn about the benefits of self-compassion for sexual assault survivors, particularly because they are more likely to be involved in creating and managing social emotional learning (SEL) curricula for youth. Psychologists in general may benefit from receiving further training on the potential role of self-compassion focused interventions in trauma treatment. While exposure-based interventions are very important in the treatment of sexual assault survivors (Foa et al., 2013), the current study suggests that learning strategies to enhance self-compassion may play a valuable role in the treatment of trauma.

Conclusion

The adjustment to the first year of college is both an exciting and stressful time for young people. There are a variety of stressful or traumatic events which can complicate the adjustment to college and impede the development of well-being and resilience. Sexual assault is one of these traumatic events and is one that young women are particularly likely to experience (Carey et al., 2015; Overstreet et al., 2017). Sexual assault has been associated with increased risk of almost all forms of psychopathology (Dworkin et al., 2017; Dworkin, 2018), and, in comparison to other types of traumas, is common on college campuses (Fedina et al., 2016). There is a long tradition within psychology of studying the risk factors that exacerbate psychopathology and which increase the risk for negative outcomes after sexual assault (e.g., Dunmore et al., 2001).

Frequently, this has involved studying the effects of trauma in clinical rather than in general populations (Bonanno, 2004). This may overemphasize the frequency and severity of psychopathology and under-emphasize the frequency of resilience (Bonanno, 2004).

The present study examined whether self-compassion would be protective for young adults who had recently experienced sexual assault in their first year of college. The study focused on a general sample of students to gain a better understanding of how resilience and risk manifest in individuals who are relatively higher functioning (e.g., non-referred/non-clinical). Rather than focusing exclusively on risk factors, the current study was able to examine protective factors associated with resilience. Self-compassion has been found to be a protective factor for a variety of populations, among them college students in their first year of college (Hope et al., 2014; Terry et al., 2013) and survivors of trauma (e.g., Maheux & Price, 2016; Seligowski et al., 2015; Zeller et al., 2015).

In the current study, more self-compassionate students reported better mental health, as measured by internalizing symptoms, than less self-compassionate students, adding further evidence to the literature base on coping skills which are protective in the face of trauma. In addition to this result, self-compassion had a stronger effect on outcomes than social support and was able to negate the increased risk for internalizing symptoms associated with being female. Self-judgment was more strongly associated with mental health outcomes than self-tolerance, suggesting that for sexual assault survivors, low levels of self-judgment may be more important than high levels of self-tolerance. Self-compassion was effective in supporting mental health for students with varying levels of other stressors in their lives, and for both survivors of rape and non-rape forms of sexual assault. The totality of the results indicate that self-compassion may be

a potent protective factor for young sexual assault survivors, and that interventions to enhance self-compassion for all college students may have specific benefits for this population.

The first year of college is a stressful time even without experiencing sexual assault. Traumatic events that young adults experience become core aspects of their life stories. Self-compassion may help young adults develop life stories that make space for pain while facilitating resilience. In the words of one sexual assault survivor, “the better you get at being self-compassionate, the less you feel like you are drowning.” (Dicks, 2014, p. 76).

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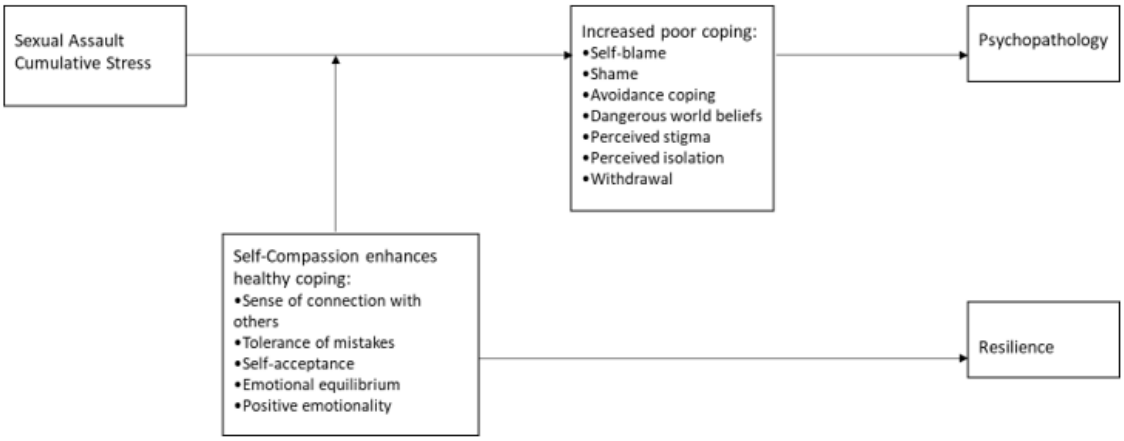
Figure 1

Model Depicting Relationship Between Sexual Assault, Stressful Event Exposure, and Psychopathology, and how Self-Compassion can Yield Resilience



Note. Figure depicts how sexual assault and stressful event exposure can increase psychopathology by increasing negative emotionality and unhealthy coping, and how self-compassion can mitigate the mental health consequences of sexual assault by increasing healthy coping, which ultimately yields resilience.

Table 2

Descriptives and Zero-Order Correlations

Measure	*M*	*(SD)*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
Outcomes													
1. Mental Health	1.37	(0.85)	--										
Predictors													
2. Sex	0.79	(0.41)	.14	--									
3. Assault Quarter	0.43	(0.50)	.10	.02	--								
4. Age	19.73	(1.82)	.07	-.16	-.13	--							
5. Social Support	3.68	(0.74)	-.38 **	.16	.03	-.11	--						
6. Stress. Event Exp.	18.03	(4.60)	.37 **	-.07	-.24 **	.24 **	-.38 **	--					
7. Self-Compassion	3.83	(0.76)	-.53 **	-.23 **	.12	-.01	.25	-.16	--				
8. Self-Judgment	4.95	(1.00)	.48 **	.28 **	-.12	.08	-.07	.12	-.81 **	--			
9. Self-Tolerance	4.61	(0.92)	-.34 **	-.08	.08	.07	.33 **	-.14	.77	-.25 **	--		
10. Resilient Coping	3.62	(0.73)	-.27 **	-.06	.10	.04	.25 **	-.14	.43 **	-.15	.55 **	--	
11. Assault Severity	0.34	(1.81)	.14	-.19 *	.01	.09	-.24 **	.29 **	-.16	-.10	-.14	-.08	--

Note. N=140. Stressful Event Exposure (Stress. Event Exp.) exposure to stressful life events over previous quarter; Self-Tolerance and Self-Judgment are subscales of the Self-Compassion Scale-Short-Form and reflect the positive and negative components of the scale, respectivelly; Assault Severity is dummy coded and reflects rape (1) vs. general sexual assault (0); Sex is dummy coded (female =1); Assault quarter is dummy coded (fall =1).

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3

Multiple Linear Regression with Sequential Predictor Entry of Unique Relationship between Self-Compassion and Mental Health

	Block 1					Block 2					Block 3				
	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2
Model Fit	0.04	0.04	0.02			0.23 ***	0.27 ***	0.25			0.17 ***	0.44 ***	0.42		
Coefficients															
Intercept				1.29 ***					1.27 ***					1.35 ***	
Sex				0.17	0.02				0.22 ***	0.04				0.09	<.01
Assault Quarter				0.09	0.01				0.15 *	0.03				0.19 ***	0.05
Age				0.10	0.01				0.02	<.01				0.02	<.01
Social Support									-0.25 ***	0.07				-0.15 *	0.03
Stress. Event Exp									0.26 ***	0.07				0.24 ***	0.06
Self-Compassion														-0.38 ***	0.17

Note. N=140. Block 1 F-change test df = 3, 136; Block 2 df = 2, 134; Block 3 df = 1, 133.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 4

Multiple Linear Regression with Sequential Predictor Entry of Unique Contributions of Self-Compassion Subscales to Mental Health

	Block 1					Block 2					Block 3					Block 4				
	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2
Model Fit	0.04	0.04	0.02			0.23 ***	0.27 ***	0.25			0.17 ***	0.44 ***	0.42			0.02 *	0.44 ***	0.42		
Coefficients																				
Intercept				1.29 ***					1.27 ***					1.35 ***					1.36 ***	
Sex				0.17	0.02				0.22 ***	0.04				0.08	<.01				0.07	<.01
Assault Quarter				0.09	0.01				0.15 *	0.03				0.19 ***	0.04				0.19 ***	0.05
Age				0.10	0.01				0.02	<.01				-0.01	<.01				0.00	<.01
Social Support									-0.25 ***	0.07				-0.22 ***	0.06				-0.18 ***	0.03
Stress. Event Exp.									0.26 ***	0.07				0.23 ***	0.06				0.23 ***	0.06
Self-Judgment														0.37 ***	0.17				0.34 ***	0.14
Self-Tolerance																			-0.12 *	0.02

Note. N=140. Block 1 F-change test df = 3, 136; Block 2 df = 2, 134; Block 3 df = 1, 133; Block 4 df = 1, 132.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 5

Multiple Linear Regression with Sequential Predictor Entry of Moderating Effects of Stressful Event Exposure and Resilient Coping on Mental Health

	Block 1					Block 2					Block 3					Block 4				
	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2
Model Fit	0.04	0.04	0.02			0.16 ***	0.20 ***	0.18			0.24 ***	0.44 ***	0.41			0.01	0.45 *	0.40		
Coefficients																				
Intercept				1.24 ***					1.25 ***					1.35 ***					1.33 ***	
Sex				0.17	<.01				0.23 ***	0.04				0.09	0.01				0.10	0.01
Assault Quarter				0.09	0.01				0.10	0.01				0.19 ***	0.05				0.20 ***	0.05
Age				0.10	0.01				0.07	<.01				0.02	<.01				0.02	<.01
Social Support									-0.35 ***	0.16				-0.15 *	0.02				-0.15 *	0.02
Cumulative Stress														0.24 ***	0.06				0.27 ***	0.06
Self-Compassion														-0.37 ***	0.14				-0.37 ***	0.14
Resilient Coping														-0.02	<.01				-0.02	<.01
StressEvent*SC																			-0.07	<.01
StressEvent*RC																			0.06	<.01
RC*SC																			0.03	<.01
RC*StressEvent*SC																			-0.03	<.01

Note. N=140. Block 1 F-change test df = 3, 136; Block 2 df = 1, 135; Block 3 df = 3, 132; Block 4 df = 4, 128. RC = Resilient Coping; SC = Self-Compassion; StressEvent = Stressful Event Exposure

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 6

Multiple Linear Regression with Sequential Predictor Entry of Moderating Effects of Sexual Assault Severity on Mental Health

	Block 1					Block 2					Block 3					Block 4				
	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2	R^2_{change}	R^2_{total}	R^2_{adj}	*b*	sr^2
Model Fit	0.04	0.04	0.02			0.23 ***	0.27 ***	0.25			0.17 ***	0.44 ***	0.41			0.00	0.44 *	0.41		
Coefficients																				
Intercept				1.29 ***					1.27 ***					1.35 ***					1.35 ***	
Sex				0.17	0.02				0.22 ***	0.04				0.09	0.01				0.10	0.01
Assault Quarter				0.09	0.01				0.15 *	0.03				0.19 ***	0.05				0.19 ***	0.05
Age				0.10	0.01				0.02	<.01				0.02	<.01				0.03	<.01
Social Support									-0.25 ***	0.07				-0.15 *	0.02				-0.16 *	0.03
Stress. Event Exp.									0.26 ***	0.07				0.23 ***	0.05				0.23 ***	0.06
Self-Compassion														-0.38 ***	0.17				-0.38 ***	0.17
Assault Severity														0.02	<.01				0.02	<.01
SC*AS																			-0.04	<.01

Note. N=140. Block 1 F-change test df = 3, 136; Block 2 df = 1, 135; Block 3 df = 3, 132; Block 4 df = 4, 128. SC= Self-Compassion; AS = Assault Severity.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.