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Interpersonal Trauma, Adult Attachment, and Self-Compassion: A Relational Model of Shame

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INTERPERSONAL TRAUMA, ADULT ATTACHMENT,
AND SELF-COMPASSION: A RELATIONAL
MODEL OF SHAME

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ABSTRACT

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The purpose of the present study was to examine the interrelationships among cumulative interpersonal trauma (IPT), the dimensions of adult attachment anxiety and avoidance, self-compassion, and shame based on an integrative theoretical framework in a sample of undergraduate students ($N = 310$). The results of this structural equation modeling analysis with bootstrapping supported the primary model which showed that higher degrees of exposure to IPT in childhood, adolescence, and the first two years of emerging adulthood directly related to increased levels of attachment anxiety and avoidance as well as decreased levels of self-compassion. The findings further demonstrated that higher levels of attachment anxiety directly related to increased shame, and higher levels of attachment avoidance and self-compassion directly related to decreased shame. Together, these constructs explained over half of the total variance in self-reported shame in the present sample. The results of this study reinforced the powerful potential of considering both intra- and interpersonal postures of relating to inform strengths-based, resiliency-focused, and preventative interventions with young adult survivors of interpersonal trauma who experience shame. Implications for professionals working with these emerging adults are discussed.

Key words: Trauma, Adult Attachment, Self-Compassion, Shame, Structural Equation Modeling (SEM)

memories of these past six years with me. Sara and Tricia: You were my first windows into dissertation defenses and graduating from Ph.D. programs. Thank you for nourishing the hope that I would make it, too. For my honorary Counselor Education and Supervision cohort: I feel incredibly grateful that you made room for me in practicum; I am a more whole person and professional because of our time together. Dr. Jenni: Our friendship was the best surprise of my graduate program. Your presence eased the aloneness of writing, and the conversations we share are a precious exhale. Diane, Gloria, and Roberta: Your genuine care for students, for me, made the main office my favorite place in McKee. To the internship community who embraced me in my final year: Thank you for being even more than I knew to hope for.

Lastly, this project reflects the love I inherited from my families. You are who I come from and will always be part of me. For my first family: Thank you for the gifts of letting me go and allowing me to return. For knowing what I was capable of and being in it for the "forever and always." For becoming a reason behind so much of what I do. To my chosen family: Thank you for embodying home. Jenny, ABD: Your thoughtfulness became a bridge from where I began to where I am; you showed me that I could be part of academia while remaining connected to my "before." Karen: We have traversed countless miles since we both moved to Colorado, and I feel fortunate that my first moments here of feeling like me were with you. Laura and Karen: Thank you for the kind of connection that weathers change and loss and distance – that renders no aspect of the human condition unspeakable or untouchable. Em: We found our way back to each other after a decade of living apart. Being together again finally made home a place. Ann: One of my favorite words is cotidiana; you are a master at this everyday love – the showing up for people in ways that make life more livable. Jenn: You taught me more about what it means to be fully human than perhaps anyone. Thank you for witnessing me, for being with me through

the delightful, devastating, and mundane moments of the recent years. You are my "program partner" and the sibling I did not know I was missing. For jb whose nurturing allowed me to soften into the person I have been all along: Thank you for choosing me, for becoming the therapist I needed, and for a transformative year. To the natural areas and wilderness where I have always gone to be myself: I treasure the experiences of smallness, wonder, and adventure. Finally, in recognition of the fierce and tender parts of me that consistently carry me forward: Thank you for believing I was worth this journey.

DEDICATION

This dissertation is dedicated to "my Jenny,"

whose love made these ideas real for me,

and to my grandma, Betty Sauder,

who will always be one of the great loves of my life.

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CHAPTER I

INTRODUCTION

Exposure to interpersonal trauma has become nearly ubiquitous to the human experience

and is associated with a variety of negative outcomes targeted in counseling (Kessler et al., 2017;

Stoltenborgh et al., 2015; Wilson et al., 2006). Interpersonal trauma (IPT) is a subset of the

broader construct of trauma referring to "traumatic events in which an individual is personally

assaulted or violated by another human being that is either known or unknown to the trauma

survivor" (Lilly & Valdez, 2012, p. 140). It is associated with an increased risk of negative

physical and mental health outcomes in comparison to both impersonal trauma and lack of

exposure to trauma (Kilpatrick et al., 2013; López-Martínez et al., 2018). In a nationally

representative sample ($N = 2,953$), the majority of adults in the United States reported

experiencing at least one IPT during their lifetime with the modal number of IPTs endorsed

being three (Kilpatrick et al., 2013). Thus, cumulative exposure to these events and their

compounding consequences represent a significant global and national public health concern

(Kilpatrick et al., 2013; Magruder et al., 2017; Messina et al., 2007).

Given developmental stage and life circumstances, college-aged individuals are

considered particularly vulnerable to experiencing IPT victimization/revictimization and

struggling to cope with the associated negative physical and psychological outcomes (Berenz et

al., 2016; Boyraz et al., 2016; Goldsmith et al., 2012; Walsh et al., 2012). Over half of a non-

clinical sample of college students in the United States endorsed experiencing at least one

interpersonally traumatic event that met the fifth edition of the *Diagnostic and Statistical Manual*

(DSM-5; American Psychiatric Association [APA], 2013) traumatic stressor criterion (Elhai et al., 2012); in a similar sample of first year college students, just under half (45.9%) of those who reported exposure to a traumatic event indicated experiencing multiple traumas (Boyraz et al., 2016). Moreover, research indicating that events not satisfying the diagnostic traumatic stressor criterion may also be traumatic and lead to an identical sequela of symptoms (APA, 2017; Weathers & Keane, 2007) suggests that the rates of college-aged individuals who may be suffering as a result of IPT could be even higher than recorded estimates. The negative consequences of highly prevalent exposure to IPT among college students include potentially life-threatening conditions such as eating disorders, substance abuse, and suicidality (Tasca et al., 2013; Wilson et al., 2006) as well as life-altering or impairing situations such as educational attrition, deterioration of physical health, and other types of psychopathology (Boyraz et al., 2016; Elhai et al., 2012; Goldsmith et al., 2012). Among these negative outcomes, IPT also is directly linked to an increased experience of negative affect such as shame (Badour et al., 2017).

Shame is considered to be an acutely painful emotion involving a negative evaluation of the self as bad or unworthy (Lewis, 1971). Tangney and Dearing (2002) conceptualize shame as having both interpersonal and intrapersonal aspects and differentiate shame from guilt, a similar self-conscious affect, through their respective foci: self versus behavior. Shame is described as the experience of *being bad* while guilt is the feeling associated with *doing something bad*. In contrast to guilt, shame is uniquely associated with many psychological concerns such as posttraumatic stress symptoms, depression, and anxiety (Badour et al., 2017; Tangney & Dearing, 2002). In college student samples, shame is also connected to problematic alcohol consumption, use and abuse of other substances, nonsuicidal self-injury, and suicidality (Patock-Peckham et al., 2018; VanDerhei et al., 2014; Wilson et al., 2006). In some studies, shame is

implicated as a mediator between distal factors such as IPT and psychological and physical distress (e.g., Mereish & Poteat, 2015). Thus, interpersonal trauma and shame—regarded separately and together—represent considerable risks to well-being in contemporary college student populations, which is further exacerbated by an understaffing of many university counseling centers attributed to increasing numbers of students seeking services and acuity of concerns where students face shorter session limits, longer waitlists, and a greater likelihood of referral to off-campus providers (Prince, 2015).

However, relatively little is known about the relational mechanisms underlying this relationship between IPT and shame. Understanding these underlying factors as well as the resiliency factors that influence this relationship may provide viable intervention options for decreasing the associated risks described above. Secure adult attachment and self-compassion are identified as resiliency factors that mediate the negative impact of trauma in young adults (Maximo & Carranza, 2016; Neff & McGehee, 2010). Attachment relationships are those characterized by strong emotional intimacy and bonding through which individuals internalize a view of themselves in relation to others and develop expectations for future relationships (Bowlby, 1969). In adulthood, secure attachment is an orientation toward viewing the self, others, and relationships positively (Brennan et al., 1998). Adults who experience secure attachments view themselves as worthy of connection and seek support when distressed (Rubino et al., 2000); consequently, interventions focused on increasing and generalizing secure attachments are important avenues for treating the negative evaluations of self in relation to others and feelings of unworthiness associated with shame in psychotherapy (Teyber & Teyber, 2017) that may have resulted from IPT. Similarly, self-compassion is an orientation toward relating with oneself kindly in response to painful experiences, recognizing these experiences as

a shared aspect of being human, and mindfully holding them in awareness (Neff, 2003a). Interventions enhancing self-compassion can be used to reduce feelings of shame (Johnson & O'Brien, 2013) based on past IPT. In this way, adult attachment and self-compassion both represent relational constructs addressing an individual's posture toward interacting with others and oneself which further correspond to the inter- and intrapersonal features of IPT-related shame (Tangney & Dearing, 2002).

Past research independently provides evidence for links between each of the constructs discussed: IPT, attachment, self-compassion, and shame. It supports a positive relationship between experiencing IPT and shame, where greater exposure to IPT is related to increases in shame (Badour et al., 2017; Hoglund & Nicholas, 1995). Increased frequency and more types of IPT are associated with higher insecure attachment as well as lower self-compassion (Bistricky et al., 2017; Huang et al., 2017; Styron & Janoff-Bulman, 1997). In contrast, secure attachment and self-compassion both are inversely related to lower shame (Woods & Proeve, 2014). However, no study has been identified that has integrated attachment theory and self-compassion theory to examine these relationships simultaneously in order to understand better the resiliency factors associated with IPT and shame. Doing so may provide invaluable information regarding the significance of each of these associations, the mediational roles of attachment and self-compassion on the relationship between IPT and shame, and the development of interventions for survivors of trauma to reduce or prevent the substantial risks associated with IPT exposure and shame.

Theoretical Frameworks

Attachment Theory

John Bowlby (1951, 1969), a British psychoanalyst, is credited with developing

attachment theory, a theoretical explanation for connections between an individual's cumulative

relational experiences, especially their early experiences with caregivers, and their lasting

relational patterns. He asserted that the bond formed between an infant and primary caregiver

serves as the foundation for developing internal working models (IWMs) of the self in relation to

others and the world (Bowlby, 1969). In other words, an individual's early experiences with

close others are internalized to form a lens through which they experience subsequent

relationships by shaping their views of themselves (e.g., worth to relationship partners and

lovability) and expectations of others (e.g., availability of support) in the context of interpersonal

relating (Mikulincer & Shaver, 2016). The patterns in their approach to relationships are referred

to as attachment styles which can be categorized broadly into secure or insecure and are

considered to be relatively stable into adolescence and adulthood (Bowlby, 1973; Mikulincer &

Shaver, 2016). Thus, disruptions in early relationships such as those associated with IPT and

abuse may have lasting impact by increasing relational insecurity throughout the lifespan which,

in turn, is theorized to correlate directly with the emotional, cognitive, and behavioral

components of shame-proneness (Bowlby, 1969).

Hazan and Shaver (1987) identified parallels between the early attachment relationships

that were the exclusive focus of initial attachment-related research (e.g., Ainsworth et al., 1978;

Main & Solomon, 1986) and adult romantic relationships. Despite acknowledging differences

between infant-caregiver relationships and romantic relationships in adulthood (see Shaver et al.,

1988), Hazan and Shaver contended that both essentially involved the same attachment processes

resulting in the formation of an attachment bond. They further theorized that the attachment styles observed from childhood could be translated into corresponding attachment styles in adulthood (Hazan & Shaver, 1987), thus, bridging stages of development and articulating how attachment processes may affect human beings "from the cradle to the grave" as Bowlby (1979, p. 129) initially asserted. Other researchers built on this bridge by expanding the observation of attachment styles to other adult relationships such as with peers, supporting inclusive language within adult attachment instruments to inquire about relational trends with 'a close other' (Fraley et al., 2000).

In adulthood, modern conceptualizations of attachment style are organized based on two orthogonal dimensions representing varying levels of dichotomous traits: attachment anxiety, which represents fear of interpersonal rejection or abandonment, and attachment avoidance, which refers to discomfort with closeness and dependence on others to meet emotional needs (Brennan et al., 1998). This system of measuring attachment began with Bartholomew and Horowitz's (1991) categorization of four attachment styles based on an individual's views of the self and others. They classified individuals with a positive view of both the self and others as secure and those with a negative view of the self and others as fearful while referring to individuals with a negative view of the self only as preoccupied and those with a negative view of others only as dismissing (Bartholomew & Horowitz, 1991). When Brennan et al. (1998) adapted this model, they utilized attachment anxiety to represent a negative view of the self and attachment avoidance to represent a negative view of others. Figure 1 provides a visual representation of the orthogonal model of attachment that was used in the current study (Brennan et al., 1998).

Figure 1

Model of Adult Attachment Recreated from Mikulincer and Shaver (2016)

High Avoidance

Dismissing   Fearful

Low Anxiety   High Anxiety

Secure   Preoccupied

Low Avoidance
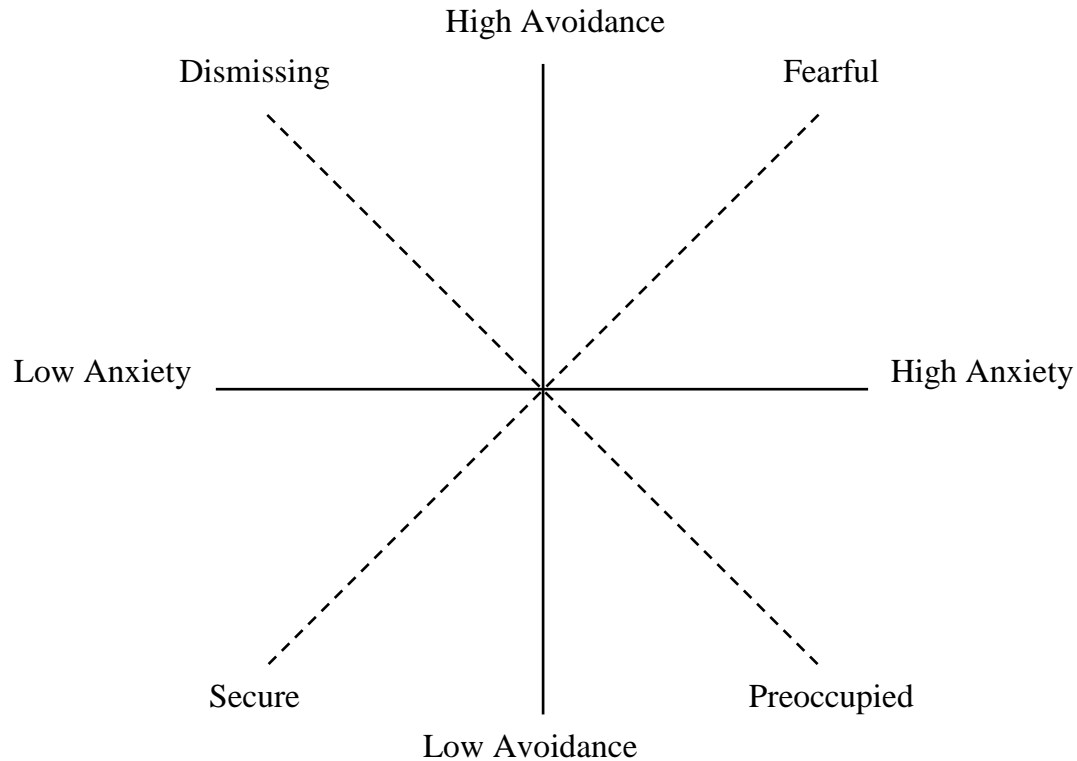
Self-Compassion Theory

While attachment can be considered primarily a theory of interpersonal relating based on

an internalized model of the self in relationship with others and the world, self-compassion has

been understood as a theory of intrapersonal relating, or an individual's posture toward relating

with oneself. Kristin Neff (2003a) identified a tendency for individuals to be harsher with

themselves than with others and articulated an alternative posture to approach oneself,

particularly in times of difficulty. Thus, she defined self-compassion as the following:

> When faced with experiences of suffering or personal failure, self-compassion entails
>
> three basic components: (a) self-kindness - extending kindness and understanding to

oneself rather than harsh judgment and self-criticism, (b) common humanity - seeing one's experiences as part of the larger human experience rather than seeing them as separating and isolating, and (c) mindfulness - holding one's painful thoughts and feelings in balanced awareness rather than over-identifying with them. (Neff, 2003a, p. 89)

Neff (2003a) further theorized that individual differences in self-compassion, as with individual differences in attachment styles, form through the internalization of early relational experiences. For example, children who experienced empathy, compassion, and tenderness from others throughout childhood would be more likely to demonstrate increased self-compassion as adults; children who did not experience interactions characterized by compassion and/or who experienced interpersonal trauma and abuse would likely exhibit low self-compassion (Neff, 2003a). Neff, in turn, hypothesized that self-compassion would be inversely correlated with shame-proneness, where individuals who demonstrated high self-compassion would experience less shame given the potential role of self-compassion in regulating the self-conscious emotion, negative cognitive evaluation, and behavioral avoidance comprising shame. Thus, cumulative experiences of IPT may have a lasting impact by shaping an individual's posture (i.e., affective experience, cognitive beliefs, and behavioral tendencies) toward relating with oneself, including the individual's capacity to modulate self-conscious experiences such as shame.

Theoretical Integration

In seminal conceptualizations of shame, Lewis (1971) and Tangney and Dearing (2002) defined shame as a negative evaluation of the self in the context of relating. They identified both interpersonal and intrapersonal aspects of an individual's experience of shame. Adult attachment theory corresponds to the interpersonal nature of shame by providing a conceptualization of an

individual's posture, or tendencies, toward relating with others based on an internal working model of beliefs about the self and others/the world in regard to interpersonal relating (Bowlby, 1969). For example, individuals who are insecurely attached may believe that they are unworthy of connection (oneself) and that others will reject them if they seek support (others/the world). Thus, attachment theory provides an explanatory connection between internalized relational experiences such as IPT and shame through experiential, cognitive, and behavioral tendencies regarding interpersonal relating. In conjunction, self-compassion theory corresponds to the intrapersonal nature of shame by offering a conceptualization of an individual's posture, or tendencies, toward relating with oneself (Neff, 2003a). Individuals who exhibit low self-compassion demonstrate greater self-criticism (i.e., negative evaluations of the self), isolation (e.g., "I am alienated by my experiences"), and overidentification (e.g., "I feel bad; therefore, I *am* bad"). Self-compassion theory provides a complementary explanatory link between internalized relational experiences such as IPT and shame through experiential, cognitive, and behavioral tendencies regarding intrapersonal relating. While attachment theory incorporates general views of the self and others in the context of interpersonal relating, self-compassion describes specific essential factors related to the self and others in the context of intrapersonal relating such as the three dimensions: self-kindness versus self-criticism, common humanity versus isolation, and mindfulness versus overidentification.

Adult attachment and self-compassion are related through the overlap in mechanisms of development, namely early relational experiences. This interconnectedness is demonstrated by research correlating attachment styles with self-compassion (e.g., Joeng et al., 2017). The shared theoretical origins and intercorrelations have led many researchers to hypothesize a causal, developmental relationship from early experiences to attachment styles to self-compassion (e.g.,

Neff & McGehee, 2010; Pepping et al., 2015; Raque-Bogdan et al., 2011). In fact, multiple cross-sectional studies have demonstrated a mediational role of self-compassion on the relationship between attachment style and other physical and mental health outcomes (e.g., Homan, 2018; Mackintosh et al., 2018; Raque-Bogdan et al., 2011). In one study, experimentally enhancing state attachment security using security priming led to increases in state self-compassion (Pepping et al., 2015). However, multiple published studies failed to demonstrate a relationship between avoidant attachment and self-compassion (e.g., DeVille et al., 2015; Neff & McGehee, 2010; Pepping et al., 2015). Furthermore, a recent study aimed at experimentally increasing both attachment security and self-compassion revealed a significant increase in secure attachment that was mediated by changes in self-compassion (Navarro-Gil et al., 2018). While the theories complement each other in explaining connections between early relational experiences and the inter- and intrapersonal aspects of shame and while the constructs of attachment and self-compassion are linked in previous literature, the precise nature of their relationship remains controversial and lacks clarity.

Study Rationale and Purpose

The reach of exposure to IPT is extensive, touching the majority of adults in the U.S. population (Kilpatrick et al., 2013). By emerging adulthood, over one-half of a non-clinical sample of undergraduate students report experiencing at least one IPT (Elhai et al., 2012) with just under half of a similar sample who reported exposure to trauma indicating experience of multiple traumatic events (Boyraz et al., 2016). Individuals who may represent a university's most vulnerable subgroups by holding at least one historically marginalized identity (e.g., sexual and gender minority identities, racial and ethnic minority identities) report experiencing even higher levels of exposure (Bistricky et al., 2017; Mereish & Poteat, 2015). The results of

previous studies support a dose-response conceptualization of cumulative trauma exposure where the more frequent, varied, and severe the experiences are, the greater the self-reported symptoms tend to be (e.g., Messina et al., 2007; Steine et al., 2017). One consequence associated with surviving IPT is the powerful, nearly universal, intra- and interpersonal human experience of shame (Tangney & Dearing, 2002). There are clear connections in the literature between experiencing IPT and shame, respectively, and a variety of significant and potentially life-threatening physical, psychological, and academic outcomes for college students (e.g., Boyraz et al., 2016; López-Martínez, et al., 2018; Resnick et al., 1993; Wilson et al., 2006). When experiences of IPT and shame are interwoven, shame acts as a significant mediator, influencing the frequency and severity of these negative outcomes following exposure to IPT (Mereish & Poteat, 2015). However, relatively little is known about the underlying relational mechanisms driving these associations.

Against the backdrop of deepening insight regarding physical and mental health-related suffering exemplified by the types referenced above, researchers continue to stress the importance of a shift in the field of psychological study toward strengths-based and preventative approaches (e.g., Kewley, 2017; Polaschek, 2017). This focus reflects strong coherence with counseling psychologists' identity and values which include emphasizing strengths, optimal functioning, and preventative interventions (Gelso et al., 2014). In an era of understaffing of university counseling centers, higher demand for services, and increased acuity of student concerns, it also reflects a growing need for empirically-supported time-limited interventions and justification of longer-term treatment when indicated (Prince, 2015). As mentioned above, individual differences in attachment style and self-compassion both represent potential resiliency

factors mediating the relationship between cumulative IPT and shame in emerging adults (Maximo & Carranza, 2016; Neff & McGehee, 2010).

Previous research also suggests that the importance of attachment and self-compassion may be especially salient during this life stage, given the transitory nature of identity and relational development (see Kenny, 1987; Mattanah et al., 2011), notably low rates of self-compassion in comparison to other stages of development (see Neff & McGehee, 2010; Neff & Vonk, 2009), and peaking levels of shame during emerging adulthood (Tangney & Dearing, 2002). Thus, attachment theory and self-compassion theory offer explanatory frameworks connecting early relational experiences and self-conscious affect and hold the potential to guide therapeutic intervention and prevention endeavors with emerging adults (Bowlby, 1969; Neff, 2003a). However, no study has been identified utilizing this integrative theoretical basis, and research examining the precise relationship of adult attachment style and self-compassion to each other remains inconclusive. Additionally, there is a relative lack of research examining the relationship between the dimensions of anxious and avoidant attachment and shame, and the results of existing studies separating insecure attachment into these dimensions are contradictory. Some studies fail to demonstrate a direct relationship between avoidant attachment and shame (e.g., DeVille et al., 2015) while others demonstrate correlations among attachment anxiety, attachment avoidance, and shame (e.g., Brown & Trevethan, 2010; Wei et al., 2005). Thus, two models have been developed to explore the complex relationships among these constructs utilizing an integrative framework with the purpose of informing interventions with survivors of interpersonal trauma.

A primary model has been developed that represents the theoretically- and empirically-driven relationships described above (see Figure 2). This model depicts direct positive

relationships between cumulative IPT and levels of adult attachment anxiety (Huang et al., 2017) as well as adult attachment avoidance (Bistricky et al., 2017). In contrast, it also reflects a direct negative relationship between cumulative IPT and levels of self-compassion (Tanaka et al., 2011). Adult attachment anxiety and avoidance are allowed to covary with each other and self-compassion, indicating that these three factors are bidirectionally-related constructs fully mediating the relationship between IPT and shame, which is supported by studies indicating that interventions aimed at enhancing one are mediated by changes in the other (e.g., Navarro-Gil et al., 2018; Pepping et al., 2015). Attachment anxiety and attachment avoidance, in turn, are separated and hypothesized to have direct positive relationships with shame (e.g., Beduna & Perrone-McGovern, 2019; Wei et al., 2005). Similarly, self-compassion appears to have a direct negative relationship with shame as supported by cross-sectional studies revealing strong negative correlations between self-compassion and shame (e.g., Woods & Proeve, 2014) as well as experimental studies indicating that inventions utilized to enhance self-compassion lead to reductions in shame (e.g., Gilbert & Procter, 2006; Johnson & O'Brien, 2013).

Figure 2

Primary Theoretical Model
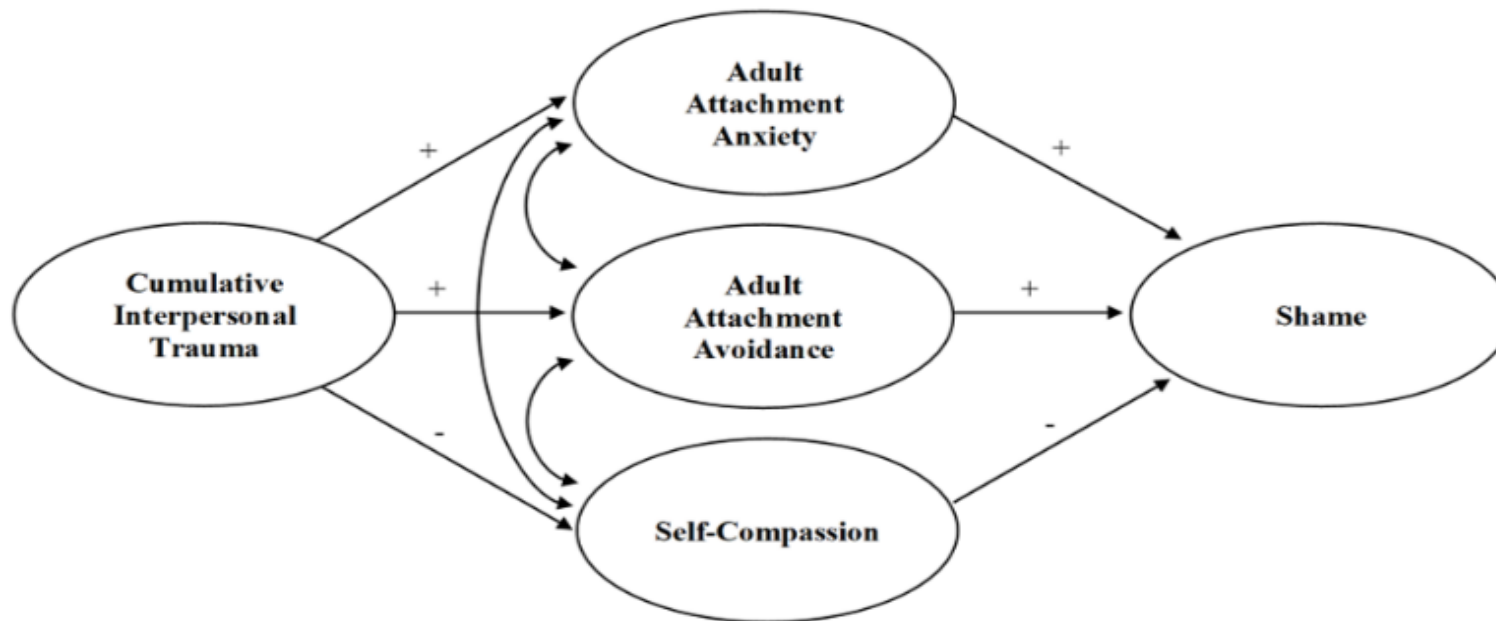
The lack of consensus already described regarding the relationships among adult attachment-related anxiety and avoidance and self-compassion is the basis for the development of an alternative model (see Figure 3). This non-nested model represents the full mediation of an indirect relationship between cumulative IPT and self-compassion by direct positive relationships with attachment anxiety and attachment avoidance (Neff, 2011b; Neff & McGehee, 2010). These attachment constructs are hypothesized to have direct negative relationships with self-compassion (Neff, 2011b; Raque-Bogdan et al., 2011) as well as direct positive relationships with shame (Beduna & Perrone-McGovern, 2019; Wei et al., 2005). The model also depicts a direct negative relationship between self-compassion and shame (Johnson & O'Brien, 2013; Woods & Proeve, 2014). This model represents the removal of the bidirectional relationship between the three constructs of attachment-related anxiety, avoidance, and shame; instead, it demonstrates the hypothesis that IPT will affect self-compassion through the attachment constructs and that these attachment constructs in turn will affect shame through the partial mediating variable of self-compassion. Each of these models provide potential explanations regarding the relationships among cumulative IPT, attachment levels, self-compassion, and shame that may serve as a theoretical basis for further research and interventions for counseling psychologists to address significant public health crises related to IPT exposure and shame among emerging adults. Therefore, the purpose of this study was to examine the relationships among cumulative interpersonal trauma, adult attachment dimensions, self-compassion, and shame by applying an integrative, relational theoretical framework with the intention of informing strengths-based, resiliency-focused, and preventative interventions with survivors of interpersonal trauma.

Figure 3

Alternative Theoretical Model
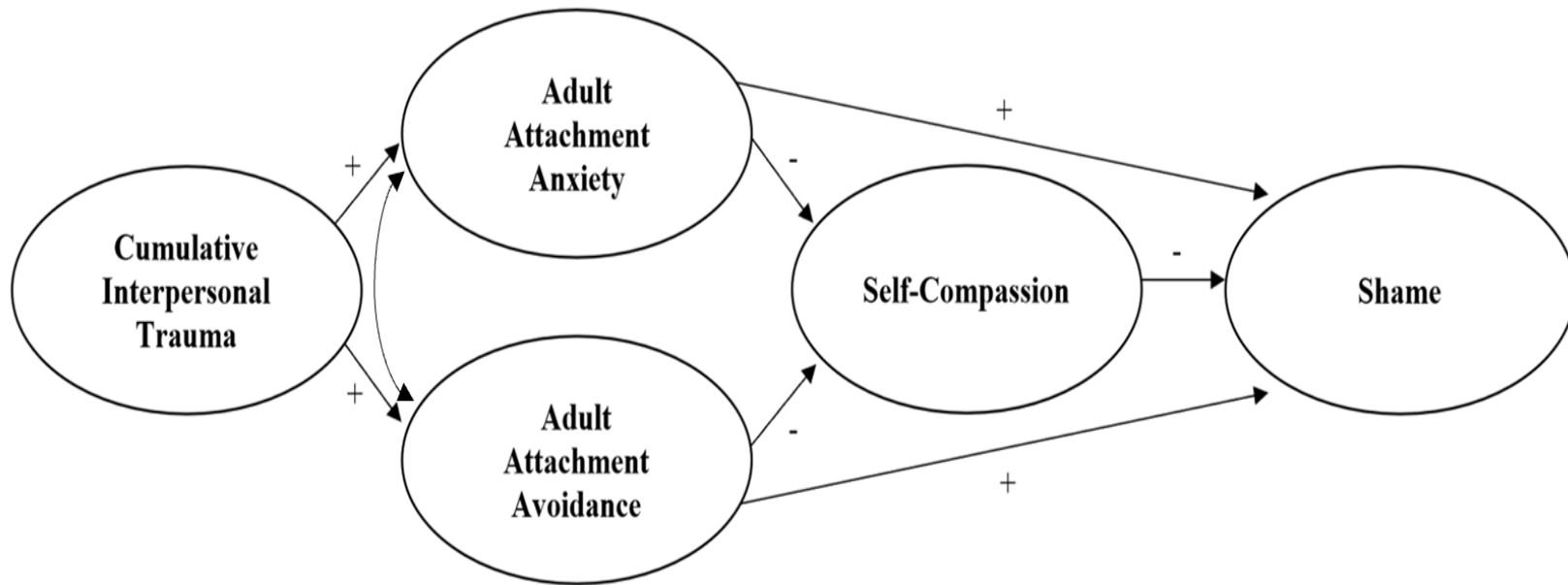
Research Questions and Hypotheses

The following research questions and hypotheses were developed:

Q1 Does the primary theoretical explanatory model (see Figure 2) adequately fit the observed relationships in the data?

H1 It is hypothesized that cumulative interpersonal trauma indirectly affects shame through the full mediation of the bidirectional constructs of adult attachment anxiety, adult attachment avoidance, and self-compassion. Specifically, higher degrees of exposure to IPT directly relate to increased levels of attachment anxiety and attachment avoidance and decreased levels of self-compassion. Higher levels of attachment anxiety and attachment avoidance directly relate to increased shame, and higher levels of self-compassion directly relate to decreased shame.

Q2 Does the alternative model demonstrate a statistically better or more parsimonious explanation to the observed relationships in the data than the primary model (see Figure 3)?

H2 It is hypothesized that cumulative interpersonal trauma indirectly affects self-compassion through the full mediation of adult attachment anxiety and adult attachment avoidance which, in turn, both directly and indirectly affect shame through the partial mediation of self-compassion. Specifically, the higher degree of exposure to IPT relates directly to higher levels of attachment anxiety and avoidance which relate directly to lower levels of self-compassion. Higher levels of attachment anxiety and avoidance relate directly to increases in shame and indirectly to shame through lower levels of self-compassion which relate directly to higher levels of shame.

Definition of Terms

Interpersonal trauma. The term *interpersonal trauma* (IPT) referred to traumatic events inflicted on a person by another human being (Lilly & Valdez, 2012), with a focus on the subjective experience of cumulative trauma and abuse throughout childhood and late adolescence (Kent & Waller, 1998; Sanders & Becker-Lausen, 1995). For the purposes of the present study, these experiences fell into one of four domains: sexual abuse, punishment/physical abuse, negative home environment/neglect, and emotional abuse (Kent & Waller, 1998; Sanders & Becker-Lausen, 1995). The construct of cumulative

IPT was operationalized using the Child Abuse and Trauma Scale (CATS; Sanders &

Becker-Lausen, 1995), which has been utilized as a retrospective measure with college

students (e.g., Arens et al., 2014; Jenkins et al., 2013).

Attachment style. In the current study, attachment style was described as an individual's posture

(i.e., cognitive, emotional, and behavioral tendencies) toward relating with others based

on internal working models of the self in relation to others. Attachment style was

conceptualized using Brennan et al.'s (1998) two-axis, orthogonal model of attachment

anxiety and attachment avoidance. According to this framework, falling in the lower

range on both spectra represents greater attachment security, or comfort and stability in

close relationships, while falling in the higher range on either or both spectra indicated

greater insecure attachment (Brennan et al., 1998; Fraley et al., 2000). Attachment was

operationally defined using the attachment anxiety and attachment avoidance subscales of

the Experiences in Close Relationships-Revised (ECR-R; Fraley et al., 2000).

Attachment anxiety. Brennan et al. (1998) described attachment anxiety in adulthood as fear of

interpersonal abandonment while desiring close relationships, which was used as the

definition of attachment anxiety in the present study.

Attachment avoidance. Brennan et al.'s (1998) description of attachment avoidance in adulthood

as discomfort with interpersonal closeness and depending on others was also utilized as

the definition of attachment avoidance for the current study.

Self-compassion. For the purposes of the present study, self-compassion was defined as an

individual's posture (i.e., cognitive, emotional, and behavioral tendencies) toward

relating with oneself. Specifically, self-compassion referred to the capacity to be

compassionate with oneself in times of suffering by practicing self-kindness rather than

self-judgment, identifying with a common humanity rather than feeling isolated, and mindfully holding one's experience of distress in awareness rather than over-identifying with it (Neff, 2003a). Self-compassion was operationalized using the Self-Compassion Scale (SCS; Neff, 2003a).

Shame. In the current study, shame was defined as an intensely negative self-conscious experience involving a negative evaluation of the partial or entire self (Andrews et al., 2002; Lewis, 1971; Tangney & Dearing, 2002). In accordance with Andrews et al.'s (2002) description, shame regarding characterological, behavioral, and body domains was conceptualized as being experienced and/or expressed through three components: experiential (the felt sense or emotion), cognitive (concern that others share their negative evaluations), and behavioral (concealment or avoidance). Shame was operationalized using the Experience of Shame Scale (ESS; Andrews et al., 2002).

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Summary

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Understanding the mechanisms driving the relationship between cumulative IPT and shame holds significant potential implications for individuals, counseling psychologists, future researchers, and other institutional and systemic influencers. Leveraging a framework integrating attachment and self-compassion theories, the purpose of the present study was to examine the roles of adult attachment style and self-compassion as potential resiliency factors and intervention points in the link between IPT and shame. By comparing the primary and alternative models, the results of this study may contribute to a better understanding of the relationships among IPT, adult attachment, self-compassion, and shame, potentially providing a unique contribution to literature addressing the relationships between adult attachment and self-compassion as well as attachment avoidance and shame. These findings may assist clients and

counseling psychologists in understanding the connections between the constructs studied. They may also support and inform future research on developing and refining intervention and prevention efforts with trauma survivors, including those who are disproportionately vulnerable to IPT exposure such as people holding historically marginalized identities. Lastly, the results may provide guidance for academic institutions and larger systems in shaping effective policy and support networks for emerging adult populations.

CHAPTER II

LITERATURE REVIEW

This chapter includes a comprehensive review of literature pertaining to the present study's theoretical framework, constructs, and interrelationships. First, an explanation of attachment theory and self-compassion theory are provided separately followed by a section describing their integration in the current study. Next, relevant literature regarding the primary and alternative model latent constructs (i.e., cumulative interpersonal trauma, adult attachment anxiety and avoidance, self-compassion, shame), indicator variables used to measure the latent constructs (i.e., sexual abuse, physical abuse/punishment, neglect/negative home environment, emotional abuse; attachment anxiety, attachment avoidance; self-kindness, self-judgment, common humanity, isolation, mindfulness, overidentification; characterological shame, behavioral shame, body shame) when available, and their interrelationships are presented and examined. Lastly, a summary is provided articulating the basis for the present study, and limitations of the review are documented for future researchers.

Theoretical Foundations

Attachment Theory

In a recent overview of adult attachment, Gillath et al. (2016) described attachment as "a theory of love, emotional connection, and psychological well-being" (p. 2). John Bowlby, a British psychoanalyst, was credited with articulating initial attachment hypotheses in 1951 after observing the challenges that children who experienced disruptions and distress in maternal relationships faced in forming close connections throughout life. He later posited that attachment

or bonding behaviors evolved alongside other basic drives (e.g., need for food and shelter) to promote human survival by maintaining physical proximity, or contact, to attachment figures and thus securing protection and soothing (Bowlby, 1969). Though some theorists considered attachment to be secondary, or simply a byproduct of receiving nourishment or shelter, Bowlby's view was supported by the results of experiments in which young rhesus monkeys demonstrated a clear preference for spending time with a cloth "mother" that provided nurturing and comfort over a wire "mother" that dispensed food (Harlow, 1958). Thus, Bowlby maintained that there were aspects of the mutually affectionate relationship between child and caregiver that went beyond the satisfaction of recognized survival needs to shape an individual's posture of relating throughout the lifespan (Bowlby, 1969, 1973).

Bowlby (1969) theorized that the cumulative impact of one's early experiences was transmitted through stages of development by the cultivation of internal working models (IWMs) of the self and others and correspondence with associated attachment strategies. These IWMs served as mental representations informing expectations of future relationships by consolidating the answers that early interactions provided to the following questions: Am I valuable to relationship partners, lovable, and capable of handling threats and regulating painful emotions? and Are people available, attuned, supportive, and well-intentioned in relationships? (Mikulincer & Shaver, 2016). When attachment figures were consistently accessible and responsive, an individual would internalize and generalize the experience of themself as someone worthy of receiving support and the world as a trustworthy place filled with supportive others (Bowlby, 1969). The individual likely would experience a growing sense of security in having a base from which to explore and safe haven to return when distressed (Bowlby, 1973). However, if attachment figures were inaccessible, unresponsive, or inconsistent, Bowlby (1969, 1973)

contended that individuals would experience themselves as unworthy of connection and/or others as untrustworthy and develop lasting strategies to address their unmet needs depending on their perception of the absence. For example, they could invest additional energy in pursuing support (e.g., anxious attachment), deny needs in favor of withdrawing from potentially supportive others (e.g., avoidant attachment), or engage in some combination of both. In this way, he theorized that early relational experiences and resulting attachment styles became risk or protective factors for later psychological distress by shaping an individual's cognitive, affective, and behavioral tendencies throughout the lifespan (Bowlby, 1969, 1973, 1980).

Regarding an individual's affective experience, Bowlby (1980) stated that "the psychology and psychopathology of emotion is found to be in large part the psychology and psychopathology of affectional bonds" (p. 40). Mikulincer and Shaver (2007) described secure attachment as a resource for emotion regulation. They postulated that secure individuals are more likely to feel emotions such as guilt that motivate restored connection following a threat than emotions such as shame that may lead to withdrawing from potential support (Mikulincer & Shaver, 2007). This hypothesis was based on Bowlby's (1969) description of insecurely attached individuals as holding negative views of the self as unworthy or incompetent (e.g., anxious attachment) and/or others as unsupportive or negatively intentioned (e.g., avoidant attachment). The negative IWM of the self was said to reinforce a generalized evaluation of the self as bad, a core component of shame, while the withdrawing behavior associated with a negative IWM of others was said to reflect defensive tendencies to suppress shame (Tangney & Dearing, 2002). Thus, attachment security may serve as a protective factor in regulating painful emotion such as shame while attachment insecurity may act as an intensifier.

Mary Ainsworth et al. (1978) furthered Bowlby's articulation of attachment theory by describing the individual differences in attachment patterns that developed in response to quality of caregiving and organizing them into three categories or styles (i.e., secure, anxious-ambivalent, and insecure-avoidant) based on observing infants who were separated from and subsequently reunited with their primary caregiver in a lab setting. A fourth category, disorganized attachment, was added later to reflect individuals who demonstrated both anxious and avoidant behavior (Main & Solomon, 1990). In the 1970s and 1980s, researchers elaborated on the continued role of attachment in adulthood to cultivate and maintain emotional closeness by identifying parallels between early attachment relationships and adult romantic relationships (see Hazan & Shaver, 1987). These parallels were extended to other adult relationships in alignment with Bowlby's (1969, 1973) original hypotheses, including those with peers, parents, and psychotherapists (see Fraley, Heffernan et al., 2011; Teyber & Teyber, 2017; Weiss, 1982). This conceptual development further reflected an ongoing evolution of attachment hypotheses regarding individuals who may serve as attachment figures from "mother" to "mother figure" to "caregiver" (Gillath et al., 2016). For the last 20 years, conceptualizations of individual differences in adult attachment style were organized based on combinations of placement on two orthogonal dimensions: attachment anxiety, which represents the fear of interpersonal rejection or abandonment, and attachment avoidance, which refers to discomfort with closeness and dependence on others to meet emotional needs (see Figure 1; Brennan et al., 1998). Thus, low attachment anxiety and low attachment avoidance represented secure attachment whereas higher experiences of either or both represented varying types of insecure attachment (Brennan et al., 1998). Brennan et al. (1998) adapted Bartholomew and Horowitz's (1991) categorization of four attachment styles based on an individual's views of the self and others by linking the attachment

anxiety dimension to view of self and the attachment avoidance dimension to view of others. Subsequent research further supported their dimensional conceptualization over previous categorical ones (see Mikulincer & Shaver, 2016 for a review).

As mentioned above, Bowlby (1969) theorized that IWMs and their corresponding attachment styles reflected a synthesis of relational experiences, referring to a core attachment prototype formed during infancy, significantly shaped through adolescence, and impacted by accumulated subsequent interactions. While he viewed IWMs and attachment styles as resistant to change given the way they bias information processing, emotional experiencing, and behavioral tendencies, he contended that representations should not be conceptualized as fixed; rather, they should be viewed as operating with a degree of flexibility to incorporate additional experience in a lawful manner (Bowlby, 1973; Mikulincer & Shaver, 2007). Bowlby (1973) further emphasized the utility of keeping attachment representations up-to-date by revising working models in light of discontinuities created by changes of varying magnitudes in quality of interpersonal interactions; he posited that these changes led to either decreased security as in the case of traumatic interpersonal experiences or increased security as in the case of forming a supportive relationship with an adult partner or psychotherapist (Bowlby, 1988). This change toward attachment security reflected another type of attachment style supported in the literature known as "earned secure" (Siegel, 1999). Individuals with this style reported a relational history consistent with insecure attachment but current relational patterns that corresponded with secure attachment, generally following the development of a supportive relationship that led to revisions in their views of self and others (Siegel, 1999).

The dynamic tension of these assertions was reflected in controversy between prototypic and revisionist perspectives on attachment style. Namely, some researchers (e.g., Lewis et al.,

2000) sought to demonstrate that attachment style was ever-changing throughout the lifespan in response to new experiences (i.e., revisionist) while others (e.g., Waters et al., 2000) intended to show that attachment style contained a stable component from infancy onward (i.e., prototypic). After conducting a meta-analysis (combined $N = 1,410$ across 27 samples) as well as a more recent study, Fraley, Heffernan et al. (2011) and Fraley, Vicary et al. (2011) asserted their results supported a prototypic perspective where attachment style remained relatively stable over time while allowing for some revision in accordance with Bowlby's (1973) conceptualizations. In a recent review of advances and continuing debates in attachment literature, Fraley (2019) noted that "one of the ongoing priorities in the adult attachment research is to understand how and when attachment changes and the processes that govern continuity and change" (p. 407), examining support for the significant roles of both early caregiving experiences as well as ongoing life events (e.g., trauma, Mikulincer et al., 2011; therapy, Taylor et al., 2015) in shaping attachment style into adulthood. Overall, this view reinforced the gravity of cumulative prototype-forming experiences such as interpersonal trauma and abuse as well as the opportunity for security-building experiences such as healthy interpersonal relationships in adulthood or psychotherapeutic intervention.

Self-Compassion Theory

While attachment theory was developed initially to explain mechanisms underlying interpersonal relating, self-compassion was developed to address intrapersonal relating, or components of an individual's posture toward relating with the self. Kristin Neff (2003a) identified the roots of self-compassion in Eastern philosophy and Buddhist practice but stated that the construct was relatively new for Western psychology. However, she acknowledged related ideas that were present in Western psychological literature such as Jordan's (1997)

concept of "self-empathy" included in her model of women's psychological development which she viewed as a type of "corrective relational experience" with oneself—though Neff (2003a) noted the lack of data and the female-orientated nature of Jordan's construct. Additionally, she highlighted similarities between self-compassion and aspects of Maslow's (1968) "B-perception" toward oneself, Rogers's (1961) "unconditional positive regard," and Ellis's (1973) "unconditional self-acceptance." Neff further was credited with distinguishing self-compassion from self-esteem, the previously dominant approach to measuring psychological health with respect to self-concept, motivated by recognized vulnerabilities such as links between self-esteem and narcissism, self-centeredness or self-absorption, downward social comparison or judgment, and prejudice toward out-groups (see Neff, 2003a for a review). Instead, she recognized self-compassion as a practice of and "stance" toward relating to the self in psychologically healthful ways by influencing an individual's cognitive, affective, and behavioral experience (Neff, 2003a, 2016).

Broadly, Neff (2003a) referred to self-compassion as "respecting oneself as a fully human – and therefore limited and imperfect – being" (p. 87). She noted a tendency in most individuals to be harsher with themselves when experiencing suffering or failure than they would be with anyone else (Neff, 2003a). Thus, she asserted that "self-compassion, therefore, involves 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" (p. 87). Specifically, Neff defined self-compassion as follows:

> When faced with experiences of suffering or personal failure, self-compassion entails
> three basic components: (a) self-kindness - extending kindness and understanding to
> oneself rather than harsh judgment and self-criticism, (b) common humanity - seeing

one's experiences as part of the larger human experience rather than seeing them as

separating and isolating, and (c) mindfulness - holding one's painful thoughts and

feelings in balanced awareness rather than over-identifying with them. (p. 89)

Thus, Neff presented self-compassion as a higher order posture of intrapersonal relating

comprised of three components subsuming six related factors representing dimensional poles:

self-kindness versus self-criticism, common humanity versus isolation, and mindfulness versus

over-identification.

Since Neff (2003b) operationalized self-compassion and provided an instrument (i.e.,

Self-Compassion Scale) for measuring it, researchers have disagreed regarding the number of

factors represented by the instrument. Most attempts to validate its factor structure were

conducted during efforts to translate the scale into other languages. While the majority of

researchers replicated the six-factor structure, findings regarding a higher order model were

inconsistent (see Neff, 2016 for a review). Neff et al. (2017) examined the factor structure in four

populations (i.e., undergraduates [$N = 222$], community adults [$N = 1,394$], individuals

practicing Buddhist meditation [$N = 215$], clinical sample with history of recurrent depression [$N = 390$]) and found that the six-factor correlated model demonstrated the best fit across samples

while the total SCS also was supported and explained at least 90% of the variance in SCS scores.

Consequently, a conceptualization of self-compassion as a higher order construct comprised of

six related factors was supported and maintained.

Neff (2003a) theorized that individual differences in self-compassion formed through the

internalization of early relational experiences. In other words, she asserted that people learn how

to treat themselves based on how they are treated by others (Neff, 2003a). Children who

experienced empathy and compassion from others during childhood would likely demonstrate

higher self-compassion as adults while those who did not—or who experienced abuse or neglect—would likely exhibit lower self-compassion (Brown, 1999). She stated that adolescents and early emerging adults were likely to have the lowest levels of self-compassion across development given vulnerabilities introduced by cognitive advances in self-evaluation and increased opportunities to fall short of standards (Neff, 2003a). Neff posited that self-compassion could change based on additional relational experiences and conscious practice.

Neff (2011a) recognized an overlap in development between attachment style and self-compassion; thus, she stated that secure attachment would be correlated with higher self-compassion and insecure attachment with lower self-compassion because they resulted from the same internalization of early experiences. She conceptualized the IWMs of self and others associated with insecure attachment as subject to revision based on increases in self-compassion, stating that "when we consistently give *ourselves* nurturance and understanding, we also come to feel worthy of care and acceptance…[and] learn to trust that help is always at hand" (Neff, 2011b, p. 47). Therefore, Neff viewed self-compassion as a preventative and resiliency factor when facing difficult experiences, psychological distress, and the characteristic resistance of attachment styles to change.

Neff (2003a) further hypothesized that self-compassion acted directly as an emotion regulation resource by providing an individual with emotional safety to view the self clearly without experiencing self-condemnation, disconnection, or judgment of one's thoughts and feelings. In fact, Neff wrote, "Self-compassion takes the entire self-evaluation process out of the picture, focusing on feelings of compassion toward oneself and the recognition of one's common humanity rather than making (positive or negative) self-judgments" (p. 92). Given that negative self-evaluation, a compulsion to isolate, and feelings of unworthiness are core aspects of shame

(Tangney & Dearing, 2002), Neff suggested that self-compassion may be effective in preventing or reducing the experience of this painful self-conscious emotion and proposed that self-compassion would be inversely correlated with shame-proneness.

Theoretical Integration

In seminal definitions and conceptualizations of shame, Lewis (1971) and Tangney and Dearing (2002) described shame as being comprised of both interpersonal and intrapersonal aspects. They defined shame as an encompassing negative judgment of the self (I am bad/gross/dirty/unworthy) that usually occurs in interpersonal contexts or regarding interpersonal content which may manifest as feelings of exposure and a desire to disappear. Shame also has been conceptualized as involving experiential, cognitive, and behavioral elements (Andrews et al., 2002). Attachment theory corresponds to the interpersonal nature of shame by providing a conceptualization of an individual's posture, or tendencies, toward relating with others based on IWMs of the self and others in the world (Bowlby, 1969). In other words, attachment theory provides a theoretical framework for understanding the internalization of formative relational experiences and the resulting impact on emotional and interpersonal functioning as well as experiencing the self in the context of relationships (Bowlby, 1969, 1973, 1980). Adult attachment theory also reflects the three elements of shame by describing emotions, cognitive structures, and behavioral tendencies associated with varying attachment styles (Mikulincer & Shaver, 2007). For the purposes of this study, attachment theory specifically offers an explanatory connection between cumulative interpersonal trauma (IPT) up to emerging adulthood and shame through cognitive, affective, and behavioral tendencies regarding interpersonal relating.

In conjunction, self-compassion theory corresponds to the intrapersonal nature of shame by contributing a conceptualization of an individual's posture, or tendencies, toward relating with oneself (Neff, 2003a). Neff (2016) used the term "stance" to suggest that self-compassion is both a trait formed early in life and a practice in which an individual may engage to increase their capacity for self-compassion in a given moment and/or over a length of time. Individuals who demonstrate low self-compassion experience greater self-criticism, isolation, and over-identification with emotion which are recognized aspects of shame (Tangney & Dearing, 2002). While attachment theory incorporates general views of the self and others in the context of interpersonal relating (Bowlby, 1969, 1973), self-compassion theory presents specific aspects of intrapersonal relating involving the self and others by describing the three components (i.e., self-kindness versus self-criticism, common humanity versus isolation, mindfulness versus overidentification; Neff, 2003a). Similarly, Neff (2003a) articulated the relevance of self-compassion to each domain of shame (i.e., experiential, cognitive, behavioral) listed above, stating,

> negative *emotions* [emphasis added] are transformed into a more positive feeling state, allowing for the clearer *apprehension* [emphasis added] of one's immediate situation and the adoption of *actions* [emphasis added] that change oneself and/or the environment in appropriate and effective ways. (p. 92)

Self-compassion theory provides a complementary framework to attachment theory by connecting internalized relational experiences such as cumulative IPT and shame through cognitive, affective, and behavioral tendencies regarding intrapersonal relating. Therefore, these two theories correspond to conceptualizations of shame, parallel each other in development, structure, and function (e.g., internalization of childhood experiences; emotional, cognitive, and

behavioral elements; models of relating), and complement the other in focus (i.e., interpersonal vs. intrapersonal relating).

Adult Attachment Style and Self-Compassion

As outlined in the sections above, adult attachment and self-compassion are related through overlap in theoretical origins, namely early relational experiences, and attachment anxiety and avoidance are hypothesized to have a negative relationship with self-compassion (Bowlby, 1969; Neff, 2003a). This interconnectedness is supported by empirical research demonstrating a significant relationship among attachment styles and self-compassion. For example, Joeng et al. (2017) found significant negative pathways ($\beta = -.302$, $p < .001$; $\beta = -.240$, $p < .001$) in a structural equation model connecting both anxious and avoidant attachment with self-compassion, respectively, in a sample of 473 Korean college students. The theoretically and empirically supported negative relationship has led many researchers further to hypothesize a causal, developmental progression from early experiences to attachment styles to self-compassion (e.g., Neff & McGehee, 2010; Pepping et al., 2015; Raque-Bogdan et al., 2011). Multiple cross-sectional studies have demonstrated a mediational role of self-compassion on relationships between attachment style and physical and mental health outcomes as well as interpersonal functioning in college student (e.g., Raque-Bogdan et al., 2011), clinical (e.g., Mackintosh et al., 2018), and older adult (e.g., Homan, 2018) samples. In one experimental study with 32 first year undergraduate students, Pepping et al. (2015) utilized security primes to enhance state attachment security which led to a significant increase in state self-compassion in comparison to a control. Given a potential causal and mediational relationship between attachment style and self-compassion as well as a recognized resistance of attachment orientation to change, several authors have noted the value of self-compassion as a more proximally

achievable target for therapeutic intervention, perhaps especially in time-limited counseling (Raque-Bogdan et al., 2011; Wei et al., 2005).

However, other published cross-sectional studies failed to demonstrate a relationship between attachment style and self-compassion when examining attachment at a more specific level, such as when examining avoidant and anxious attachment dimensions (e.g., Neff & McGehee, 2010; Pepping et al., 2015; Wei et al., 2011). In a structural equation model study with a sample of 195 college students, Wei et al. (2011) examined relationships among attachment anxiety, attachment avoidance, self-compassion, emotional empathy to others, and subjective well-being and found that the pathway between attachment avoidance and self-compassion was the only nonsignificant path. Furthermore, a recent study in which Navarro-Gil et al. (2018) aimed to experimentally increase both attachment security and self-compassion demonstrated a significant increase in secure attachment that was mediated by an increase in self-compassion. Thus, there seems to be initial evidence supporting Neff's (2011b) claim that – while attachment style could be implicated in the development of individual differences in self-compassion—later changes in self-compassion may lead to revisions in attachment. As reviewed in the previous paragraphs, research examining aspects of the relationship between individual differences in adult attachment and self-compassion is emergent and inconclusive, especially regarding their potential early causal relationship, the nuances of their ongoing connection when studying the specific dimensions of attachment, and the ways that modifications to one may influence the other. While attachment and self-compassion theories complement each other in explaining connections between early relational experiences and the inter- and intrapersonal aspects of shame as well as being linked in previous psychological literature, the precise nature of the relationship between adult attachment and self-compassion remains controversial, lacks

clarity, and drives distinctions between the hypothesized and alternative models in the present study.

<div align="center">**Interpersonal Trauma and Shame**</div>

More than ever before, the global mental health community is attending to the prevalence of and relationship between trauma and shame. Below is a review of key issues regarding cumulative interpersonal trauma, shame, and their interactions. Specifically, overviews of prevalence, definition, and associated outcomes are provided for each section. Gaps and inconsistencies in the empirical literature are discussed.

Cumulative Interpersonal Trauma

Despite its prevalence within the human experience, articulating the essence and diversity of trauma has proved challenging. The term first emerged in the 17th century and was derived from the Greek work for "wound" (Trauma, 2018). It originally referred to medical experiences; however, it is used currently to reference an extensive range of physical, psychological, and contextual experiences (Trauma, 2018). Within psychology as a discipline, trauma has been a fluid, controversial, and evolving construct. Presently, trauma is defined by the APA (2017) as "events or experiences that are shocking and overwhelming, typically involving a major threat to the physical, emotional, or psychological safety and well-being of the individual victim(s) and loved ones and friends (as well as to others)" (p. 6) that cause "physiological or psychological stress responses that are overwhelming and exceed or greatly challenge the affected individual's capacity to cope" (p. 7).

Utilizing World Health Organization World Mental Health Survey data collected in 24 countries around the globe ($N = 68,894$), Kessler et al. (2017) determined that 70.4% of adult participants reported experiencing at least one trauma during their lifetime and that prior trauma

history significantly predicted future trauma exposure. Kilpatrick et al. (2013) conducted a similar study earlier in the United States using a nationally representative sample (N = 2,953) and reported that up to 89.7% of U.S. adults had experienced a traumatic event meeting DSM-5 (APA, 2013) criteria. Interpersonal trauma (IPT) is a domain used to refer to "traumatic events in which an individual is personally assaulted or violated by another human being that is either known or unknown to the trauma survivor" (Lilly & Valdez, 2012, p. 140). Kilpatrick et al. noted that over half of their respondents (at least 53.1%) reported exposure to direct interpersonal trauma. One set of common subcategories within interpersonal traumas is child maltreatment. After combining a series of 244 published meta-analyses, Stoltenborgh et al. (2015) stated that overall estimated prevalence rates assessing maltreatment throughout childhood using self-report were as follows: 12.7% for sexual abuse, 22.6% for physical abuse, 36.3% for emotional abuse, 16.3% for physical neglect, and 18.4% for emotional neglect. Given developmental stage and life circumstances, college age individuals are considered to be particularly vulnerable to experiencing IPT victimization and revictimization (Berenz et al., 2016; Goldsmith et al., 2012; Walsh et al., 2012) with over half of a non-clinical sample endorsing at least one IPT meeting DSM-5 criterion (Elhai et al., 2012). Furthermore, research indicating that events not satisfying the diagnostic traumatic stressor criterion may also be traumatic and lead to an identical sequela of symptoms (APA, 2017; Weathers & Keane, 2007) suggests that the rates of undergraduate individuals who may be suffering as a result of interpersonal trauma could be even higher than recorded estimates. Thus, trauma is highly prevalent throughout the human lifespan and perhaps especially relevant to undergraduate individuals.

In general, trauma is associated with a wide variety of negative physical and mental health outcomes. However, interpersonal trauma is linked to an increased risk of such outcomes in comparison both to impersonal trauma and lack of exposure to trauma (Kessler et al., 2017; Kilpatrick et al., 2013; López-Martínez et al., 2018). For example, Kilpatrick et al. (2013) found that individuals who experienced interpersonal trauma were more likely to qualify for a mental health disorder diagnosis than those who experienced impersonal trauma, while López-Martínez et al. (2018) reported results suggesting that IPT exposure was associated with poorer physical health than non-interpersonal forms of trauma. Negative consequences of exposure to IPT in college students include potentially life-threatening conditions such as eating disorders (Tasca et al., 2013), substance abuse, and suicidality (Wilson et al., 2006) as well as life-altering or impairing situations such as attrition (Boyraz et al., 2016), deterioration of physical health (Goldsmith et al., 2012), and other types of psychopathology (Elhai et al., 2012; Goldsmith et al., 2012).

Moreover, the impact of trauma appears to compound with additional exposure – a major concern given that the modal number of reported traumatic events meeting DSM-5 criteria in a nationally representative sample of U.S. adults was three (Kilpatrick et al., 2013) and just under half of a first year student sample who reported exposure to a traumatic event indicated experiencing multiple traumas (Boyraz et al., 2016). The results of previous studies support a dose-response conceptualization of cumulative trauma exposure where the more frequent, varied, and severe the experiences, the greater the self-reported symptoms (e.g., Messina et al., 2007; Steine et al., 2017). In a sample of adult survivors of childhood maltreatment ($N = 278$), Steine et al. (2017) found a statistically significant, rule-governed, dose-response relation between cumulative childhood maltreatment and symptoms of numerous physical, mental health, and

vocational outcomes in adulthood including the following: posttraumatic stress, anxiety, depression, eating disorders, dissociation, insomnia, nightmares, physical pain, emotional pain, relational problems, self-harm, and lower work functioning. Due to the high prevalence, exacerbated negative outcomes, and compounding nature of exposure, cumulative interpersonal trauma is considered a significant global and national public health concern (Kessler et al., 2017; Kilpatrick et al., 2013; Magruder et al., 2017; Messina et al., 2007). A potentially damaging outcome associated with IPT exposure is shame.

Shame

As mentioned above, Lewis (1971) and Tangney and Dearing (2002) defined shame as an individual's experience of a negative evaluation of the self (versus a negative evaluation of behavior, which represents guilt) in the context of relating, identifying both interpersonal and intrapersonal aspects of the cognitive, affective, and behavioral experience of shame (Andrews et al., 2002). They situated shame within a broader classification of self-conscious affect (e.g., guilt, pride, embarrassment) given the focus on appraising the self and one's actions (Tangney & Dearing, 2002). Self-conscious emotions were considered advanced because they depend on cognitive milestones that occur later in development than those facilitating "basic" emotions such as anger, fear, or joy: a) differentiating the self from others and b) developing standards used to measure one's behavior (Tangney & Dearing, 2002). For this reason, Tangney and Dearing also referred to self-conscious emotions as "moral" emotions that serve a function of regulating moral behavior. From a social mentality evolutionary perspective, Gilbert (1989) suggested that shame serves a survival function of preventing members of social groups from breaking norms that would threaten their membership and access to concrete and immaterial group resources. Similar to Tangney and Dearing's taxonomy of interpersonal and intrapersonal

facets of the affective, cognitive, and behavioral dimensions of shame, Gilbert (2007) further described shame as an individual's emotional reaction to their beliefs about their social belonging that, in turn, drives their behavior. Thus, shame may serve adaptive functions in regulating moral behavior and social connection.

Due to its dependence on the cognitive capacities already described as well as a necessary ability to attribute cause of events to a specific individual, shame generally emerges as distinct from guilt during middle childhood (Tangney & Dearing, 2002). In a longitudinal study examining children as well as their parents, researchers reported that individual differences in shame-proneness remained relatively stable throughout childhood (ages 10 to 18 years) and adulthood (over a two-year period), often reflecting parental emotional style, family environment, and parental beliefs and practices (Tangney & Dearing, 2002). However, Tangney and Dearing (2002) observed developmental changes in the form of steady decreases in shame-proneness from early to middle adulthood, suggesting that shame-proneness may peak in young emerging adults and represent a particularly powerful construct for individuals in this stage of development (i.e., ages 18 to 25, Arnett, 2000).

In contrast to other self-conscious emotions such as guilt, shame is uniquely associated with many physical, psychological, interpersonal, and academic concerns (Andrews & Hunter, 1997; Badour et al., 2017; Lee et al., 2016; Tangney & Dearing, 2002). For example, Tangney and Dearing (2002) reported significant correlations between shame-proneness and symptoms of depression, somatization, obsessive-compulsion, psychosis, paranoid ideation, interpersonal sensitivity, anxiety, and phobia within three undergraduate samples ($N = 664$). Dolezal and Lyons (2017) reviewed potential explanations of associations between shame and physical health factors such as acute shame avoidance behavior, chronic shame health-related behaviors, stigma

and social status threat, and biological mechanisms as well as a growing body of literature implicating shame in conditions such as substance use and eating disorders; they further argued that shame was sufficiently influential in physical health status that it should be viewed as an affective determinant of health. In college student samples, shame is also connected to risk conditions such as problematic alcohol consumption (Patock-Peckham et al., 2018), use and abuse of other substances (Wilson et al., 2006), perpetration of psychological aggression (Harper et al., 2005), academic dissatisfaction, hopelessness (Lee et al., 2016), and suicidality (Wilson et al., 2006). Given its unique prevalence in emerging adulthood and significant potential negative physical, psychological, relational, and academic consequences, shame independently represents a serious public health concern for undergraduate populations similar to IPT; however, IPT exposure and shame also have a compounding relationship that has been shown to exacerbate negative outcomes.

**Compounding Interpersonal Trauma
and Shame**

In recent conceptualizations of the DSM-5 (APA, 2013) diagnosis most commonly associated with experiencing trauma, posttraumatic stress disorder (PTSD), a new criterion was added to reflect persistent negative emotional states. Shame was among these additions which is supported further by empirical evidence demonstrating that among the negative outcomes associated with IPT is an increased experience of negative affect such as shame (Badour et al., 2017; Hoglund & Nicholas, 1995). For instance, Badour et al. (2017) found that shame explained unique variance in interpersonal trauma-related PTSD and was experienced more frequently by those who survived interpersonal trauma than non-interpersonal trauma. This reflected the findings of similar studies reporting associations between shame and PTSD (see Beck et al., 2011; La Bash & Papa, 2014; Street & Arias, 2001). Another study examined this association by

reviewing the role of shame in compounding PTSD, depression, and substance use disorders by influencing self-attribution processes, affect regulation, appraisal of actions, impact on personal identity, suicidality, defensiveness, and proneness to psychopathology (Wilson et al., 2006). Furthermore, it corresponded with the work of Hoglund and Nicholas (1995) which demonstrated a direct relationship between college students' exposure to abusive family environments and ongoing levels of shame.

As demonstrated in the studies described in their respective sections as well as the paragraph above, cumulative IPT and shame are independently and collectively associated with severe negative outcomes. Badour et al.'s (2017) study supported a conceptualization of the relationship between IPT and shame where shame exacerbates the connection between cumulative IPT and other negative outcomes. In a structural equation model study with sexual minority adults ($N = 719$), Mereish and Poteat (2015) employed a relational framework examining the influence of shame, decreased interpersonal functioning, and loneliness on the relationship between distal factors such as IPT and psychological and physical distress. They found that shame mediated the relationship between distal factors and current distress (Mereish & Poteat, 2015) suggesting that shame may be a central mechanism of action between IPT and a variety of negative mental and physical health consequences.

Similarly, Andrews (1997) reported that shame mediated the relationship between childhood abuse and bulimia after controlling for body dissatisfaction in a sample of 69 female-identified emerging adults. In an investigation with 207 female undergraduates, DeCou et al. (2017) reported that shame fully mediated the relationship between receiving negative social reactions to disclosure of sexual assault and experiencing psychological distress which suggested that shame may indirectly intensify the consequences of IPT by influencing interpersonal

interactions following a traumatic event. Related findings also suggested that shame may contribute to a propensity to perpetuate cycles of interpersonal trauma. In a study of 103 male-identified participants with histories of interpersonal trauma, Schoenleber et al. (2015) found shame to be a significant predictor of both psychological and physical aggression. Furthermore, shame was implicated in increased levels of self-blame following interpersonal trauma which has been shown, in turn, to relate to increased likelihood of experiencing additional interpersonal trauma (Beck et al., 2015). While IPT and shame are independently associated with serious mental and physical health consequences, the combination of cumulative IPT and shame represents a significant public health concern due to the ways in which shame may exacerbate and perpetuate the negative outcomes related to IPT exposure. However, none of these identified studies addressed the interpersonal mechanisms that may underlie the association between IPT and shame; thus, the following two sections represent an examination of the relationships among IPT, shame, and adult attachment.

Interpersonal Trauma and Adult Attachment

In a recent overview of attachment literature, Fraley and Hudson (2017) concluded that attachment insecurity in adulthood reflected disruptions in caregiving (e.g., childhood maltreatment) as well as their long-term influence on the integration of ongoing relational experiences (e.g., subsequent IPT) in accordance with initial conceptualizations of attachment theory (Bowlby, 1969). Researchers provided potential explanations of the association between adverse early caregiving experiences and disrupted adult attachment by describing related deficits in social-emotional competencies and social functioning, stating that children who experience maltreatment have a high chance of developing insecure attachment styles and a low chance of developing secure attachment styles that persist into adulthood (Doyle & Cicchetti,

2017). In fact, Lim et al. (2012) compared findings demonstrating that between 70% to 100% of survivors of childhood maltreatment are classified as insecurely attached compared to 30% in non-abused samples. Still others assert that cumulative trauma in childhood may be particularly impactful because of its occurrence during an individual's formative years (Aspelmeier et al., 2007). Similarly, researchers have found strong relationships between childhood maltreatment and exposure to IPT as an adult which suggests a tendency for trauma to accumulate over time with survivors experiencing the highest likelihood for continued exposure (Hocking et al., 2016). These effects appear to persist throughout the lifespan with one study indicating that early trauma was significantly related to insecure attachment in adults ($N = 81$) aged 62 to 90 years (Van Assche et al., 2019). The impact also appeared to be intergenerational and self-perpetuating as mothers with trauma symptoms seem to have reduced capacities to form secure attachments with their infants and to provide conditions that relate to greater security and resilience in their children (Howell et al., 2010; Huth-Bocks et al., 2004).

Interpersonal trauma was uniquely associated with and predictive of adult attachment anxiety and avoidance in comparison to impersonal trauma (Fowler et al., 2013). Diverse types of IPT related to later adolescent and adult attachment insecurity: sexual abuse, physical abuse, psychological/emotional/verbal abuse, physical neglect, emotional neglect, sexual assault, and interpersonal partner violence (Briere et al., 2017; Huth-Bocks et al., 2004; Lowell et al., 2014; Thibodeau et al., 2017). Severity of maltreatment was significantly correlated with adult attachment insecurity, suggesting that the compounding and cumulative nature of IPT may be related to level of both attachment anxiety and avoidance (Busuito et al., 2014; Espeleta et al., 2017). In a study with 879 college students, survivors of childhood IPT reported less secure relationships of varying types in both childhood and adulthood than those who had not

experienced IPT (Styron & Janoff-Bulman, 1997). This decreased level of attachment security was evident with various relationship partners including mothers, fathers, parents, peers, close adult relationships, and romantic partners (Aspelmeier et al., 2007; Lowell et al., 2014; Raby et al., 2017). While cumulative IPT is connected consistently to adult attachment insecurity throughout the literature, results become less consistent when differentiating adult attachment-related anxiety versus avoidance where some studies indicate a relationship between IPT and only anxious or avoidant attachment (Briere et al., 2017; Hocking et al., 2016) while others demonstrate connections between IPT and both dimensions of attachment (Espeleta et al., 2017; Oshri et al., 2015).

Interpersonal Trauma and
Attachment Anxiety

Similar to the results discussed above, exposure to interpersonal trauma has been associated with significantly higher levels of attachment anxiety than exposure to no or impersonal trauma (Elwood & Williams, 2007; Huang et al., 2017). For example, Huang et al. (2017) found significantly higher attachment anxiety in IPT-exposed versus impersonal trauma-exposed Taiwanese young adults ($N = 162$). This pattern of findings remained true in studies that did not demonstrate a significant positive relationship between IPT and attachment avoidance as well as studies that indicated a broader range of impact on attachment anxiety as measured by connections with anxious attachment in a greater variety of relationships than attachment avoidance (Corcoran & McNulty, 2018; Elwood & Williams, 2007; Sandberg et al., 2010). In a study of 601 college students, Hocking et al. (2016) found a significant correlation ($r = 0.32$, $p < .001$) between childhood maltreatment and anxious but not avoidant attachment. Similarly, Corcoran and McNulty (2018) found that childhood adversity was associated with attachment anxiety in multiple relationship contexts (i.e., general, mother, father, and friend) while

childhood adversity was only associated with avoidant attachment in parental relationships for a sample of 190 university students.

One way in which researchers explained the influence on attachment anxiety versus avoidance was through the impact of IPT on IWMs. For instance, Muller et al. (2001) found that the association between childhood maltreatment (as measured by exposure to physical and sexual abuse) and a negative view of the self (i.e., anxiety dimension) was stronger than connections between these experiences and viewing others negatively (i.e., avoidant dimension) in a nonclinical adult sample ($N = 66$). Furthermore, they found that associations between a negative view of the self and psychopathology among adult survivors of childhood maltreatment were significantly higher than those between a negative view of others and negative outcomes (Muller et al., 2001). Similarly, attachment anxiety appeared to be a significant mediator between other varying types of IPT and negative outcomes such as depressive symptoms, anxious symptoms, PTSD symptoms, general psychological distress, behavioral problems, decreased self-esteem, and decreased subjective well-being (Corcoran & McNulty, 2018; Muller et al., 2001; Sandberg et al., 2010). Among these negative outcomes, Brenner and Ben-Amitay (2015) found that attachment anxiety was related to vulnerability to sexual revictimization in adult female survivors of childhood sexual abuse ($N = 60$) which may suggest that attachment anxiety could play a unique role in the self-perpetuating cycle of trauma exposure described above. Thus, research has supported a strong relationship between cumulative IPT and attachment anxiety as well as the mediating role of attachment anxiety on relationships between cumulative IPT and diverse manifestations of psychopathology.

Interpersonal Trauma and
Attachment Avoidance

As with attachment-related anxiety, attachment avoidance was significantly correlated

with severity of multiple types of childhood maltreatment (i.e., sexual abuse, physical abuse,

psychological abuse) in a sample of 830 female college students (Espeleta et al., 2017) and 120

mothers in the third trimester of pregnancy (Busuito et al., 2014) and severity of cumulative IPT

(e.g., non-sexual assault, sexual assault) in a sample of 134 treatment-seeking adult refugees

(Morina et al., 2016). However, higher attachment avoidance was significantly and uniquely

associated with experiencing more types (e.g., abuse, assault, rape) of IPT in a structural

equation model study with 132 trauma-exposed adults (Bistricky et al., 2017). In contrast to

findings described in the IPT and attachment anxiety section above, some studies demonstrated a

significant relationship between IPT and avoidant but not anxious attachment in adulthood (e.g.,

Briere et al., 2017; Lim et al., 2012; Morina et al., 2016; Zietlow et al., 2017). For example,

Morina et al. (2016) found that severity of cumulative IPT predicted avoidant attachment and

explained 11% of the variance while neither IPT nor non-interpersonal trauma predicted anxious

attachment. Similarly, Unger and De Luca (2014) found significant correlations between

combined history of maltreatment (i.e., physical abuse, psychological abuse, sexual abuse,

neglect) and both attachment avoidance ($r = 0.108$; $p = 0.002$) and attachment anxiety ($r = 0.205$;

$p < 0.001$); however, physical abuse was predictive of attachment avoidance but not attachment

anxiety above and beyond the variance predicted by control factors such as sex and social

support and other abuse types in a sample of 795 university students (Unger & De Luca, 2014).

Avoidant attachment also influenced the relationship between IPT and various

detrimental outcomes such as anxiety, PTSD symptoms (i.e., dissociation, defensive avoidance,

intrusive experience, anxious arousal), self-disturbance (i.e., impaired self-reference, depression,

insecure attachment), externalization (i.e., anger, tension reduction behavior, sexual disturbance, and suicidality), and somatization (i.e., general and pain-related somatization), among others (e.g., Briere et al., 2017; Busuito et al., 2014; Wiltgen et al., 2015). In a structural equation modeling study with 640 undergraduates, Briere et al. (2017) found a significant indirect relationship between child abuse and psychological symptoms as mediated by combined insecure attachment, though only avoidant attachment was significantly related to both psychological and sexual abuse. Attachment avoidance further moderated a relationship between childhood abuse and posttraumatic stress symptoms such that greater PTSD symptoms were found in those with higher attachment avoidance in the first wave of a longitudinal study of 120 mothers in the third trimester of pregnancy (Busuito et al., 2014). While past research indicates a strong relationship between IPT exposure and insecure attachment in general, continued investigation is needed to clarify the relationships among IPT and the specific adult attachment dimensions which is reflected in the measurement of attachment-related anxiety and avoidance in both the hypothesized and alternate models in the present study.

Adult Attachment and Shame

The relationship between attachment and psychological distress, including shame, has long been hypothesized in the literature (Bowlby, 1980; Lewis, 1971; Wagner & Tangney, 1991). Cook (1991) asserted that insecure attachment beginning in childhood engenders internalized shame that remains present and impactful well into adult years. In 2013, Leeming and Boyle conducted a qualitative study with 50 university students and employees analyzing first-person narratives of managing difficult episodes of shame. They discussed two major resulting themes: centrality of others' evaluations of the self and reposition of the self vis-à-vis others, suggesting that "because the participants saw their shame as produced in interaction with

others, effective management and repair of shame depended not just on a changed view of self but on a repositioning of the *self in relation to others* [emphasis added]" (Leeming & Boyle, 2013, p. 140). As discussed in the theory sections, attachment was conceptualized in the current study as a posture of self in relation to others and, thus, appears to align closely with the authors' assertion that repair of shame be mutually negotiated in close relationships (Leeming & Boyle, 2013). However, prior to 2000, only two published empirical studies were found examining the relationship between attachment and shame. In a study with mid-life adults, Wells (1996) found higher levels of shame among insecurely attached participants in comparison to securely attached participants, though the study is limited by the categorical nature of the attachment measure utilized (Hazan & Shaver, 1987). Lopez et al. (1997) examined the relationship between continuous adult attachment style (though they combined avoidant and secure dimensions into one) and shame in 142 undergraduate students. They found that attachment anxiety was significantly correlated with shame-proneness but not avoidant/secure attachment; furthermore, they reported that insecurely attached individuals had more difficultly differentiating shame and guilt (Lopez et al., 1997). Since 2000, multiple subsequent studies have been published examining relationships among adult attachment and shame.

These studies were divided approximately in half between those that investigated adult attachment using categorical labels (though, at times, continuous instruments) and those using continuous dimensions. In a study conducted with 204 college undergraduates, Gross and Hansen (2000) found significant correlations in the expected directions between secure ($r = -.50$, $p < .001$), preoccupied ($r = .26$, $p < .001$), and fearful ($r = .27$, $p < .001$) attachment and shame; however, they did not find a relationship between dismissing attachment and shame ($r = .07$, $p > .05$), stating that "perhaps Bartholomew's (1990) conceptually appealing 2 x 2 model does not

adequately capture the underlying dynamics and nuances for those with dismissing attachment styles" but rather "the quality of the positive self for dismissing individuals is more defensive and fragile…their negative other stance may develop out of self-protection, belying a pseudo-positive sense of self" causing them to "consciously report low shame while internally distrusting their own worthiness" (p. 904). This view may be supported by additional studies demonstrating similar associations in community adults and college students (e.g., Chen et al., 2015; Consedine & Magai, 2003; Passanisi et al., 2015). In a recent investigation with 209 university students, Passanisi et al. (2015) further reported that experiences of shame were negatively predicted by secure attachment style (β = -.20, $p < .001$) and positively predicted by preoccupied (β = .13, $p < .05$) and fearful attachment (β = .16, $p < .05$) styles. Thus, attachment styles involving a negative view of the self (i.e., preoccupied, fearful) were related to shame while the positive view of self/negative view of others (i.e., dismissing style) was unrelated.

In studies examining the relationship between adult attachment style and shame using the dimensions of attachment-related anxiety and avoidance, both dimensions were associated consistently with shame-proneness. Wei et al. (2005) conducted the first study identified that used these dimensions in a structural equation model of shame with a sample 299 undergraduates. They found significant correlations between the latent variables of attachment anxiety (r = .60, $p < .001$) and attachment avoidance (r = .33, $p < .001$) and shame, respectively, as well as direct and indirect effects of anxious attachment on shame and fully mediated effects of avoidant attachment on shame through basic psychological needs fulfillment (Wei et al., 2005). Brown and Trevethan (2010) replicated the correlational results in a sample of 166 gay adult male participants in Australia finding significant correlations between shame and both avoidant attachment (r = .50, $p < .001$) and anxious attachment (r = .51, $p < .001$). Similarly,

Johnson et al. (2015) found comparable results in a study of 200 young adult couples in Mainland China with significant correlations between anxious ($r = .33$, $p < .001$) and avoidant ($r = .26$, $p < .001$) attachment to romantic partner and shame. They further reported relationships between shame-proneness and less adaptive outcomes such as low constructive problem solving, negative interactions, and lower relationship satisfaction which they interpreted to suggest that while shame may be a highly valued emotion in many Confucian cultures, "shame-proneness may be a liability for modern-day intimate relations" (Johnson et al., 2015, p. 335). Lastly, in a study conducted with 193 female participants, DeVille et al. (2015) found that anxious ($r = .35$, $p < .001$) and avoidant attachment ($r = .22$, $p < .01$) were significantly correlated with body shame, a specific aspect of shame also measured in the present study. They further found that the fit for their structural equation model improved significantly by adding a direct path from anxious attachment to body shame in addition to the indirect effects both avoidant attachment ($z = 2.53$, $p = .01$) and anxious attachment ($z = 4.57$, $p < .001$) had on body shame through body surveillance (DeVille et al., 2015); together, the attachment variables and body surveillance explained 43.8% of variance in body shame ($p < 0.001$).

Though the positive view of self and negative view of others associated with a dismissing style and, thus, the dimension of attachment avoidance have not been shown to relate to shame, studies using the orthogonal dimensions of attachment anxiety and avoidance to represent adult attachment style have demonstrated consistent relationships between both dimensions and shame, including the specific aspect of shame associated with the body which supports the hypothesized relationship between the dimensions of attachment-related anxiety and avoidance and shame in the primary model of the current study. The results of another related investigation informed the development of the alternate model in the present study. While they also measured

adult attachment using a continuous measure, Beduna and Perrone-McGovern (2019) did not differentiate attachment-related anxiety and avoidance and, instead, utilized low scores on both dimensions to represent attachment security. They reported that adult attachment security was related to shame both directly and indirectly through a structural equation modeling path of self-compassion in 322 college students who were survivors of childhood bullying (Beduna & Perrone-McGovern, 2019). Along with the theoretical disagreement regarding the precise nature of adult attachment and self-compassion already discussed, these empirical results supported the construction of the alternative model in the present study which represents both direct and indirect relationships between attachment-related anxiety and avoidance with shame through the latent variable of self-compassion. Thus, the current study aligned with the trajectory of the attachment and shame literature by measuring both dimensions of adult attachment and seeking to provide additional evidence toward clarifying an emergent, controversial question regarding the potential mediational role of self-compassion on the relationship between attachment and shame.

<div align="center">**Interpersonal Trauma and Self-Compassion**</div>

Cumulative IPT and self-compassion have been both theoretically and empirically associated in the literature. Germer and Neff (2014) restated that individual differences in self-compassion stem from early relational experiences such as abuse and neglect; they also highlighted connections between three major symptom clusters of trauma-related psychopathology: arousal, avoidance, and intrusion; stress responses: fight, flight, and freeze; and the negative aspects of the self-compassion components: self-criticism, isolation, and over-identification and emphasized that these overlaps "point toward self-compassion as a healthy, alternative response to trauma" (Germer & Neff, 2014, p. 45). In a comprehensive review of

literature applying self-compassion theory to *victimization* (i.e., the experience of being a victim of a crime) within the context of the field of victimology (i.e., the study of the phenomenology of victims of crime), Bensimon (2017) found evidence tying the experience of IPT to all three components of self-compassion, suggesting that victimization represented uncompassionate responding by another human being and healing would likely involve the corrective role of both self- and communal compassion. The author further reviewed five key empirical studies linking various types of IPT to self-compassion in adolescent and emerging adult samples. Together with these main five investigations, further research demonstrates the role of cumulative IPT in shaping an individual's level of self-compassion as well as the role of self-compassion in mediating the relationship between IPT and resulting detrimental outcomes.

Among the early studies reviewed, Vettese et al. (2011) found a significant negative relationship between childhood trauma (i.e., physical abuse, physical neglect, emotional abuse, emotional neglect, sexual abuse) and self-compassion ($r = -.34$, $p < .01$); furthermore, they reported that childhood maltreatment significantly predicted self-compassion ($\beta = -.34$, $p < .01$). This association was reflected in numerous subsequent studies examining diverse types of IPT and self-compassion in adolescent (at-risk, clinically-referred, Child Protective Services-involved, and community) and undergraduate trauma-exposed and not trauma-exposed samples (e.g., Barlow et al., 2017; Bistricky et al., 2017; Játiva & Cerezo, 2014; Miron et al., 2014, 2016; Tanaka et al., 2011). For instance, Barlow et al. (2017) conducted a study with 466 mostly first year university students and found that cumulative childhood abuse exposure ($r = -.33$, $p < .001$) as measured by the scale being utilized in the present study (CATS; Sanders & Becker-Lausen, 1995) as well as each of the subscales (SA, PUN, NEG, EA) were significantly negatively correlated with self-compassion. Moreover, college students and community adults who reported

a history of childhood trauma and/or abuse had significantly lower self-compassion scores ($t =$ -2.16, $p < .05$ and $t = -5.68$, $p < .001$, respectively) than those who reported not experiencing IPT in childhood (Miron et al., 2016; Tarber et al., 2016). Past research also demonstrated the role of compounding types of IPT in shaping self-compassion where adolescent and university student participants who reported more types ($\beta = -.239$; $p < .005$ and $r = -.242$, $p < 0.01$, respectively) exhibited lower levels of self-compassion (Bistricky et al., 2017; Játiva & Cerezo, 2014). Thus, the experience of cumulative IPT has been shown to relate to lower levels of self-compassion in youth and emerging adult populations.

In turn, research has demonstrated the role of self-compassion to influence outcomes for survivors of IPT. In a longitudinal study with 64 at-risk adolescents ranging from 15 to 19 years old who were exposed to a potentially traumatic event, Zeller et al. (2015) illustrated the prospective function of self-compassion (measured within 30 days of exposure) to predict posttraumatic stress, panic, depressive, and suicidality symptoms (measured at 6 months). Similarly, the results of multiple other empirical studies support the mediating role of self-compassion on the relationship between IPT and associated outcomes such as the following: depression (Wu et al., 2018), trauma appraisals (e.g., self-blame, alienation, shame; Barlow et al., 2017), affective shame (Beduna & Perrone-McGovern, 2019), substance use and abuse (Miron et al., 2014), general psychological maladjustment (Játiva & Cerezo, 2014), social support (Maheux & Price, 2016), emotion regulation (Reffi et al., 2018), and psychological well-being (Tarber et al., 2016). In IPT-exposed samples, self-compassion has also been related to the following: general psychological symptom severity (Valdez & Lilly, 2016), PTSD, anxiety, depression (Maheux & Price, 2016), suicidality (Tanaka et al., 2011), fear of self-compassion (Boykin et al., 2018; Miron et al., 2015), resilience (Scoglio et al., 2018), psychological well-

being, life satisfaction, quality of life (Seligowski et al., 2015), and gratitude (Wu et al., 2018).

Therefore, previous research supports the role of cumulative IPT in shaping level of self-

compassion and the functions of self-compassion to influence outcomes following IPT-exposure,

perhaps making self-compassion a viable "malleable protective factor for trauma-related

psychopathology outcomes" and "a target for future trauma-related selective-prevention and

early intervention" (Zeller et al., 2015, p. 645).

As a final note regarding the relationship of IPT to self-compassion, Pepping et al. (2015)

described the results of an investigation they conducted to provide further clarification regarding

the potential origins of self-compassion that may provide support for the alternate model utilized

in the present study. In an article documenting a study with 329 first year undergraduate

students, Pepping et al. reported significant correlations between self-compassion and parental

warmth ($r = .14$, $p < .05$), parental rejection ($r = -.24$, $p < .001$), and parental overprotection ($r =

-.20$, $p < .01$). They interpreted these results to provide evidentiary support for the influence of

early relational experiences on self-compassion; however, they also reported that these parenting

constructs were significantly mediated by attachment anxiety, though not attachment avoidance

(Pepping et al., 2015). They further asserted that these results supported a perspective crediting

individual differences in self-compassion to attachment style rather than early experience

directly (Pepping et al., 2015). As described in the adult attachment and self-compassion section

above, these results together with their second study reported in the same article may, in part,

support the alternate model proposed in the current study representing indirect effects of

cumulative IPT on self-compassion as mediated by adult attachment-related anxiety and

avoidance. Regardless, both models in the present study reflect an indirect relationship between

IPT and shame via self-compassion, and literature supporting the second half of this pathway (i.e., self-compassion to shame) is examined in the following section.

Self-Compassion and Shame

From Neff's (2003a) first article conceptualizing self-compassion, she discussed the relationship between the shadow components of self-compassion (i.e., self-judgment, isolation, and overidentification) and core aspects of shame including negative self-evaluation, tendency to isolate, and feeling overwhelmed by painful emotion (Lewis, 1971; Tangney & Dearing, 2002), suggesting that self-compassion may function as a resiliency factor. Herman (1992) also discussed the likelihood that survivors of IPT would experience symptoms characteristic of lower self-compassion and higher shame such as self-blame and disconnection. From an evolutionary perspective, Gilbert and Procter (2006) explained the relationship between self-compassion and shame as one in which self-compassion activates a biological self-soothing system to address the physiological arousal activated by the threat of shame. This self-soothing system is thought to facilitate effective coping and the ability to experience feelings of connection, calm, and safety (Gilbert & Procter, 2006). These hypotheses were supported by studies linking increased self-compassion to significant improvement in shame-related physiological indicators such as heart rate variability (Matos et al., 2017) and hormonal stress responses in the context of both acute (Breines et al., 2014) and chronic (Breines et al., 2015) stress.

Neff's (2003a) assertion regarding an inverse relationship between self-compassion and shame is supported also by ongoing research. Many empirical studies demonstrated significant correlations between self-compassion and state and trait shame in female adolescents, university students, community adults, and eating disorder patients (e.g., Benda et al., 2018; Ferreira et al.,

2013; Johnson & O'Brien, 2013; Kotera et al., 2019; Matos et al., 2017; Mosewich et al., 2011; Reilly et al., 2014; Waring & Kelly, 2019; Webb et al., 2016; Woods & Proeve, 2014). In a study addressing state shame, self-compassion was significantly correlated with shame at baseline, immediately after experiencing a socially evaluative stressor, and at follow up (ranging from $r =$ -.245 to -.446, $p < .01$ to .001, respectively; Ewert et al., 2018). Additionally, self-compassion was found to predict shame and to explain unique variance in shame when considered with other shame-related variables (Ewert et al., 2018; Mosewich et al., 2011; Ross et al., 2019; Waring & Kelly, 2019; Woods & Proeve, 2014). In structural equation modeling analysis with college student and community member samples, researchers found a significant negative pathway from self-compassion to shame and that self-compassion mediated relationships between potentially traumatic events in childhood (e.g., childhood bullying victimization, childhood emotional abuse and emotional neglect) and shame (Beduna & Perrone-McGovern, 2019; Ross et al., 2019). Similarly, shame has been found to mediate the relationship between self-compassion and depression (Johnson & O'Brien, 2013) while both self-compassion and shame together were found to mediate the relationship between childhood emotional maltreatment and depression (Ross et al., 2019).

Lower self-compassion and elevated shame appear to co-occur with various forms of psychopathology (e.g., Benda et al., 2018) as well as the experience of holding a minority sexual identity (e.g., Matos et al., 2017). In one study with a total of 296 clinically diagnosed anxiety clients, depression clients, and nonclinical controls, Benda et al. (2018) found that clients diagnosed with anxiety and depression had significantly lower self-compassion and higher shame-proneness and internalized shame than healthy controls (all at $p < .001$ level). One area of psychopathology with which self-compassion and shame have been studied consistently in the

previous five years is disordered eating behaviors. In a study with "309 weight-diverse" (p. 5) female college students, Webb et al. (2016) found a significant negative correlation between self-compassion and body shame ($r = -.53$, $p < .01$), one aspect of shame measured in the current study. Kelly and Tasca (2016) conducted process research with 78 eating disorder patients, administering measures of self-compassion, shame, and eating pathology every three weeks across 12 weeks of treatment. They reported that level of shame was significantly lower following periods of increased self-compassion which appeared to disrupt a cycle of increased shame leading to more eating pathology which then leads to more shame (Kelly & Tasca, 2016). In an experimental study with 25 female college students, Kwon et al. (2018) randomly assigned participants to a 60-minute weekly self-compassion program for six weeks treatment or to a control group finding that self-compassion increased and body shame decreased significantly more in the treatment than in the control group.

These experimental associations between self-compassion and shame continue to be demonstrated in recent investigations. In a meta-analysis of 21 self-compassion intervention randomly controlled trials (RCTs) from the past 12 years (total $N = 1,285$), significant between group medium to large differences were found for resulting levels of self-compassion ($d = 0.70$) even when including active control comparisons as well as mindfulness, depression, anxiety, psychological distress, and well-being (Kirby et al., 2017). In one of the first compassion-based treatment experimental pre-trial studies, Gilbert and Procter (2006) provided a 12-week group to six patients describing histories of early physical abuse, sexual abuse, and/or severe neglect and found significant decreases in shame and increases in ability to be self-soothing and focus on feelings of warmth and reassurance for the self which are hypothesized to relate directly to self-compassion (Neff, 2003a). Johnson and O'Brien (2013)—in a study that is frequently cited in

literature discussing self-compassion and shame—conducted an experimental study assigning 90 university students to a self-compassion writing, expressive writing, or no writing control group. Level of self-compassion increased in comparison to baseline in the main treatment group which was the opposite trend of the control, and those practicing self-compassion uniquely showed significant reductions in shame-proneness from baseline (Johnson & O'Brien, 2013). Similar studies have been conducted in undergraduate, community adult, and clinical adult samples demonstrating the significance of self-compassion interventions (e.g., online courses, letter-writing exercises) to increase self-compassion and decrease shame (Au et al., 2017; Cândea & Szentágotai-Tătar, 2018; Kelly & Waring, 2018; Matos et al., 2017; Proeve et al., 2018). Researchers reporting the findings of experimental studies using self-compassion treatments further highlight the effects of these treatments on decreasing related unhealthy conditions (e.g., self-criticism, fears of compassion, stress, posttraumatic stress, eating disorder behavior) and increasing healthy ones (e.g., positive emotions, compassion for others, compassion from others, self-esteem, life satisfaction) for treatment groups (Au et al., 2017; Gilbert & Procter, 2006; Kelly & Waring, 2018; Matos et al., 2017). Thus, self-compassion has been shown to be related inversely to shame by cross-sectional and experimental studies demonstrating significant negative correlations, prediction through regression, negative paths in structural equation models, and changes following intervention in treatment groups. This research suggests that self-compassion may be a significant and viable point of intervention for trauma-exposed individuals who experience shame; however, no study was identified conceptualizing self-compassion as an integrative relational mechanism alongside adult attachment explaining the intrapersonal aspects of trauma-related shame.

Limitations of Literature Review

Though every effort was made to conduct a comprehensive review of literature pertaining to the relationships examined in the present study, it is important to acknowledge several limitations. First, identification of included sources occurred through the use of SUMMON, EbscoHost, and PsychINFO and was restricted to peer-reviewed journal articles, books, and book chapters, excluding dissertations, nonpeer-reviewed references, and popular sources. The search was limited further to references available in the English language. Due to the nature of reviewing published works, the review may have been subject also to the file drawer problem in which studies with insignificant results remain unpublished while those with significant findings are prioritized for distribution. Lastly, relevant sources may have been overlooked in the process of conducting this search due to researcher error, though precautions such as searching multiple databases and following up on studies cited by included authors have been made to avoid this. Thus, this review is believed to be a comprehensive, though not exhaustive, discussion of constructs relevant to the research questions presented in Chapter I of the current study.

Summary and Future Directions

Despite their theoretical and empirical connections, no published study was identified that examined the relationships among cumulative interpersonal trauma, adult attachment anxiety and avoidance, self-compassion, and shame concurrently. Attachment theory and self-compassion theory are complementary inter- and intrapersonally-focused explanatory frameworks that link early relational experiences including trauma with shame. Cumulative IPT and shame are associated both individually and conjointly with serious negative outcomes, making each a formidable global and national public health concern that may be especially relevant to emerging adults; however, relatively little research has been conducted to investigate

the relational mechanisms underlying this relationship that may serve as resiliency factors and foci of therapeutic intervention. Specifically, no identified study has yet examined established connections between IPT and shame from an integrative framework accounting for the theorized interpersonal (e.g., attachment) and intrapersonal (e.g., self-compassion) aspects of shame. Previous research results were also contradictory regarding the specific relationship between adult attachment anxiety and avoidance and self-compassion as well as between adult attachment and shame. It is possible that these contradictions exist given less specific measures of attachment not reflecting a continuous, dimensional framework as well as the absence of one or more of the constructs examined in the current study.

Thus, the primary model in the present study represents the hypothesis that cumulative interpersonal trauma indirectly affects shame through the full mediation of the related constructs of adult attachment anxiety, adult attachment avoidance, and self-compassion. Specifically, higher degrees of exposure to IPT directly relate to increased levels of attachment anxiety and attachment avoidance and decreased levels of self-compassion. Higher levels of attachment anxiety and attachment avoidance directly relate to increased shame, and higher levels of self-compassion directly relate to decreased shame. In contrast, the alternate model represents the indirect effects of cumulative interpersonal trauma on self-compassion through the full mediation of the related constructs of adult attachment anxiety and adult attachment avoidance which, in turn, both directly and indirectly affect shame through the partial mediation of self-compassion. Specifically, it is hypothesized that the higher degree of exposure to IPT relates directly to higher levels of attachment anxiety and avoidance which relate directly to lower levels of self-compassion. Higher levels of attachment anxiety and avoidance relate directly to increases in shame and indirectly to shame through lower levels of self-compassion which relate directly to

higher levels of shame. Providing data that may facilitate clarifications regarding these relationships would reflect a unique theoretical and empirical contribution to the literature and may assist clients, counseling psychologists, future researchers, academic institutions, and larger systems in leveraging this understanding to develop, apply, refine, and sustain intervention and prevention efforts with emerging adults.

CHAPTER III

METHODOLOGY

Design

The present study employed a cross-sectional, non-experimental survey design utilizing structural equation modeling (SEM) to examine the relationships among cumulative interpersonal trauma, adult attachment, self-compassion, and shame in a sample of undergraduate students. Attachment theory and self-compassion were integrated as theoretical lenses to conceptualize these relationships, and the current study appeared to be the first to utilize this integrative framework within the trauma literature. Thus, one intention in conducting the study was to contribute to an understanding of best practices and emphases for therapeutic intervention with emerging adult survivors of trauma who experience shame.

Five latent constructs were included in the primary and alternate models: cumulative interpersonal trauma, attachment avoidance, attachment anxiety, self-compassion, and shame. In SEM, latent variables are considered unobservable and hypothetical; thus, it was necessary to identify observable variables that could be measured directly to serve as indicators (Kline, 2016; Weston & Gore, 2006). These indicators were derived from the self-report survey measures administered to the participants. Because the correspondence between the latent factors and their indicators determines the accuracy of the latent constructs (Weston & Gore, 2006), theoretically supported and psychometrically strong scales and subscales were chosen as indirect measures to operationalize these latent factors (Kline, 2016). Please see the Instrumentation section below for further description of survey measures.

Structural equation modeling was selected to analyze the relationships among the latent constructs because it provided a method of measuring both direct and indirect effects between factors and accounting for measurement error (Kline, 2016). Jöreskog (1993) and Kline (2016) each discussed the importance of developing and evaluating multiple a priori models as well as the likelihood of finding relatively poor model fit initially; both researchers noted the corresponding utility of re-specification to create a theoretically consistent and statistically supported model if needed. Loehlin (2004) further emphasized the selection of a model that provides a parsimonious explanation of the data. The "parsimony principle" can be described as a recommendation to retain the simplest theoretically sound model with adequate fit to the data (Kline, 2016, p. 128).

Thus, primary (see Figure 2) and alternate (see Figure 3) models were developed and tested. The primary model represented hypothesized indirect effects of cumulative interpersonal trauma on shame as mediated by the interrelated constructs of adult attachment anxiety, adult attachment avoidance, and self-compassion. The alternate model specified an indirect effect of cumulative interpersonal trauma on self-compassion as mediated by the adult attachment constructs in addition to direct and indirect effects of the adult attachment constructs on shame as mediated by self-compassion. In accordance with Kline's (2016) recommended two-step process, both measurement and structural versions of each model were tested.

Participants

For the present study, participants were undergraduate students recruited from a mid-sized, public university in the Rocky Mountain region. A number of researchers who utilize SEM recommend a minimum sample size of 200 participants (Barrett, 2007; Kline, 2011; Loehlin, 2004). However, others contended that smaller samples would be adequate to achieve sufficient

statistical power for less complex models (Martens, 2005; Weston & Gore, 2006). Still others

suggested using an *N:q* (where *N* represents the sample size and *q* is a model parameter) ratio of

10:1 (e.g., Kline, 2016). For the purposes of this study, the final sample of 310 participants

exceeded the minimum of 200 who were sought to increase the likelihood of generating useful

results.

In an effort to obtain a representative and broad sample to support the generalizability of

results, inclusion criteria were as follows: (a) participants were at least 18 years old in order to

provide consent to participate but not over 20 years old in order to satisfy the intended

cumulative aspect of the interpersonal trauma instrument which focused on experiences in

childhood and adolescence, and (b) participants were required to be enrolled in undergraduate

coursework. An exclusion criterion included lack of access to an electronic device given the

digital format of the surveys; however, it was anticipated that most, if not all, university students

would have access through personal or university devices. Due to the potential influence on the

relationships among trauma, attachment, self-compassion, and shame, individuals who were

currently seeking or had previously sought trauma-focused psychotherapy were excluded from

the sample as determined by self-report on the demographic questionnaire. Potential participants

who had not lived with their primary caretaker for more than four years were excluded as well

given the focus of the Child Abuse and Trauma Scale, as described below, on the primary

caregiving household environment (Sanders & Becker-Lausen, 1995).

A total of 310 participants were included in the final sample after accounting for these

inclusion and exclusion criteria, attrition, and multivariate outliers (described in detail in Chapter

IV). All participants were between the ages of 18 and 20 years (*M* = 18.72, *SD* = .757) with a

majority of participants endorsing that they continued to live with their primary caregiver (*M* =

0.67, *SD* = .84). Self-reported responses to the number of years that had passed since living with

a primary caregiver ranged from zero to three. Individuals included in the final sample also

reported that they had participated in a median of one year of counseling or psychotherapy

(Median = 1.00, *M* = 2.30, *SD* = 2.63) not focused on one or more traumatic events, and these

responses ranged from zero to 14 years. Over half of the participants (63%) identified as single

or never married, 36% identified as dating, and less than 1% each identified as married or in a

domestic partnership, divorced, or cohabitating. Regarding parental or primary caregiver

relationship status, 67% reported that their parents were married or in a domestic partnership,

16% were divorced, 7% were remarried, 5% were separated, 3% were dating, 2% were widowed,

1% were single/never married, and less than 1% were cohabitating (percentages may not add up

to 100% due to rounding error).

In regard to race and/or ethnicity, 64% of the participants identified as White or

Caucasian, 16% identified as Latinx or Hispanic, 12% identified as biracial, 3% identified as

African American, Black, or African, 2% identified as multiracial, 1% identified as Native

American or Alaskan Native, 1% identified as Asian American or Asian, and 1% identified as

Native Hawaiian or Pacific Islander. Seventy-two percent of participants identified as cisgender

women, 25% identified as cisgender men, 1% identified as non-binary, and less than 1% each

identified as transgender women or genderfluid. When asked about sexual identity or orientation,

83% selected straight or heterosexual, 9% selected bisexual, 3% selected queer, 2% selected

pansexual, 1% selected asexual, and less than 1% each selected gay or lesbian. Eighty percent

reported self-identifying as middle class, 16% reported self-identifying as lower or working

class, and 4% reported self-identifying as upper class. In regard to religion and spirituality, 61%

identified as Christian, 11% identified as spiritual and non-religious, 9% identified as atheist, 8%

identified as agnostic, 1% identified as Buddhist, and 9% chose to self-identify as a combination

of the above. The majority of participants did not self-identify as having a disability diagnosis

(77%), while 14% self-identified as experiencing a mental health disorder, 3% self-identified as

experiencing a learning disability, 1% self-identified as experiencing sensory impairment, and

5% self-identified as experiencing more than one of the above. Thirty-two percent of participants

reported that a least one parent or primary caregiver earned a bachelor's degree, 26% completed

high school or a general education diploma (GED), 24% earned a master's degree, 9% completed

technical college or a certificate, 6% completed some school without earning a high school

diploma, and 3% earned a doctorate degree (see Table 1 for the participant demographics and

Appendix A for a copy of the demographic questionnaire [above percentages may not add up to

100% due to rounding error]).

Table 1

Participant Demographics

Variable	N	%	Variable	N	%
Age			Religious/Spiritual Identity		
18	143	46.1	Christian	190	61.3
19	111	35.8	Spiritual, non-religious	35	11.3
20	56	18.1	Atheist	29	9.4
Gender Identity			Agnostic	25	8.1
Cisgender woman	222	71.6	Buddhist	3	1.0
Cisgender man	77	24.8	Self-identify	28	9.0
Non-binary	3	1.0	Disability Diagnosis		
Transgender woman	1	0.3	None	238	76.8
Genderfluid	1	0.3	Mental health disorder	43	13.9
Self-identify	6	1.9	Learning disability	10	3.2
Sexual Identity/Orientation			Sensory impairment	3	1.0
Straight/Heterosexual	257	82.9	Self-identify	16	5.2
Bisexual	27	8.7	Participant Relationship Status		
Queer	9	2.9	Single, never married	196	63.2
Pansexual	5	1.6	Dating	110	35.5
Asexual	4	1.3	Married/Domestic partner	2	0.6
Gay	2	0.6	Divorced	1	0.3
Lesbian	2	0.6	Cohabitating	1	0.3
Self-identify	4	1.3	Parental Relationship Status		
Racial/Ethnic Identity/Descent			Married/Domestic partner	208	67.1
White/Caucasian/European	198	63.9	Divorced	49	15.8
Latinx/Hispanic/Spanish	50	16.1	Remarried	21	6.8
Biracial	36	11.6	Separated	14	4.5
African American/Black/African	10	3.2	Dating	8	2.6
Multiracial	5	1.6	Widowed	5	1.6
Native American/Alaska Native	4	1.3	Single, never married	4	1.3
Asian American/Asian	3	1.0	Cohabitating	1	0.3
Native Hawaiian/Pacific Islander	3	1.0	Parental Education Level		
Self-identify	1	0.3	Bachelor's degree	99	31.9
Military Service			High school/GED	80	25.8
No	307	99.0	Master's degree	75	24.2
Yes	3	1.0	Technical College/Certificate	27	8.7
Socioeconomic Status			Some schooling completed	19	6.1
Middle class	249	80.3	Doctorate degree	10	3.2
Lower/Working class	50	16.1			
Upper class	11	3.5			

Note. n = 310.

Instrumentation

Interpersonal Trauma

The latent variable of cumulative interpersonal trauma was measured using the Child Abuse and Trauma Scale (CATS; Sanders & Becker-Lausen, 1995). The CATS is a self-report, retrospective measure of childhood and adolescent maltreatment designed to examine the "degree of subjectively assessed stress or trauma produced by various types of negative experiences" (Sanders & Becker-Lausen, 1995, p. 317). It is one of few maltreatment surveys that provides continuous data on an individual's perception of previous trauma and appears to be the only one of its kind readily available for use in research (see Adams, 2007 for a review). Utilized with a young emerging adult sample (e.g., 18- to 20-year-olds), it was employed as a measure of cumulative interpersonal trauma in the present study.

The CATS is a 38-item (e.g., "Did you feel safe living at home?") questionnaire that was initially developed to provide a total score as well as mean scores for three subscales: negative home atmosphere/neglect (NEG; 14 items), sexual abuse (SA; six items), and punishment/physical abuse (PUN; six items; Sanders & Becker-Lausen, 1995). Kent and Waller (1998) also identified a fourth subscale representing emotional abuse (CEA; seven items); for the purposes of the current study, the single item that overlapped with the NEG subscale was removed from the NEG subscale to facilitate effective structural equation modeling analysis. Respondents answer using a 5-point Likert-type scale ranging from 0 ("Never") to 4 ("Always"), where higher mean subscale scores indicate greater degrees of perceived cumulative interpersonal trauma in each of the four domains described above. For the purposes of this study, the four CATS subscales were intended to be utilized as measured indicators for the latent construct of cumulative interpersonal trauma. Please see the measurement model section of

Chapter IV for additional information on the decision to remove the PUN subscale as an indicator.

Total scores on prior administrations of the CATS have been shown to demonstrate strong internal consistency reliability with Cronbach's alphas of approximately 0.90 in undergraduate emerging adult samples (Arens et al., 2014; Sanders & Becker-Lausen, 1995). Cronbach's alphas for the subscales ranged from 0.86 to 0.91 (NEG), 0.76 to 0.83 (SA), 0.63 to 0.78 (PUN), and 0.88 (CEA) in college and emerging adult community member samples (Kent & Waller, 1998; Sanders & Becker-Lausen, 1995; Tasca et al., 2013). In the current sample, Cronbach's alphas equaled 0.89 (NEG), 0.53 (PUN), 0.82 (SA), and .90 (CEA; see Table 2). Furthermore, past factor analytic results supported an initial conceptualization of three subscales and a modified conceptualization consisting of four subscales that represented distinct but related types of maltreatment (Kent & Waller, 1998; Sanders & Becker-Lausen, 1995).

Table 2

Descriptive Statistics and Correlations for Continuous Variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	α	Mean	SD
1	CATS_NEG	-																			.89	.97	.77
2	CATS_PUN	**.44**	-																		.53	1.33	.62
3	CATS_SA	**.41**	**.32**	-																	.82	.19	.42
4	CATS_CEA	**.80**	**.54**	**.35**	-																.90	1.13	.85
5	ECRR_ANX1	**.45**	**.16**	**.15**	**.41**	-															.82	3.99	1.46
6	ECRR_ANX2	**.38**	**.17**	**.12**	**.36**	**.87**	-														.81	4.01	1.37
7	ECRR_ANX3	**.42**	**.19**	**.18**	**.37**	**.82**	**.82**	-													.80	3.40	1.34
8	ECRR_AVD1	**.20**	**.20**	**.14**	**.19**	**.27**	**.27**	**.25**	-												.81	3.46	1.28
9	ECRR_AVD2	**.16**	**.20**	**.16**	**.16**	**.25**	**.24**	**.24**	**.90**	-											.79	3.37	1.29
10	ECRR_AVD3	**.21**	**.20**	**.17**	**.17**	**.27**	**.27**	**.25**	**.89**	**.86**	-										.77	3.25	1.25
11	SCS_SK	**-.23**	**-.17**	-.09	**-.22**	**-.34**	**-.32**	**-.22**	**-.32**	**-.33**	**-.34**	-									.86	2.75	.87
12	SCS_CH	**-.12**	**-.13**	-.10	**-.11**	**-.14**	-.10	-.06	**-.28**	**-.28**	**-.29**	**.60**	-								.78	2.98	.88
13	SCS_M	**-.13**	**-.20**	**-.17**	**-.13**	**-.21**	**-.20**	**-.16**	**-.25**	**-.25**	**-.29**	**.72**	**.69**	-							.76	3.06	.82
14	SCS_SJ	**-.36**	-.02	-.09	**-.37**	**-.61**	**-.54**	**-.52**	**-.13**	**-.15**	**-.14**	**.37**	.07	**.16**	-						.87	2.71	1.01
15	SCS_I	**-.39**	-.09	-.06	**-.40**	**-.61**	**-.56**	**-.56**	**-.16**	**-.16**	**-.15**	**.26**	.07	**.15**	**.76**	-					.84	2.89	1.07
16	SCS_O	**-.32**	.01	-.09	**-.30**	**-.58**	**-.50**	**-.56**	.02	.00	.02	**.22**	**.13**	**.20**	**.76**	**.73**	-				.81	2.92	1.02
17	ESS_CH	**.39**	.09	**.24**	**.38**	**.55**	**.45**	**.48**	**.18**	**.18**	**.20**	**-.29**	-.08	**-.13**	**-.63**	**-.57**	**-.58**	-			.94	2.26	.78
18	ESS_BE	**.30**	.01	**.13**	**.30**	**.57**	**.48**	**.48**	.04	.04	.05	**-.17**	-.00	-.09	**-.65**	**-.60**	**-.62**	**.74**	-		.93	2.65	.81
19	ESS_BO	**.34**	**.12**	**.21**	**.32**	**.54**	**.47**	**.47**	.07	.07	.07	**-.24**	-.05	**-.16**	**-.63**	**-.50**	**-.53**	**.61**	**.58**	-	.90	2.60	.99

Note. n = 310. Bold Type = $p < .05$. Child Abuse and Trauma Scale (CATS), NEG = Negative Home Atmosphere/Neglect subscale, PUN = Punishment/Physical Abuse subscale, SA = Sexual Abuse subscale, CEA = Childhood Emotional Abuse subscale, Experiences in Close Relationships-Revised (ECR-R), ANX 1-3 = Parcels from the Attachment Anxiety subscale, AVD 1-3 = Parcels from the Attachment Avoidance subscale, Self-Compassion Scale (SCS), SK = Self-kindness subscale, CH = Common humanity subscale, M = Mindfulness subscale, SJ = Self-judgment subscale, I = Isolation subscale, O = Overidentification subscale, Experiences of Shame Scale (ESS), CH = Characterological subscale, BE = Behavioral, BO = Bodily.

Evidence for convergent validity of the CATS is supported by significant correlations with measures of outcomes commonly associated with trauma and maltreatment: dissociation (r = .24, p < .001), depression (r = .40; p < .001), stressful life events (r = .29; p < .001), and impairment of interpersonal relationships (r = .37; p < .001; Sanders & Becker-Lausen, 1995). In contrast, discriminant validity evidence is supported by an absence of correlations with other negative experiences that would not be considered interpersonal traumas or maltreatment such as loss of important people through illness or death (r = .08; Sanders & Becker-Lausen, 1995). Thus, the initial theoretical instrument articles and recent research support the use of the CATS subscales to represent the latent constructs of interpersonal trauma, abuse, and/or maltreatment and as a retrospective measure of trauma with emerging adults (Arens et al., 2014; Kent & Waller, 1998; Sanders & Becker-Lausen, 1995; Tasca et al., 2013).

Adult Attachment

The latent variables of attachment anxiety and avoidance were measured using the Experiences in Close Relationships-Revised (ECR-R; Fraley et al., 2000). The ECR-R is a 36-item self-report questionnaire developed utilizing item response theory (Hambleton & Swaminathan, 1985) in an attempt to improve sensitivity to secure attachment (Fraley et al., 2000) from the original ECR (Brennan et al., 1998) and was chosen for the current study over other attachment measures for this reason. While the original instrument is described as a measure of adult romantic attachment, the directions indicate that participants should respond regarding their general tendencies in emotionally intimate relationships, and Fraley et al. (2000) encouraged researchers to modify the target of items when needed (e.g., "I'm afraid I will lose my partner's love" to "I'm afraid I will lose a close other's love"). Chapter II provides more information concerning the historical trajectory of evolving inclusivity regarding potential

attachment figures. In the present study, all items referencing "a partner" were modified in accordance with the first author's instructions to indicate "a close other" in an effort to be inclusive of individuals without prior romantic relationships and those who choose not to engage in romantic relationships. This modification in item target may allow for greater representation of varying participant sexual orientations, relationships, and life experiences. Additionally, Fraley and Waller (1998) provided research supporting the use of attachment constructs as latent factors. Thus, the overarching construct of attachment was conceptualized according to Brennan et al.'s (1998) orthogonal model which resulted in two latent factors corresponding to the two ECR-R subscales: attachment anxiety (i.e., fear of rejection) and attachment avoidance (i.e., difficulty with closeness).

Initial and recent research has supported this use of the instrument among undergraduate emerging adults with Cronbach's alpha coefficients of 0.93 or higher for both subscales in samples ranging from 300 to 1,085 participants (Fraley, 2013; Lim et al., 2012; Sibley & Liu, 2004; Sibley et al., 2005). Sibley and Liu (2004) provided further evidence for construct validity by confirming the hypothesized two-factor structure of the ECR-R using both exploratory and confirmatory factor analyses. Convergent validity is supported by the significant positive correlation of the ECR-R with the Relationship Questionnaire (Bartholomew & Horowitz, 1991), another attachment measure (Sibley et al., 2005). Fairchild and Finney (2006) provided additional evidence for the convergent discriminant validity of the subscales of the ECR-R by demonstrating positive correlations between the avoidant subscale and touch avoidance ($r =$ .511) and loneliness ($r = .368$) as well as negative correlations with affectionate proximity ($r = -$.512); in contrast, their results showed positive correlations between the anxiety subscale and

relationship worry (r = .386) as well as a negative correlation with social support (r = -.431; Fairchild & Finney, 2006).

Attachment Anxiety

The latent factor of attachment anxiety was measured using the 18-item attachment related anxiety subscale on the ECR-R (Fraley et al., 2000). This subscale is thought to represent the fear of interpersonal abandonment and associated worry and uncertainty described along the anxious spectrum of insecure attachment (Brennan et al., 1998). An example of the items comprising this subscale is "I worry a lot about my relationships" (Fraley et al., 2000). Participants responded using a 7-point Likert-type scale ranging from 1 ("Strongly Disagree") to 7 ("Strongly Agree"), where higher mean scores indicate one aspect of greater insecure attachment in the area of attachment anxiety (Fraley et al., 2000). For the purposes of the current study, the ECR-R attachment anxiety subscale items were parceled into three 6-item indicators using a balanced procedure to contribute to the creation of a just-specified model (Kline, 2016; Little et al., 2002, 2013). The Identification section below provides a detailed discussion of parceling procedures. Cronbach's alphas for the three parcels used in the present sample were 0.82 (ANX1), 0.81 (ANX2), and 0.80 (ANX3; see Table 2).

Attachment Avoidance

The latent factor of attachment avoidance was measured using the 18-item attachment related avoidance subscale of the ECR-R (Fraley et al., 2000). This subscale is thought to represent the discomfort with reliance on and emotional proximity to others described along the avoidant continuum of Brennan et al.'s (1998) orthogonal model. An example of items comprising this subscale is "I prefer not to show a close other how I feel deep down" (Fraley et al., 2000). Responses range from 1 ("Strongly Disagree") to 7 ("Strongly Agree"), where higher

mean scores indicate greater insecure attachment in the area of attachment avoidance (Fraley et al., 2000). As with the attachment anxiety subscale, the attachment avoidance subscale was parceled into three 6-item indicators according to the recommendations of Kline (2016), Little et al. (2002), and Little et al. (2013). Similarly, the Identification section below provides a detailed discussion of parceling procedures. For the present sample, the Cronbach's alphas were 0.81 (AVD1), 0.79 (AVD2), and 0.77 (AVD3; see Table 2).

Self-Compassion

The latent variable of self-compassion was measured using the Self-Compassion Scale (SCS; Neff, 2003b). The SCS is a 26-item self-report questionnaire used to assess an individual's posture (i.e., emotions, thoughts, and associated actions) toward relating with the self during difficult experiences by examining six subscales organized into three components: self-kindness versus self-judgment, common humanity versus isolation, and mindfulness versus overidentification. The SCS items (e.g., "I try to be loving toward myself when I'm feeling emotional pain") are scored on a 5-point Likert-type scale ranging from 1 ("Almost Never") to 5 ("Almost Always"). Questions addressing self-judgment, isolation, and overidentification were reverse coded so that higher scores suggest higher levels of self-compassion. For the purposes of this study, the six subscales initially were operationalized as indicators to represent the latent factor of self-compassion. Please see the measurement model fit section of Chapter IV below for further discussion of the final modified indicators.

Internal consistency reliability of the SCS total score has been reported regularly as Cronbach's $\alpha = 0.92$ and higher with undergraduate emerging adult samples (Neff, 2003b; Neff et al., 2017). Subscale Cronbach's alpha coefficients were reported as the following: $\alpha = 0.78$ (self-kindness), $\alpha = 0.77$ (self-judgment), $\alpha = 0.80$ (common humanity), $\alpha = 0.79$ (isolation), $\alpha =$

0.75 (mindfulness), and α = 0.81 (over-identification) (Neff, 2003b). Evidence supporting

construct validity was provided by confirmatory factor analyses (CFAs) finding six second-order

factors reflecting one higher-order factor of self-compassion (Neff, 2003b, 2016). Convergent

validity was supported by significant correlations between self-compassion and mental health

outcomes in expected directions such as depression ($r = -.51$, $p < .01$), anxiety ($r = -.65$, $p < .01$),

perfectionism ($r = -.57$, $p < .01$), and life satisfaction ($r = .45$, $p < .01$) (Neff, 2003b). Evidence

for discriminant validity was provided by nonsignificant results of correlation analyses between

self-compassion and social desirability as well as narcissism (Neff, 2003b). The Cronbach's

alphas for the original six subscales in the current sample were 0.86 (self-kindness), 0.78

(common humanity), 0.76 (mindfulness), 0.87 (self-judgment), 0.84 (isolation), and 0.81 (over-

identification; see Table 2).

Shame

The latent variable of shame was measured using the Experiences of Shame Scale (ESS;

Andrews et al., 2002). The ESS is a 25-item self-report questionnaire that examines experiential,

cognitive, and behavioral shame related to eight areas of shame that are further organized into

three subscales: characterological (12 items; personal habits, manner with others, sort of person

you are, and personal ability), behavioral (nine items; doing something wrong, saying something

stupid, and failure), and bodily (four items; ashamed of your body or any part of it; Andrews et

al., 2002). Responses to items (e.g., "Have you felt ashamed of the sort of person you are?")

range from 1 ("Not at all") to 4 ("Very much") on a 4-point Likert-type scale, where higher

scores indicate more shame. Though the initial authors describe total subscale scores, mean

subscale scores were utilized in the current study in order to decrease relative variance across

indicators. No items are reverse coded; however, two items referring to competitive situations

meant to be used with athletes were replaced with the alternative questions provided by the authors (Andrews, et al., 2002). For the current study, the three subscales were used as indicators of the latent variable of shame, contributing to a just-specified model (Kline, 2016).

Use of both the total score and subscales is supported by evidence for reliability and validity with undergraduate emerging adult samples. Internal consistency reliability in the form of high Cronbach's alpha scores has been documented in initial and recent research: total score ($\alpha = 0.92$), characterological ($\alpha = 0.90$), behavioral ($\alpha = 0.87$), and bodily ($\alpha = 0.86$; Andrews et al., 2002; Passanisi et al., 2015). Andrews et al. (2002) presented initial confirmatory factor analytic evidence for construct validity demonstrating the superiority of the three-factor model in explaining variance over an alternative one factor model in an undergraduate sample. The ESS total score and subscale scores have been significantly correlated (rs = .51 to .61, ps < .001) with accepted measures of shame including the Test of Self-Conscious Affect shame scale (Tangney et al., 1989), supporting convergent validity. In contrast, discriminant validity was supported by a significantly lower correlations between the ESS total and subscale scores and the Test of Self-Conscious Affect guilt scale than in comparison to the shame scale (Andrews et al., 2002). The Cronbach's alphas for the current study sample were 0.94 (characterological), 0.93 (behavioral), and 0.90 (bodily; see Table 2).

Procedures

Before the initiation of participant recruitment or data collection, an application detailing the study was submitted to the Institutional Review Board (IRB) at the University of Northern Colorado for review and approval (see Appendix B for a copy of the IRB Approval Letter and Appendix C for a copy of the Informed Consent).

Participant Recruitment

A non-probability convenience sample of 310 undergraduate student participants was recruited using several methods. During the fall semester, students enrolled in a first semester undergraduate seminar section were recruited by the primary investigator or course instructor using a scripted prompt and a description of eligibility criteria (see Appendix D). The course instructors were provided with the link to the electronic questionnaire beginning with the informed consent information page (see Appendix C) with the option to email it to students or post it on their electronic learning management platform (e.g., Canvas). Students were not recruited from the undergraduate seminar course section taught by the primary investigator. Additionally, undergraduate students were recruited through a psychology department research pool during the first half of the following spring semester. This system allows students to review information about and elect to participate in a variety of available research studies. The synopsis of the study and description of eligibility available to students were the same as those provided to the seminar courses. After a student indicated interest in completing the current study, they were provided with a link to the informed consent information and electronic questionnaire.

During the middle of the spring semester, students enrolled in 100 to 200 level undergraduate psychology courses that did not utilize the psychology department research pool system were recruited as well by emailing a list of instructors provided by the psychology department research pool coordinator the scripted prompt, description of eligibility, and an incentive version of the survey (described in the Data Collection section below). These instructors received two reminder emails over the course of two weeks. Lastly, a random list of 750 undergraduate students aged 18- to 20-years-old obtained from an assessment office research pool were contacted via email using the synopsis, description of eligibility, and incentive version

of the survey link which connected to the same informed consent and electronic questionnaire. These students received two reminder emails over the course of two weeks during the middle of the spring semester. All data collection ended in March of 2020 prior to pandemic-related state and national stay-at-home orders to prevent potential history threats on the data.

Informed Consent and Data Collection

All data were collected electronically using Qualtrics (2019), which is an online survey platform. The initial screen provided an electronic copy of the informed consent document mentioned above (see Appendix C) which described the study, potential risks and benefits of participation, methods for protecting and storing data, primary researcher's contact information, and the participant's right to withdraw at any time. Given a minimal risk of possible emotional discomfort following exposure to the survey content (Yeater et al., 2012), this document also provided relevant campus, community, and national resources (e.g., counseling services, crisis hotlines). Participants indicated having read and understood the informed consent statement, meeting the inclusion criteria, and consenting to participate by selecting "agree." Upon completion of the online survey or the psychology department research pool time slot, a debriefing form was provided, and participants were encouraged to save or print a copy of the screen for their records and to provide it to their instructor for extra credit, if applicable (see Appendix E).

No signatures, names, or identifying numbers were collected to facilitate the anonymity of respondents whenever possible with the exception of internet protocol (IP) addresses which were used to check the data for potential duplication and an embedded ID number used to link a psychology department research pool participant's response to the credit generating mechanism in the psychology department research pool system. Following consent, participants were

directed to a demographic questionnaire and versions of the instruments described above that were adapted for Qualtrics formatting and ease of download by the researcher. Settings were configured to force a response to every item to prevent missing data and to randomize the order of instruments which has been demonstrated to minimize data patterns related to survey order (Rasinski et al., 2012). Survey logic was utilized to screen out participants who did not meet the inclusion/exclusion criteria by taking them directly to the debriefing screen. Data were downloaded into a secure statistical database and saved as a password-protected file on an encrypted flash drive and/or password protected hard-drive. All results were reported in an aggregate format to protect respondents.

Participants who did not otherwise receive classroom or extra credit as an incentive for participation (i.e., the 100 to 200 level undergraduate psychology course students and assessment office random list) were given an opportunity to participate in a random drawing given that incentives have been shown to increase response rates to online surveys (LaRose & Tsai, 2014). These participants were offered the option to sign up for the chance to receive one of five $10 Amazon gift cards. A separate page was added to the end of the incentive version of the online survey providing the opportunity to click on a link connecting to a second survey where the participant could enter an email address that would be used to contact the winners of the incentive drawings. This ensured that participant responses and emails could not be connected, further protecting the respondents' anonymity. Winners of the incentives drawing were contacted using the email address provided and given a link to the electronic gift card.

Data Analysis

Kline (2016) outlined a series of six potentially iterative steps to conduct structural equation modeling (SEM) analyses. The first involved specification of a conceptual model

representing the researcher's hypotheses and a theoretically plausible alternate. Step two was the identification of the primary and alternative models. The following step required the selection of measures and collection of data. Step four represented the estimation of model fit for both the hypothesized and alternative model. The fifth step was respecification if evaluation of the hypothesized model revealed poor model fit. Step six was reporting the results according to best practice recommendations.

Specification

Following Kline's (2016) recommendations, a primary and an alternative model were specified a priori in accordance with the literature review conducted in Chapter II. In addition, both models were constructed to align with adult attachment and self-compassion theories. The primary and alternative models provided a visual representation of the hypothesized relationships among cumulative interpersonal trauma, adult attachment, self-compassion, and shame.

For the primary theoretical model (see Figure 2), it was hypothesized that IPT was an exogenous variable that had a direct and positive effect on adult attachment anxiety and adult attachment avoidance. It was further proposed that IPT has a direct and negative effect on self-compassion. Attachment anxiety and avoidance were hypothesized to be endogenous variables with direct, positive effects on shame. Similarly, self-compassion was proposed to be an endogenous variable with direct, negative effects on shame. Therefore, the primary model represented the hypothesis that IPT had indirect effects on shame through the mediational roles of adult attachment anxiety, adult attachment avoidance, and self-compassion. In contrast, the alternative model (see Figure 3) specified an indirect effect of cumulative IPT on self-compassion as mediated by the adult attachment constructs in addition to direct and indirect effects of the adult attachment constructs on shame as mediated by self-compassion. In

accordance with Kline's (2016) recommended two-step process, both measurement and structural versions of each model were tested.

Identification

In order for an SEM model to be considered identified, Kline (2016) described several minimum requirements that relate to the ability to determine unique parameter estimates for both measurement and structural models. The measurement model steps of the primary and alternative models were considered identified because they each included at least two factors with at least two indicators per factor (Kline, 2011). At least three pre-existing subscales were used as indicators per factor for three of the latent variables. A balanced procedure parceling method (described below; Little et al., 2013) was utilized to create three indicators per latent factor for the remaining two constructs. Another minimum standard for structural models to be considered identified was referred to as the counting rule: "the model degrees of freedom must be at least zero ($df_M \geq 0$)" or, restated, "there are at least as many observations as there are free model parameters" (Kline, 2016, p. 145). All analyzed models were over-identified because their degrees of freedom were greater than zero as a function of the number of parameters estimated being smaller than the number of observations (Kline, 2016). Kline's (2016) second criterion for identification of structural models was met by employing a unit loading identification constraint where a reference variable for each factor was determined by fixing one indicator variable's direct effects on the corresponding latent variable at 1.0.

Because the latent constructs of attachment anxiety and avoidance were each measured using a single subscale, the items of the subscales were parceled to create separate indicators. Kline (2016) defined a parcel as "an average…score across a set of homogeneous items" (p. 332) and noted that parcels created with items using Likert scales were considered continuous

variables. In essence, parceling is a technique used to divide items representing a unidimensional construct into a specified number of groups that become new variables. Little et al. (2013) recommended specifying three indicators per latent factor to contribute to the creation of a just-identified model. Thus, the 18 items of the attachment anxiety subscale and those of the attachment avoidance subscale on the ECR-R were divided into three groups, or parcels, with six items each using a balanced parceling method to create relatively equivalent indicators for the latent variables (Little et al., 2002).

Per Little et al.'s (2002) instructions, the first step in this method involved running an exploratory factor analysis on each subscale forcing a unidimensional/single-factor solution. The first parcel was created using the item with the highest factor loading and the item with the lowest factor loading. The item with the second highest factor loading and the second lowest factor loading were assigned to the second parcel. The third and final parcel was created with the third highest and third lowest factor loading items. The remaining items were distributed among the three parcels in reverse order: the fourth lowest factor loading item was added to the third parcel, the fifth lowest factor loading item was added to the second parcel, and so on until all the items were assigned to one of the three parcels (Little et al., 2013). This process was conducted for both the attachment anxiety and attachment avoidance subscales. In accordance with Little et al.'s (2013) guidance, mean scores were used instead of totals to maintain a similar metric with other indicators and facilitate interpretability.

**Measurement Selection and
Data Review**

The following step in conducting SEM analysis was the selection of measures with strong psychometric properties (Kline, 2016). The measures for the current study and the rationale for selection were described in the instrumentation section above. Following data collection, the data

were screened using the computer program SPSS version 27.0.0 (IBM Corp., 2020) for missing

values, outliers, and multicollinearity in accordance with Kline's (2016) recommendations. The

data also were evaluated to determine if they met the assumptions for SEM analysis including

multivariate normality, linearity, homoscedasticity, and acceptable scaling of relative variance

(Kline, 2016). Occurrences of missing data were minimized by configuring the online survey

settings to prevent participants from moving forward until all item responses were completed.

Any remaining missing data (e.g., cases where individuals exited out of the survey before

completing all measures) were examined for potential sources and patterns. In the event that

greater than 10% of responses were missing per scale for any participant, listwise deletion was

utilized to remove whole cases from the analysis (Bennett, 2001). Parent (2013) contended that

listwise deletion was appropriate in cases where the data removed composed less than 10% of

data on any scale, did not represent data that were not missing at random (NMAR), and were not

collected as part of a low sample size, using a scale with poor internal reliability, or utilizing a

scale with fewer than five items.

For the purposes of the current study, a univariate outlier was defined as any value more

than three standard deviations from the mean in accordance with the heuristic suggested by Kline

(2016). Multivariate outliers were determined by evaluating Mahalanobis distances (D^2_M) using

the recommended conservative level of statistical significance (i.e., $p < 0.001$; Kline, 2016).

Outlier scores were reviewed to determine if they represented the response of an individual who

is outside the intended sample. Other outliers reflecting valid responding were deleted, converted

to the next most extreme value within three standard deviations from the mean, or

mathematically transformed to reduce their influence on later analyses (Kline, 2016). Squared

multiple correlations (SMC) were calculated and used to evaluate multicollinearity where values

greater than 0.90 were considered extreme (Kline, 2016). Tolerance and variance inflation factor values were also examined where values less than 0.10 and greater than 10.0, respectively, indicated possible multicollinearity (Kline, 2016).

The assumption of multivariate normality was evaluated by calculating the skew and kurtosis according to Mardia's (1970) tests. Due to the likelihood that small skew and kurtosis may be significant in large sample sizes even if the nonnormality is small, absolute skew values of 2.0 were evaluated as suspect and those greater than 3.0 were considered to indicate extreme skewedness (Curran et al., 1996; Kline, 2016). Likewise, absolute kurtosis values of 10.0 were considered problematic while those greater than 20.0 were considered extreme. Normal probability plots were also examined to detect nonnormality (Kline, 2016). Any data that were extremely nonnormal were transformed to be normally distributed using one of several recommended operations such as Box-Cox, log, square root, and power transformations or removed prior to further analysis (Kline, 2016). Scatterplots and normal probability plots of standardized residuals were used to visually examine linearity and homoscedasticity, and any problematic variance scaling may be corrected by multiplying the variables by a constant in accordance with Kline's (2016) recommendations.

Estimation of Model Fit

The fourth step of SEM analysis was testing the hypothesized and alternate a priori models (Kline, 2016). The Amos version 27.0.0 for Windows was selected as the SEM software program to conduct all model analyses (Arbuckle, 2020). Kline (2016) recommended a two-step process beginning with the use of confirmatory factor analysis (CFA) to assess the parameter estimates, or to examine the fit of the measurement model to the data. This sub-step in examining model fit was thought to address whether the instrument items are measuring the latent factors

they are intended to measure according to the theory-driven structure proposed (Weston & Gore, 2006). Thus, the CFA was used to examine the factor loadings of parceled items or subscales onto the hypothesized latent variable constructs (Kline, 2016). Indicators that did not load significantly onto the intended factor or loaded on multiple factors were examined, and the measurement model was modified to support measurement fit (Weston & Gore, 2006).

The second sub-step in testing the models was comparing the hypothesized and alternative models to the participant data (Kline, 2016). Structural estimation utilizing the maximum likelihood (ML) estimation method was conducted for the primary and alternative models using multiple fit indices (Kline, 2016). While some authors have expressed concern about using ML with ordinal data (Distefano, 2009), others contended that ML was a robust option given that the distributions of data were relatively normal and multiple response options were provided (e.g., Likert-type scales; Bentler & Chou, 1987; Rhemtulla et al., 2012). The Satorra-Bentler correction was used if indicated to address possible non-normal data (Satorra & Bentler, 1988). Given that circumstances of the present study met these recommended standards, data were treated as continuous. While there are a variety of specific fit index choices, the fit indices are divided into two general categories of recommended options: goodness-of-fit and badness-of-fit statistics (Hu & Bentler, 1999). A chi-square absolute fit test (χ^2) was examined to determine the overall model fit where a significant ($p < .05$) chi-square value represents poor fit and a value of zero would indicate perfect fit (Kline, 2016). Iacobucci's (2010) correction for large samples was also examined where a value under 3 (χ^2/df) suggested a reasonable fit. Due to the expectation that the size of sample common in SEM analyses may contribute to a significant chi-square statistic, the models were not rejected exclusively on the basis of the chi-square test results (Kline, 2011; Steiger, 2007) or any single fit index.

In addition, the following recommended approximate fit indices were used to further examine the structural model fit along a continuum (Hu & Bentler, 1999; Kline, 2016): the comparative fit index (CFI; Bentler, 1990), the non-normed fit index (NFFI; Bentler & Bonett, 1980) which is also known as the Tucker-Lewis Index (TLI; Tucker & Lewis, 1973), the Steiger-Lind root mean square error of approximation (RMSEA; Steiger, 1990), and the standardized root mean square residual (SRMR; Bentler, 1995). The CFI and NFFI are both goodness-of-fit indices ranging from 0 to 1, with values closer to 1 representing better fit (Bentler, 1990; Bentler & Bonett, 1980). Hu and Bentler (1999) recommend a cut off of 0.95 for adequate fit using both of these indices; however, Weston and Gore (2006) argue that a cut off of 0.90 for the CFI is appropriate for samples less than 500 participants. The RMSEA and SRMR are badness-of-fit measures ranging from 0 to 1, with values closer to zero indicating better fit and cut offs of 0.06 and 0.08, respectively (Hu & Bentler, 1999). Similarly, Weston and Gore (2006) recommend the less conservative criteria of less than 0.10 for both badness-of-fit indices when models are not complex and samples are under 500. Both cut off recommendations were considered when examining the model fit.

After analyzing the hypothesized and alternative models with AMOS (Arbuckle, 2020) according to the two-step process outlined above, parameter estimates were interpreted, and the models with adequate fit were retained. To compare the goodness-of-fit and parsimony between the retained non-nested (i.e., not hierarchically related) models, Kline (2016) recommended the use of the Akaike information criterion (AIC; Akaike, 1974) where "the model with the smallest value of the particular predictive fit index is chosen as the one most likely to replicate" as "this model has relatively better fit and fewer free parameters than competing models" (p. 287). No information was provided regarding the relative significance of size differences (Kline, 2016).

Loehlin (2004) suggested that this step is particularly relevant when comparing models with clear differences in complexity in order to satisfy the parsimony criteria for retaining the simplest model that best explains the relationships among the constructs being studied.

Respecify the Model

Step five in SEM analyses was examining possible respecification (Kline, 2016). Kline (2016) recommended this step when neither model is retained due to poor measurement or structural model fit. In the current study, theoretically justifiable changes were made to respecify a new identified model with adequate model fit, if needed (Kline, 2016). The respecification step is not required but justifiable modifications to both the primary and alternative models were considered if necessary from a measurement and theoretical perspective (e.g., attachment factors sharing a bi-directional relationship with shame).

Report Results

The sixth and final step of SEM analysis was reporting the results according to recommended best practices (Kline, 2016; Weston & Gore, 2006). Thus, the unstandardized and standardized parameter estimates, chi-square model values, approximate fit index values (CFI, NNFI, RMSEA, and SRMR), chi-square difference values, *p*-values, and effect sizes (standardized path coefficients) were reported and discussed (see Tables 2-6 and Figures 4-5 in Chapter IV for details).

CHAPTER IV

RESULTS

The purpose of this study was to examine relationships among cumulative interpersonal trauma, adult attachment, self-compassion, and shame by applying an integrative, relational theoretical framework to inform interventions with survivors of interpersonal trauma. A total of 465 participants initiated the Qualtrics survey. Three hundred and fifty-four (76.1%) students began the survey for course or extra credit while 111 (23.9%) %) initiated participation through the emailed link to the two research pool lists. To be eligible, participants were required to be between the ages of 18 and 20 years and enrolled in undergraduate coursework; individuals were excluded if they did not have access to an electronic device, had ever participated in trauma-focused psychotherapy, and had not lived with their primary caregiver for more than four years. Out of the 465 individuals who began the survey, five were not enrolled in undergraduate courses, 24 were over the age of 20, 44 had not lived with a primary caregiver in the past four years, and 77 had participated in counseling focused on one or more traumatic events. Two participants did not complete the demographics section or the remaining items. Because survey logic was utilized to screen out individuals who did not meet these inclusion and exclusion criteria and settings were configured to force a response to prevent missing data, this resulted in a sample of 313 completed survey responses with no missing data and an attrition rate of less than 1% (i.e., 2 out of 315 individuals who were not previously screened out for ineligibility). Subscale mean scores were calculated as described in the Instrumentation section, and parcels were created using the procedure discussed in the Identification section.

Prior to conducting analyses, outliers were examined according to the cutoffs included in Chapter III. Nineteen univariate outliers were detected by converting all continuous variables into standardized scores where values greater than three standard deviations above or below the mean were considered problematic (Kline, 2016). Univariate outliers were windsorized, or converted to the next most extreme value within three standard deviations from the mean (Aggarwal, 2015; Kline, 2016). Next, three multivariate outliers were identified by evaluating squared Mahalanobis' distances (D^2_M) in regard to the chi-square distribution for p-values less than the conservative level of statistical significance (i.e., $p < .001$; Kline, 2016). No data entry errors were discovered for these participants, and the three participants' responses were removed from the dataset using listwise deletion in accordance with Kline's (2016) recommendations for screening data prior to conducting structural equation modeling (SEM) analysis.

Additionally, the data were evaluated for potential duplicate responses by examining the respondents' IP addresses. Ten IP addresses were recorded twice, and one IP address was recorded three times totaling 23 possible duplicates. Birnbaum (2004) discussed concerns regarding the use of listwise deletion as a conservative approach to prevent multiple submissions, noting that individuals may be assigned identical IP addresses when utilizing shared devices such as computers in a lab or by internet service providers who use the same IP addresses for different users on different days. No responses were eliminated based on this criterion in the present study given the likelihood of undergraduate participants accessing the study from shared devices in libraries, shared housing, and other computer labs, the lack of overlap in reported demographic information which could also suggest no duplication, and the relatively low percentage (~7%) of possible multiple submissions. Thus, a final dataset of 310 completed responses was utilized for all analyses.

Examination of Assumptions

Data were then reviewed according to Kline's (2016) recommendations for evaluating

multicollinearity as well as the assumptions of SEM analysis including normality, linearity,

homoscedasticity, and acceptable scaling of variance. Mardia's (1970) tests of multivariate

skewness and kurtosis were utilized to evaluate the assumption of multivariate normality. Both

tests were significant at the $p < .001$ level which is common with the relatively large sample

sizes common in SEM studies (Kline, 2016). Thus, univariate normality was assessed using

cutoffs of $\geq |2.0|$ and $\geq |3.0|$ as moderately and extremely skewed and $\geq |7.0|$ and $\geq |21.0|$ as

moderately and extremely kurtotic. Univariate skewness values ranged from -.230 (behavioral

shame) to 2.425 (sexual abuse). The sexual abuse (SA) subscale of the Child Abuse and Trauma

Scale (CATS; Sanders & Becker-Lausen, 1995) was the only indicator found to be moderately

skewed, and no variables were identified as extremely skewed. Kurtosis values ranged from -

1.270 (bodily shame) to 4.867 (sexual abuse) with no indicators falling beyond the moderate or

extreme thresholds. Given that none of the variable distributions fell into the extremely

nonnormal range and that the ML estimation method has been shown to be robust to the presence

of moderately nonnormal data (Kline, 2016; Weston & Gore, 2006), the researcher chose to

move forward with the intended SEM analysis. Kline (2016) also discussed bootstrapping as an

effective method of estimating statistical precision to increase confidence in the results of SEM

when a sample is larger than 200 and contains potentially nonnormal data because bootstrapping

provides bias-corrected confidence intervals to address possible underestimation of standard

errors. In a study supporting the effectiveness of employing bootstrapping with nonnormal data

in SEM, Nevitt and Hancock (2001) found that utilizing 250 bootstrap samples with study

samples of 200 or greater was sufficient in most cases; however, they reported results using

2,000 resamplings as their conservative level. Thus, the bootstrapping feature in AMOS software (Arbuckle, 2020) was utilized and the default setting of 200 bootstrap samples was increased to 2,000 bootstrap samples and a 95% bias-corrected confidence interval to account for nonnormality in the current study sample of 310.

In order to evaluate the data for potential multicollinearity as well as linearity and homoscedasticity, a total of 19 regression analyses were conducted. Each indicator was entered as the outcome variable for a single regression while all remaining continuous variables were treated as predictors (Kline, 2016). Squared multiple correlation values (R^2_{smc}) ranged from .266 to .861 which did not exceed the cutoff of R^2_{smc} values greater than .90 that would suggest severe multicollinearity (Kline, 2016). Highly correlated indicator variables were found only among the parcels of the same latent variable (e.g., AVD1 and AVD2; see Table 2). Tolerance values were as low as .139, and variance inflation factor values were as high as 7.217 which also did not fall outside the cutoffs of less than .10 and greater than 10.0, respectively (Kline, 2016). Given that none of these values fell beyond the respective thresholds, results suggested that the data met the requirements of SEM regarding the absence of extreme multicollinearity.

Homoscedasticity was assessed by visually examining the scatterplots of standardized predicted values and standardized residuals associated with each regression. All scatterplots appeared approximately random, providing evidence that the data met the assumption of homoscedasticity. Linear relationships between predictor and criterion variables and the normality of residuals were evaluated by reviewing bivariate scatterplots as well as histograms and normal probability plots (P-P) for standardized residuals (Kline, 2016). No bivariate scatterplots appeared nonlinear, supporting the assumption of linear relationships among indicator variables. However, the standardized residuals for the sexual abuse (SA) subscale of

the Child Abuse and Trauma Scale (CATS; Sanders & Becker-Lausen, 1995) did not appear to be normally distributed when entered as the criterion variable. As noted above, ML estimation can be a robust SEM approach for moderately nonnormal data (Kline, 2016; Weston & Gore, 2006). Thus, the researcher proceeded with the intended analysis and utilized bootstrapping as discussed in Kline (2016) to address potential nonnormality.

Lastly, the assumption of equal relative variances was examined by calculating and comparing the variance of the indicator variables to each other. Variance values ranged from .220 (sexual abuse) to 2.146 (attachment anxiety parcel one) which did not exceed Kline's (2016) recommendation that ratios larger than 100 may indicate an ill-scaled covariance matrix. Thus, the results suggested that the current study responses met the SEM assumption of acceptable scaling of relative variance, and no variables were rescaled before proceeding with analysis (see Table 2 for descriptive statistics, correlations, and Cronbach's alphas of the continuous indicator variables).

Measurement Model Fit

Kline (2016) recommended first conducting a confirmatory factor analysis (CFA) for each individual latent factor model. Fit was assessed as described in Chapter III using both Hu and Bentler's (1999) stringent guidelines (i.e., CFI and NNFI > .95, RMSEA < .06, SRMR < .08) and Weston and Gore's (2006) criteria (i.e., CFI > .90, RMSEA and SRMR < .10) for less complex models and samples less than 500. In AMOS (Arbuckle, 2020), the TLI (Tucker & Lewis, 1973) was reported which is another name for the non-normed fit index (NNFI; Bentler & Bonett, 1980) referenced in Chapter III. Iacobucci's (2010) correction ($\chi^2/df \leq 3$) for the chi square model fit statistic where a result less than or equal to three is considered nonsignificant was also considered given the likelihood of a statistically significant result due to sample size

(Barrett, 2007). However, three of the five original latent factors (i.e., adult attachment anxiety, adult attachment avoidance, and shame) were measured using exactly three indicators. In just-identified models such as these, the measurement space provided a perfect fit for the data and did not require individual CFA analysis (Little et al., 2013). Rather, the effectiveness with which these indicators represented the intended latent factors was examined in the CFA of the full measurement model (Kline, 2016).

The cumulative interpersonal trauma latent construct initially included the four subscales of the CATS instrument: negative home environment/neglect, punishment/physical abuse, sexual abuse, and emotional abuse (Sanders & Becker-Lausen, 1995). However, the reliability of the punishment/physical abuse (PUN) indicator with the current sample ($\alpha = .53$) did not meet the minimum recommended internal consistency for SEM ($\alpha > .70$; Kline, 2016). A preliminary CFA utilizing ML estimation was conducted for the single factor latent variable of interpersonal trauma with the four original indicators. While some of the model fit indices met the stringent or modified guidelines (CFI = .970; SRMR = .036), others suggested inexact model fit (TLI = .910; RMSEA = .152, 90% confidence interval of .089-.224; χ^2 [2] = 16.197, $p < .001$; $\chi^2/df = 8.09$); see Table 3. Given the low reliability and the poor single factor model fit, the researcher decided to remove the PUN subscale which resulted in three remaining indicators for the latent variable of cumulative interpersonal trauma and a just-identified model. Further support for this decision was provided by comparing the CFA results of the final full measurement model (described below) to the CFA results of the same model with the PUN variable included using a chi-square difference test for nested models (Martens, 2005). This analysis was conducted by subtracting the final CFA model chi-square value and degrees of freedom from the chi-square value and degrees of freedom for the CFA model with PUN included and comparing them to a standard

chi-square distribution table. The results were statistically significant ($\chi^2{}_D$ [14] = 45.02, $p <$ .001), indicating the final CFA measurement model with fewer parameters (e.g., without PUN) was a better, more parsimonious fit for the data (Martens, 2005; see Table 3 for measurement model fit indices).

A second preliminary CFA utilizing ML estimation was conducted for the single factor latent variable of self-compassion with the six subscales of the Self-Compassion Scale (SCS; Neff, 2003b) as indicators. The initial model was found to have poor fit given the model fit statistics (CFI = .574; TLI = .289; RMSEA = .409, 90% confidence interval of .378-.441; SRMR = .234) as well as a statistically significant chi-square statistic before and after considering Iacobucci's (2010) correction (χ^2 [9] = 474.006, $p < .001$; χ^2/df = 52.667; see Table 3). In accordance with Weston and Gore's (2006) recommendations as well as Neff's (2016) theoretical and empirical guidance, the measurement model was respecified to support fit. Neff (2016) argued against collapsing the six subscales into two factors representing self-compassion (i.e., self-kindness, common humanity, and mindfulness) and self-criticism (i.e., self-judgment, isolation, overidentification), defending the importance of including both positively worded and reverse coded subscales by providing factor analytic support toward preserving a dynamic balance between them. To align the current study with this approach and remain consistent with self-compassion theory, three new indicators were created to replicate the three components by combining self-kindness with self-judgment, common humanity with isolation, and mindfulness with overidentification (Neff, 2003b, 2016). These three indicators contributed to a just-identified full measurement model (Little et al., 2013) which was tested next and used in the final structural models.

Table 3

Overall Model Fit Statistics for Measurement Models

Model	χ^2	df	χ^2/df	χ^2_D	CFI	TLI	RMSEA	*90% CI*	SRMR
Individual CFA Measurement Model									
Interpersonal Trauma (preliminary)	16.197*	2	8.09	-	.970	.910	.152	.089-.224	.036
Self-Compassion (preliminary)	474.01*	9	52.67	-	.574	.289	.409	.378-.441	.234
Full CFA Measurement Model									
5-factor CFA with PUN	212.52*ᵃ	94	2.26	-	.969	.960	.064	.052-.075	.049
5-factor final CFA	167.50*ᵃ	80	2.09	45.02*	.976	.969	.059	.047-.072	.039

Note. $n = 310$. *indicates $p < .001$. ᵃ indicates the model chi-square test was non-significant using Iacobucci's (2010) correction (χ^2 / df ≤ 3) for large samples. χ^2_D = chi-squared difference test, CFI = comparative fit index, TLI = Tucker-Lewis index, RMSEA = root mean square error of approximation, *90%* CI = 90% confidence interval, *SRMR* = standardized root mean square residual, CFA = Confirmatory Factor Analysis, PUN = punishment/physical abuse indicator. The individual CFA for the Interpersonal Trauma latent variable was conducted to examine the factor structure with the initial four subscales: negative home environment/neglect, sexual abuse, punishment/physical abuse, and childhood emotional abuse. The individual CFA results for Self-Compassion represented the initial factor structure utilizing the six subscales prior to creating new indicators to reflect the three components. Individual CFA results were not obtained for the final latent constructs given that all of these models were just-identified and instead were assessed through the full 5-factor CFA Measurement Model.

A CFA with ML estimation was conducted for the overall measurement model with the five latent factors and fifteen indicators, allowing each latent variable to covary with the others (Kline, 2016). Given the evidence of potential nonnormality discussed above, bootstrapping was used to support the statistical precision of the analysis in place of the Satorra-Bentler correction (Satorra & Bentler, 1988) for nonnormality discussed in Chapter III because it was not available in AMOS (Arbuckle, 2020; Kline, 2016). The results of the CFA suggested good overall model fit with a nonsignificant chi-square statistic when considering Iacobucci's (2010) correction levels being at or below 3 $(\chi^2$ [80] = 167.500, $p < .001$; χ^2/df = 2.094); thus, the exact-fit hypothesis was retained. Examination of the fit indices also indicated acceptable model fit (CFI = .976; TLI = .969; RMSEA = .059, 90% confidence interval = .047 to .072; SRMR = .039). Parameter estimates were statistically significant ($p < .01$ or below) utilizing a bias-corrected 95% confidence interval with 2,000 bootstrap samples, further supporting the fit of this overall measurement model (see Table 3). In accordance with Kline's (2016) recommendations and based on the information from the final full CFA measurement model, the highest loading indicator for each latent construct became the reference variable, and unit loading identification constraints were set by fixing the indicator's unstandardized direct effects on the corresponding latent variable at 1.0. Thus, the neglect/negative home environment subscale, parcel one of the adult attachment anxiety subscale, parcel one of the adult attachment avoidance subscale, self-kindness/self-judgment combined subscales, and characterological subscale were assigned as reference variables for their respective latent factors (see Chapter III: Instrumentation and Identification).

Analysis of Structural Model

Both the primary and alternate a priori structural models were analyzed using ML estimation with bootstrapping in AMOS (Arbuckle, 2020) and evaluated according to the criteria described in Chapter III as well as the measurement model section above. The hypothesized theoretical primary model (see Figure 2) in the current study represented indirect effects of cumulative interpersonal trauma on shame as mediated by the interrelated constructs of adult attachment anxiety, adult attachment avoidance, and self-compassion. Given that a limitation of SEM analysis is an inability to measure direct correlations among endogenous variables, the error terms of adult attachment anxiety, adult attachment avoidance, and self-compassion were allowed to covary to model theoretically-supported relationships among these variables (Kline, 2016). In contrast, the alternate model (see Figure 3) specified an indirect effect of cumulative interpersonal trauma on self-compassion as mediated by the related adult attachment constructs in addition to direct and indirect effects of the related adult attachment constructs on shame as partially mediated by self-compassion. The residuals of the adult attachment anxiety and adult attachment avoidance latent variables were allowed to covary given the theorized relationship between them (Kline, 2016).

The results of ML estimation with bootstrapping for the primary a priori model are provided in Table 4 and Figure 4. These results suggested good overall model fit with a nonsignificant chi-square statistic when considering Iacobucci's (2010) corrected values (χ^2/df) at or below three (χ^2 [81] = 171.522, $p < .001$; $\chi^2/df = 2.118$), and the exact-fit hypothesis was retained. Fit index values also suggested strong model fit (CFI = .975; TLI = .968; RMSEA = .060, 90% confidence interval = .048 to .073; SRMR = .043). All parameter estimates were statistically significant ($p < .05$ or below) utilizing a bias-corrected 95% confidence interval with

2,000 bootstrap samples. Similarly, the results of ML estimation with bootstrapping for the alternative a priori model are displayed in Table 5 and Figure 5. These results also suggested good overall model fit with a nonsignificant chi-square statistic when considering Iacobucci's (2010) correction values at or below three (χ^2 [82] = 178.102, $p < .001$; χ^2/df = 2.171); thus, the exact-fit hypothesis was retained. Fit index values further suggested good model fit (CFI = .974; TLI = .966; RMSEA = .062, 90% confidence interval = .049 to .074; SRMR = .050). In addition, all parameter estimates were statistically significant ($p < .05$ or below) utilizing a bias-corrected 95% confidence interval with 2,000 bootstrap samples except for the path between the latent constructs of adult attachment avoidance and self-compassion ($p = .07$; see Table 6). Both the primary and alternate a priori structural models were retained without respecification.

To compare the goodness-of-fit and parsimony between the retained non-nested (i.e., not hierarchically related) models, Kline (2016) recommended the use of a predictive fit index: the AIC (Akaike, 1974). The AIC measured "how well models would be expected to fit sample data drawn from the same population" (Weston & Gore, 2006, p. 746). Smaller AIC values were considered to represent more parsimonious and better fitting models (Kline, 2016). In the current study, the primary a priori structural model AIC value was 249.522 while the alternative a priori structural model AIC value was 254.102, which suggested that the primary model with 39 parameters estimated showed a better fit to the data than the alternative model which estimated 38 parameters (see Table 4). Thus, the primary a priori model was retained as the final model.

Table 4

Overall Fit Statistics for Structural Models

Model	χ^2	df	χ^2/df	CFI	TLI	RMSEA	90% CI	SRMR	AIC
Primary	171.522*[a]	81	2.13	.975	.968	.060	.048-.073	.043	249.522
Alternate	178.102*[a]	82	2.17	.974	.966	.062	.049-.074	.050	254.102

Note. n = 310. * indicates *p* < .001. [a] indicates the model chi-square test was non-significant using Iacobucci's (2010) correction ($\chi^2/df \leq 3$) for large samples. CFI = comparative fit index, TLI = Tucker-Lewis index, RMSEA = root mean square error of approximation, 90% CI = 90% confidence interval, SRMR = standardized root mean square residual, AIC = Akaike's Information Criteria.

Figure 4

Primary a priori Structural Model
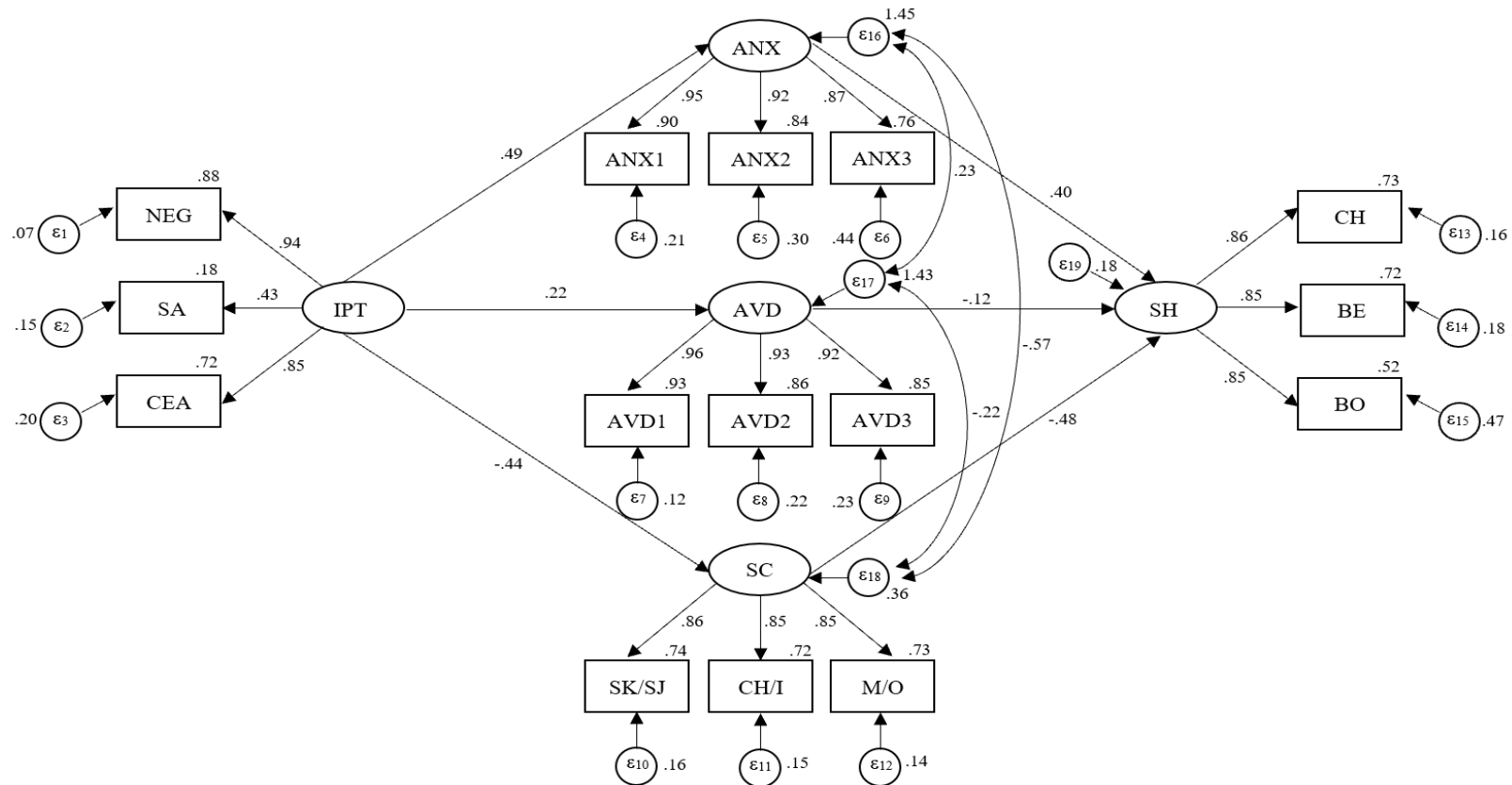
Estimates are standardized parameters and unstandardized proportions of variance. All structural paths were significant at the *p* < .05 level or below. IPT = Cumulative Interpersonal Trauma, NEG = Neglect/Negative Home Environment, SA = Sexual Abuse, CEA = Childhood Emotional Abuse, ANX = Adult Attachment Anxiety, AVD = Adult Attachment Avoidance, SC = Self-Compassion, SK/SJ = Self-Kindness/Self-Judgment, CH/I = Common Humanity/Isolation, M/O = Mindfulness/Overidentification, SH = Shame, CH = Characterological, BE = Behavioral, BO = Bodily.

Table 5

Parameter Estimates for Primary Structural Model

Parameter	Unstandardized				Standardized			
	Estimate	*SE*	Lower	Upper	Estimate	*SE*	Lower	Upper
IPT → ANX	.944**	.113	.759	1.141	.491**	.044	.401	.572
IPT → AVD	.371**	.103	.173	.587	.217**	.056	.103	.326
IPT → SC	-.414**	.058	-.539	-.296	-.445**	.052	-.540	-.333
ANX → SH	.191**	.032	.114	.260	.396**	.078	.238	.549
AVD → SH	-.066*	.026	-.127	-.006	-.121*	.057	-.234	-.011
SC → SH	-.473**	.070	-.625	-.316	-.475**	.075	-.608	-.317
IPT → SH (indirect)	.351**	.047	.264	.448	.380**	.041	.302	.458

Note. n = 310. * indicates *p* < .05. ** indicates *p* ≤ .001. *SE* = Standard Error. All Lower, Upper, and *p* values are based on bias-corrected 95 percent confidence intervals with 2,000 bootstrap samples. IPT = Cumulative Interpersonal Trauma, ANX = Adult Attachment Anxiety, AVD = Adult Attachment Avoidance, SC = Self-Compassion, SH = Shame.

Figure 5

Alternate a priori Structural Model

Estimates are standardized parameters and unstandardized proportions of variance. All structural paths were significant at the *p* < .05 level or below except AVD → SC. IPT = Cumulative Interpersonal Trauma, NEG = Neglect/Negative Home Environment, SA = Sexual Abuse, CEA = Childhood Emotional Abuse, ANX = Adult Attachment Anxiety, AVD = Adult Attachment Avoidance, SC = Self-Compassion, SK/SJ = Self-Kindness/Self-Judgment, CH/I = Common Humanity/Isolation, M/O = Mindfulness/Overidentification, SH = Shame, CH = Characterological, BE = Behavioral, BO = Bodily.
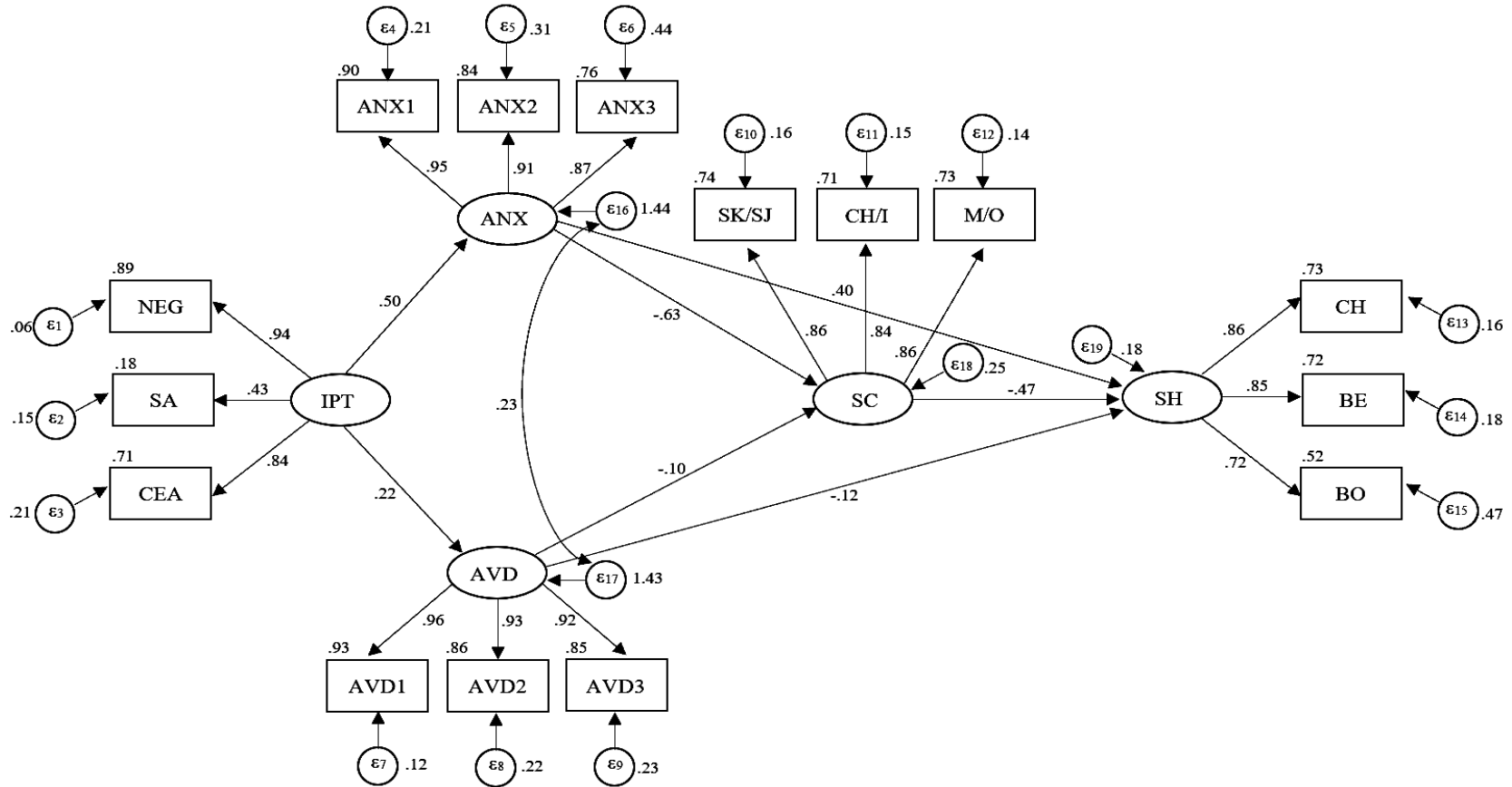
Table 6

Parameter Estimates for Alternate Structural Model

Parameter	Unstandardized				Standardized			
	Estimate	*SE*	Lower	Upper	Estimate	*SE*	Lower	Upper
IPT → ANX	.946**	.101	.764	1.145	.496**	.044	.408	.577
IPT → AVD	.367**	.102	.174	.581	.216**	.056	.102	.325
ANX → SC	-.307**	.027	-.362	-.255	-.634**	.041	-.709	-.544
AVD → SC	-.054	.029	-.113	.004	-.099	.053	-.197	-.008
ANX → SH	.194**	.037	.117	.263	.403**	.078	.241	.553
AVD → SH	-.065*	.030	-.126	-.005	-.120*	.056	-.233	-.009
SC → SH	-.464**	.079	-.618	-.310	-.466**	.075	-.602	-.312
IPT → SC (indirect)	-.310**	.044	-.403	-.233	-.336**	.037	-.408	-.265
IPT → SH (indirect)	.303**	.048	.228	.397	.330**	.040	.256	.414
ANX → SH (indirect)	.142**	.025	.095	.192	.295**	.048	.204	.388
AVD → SH (indirect)	.025	.016	.000	.062	.046	.028	-.001	.110

Note. $n = 310$. * indicates $p < .05$. ** indicates $p \leq .001$. *SE* = Standard Error. All Lower, Upper, and *p* values are based on bias-corrected 95 percent confidence intervals with 2,000 bootstrap samples. IPT = Cumulative Interpersonal Trauma, ANX = Adult Attachment Anxiety, AVD = Adult Attachment Avoidance, SC = Self-Compassion, SH = Shame.

Final Model Interpretation

In accordance with Kline's (2016) recommendations, the measurement model was evaluated utilizing CFA procedures to ensure the instrument items were measuring the latent factors as intended and was respecified to support model fit when indicated. The structural models were subjected to robust ML estimation with bootstrapping to analyze their fit with the collected data. Both the primary (see Figure 4) and alternative (see Figure 5) a priori structural models showed acceptable fit with nonsignificant chi-square absolute fit tests when considering Iacobucci's (2010) correction values at or below three (χ^2 [81] = 171.522, $p < .001$; $\chi^2/df = 2.118$ and χ^2 [82] = 178.102, $p < .001$; $\chi^2/df = 2.171$, respectively) and strong fit index values (CFI = .975; TLI = .968; RMSEA = .060, 90% confidence interval = .048 to .073; SRMR = .043 and CFI = .974; TLI = .966; RMSEA = .062, 90% confidence interval = .049 to .074; SRMR = .050). All parameter estimates were statistically significant ($p < .05$ or lower) using a bias-corrected 95% confidence interval with a 2,000 sample bootstrapping procedure in the primary and alternative a priori models with the exception of the path from adult attachment avoidance to self-compassion ($p = .07$) which was not significant in the alternative model. Cohen's (1992) effect size guidelines were referenced to interpret the standardized parameter estimates described below where |.10|, |.30|, and |.50| were considered small, medium, and large, respectively. The relative fit of the retained non-nested models was determined by examining the AIC predictive index (i.e., primary model value = 249.522 and alternate model value = 254.102; see Table 4). Ultimately, the primary a priori structural model was retained as the best overall fit for the data.

In this final structural model, direct effects were proposed in the form of standardized estimated pathways between cumulative interpersonal trauma and adult attachment anxiety, adult attachment avoidance, and self-compassion as well as between adult attachment anxiety, adult

attachment avoidance, and self-compassion and shame. Results indicated that cumulative interpersonal trauma had a medium (.491) direct effect on adult attachment anxiety, a small direct effect (.217) on adult attachment avoidance, and a medium negative direct effect (-.445) on self-compassion. Adult attachment anxiety had a medium direct effect (.396) on shame while adult attachment avoidance had a small negative direct effect (-.121) on shame. Self-compassion was found to have a medium negative direct effect (-.475) on shame. The covarying error terms of adult attachment anxiety, adult attachment avoidance, and self-compassion had significant small (ANX ↔ AVD = .225, AVD ↔ SC = -.220) and large (ANX ↔ SC = -.566) effects. A standardized indirect effect was estimated for cumulative interpersonal trauma on shame through adult attachment anxiety, adult attachment avoidance, and self-compassion and fell into the medium (.380) range. Approximately 24% of the variance in adult attachment anxiety (R^2 = .241), 5% of the variance in adult attachment avoidance (R^2 = .047), and 20% of the variance in self-compassion (R^2 = .198) were explained by the cumulative interpersonal trauma latent factor. The overall primary structural model explained approximately 58% of the total variance in shame (R^2 = .584).

CHAPTER V

DISCUSSION

The purpose of this study was to examine the relationships among cumulative interpersonal trauma, the dimensions of adult attachment, self-compassion, and shame by applying an integrative, relational theoretical framework to inform strengths-based, resiliency-focused, and preventative interventions with survivors of IPT. Exposure to interpersonal trauma (IPT; Lilly & Valdez, 2012) represents a significant national and global public health concern (Kilpatrick et al., 2013; Magruder et al., 2017; Messina et al., 2007). Undergraduate students are considered particularly susceptible to experiencing both IPT and its potentially life-threatening outcomes, with students who hold at least one marginalized identity reporting even higher levels of exposure and impact (Berenz et al., 2016; Bistricky et al., 2017; Boyraz et al., 2016; Goldsmith et al., 2012; Tasca et al., 2013; Wilson et al., 2006). Among these negative outcomes, IPT is directly linked to increased shame (Badour et al., 2017). Regarded by some researchers as an epidemic (Brown, 2008; Brown et al., 2011), shame is associated with similarly dangerous consequences (e.g., abuse of substances, nonsuicidal self-injury, suicidality) in college student samples (Patock-Peckham et al., 2018; VanDerhei et al., 2014; Wilson et al., 2006) and implicated as a mediator between IPT and physical and psychological distress (Mereish & Poteat, 2015). Cumulative IPT and shame compound as formidable risks to undergraduate communities. Thus, additional research is needed to understand the relational mechanisms underlying this relationship as well as potential resiliency factors that may serve as prevention and intervention options for professionals who work with these students.

Despite the recognized function of adult attachment security and self-compassion in mediating the negative impact of trauma in young adults (Maximo & Carranza, 2016; Neff & McGehee, 2010) and their theoretically complementary roles representing postures of relating to the self and others, no study has been identified in which researchers integrated attachment and self-compassion theory to examine these relationships concurrently. Past findings also were contradictory regarding the precise relationships among adult attachment anxiety, attachment avoidance, and self-compassion as well as between adult attachment and shame. Therefore, a priori primary (see Figure 2) and non-nested alternative (see Figure 3) models were created to represent two possible versions of the theoretically- and empirically-driven structural relationships among these constructs, and the following research questions were developed:

Q1   Does the primary theoretical explanatory model (see Figure 2) adequately fit the observed relationships in the data?

Q2   Does the alternative model demonstrate a statistically better or more parsimonious explanation to the observed relationships in the data than the primary model (see Figure 3)?

Both the primary (see Figure 4) and alternative (see Figure 5) a priori structural models showed good fit with the data when considering Hu and Bentler's (1999) and Weston and Gore's (2006) cutoff criteria guidelines (see Table 4). Thus, they were retained without respecification and compared for relative fit. The primary theoretical model was found to provide a better fit to the data and included an additional theoretically and empirically consistent significant direct pathway between cumulative IPT into young adulthood and self-compassion (e.g., Bistricky et al., 2017; Neff, 2003a, 2011b). Thus, this model was selected as the best explanation of the relationships among the variables included in the present study (Kline, 2016).

Overview of Findings

In the final primary model, the construct of cumulative interpersonal trauma was significantly associated with the adult attachment dimensions of anxiety and avoidance. The positive relationship between cumulative IPT and adult attachment anxiety replicated the results of and provided additional support for the relatively larger group of previous studies (e.g., Elwood & Williams, 2007; Huang et al., 2017) that demonstrated a relationship between IPT and the anxious dimension of adult attachment rather than the smaller group of studies that did not demonstrate a significant association between them (e.g., Briere et al., 2017; Lim et al., 2012). In fact, the medium direct effect of cumulative IPT on anxious adult attachment was the largest among the individual paths included in the final model and emphasized the strong influence of compounding relational trauma on this dimension of attachment. Though not as strong as the association with adult attachment anxiety, IPT also was significantly related to the avoidant dimension of adult attachment which was consistent with studies that showed a positive association between these constructs (e.g., Espeleta et al., 2017; Morina et al., 2016). Researchers previously have documented stronger associations between IPT and adult attachment avoidance when examining attachment in parental relationships versus other relationship contexts (i.e., general, friend; Corcoran & McNulty, 2018). The results of another past study indicated a predictive relationship between self-reported physical abuse and adult attachment avoidance but not anxiety (Unger & De Luca, 2014). Thus, the relatively stronger relationship between IPT and adult attachment anxiety may be explained, in part, by the general focus on adult attachment with a "close other" as well as the removal of the punishment/physical abuse subscale due to a lack of reliability in the present study.

The final model also demonstrated significant relationships between the dimensions of adult attachment anxiety and avoidance and shame. Results indicating a significant positive association between anxious adult attachment and shame are consistent with past research connecting both categorical styles that involve a negative view of self (i.e., preoccupied and fearful) and the corresponding dimensional model of adult attachment anxiety with shame (e.g., Chen et al., 2015; Consedine & Magai, 2003; Passanisi et al., 2015). While avoidant adult attachment also was related to shame, the small negative relationship was in the opposite direction of what was initially hypothesized. Given that the correlations between the adult attachment avoidance indicators and shame indicators were positive or nonsignificant, this reversal may represent a statistical effect known as suppression that can occur due to "inconsistent direct versus indirect effects of causally prior variables on outcome variables" in SEM models (Kline, 2016, p. 37) and may contribute to understanding the contradictory results of previous studies regarding adult attachment avoidance and shame. Namely, the relationship between the avoidant dimension of adult attachment and shame may be especially impacted by the context of the other variables considered in the analysis such as when Wei et al. (2005) found that basic psychological needs fulfillment fully mediated the effects of avoidant attachment on shame. The nonsignificant correlations and negative path also may relate to the suggestion by other researchers that those who experience the negative view of others associated with the avoidant dimension of adult attachment self-protectively experience lower conscious shame (e.g., Gross & Hansen, 2000) which could lead to reporting lower shame-proneness on highly face valid measures such as the one used in the current study (Andrews et al., 2002).

The results of the final model further showed a significant negative relationship between cumulative IPT and self-compassion. This finding reflected the results of numerous past studies

connecting the experience of IPT with lower levels of self-compassion in emerging adult samples (e.g., Barlow et al., 2017; Miron et al., 2014, 2016; Tanaka et al., 2011; Winders et al., 2020), including those that demonstrated a compounding impact of cumulative exposure across time and type of IPT experienced (e.g., Bistricky et al., 2017; Játiva & Cerezo, 2014; Quinlan et al., 2021). The construct of self-compassion, in turn, was associated negatively with shame. This is consistent with a notable collection of findings from other researchers who demonstrated the mediating role of self-compassion on the relationship between IPT and appraisal-based or affective shame (Barlow et al., 2017; Beduna & Perrone-McGovern, 2019; Ross et al., 2019) and replicated a significant inverse relationship between self-compassion and state or trait shame (e.g., Benda et al., 2018; Ewert et al., 2018; Ferreira et al., 2013; Johnson & O'Brien, 2013; Kotera et al., 2019; Matos et al., 2017; Mosewich et al., 2011; Reilly et al., 2014; Waring & Kelly, 2019; Webb et al., 2016; Woods & Proeve, 2014). Lastly, cumulative IPT had a medium indirect positive effect on shame which aligns with past research indicating that IPT exposure, including cumulative IPT experienced in the caregiving environment, was associated with increased ongoing levels of shame (e.g., Badour et al., 2017; Hoglund & Nicholas, 1995). In the present study, self-compassion had the largest single effect on shame when compared to this indirect effect of IPT as well as to the direct effects of adult attachment anxiety and avoidance which—together with experimental studies documenting the effectiveness of self-compassion interventions in reducing shame through randomized controlled trials (e.g., Gilbert & Procter, 2006; Johnson & O'Brien, 2013; Kirby et al., 2017)—may suggest that self-compassion holds a particularly powerful role as a modifiable protective and/or resiliency factor for shame-proneness in trauma-exposed populations.

The final model included covariances among the constructs of adult attachment anxiety, adult attachment avoidance, and self-compassion. Significant correlations between the error terms of these endogenous latent variables suggested that they likely shared a common cause that explained some of their variance that was not accounted for in the present study (Kline, 2016). This is consistent with the emergent, inconclusive, and occasionally conflicting research examining the nature of the relationships among these constructs (e.g., Navarro-Gil et al., 2018; Pepping et al., 2015); however, the significance of these small and large effects may underscore the as yet unexplained interconnections among them. In the final model, all of the proposed relationships among cumulative interpersonal trauma, the anxious and avoidant dimensions of adult attachment, self-compassion, and shame were found to be significant. Together, these relationships accounted for more than half of the overall variance in shame for the current sample; this large effect (Cohen, 1992) emphasizes the importance of both inter- and intrapersonal postures of relating in the context of cumulative IPT exposure and shame.

Theoretical Implications

The results of the present study support Bowlby's (1951, 1969, 1973, 1988) attachment theory as an explanatory framework for the internalization of formative relational experiences as postures of interpersonal relating that shape cognitive, affective, and behavioral functioning throughout the lifespan. The significant direct relationships among cumulative interpersonal trauma and the dimensions of adult attachment anxiety and avoidance are consistent with the theoretical premise that compounding relational experiences are consolidated to shape attachment styles into adult life (Mikulincer & Shaver, 2016). Given that the attachment measure utilized in this study was based on the orthogonal dimensions representing views of the self and others (Bartholomew & Horowitz, 1991; Brennan et al., 1998; Fraley et al., 2000), these findings

also provide support for the role of cumulative IPT in shaping IWMs by providing experiential

answers to the questions that Mikulincer and Shaver (2016) proposed addressing whether an

individual is valuable to relationship partners, lovable, and capable of handling threats and

regulating painful emotions as well as whether people are available, attuned, supportive, and

well-intentioned in relationships. Thus, the positive relationships among cumulative

interpersonal trauma and adult attachment anxiety and avoidance in this study align with

Bowlby's (1969, 1973) assertion that traumatic interpersonal experiences increase attachment

insecurity through the development of enduring representations of the self and others in the

context of interpersonal relating.

Likewise, the findings of this study are consistent with Bowlby's (1969) claim that the

impact of one's relational experiences are transmitted through stages of development by

cultivating IWMs that correspond with specific attachment strategies. The significant positive

relationship between the anxious dimension of adult attachment and shame supports the tenet of

attachment theory (Bowlby, 1969; Mikulincer & Shaver, 2007) that anxious attachment

represents a negative IWM of the self (e.g., as unworthy or incompetent) which in turn reinforces

a generalized evaluation of the self as bad, a core component of shame (Tangney & Dearing,

2002). In contrast, the withdrawing behavior associated with a negative IWM of others (e.g., as

unsupportive, unavailable, or negatively intentioned) in avoidantly attached individuals is

thought to reflect defensive tendencies designed to suppress underlying shame (Tangney &

Dearing, 2002). The small yet significant negative effect between avoidant adult attachment and

shame is opposite of the initial hypothesis of a positive effect as well as previous studies

indicating a positive link between the avoidant dimension of adult attachment and shame,

including body shame (e.g., Brown & Trevethan, 2010; DeVille et al., 2015; Johnson et al.,

2015; Wei et al., 2005). It also is inconsistent with the results of previous studies that demonstrated no significant relationship between the categorical dismissing style (i.e., a positive view of self and negative view of others) and shame (e.g., Chen et al., 2015; Consedine & Magai, 2003; Passanisi et al., 2015; Sedighimornani et al., 2021).

These conflicting results may reflect suppression effects wherein the addition or exclusion of relevant variables changes the direction of the relationship between two constructs (Kline, 2016). They may also support the theoretically- and empirically-based interpretation that individuals who are high in avoidant attachment self-protectively experience lower conscious shame (e.g., "pseudo-positive sense of self"; Gross & Hansen, 2000, p. 904) and employ denial strategies that inhibit or suppress emotion (e.g., Mikulincer & Shaver, 2016; Pascuzzo et al., 2015) leading to lower self-reported shame on highly face valid measures (Wei et al., 2003). This explanation appears to align with a recent synthesis of attachment research suggesting that avoidant defenses may be sufficient for denying distress in the face of potentially minor stressors (e.g., activation associated with completing a questionnaire) but not for events that threaten the segregated mental systems employed by avoidantly attached individuals (Bowlby, 1980; Mikulincer & Shaver, 2016). This finding may indicate that—as Mikulincer and Shaver (2016) discussed—the mental representations characteristic of attachment insecurity may not be as straightforward as they were initially theorized (i.e., negative view of self versus negative view of others; Bartholomew & Horowitz, 1991). From this perspective, the small negative association between avoidant adult attachment and shame may reflect a protective mechanism unveiled, in part, by the concurrent measurement of the other variables in the study in comparison to the more stable resiliency of secure attachment that would be hypothesized to

demonstrate a stronger and more consistent negative relationship with shame (Beduna &

Perrone-McGovern, 2019; Bowlby, 1980; Mikulincer & Shaver, 2016).

The results of the present study also support the role of self-compassion theory (Neff,

2003a, 2011b) in explaining the internalization of significant interpersonal experiences as a

stance of relating to the self that influences cognitive, affective, and behavioral functioning

throughout life. The negative relationship between cumulative IPT and self-compassion is

consistent with the tenet that individuals learn how to treat themselves based on how they are

treated by others (Neff, 2003a). This finding further aligns with the assertion—which is

supported by other empirical studies—that those who experience abuse or neglect tend to exhibit

low levels of self-compassion (Barlow et al., 2017; Brown, 1999; Germer & Neff, 2014; Neff,

2003a; Vettese et al., 2011). Moreover, the significant negative relationship between self-

compassion and shame appears to reflect Neff's (2003a) conceptualization of self-compassion as

a resource for emotion regulation. Given the negative self-evaluation, compulsion to isolate, and

feelings of unworthiness that comprise shame (Tangney & Dearing, 2002), Neff (2003a, 2011b)

suggested that self-compassion may be particularly effective in preventing or soothing this

painful self-conscious emotion. The finding in this study that self-compassion had the largest

single direct effect on shame is consistent with the assertion that self-compassion may be a

potent resiliency factor for shame among emerging adults.

The results of the current study further support the integration of attachment and self-

compassion theories as complementary yet individually meaningful contributions to

understanding the relationships between cumulative IPT and shame. While the primary model

was retained as providing the more parsimonious and slightly better fit with the data, the

alternative model also demonstrated strong fit with this sample and may offer additional

information regarding the constructs of interest. The primary model is consistent with the

hypothesis that the dimensions of adult attachment and self-compassion share related yet distinct

roles in mediating the relationship between cumulative IPT and shame in undergraduates (Neff,

2003a, 2011b). The alternative model offers support that anxious attachment, in particular, may

serve as a mediator between cumulative IPT and self-compassion while the significant

covariances in the primary model suggest that the related constructs of the adult attachment

dimensions and self-compassion may share an underlying cause not included in this analysis

(Kline, 2016). When examined together, these findings may provide limited support for

Mikulincer and Shaver's (2016) as well as Neff's (2003a) hypotheses that attachment styles

could be implicated in the development of individual differences in self-compassion while

leaving open the possibility that later changes in self-compassion may lead to revisions in the

IWMs associated with attachment. Additional research would be necessary to clarify the

relationships among the related constructs of adult attachment and self-compassion to strengthen

the integration of these theories as a foundation for further investigations. However, the

overarching results of the present study support their initial integration as well as the power of

considering both intra- and interpersonal postures of relating on the association between

cumulative IPT and shame.

Practice Implications

Data from this study have a variety of practice implications for counseling psychologists

and other professionals regarding emerging adults and the systems supporting them. As

discussed previously, college students are considered to be particularly vulnerable to

experiencing both IPT and shame as well as their potentially life-threatening physical,

psychological, and academic outcomes (e.g., Boyraz et al., 2016; López-Martínez, et al., 2018;

Resnick et al., 1993; Tasca et al., 2013; Wilson et al., 2006). Individuals who hold at least one

historically marginalized identity (e.g., sexual and gender minority identities, racial and ethnic

minority identities) are at risk of experiencing even higher levels of cumulative IPT exposure

(Bistricky et al., 2017; Mereish & Poteat, 2015) which, due to a dose-response effect for more

frequent, varied, and severe IPT experiences, increases their risk of suffering compounding

symptoms (e.g., Messina et al., 2007; Steine et al., 2017). Counseling psychologists, who have

an established history of working with college students in university counseling centers,

demonstrate a commitment to a professional identity based on emphasizing strengths, optimal

functioning, preventative interventions, and social justice values (Gelso et al., 2014). In an era

where professionals working in university counseling centers often face understaffing, a rising

demand for services, increased acuity of concerns, longer waitlists, and shorter session limits,

there is a substantial and growing need for more empirically-supported, time-limited

interventions as well as justification of longer term treatment when indicated (Prince, 2015). The

results of the present study provide support for considering both inter- and intrapersonal sources

of resilience (i.e., attachment security and self-compassion) as opportunities for prevention and

intervention regarding the connection between cumulative IPT and the self-conscious affect of

shame.

The findings of direct effects between cumulative IPT and the dimensions of adult

attachment as well as between adult attachment anxiety and shame suggest the ongoing

importance of interventions aimed at enhancing attachment security. Bowlby (1988) proposed

five therapeutic tasks intended to facilitate this outcome: (a) provision of a safe haven and secure

base in therapy, (b) exploration of relational patterns with others, (c) understanding of

relationship dynamics with the therapist, (d) connections between IWMs and childhood

experiences, and (e) insight regarding IWMs that are no longer adaptive. Mikulincer and Shaver

(2016) described examples of attachment-based individual, couples, family, and group therapies

and reviewed growing evidence for their effectiveness (e.g., mentalization-based therapy,

accelerated-experiential dynamic psychotherapy, emotionally focused couples therapy,

attachment-based family therapy; Bateman & Fonagy, 2004; Diamond & Stern, 2003; Fosha,

2000; Johnson, 2003). Given that family-oriented or longer courses of attachment-based therapy

may be impractical in many university counseling settings, Brown and Elliot (2016) also

proposed a staged model for working with attachment that includes an *ideal parent figure*

protocol that other researchers have adapted as a promising time-limited intervention (e.g., Parra

et al., 2017). Still others have demonstrated reduced attachment insecurity through attachment-

focused interpersonal group interventions (Kilmann et al., 2006; Maxwell et al., 2014).

Beyond specific attachment-based interventions, Mikulincer and Shaver (2016) presented

evidence reflecting Bowlby's (1988) assertions that the therapeutic relationship as well as other

significant adult relationships can be conceptualized as attachment bonds with the potential for

becoming corrective emotional experiences that may increase attachment security. Furthermore,

there is some evidence to suggest benefits inside and outside of therapy associated with

providing five conditions that promote secure attachment: felt safety (protection), feeling known

(attunement), felt comfort (soothing), feeling valued (expressed delight), and felt support for best

self (encouragement for exploration; Brown & Elliot, 2016; see Mikulincer & Shaver, 2016 for a

review). Therefore, counseling psychologists and other professionals working with emerging

adults may wish to employ both attachment-based interventions and therapies as well as

attachment-informed approaches designed to increase attachment security, depending on the

resources available in their given context. Additionally, associations between therapist provision

of conditions promoting secure attachment, therapist and client attachment styles, and therapy outcomes may reflect the importance of addressing attachment-related constructs in the training and supervision of mental health professionals (Mikulincer & Shaver, 2016; Teyber & Teyber, 2017).

Moreover, data from the present study support attending to self-compassion as a potential protective and resiliency factor in the relationship between cumulative IPT and shame. The finding that self-compassion had the largest single direct effect on shame provides further evidence for the value of compassion-based therapies, interventions, and programming with undergraduate students. Given a relative resistance of attachment orientation to rapid change, several authors have proposed that self-compassion may represent a more accessible target for short-term intervention (e.g., Raque-Bogdan et al., 2011; Wei et al., 2005). Leaviss and Uttley (2015) reviewed the effects of compassion-based therapeutic approaches, concluding that a variety of self-compassion interventions related to compassion focused therapy (Gilbert, 2010, 2014) may provide benefits of both increased self-compassion and decreased symptomatology. Dreisoerner et al. (2021) also contributed initial evidence for the reciprocal effects of increasing one component of self-compassion on the other components. Examples of individual, group, clinical, and non-clinical self-compassion interventions that may address one or more aspects of self-compassion include the following: writing exercises (Dreisoerner et al., 2021; Johnson & O'Brien, 2013; Leary et al., 2007), compassionate mind training (Gilbert & Procter, 2006), perfect nurturer protocol (Gilbert & Procter, 2006), Gestalt two-chair technique (Neff et al., 2007), and mindful self-compassion program (Neff & Germer, 2013). Neff (2011b) further proposed the role of modeling as central in teaching self-compassion within and beyond therapeutic contexts; therefore, the results of the current study may underscore the value of

addressing self-compassion in the training and supervision of mental health and other professionals who work with college students.

These results also support the use of attachment- and compassion-related content in psychoeducation, outreach, and advocacy efforts. For example, the previously discussed relationships among IPT, shame, and potentially life-threatening conditions (e.g., eating disorders, substance use disorders, non-suicidal self-injury, suicidality; Boyraz et al., 2016; López-Martínez et al., 2018; Resnick et al., 1993; Tasca et al., 2013; Wilson et al., 2006) in undergraduate populations may suggest an opportunity to utilize attachment- and compassion-informed programming aimed at preventing or addressing these concerns in college student populations, particularly given an historical focus on moralization-based approaches to these concerns that may exacerbate shame (Frank & Nagel, 2017). Several researchers provide guidance on applying mindful self-compassion training as an approach to advocacy with survivors of intimate partner abuse, another public health concern impacting undergraduate students, to reduce shame and self-blame while reinforcing empowerment (Tesh et al., 2015). Considering evidence that gains in self-compassion by participating in a non-clinical program can be maintained one year after completion and relate to continuing improvement in quality of life (Neff & Germer, 2013), general student programming aimed at increasing self-compassion also may represent a practical option for enhancing individual and collective resilience over time among emerging adults. Overall, data from this study support the use of a variety of clinical and non-clinical interventions designed to cultivate attachment security and self-compassion as resiliency factors influencing the relationship between cumulative interpersonal trauma and shame with undergraduate students.

Limitations

There are several limitations of this study related to the theoretical foundations, sampling method, instrumentation, sample size, and variable selection. Namely, this is the first study identified that has integrated attachment and self-compassion as a theoretical basis. While a notable body of research has been developed regarding self-compassion, it remains a relatively new theory since its initial articulation (Neff, 2003a) and subsequent explication (e.g., Neff, 2011b). Furthermore, questions regarding the precise relationships among the adult attachment constructs and self-compassion persist (e.g., Navarro-Gil et al., 2018; Pepping et al., 2015) as well as controversy regarding the association between adult attachment avoidance and shame. Thus, the theoretical foundation of the present study may be limited by the previously untested integration of attachment and self-compassion theories, self-compassion as an emergent theory itself, and persisting gaps in the literature related to advancements in measuring the dimensional adult attachment constructs. This limitation may be of particular importance in studies such as this one that involve the use of structural equation modeling analysis to examine potential causal inferences based in theory with cross-sectional data (Kline, 2016).

Additionally, the external validity of the current study is limited by convenience sampling of 18- to 20-year-old emerging adults enrolled in undergraduate courses at a medium-sized, public, Rocky Mountain region university. Self-selection may limit the representativeness of the convenience sample and the generalizability of the findings. For example, the results may differ significantly from a sample of minors, adults in other generations, same-age peers who are not pursuing higher education, and individuals living in other geographical regions. Individuals who hold one or more marginalized identities are at an increased risk for cumulative IPT exposure in the United States (Bistricky et al., 2017; Mereish & Poteat, 2015); however, no

survey instrument has been identified to measure the degree and range of identity-related trauma that these individuals may experience, and these data could not be included in the present study. Therefore, generalization of these findings should be considered with caution.

Other limitations are related to the measurement of the five latent constructs in the current study and internal validity. Measures of cumulative IPT often include items assessing dichotomous exposure to a list of pre-determined traumatic events that are totaled to create a single score versus Likert scales measuring degree of subjectively assessed exposure to potentially traumatic experiences (see Adams, 2007). Though the Child Abuse and Trauma Scale used in this study allows for subjectively assessed degree of exposure across several domains, it is limited by a focus on primary caregivers/the home environment and the removal of the punishment/physical abuse (PUN) subscale as an indicator in the final models due to low internal consistency reliability in this sample (Sanders & Becker-Lausen, 1995). Across several past studies including the original article that proposed the use of this instrument, the PUN subscale was shown to have the lowest reliability (e.g., Arens et al., 2014; Sanders & Becker-Lausen, 1995). Kent and Waller (1998) posited that this subscale may be more reliable with female-identified samples, and a review of Cronbach's alpha values in other studies suggested higher reliability in female-identified and clinical samples ($\alpha = .78-.80$; Kent & Waller, 1998; Tasca et al., 2013) versus broader non-clinical undergraduate ones ($\alpha = .59-.63$; Arens et al., 2014; Sanders & Becker-Lausen, 1995) which may relate to the low internal consistency in the current study ($\alpha = .53$).

Moreover, early instruments that measure attachment focused on childhood bonds, adult romantic relationships, and attachment insecurity. Despite improvements in the versatility and sensitivity to secure attachment for the Experiences in Close Relationships-Revised measure

used in this study, the authors noted persisting differences in precision when measuring insecure versus secure attachment that may limit its sensitivity to attachment security (Fraley et al., 2000). Additionally, some past researchers discouraged parceling measures given the potential for introducing bias into structural equation modeling analysis by reducing possible sources of variance while others viewed the generally accepted practice as potentially beneficial, citing stronger psychometrics for parcels over items (Kline, 2016; Little et al., 2002). Thus, utilizing parcels to measure the attachment-related latent variables in the present study may have introduced uncertainty regarding bias in the model analysis. While a subset of previous researchers also combined the subscales of the self-compassion measure used in this study (Neff, 2003a) into its three components as indicators in structural equation models (e.g., Joeng et al., 2017) to align with the recommendations of Neff (2016), other researchers chose a two-factor solution that separated the three positive poles from the three negative poles of these components (e.g., Bolt et al., 2019; Brophy et al., 2020; Seligowski et al., 2015). These differences in previous studies may limit direct comparisons to pre-existing models in the literature. Additionally, the high face validity of the Experiences of Shame Scale utilized in the current study (Andrews et al., 2002) may limit its utility to detect shame for individuals who are more likely to utilize avoidant coping strategies such as denial (e.g., avoidantly attached adults; Wei et al., 2003). Lastly, the retrospective and/or self-report format of the measures used in this study introduced possible limitations regarding memory, self-serving, selection, and mono-method biases, and the forced choice format may have introduced limitations related to acquiescence bias (Tourangeau et al., 2000).

Two additional limitations were associated with the final sample size and selection of variables for the models. While the 310 participants included in this study exceed the general

minimum recommendation by past researchers of 200 (Barrett, 2007; Kline, 2016; Loehlin, 2004) and others propose that smaller samples would be adequate to achieve sufficient power for less complex models (e.g., Martens, 2005), still other researchers suggest more stringent criteria such as sample size to parameter ratios (*N:q*) of 10:1 or 20:1 (e.g., Jackson, 2003). Weston and Gore (2006) suggested that larger sample sizes are most important with complex models, severe nonnormality, missing data, and questionable measurement reliability. While questions regarding potential moderate nonnormality were addressed with bootstrapping in this study, these models were relatively simple and were tested without missing data utilizing indicators with high reliability. However, there may be limitations related to statistical power that would be addressed by testing the data in sample sizes of 400 or 800 to the 40 parameters for the full CFA measurement model that would meet the more stringent recommendations.

Structural equation modeling analysis also is limited by an inability to control for specific variables in a traditional sense and a sensitivity to intercorrelations that may prevent the inclusion of too many related variables within a single model (Kline, 2016). Numerous factors that have been shown to influence shame broadly such as cultural effects (e.g., Ferguson et al., 2000; Passanisi et al., 2015; Sheikh, 2014) or trauma-related shame specifically such as emotion regulation and social reaction to disclosure (Beduna & Perrone-McGovern, 2019; DeCou et al., 2017) were not included in the final models. Therefore, there may be meaningful variables that shape the relationships among the constructs of interest that were not included, ultimately unimportant indicators that were included, and significant variables that could be important to control in the analysis that may limit the study's usefulness.

Future Directions

The overall results of this study provided support for an integrative intra- and interpersonal explanatory framework for connections between cumulative IPT and shame with undergraduate students. However, future studies with varying designs, samples, additional variables, and instruments that address the limitations previously discussed as well as original contributions could expand the current study's applications. While the findings contributed to previous research demonstrating relationships among cumulative interpersonal trauma, adult attachment, self-compassion, and shame using cross-sectional data, a longitudinal design could be useful to address potential changes in the constructs of interest over time and clarify associations among the dimensions of adult attachment and self-compassion. Non-recursive or time-lagged structural equation models with reciprocal pathways may provide more nuanced information regarding potential relationships between self-compassion and adult attachment given the inability to correlate these endogenous variables in the present study and their significant shared yet unexplained variance. Longitudinal and experimental studies examining the interrelationships among the five latent constructs may contribute further to understanding the possible causal relationships represented in this model.

Utilizing larger and more representative samples in future studies also may strengthen the statistical power and generalizability of the results as well as the possible theoretical and practical implications. Examining the final model in a sample size that meets the more stringent $N:q$ ratio recommendations (i.e., 400 to 800 participants) could increase the statistical power and precision of the analysis (Jackson, 2003; Kline, 2016; Weston & Gore, 2006), providing additional support for the findings and clarity particularly regarding the significant but small effects in the present study. In addition, exploring these hypothesized relationships in more

representative non-convenience samples of undergraduate students, minors, older adults, and emerging adults not enrolled in a university as well as with clinical samples could increase the generalizability of these associations and contribute to the development of interventions that could be applied to a broader population.

Similarly, the inclusion of variables that have been shown to influence the relationships examined but were not addressed in the present study could expand the results. In a structural equation modeling study with survivors of childhood bullying, Beduna and Perrone-McGovern (2019) found direct associations between attachment security, self-compassion, emotion regulation, and shame. Wei et al. (2005) also conducted a study providing evidence that basic psychological needs satisfaction (i.e., extent to which needs for autonomy, competence, and relatedness are met) may fully mediate the relationship between adult attachment avoidance and shame. Given that the final model in the current study was not considered complex and demonstrated a strong fit to the data, it may offer an integrative intra- and interpersonal foundation to incorporate other relevant variables that could add detail to the structure already represented and may, in turn, better inform a process of refining relevant interventions.

Future research could also address limitations associated with the measures utilized in the present study by developing new measures and/or utilizing varying types of assessment methods. First, researchers may wish to retest the final model with the PUN subscale re-added in female-identifying and clinical samples where it may have stronger internal consistency (see Kent & Waller, 1998) given the potential associations between physical abuse and the avoidant dimension of adult attachment (Unger & De Luca, 2014). However, a new or revised cumulative IPT instrument also would be needed to measure subjective degree of IPT exposure across multiple domains throughout the lifespan. The cumulative IPT instrument in this study measured

subjective degree of exposure but focused on childhood and adolescent experiences with primary caregivers in the home environment (e.g., CATS; Sanders & Becker-Lausen, 1995); this precluded its use as a comprehensive measure in general and significantly reduced its effectiveness to assess cumulative IPT after an individual no longer lived with a primary caregiver. As mentioned above, many trauma measures also were not designed to address identity-related trauma, to measure exposure to potentially traumatic events across different social identities, or to assess cumulative degree of exposure (e.g., Carter et al., 2013; Crusto et al., 2015). Others do not assess for the differential impact of exposure to potentially traumatic collective experiences given social location (e.g., global pandemics, regional disasters). Therefore, the development of a more comprehensive instrument designed to measure the degree of subjectively experienced IPT exposure across multiple domains throughout the lifespan as well as its disparate effects may significantly expand the capacity to assess for cumulative IPT in representative samples.

Likewise, future researchers could retest the final model using alternative instruments or methods of assessing adult attachment and shame. Though the revised dimensional adult attachment measure used in the current study (i.e., ECR-R) demonstrated improvements compared to other measures, its initial items were written to assess for attachment tendencies with a romantic partner rather than the "close other" who was referenced in this study according to Fraley et al.'s (2000) guidance. Utilizing the original items or attachment measures targeting different types of relationships (e.g., best friend, romantic partner, parent, therapist; Fraley, Heffernan et al., 2011) in future studies could add specificity to the findings across relational contexts, especially given past study findings suggesting a stronger association between IPT and adult attachment avoidance when measuring attachment with respect to parental relationships

(Corcoran & McNulty, 2018). The development of dimensional attachment measures with increased sensitivity to attachment security (see Fraley et al., 2000) may also be an important contribution in refining resiliency-focused interventions. Given other past studies that indicate a relationship between adult attachment avoidance and a tendency to employ denial as a protective strategy which may lead to lower reporting of shame on highly face valid measures, future researchers may wish to examine the association between avoidant adult attachment and shame using a less face valid approach (e.g., Experiential Shame Scale; Turner, 2014). Employing additional methods of data collection such as semi-structured interviews, observational data, and physiological markers could contribute to fuller measurement of the constructs of interest in the present study (see, for example, Ravitz et al., 2010). Lastly, future researchers may wish to retest the final model using separate measures as indicators for each latent variable rather than utilizing parceled items of the same measure (Kline, 2016; Little et al., 2002).

Conclusions

The purpose of the present study was to examine the interrelationships among cumulative interpersonal trauma, the dimensions of adult attachment anxiety and avoidance, self-compassion, and shame based on an integrative theoretical framework. This was the first study identified that integrated attachment and self-compassion theories through their corresponding conceptualizations of shame, the parallels in their development, structure, and function (e.g., internalization of childhood experiences; emotional, cognitive, and behavioral elements; models of relating), as well as their complementary focus (i.e., interpersonal vs. intrapersonal relating). The results of this structural equation modeling analysis supported the primary model (see Figure 4) which represented the hypothesis that cumulative IPT indirectly affects shame through the full mediation of the related constructs of adult attachment anxiety, adult attachment avoidance, and

self-compassion. Specifically, higher degrees of exposure to IPT directly related to increased

levels of attachment anxiety and avoidance as well as decreased levels of self-compassion.

Higher levels of attachment anxiety directly related to increased shame, and higher levels of

attachment avoidance and self-compassion directly related to decreased shame. Together, these

constructs explained over half of the total variance in self-reported shame in the present

undergraduate sample. The results of this study reinforced the powerful potential of considering

both intra- and interpersonal postures of relating to inform strengths-based, resiliency-focused,

and preventative interventions with survivors of interpersonal trauma who experience shame.

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APPENDIX A

DEMOGRAPHIC QUESTIONNAIRE

Age (in years): _____

How many *years* has it been since you lived with a primary caregiver (e.g., parent, guardian)?

_____

Are you currently participating in psychotherapy/counseling?

    ___ Yes

    ___ No

Have you previously participated in psychotherapy/counseling?

    ___ Yes, if so how many years ago? ___

    ___ No

In total, how long have you been in psychotherapy/counseling?

    ___ years

Are you currently participating in counseling that is focused primarily on one or more traumatic

events (e.g., sexual assault, childhood abuse, war-related violence, bullying)?

    ___ Yes

    ___ No

Have you previously participated in counseling that is focused primarily on one or more

traumatic events?

    ___ Yes

    ___ No

In total, how long have you participated in psychotherapy/counseling that is focused primarily on

one or more traumatic events?

    ___ years

Have you experienced one or more traumatic events not perpetrated directly by another person (e.g., natural disaster, car accident)?

    ___ Yes

    ___ No

Are you currently serving in the armed forces/military?

    ___ Yes

    ___ No

Have you previously served in the armed forces/military?

    ___ Yes

    ___ No

If you have served in the armed forces/military, how many deployments have you completed?

    _____ deployments

Participant Relationship Status:

    ___Single, never married

    ___Dating

    ___Cohabitating

    ___Married/Domestic Partnership

    ___Widowed

    ___Divorced

    ___Separated

What is your parents'/primary caregivers' current relationship status?

    ___Single, never married

    ___Dating

___Married/Domestic Partnership

___Cohabitating

___Widowed

___Divorced

___Separated

___Remarried

What was your parents'/caregivers' primary relationship status while you lived in the household?

___Single, never married

___Dating

___Married/Domestic Partnership

___Cohabitating

___Widowed

___Divorced

___Separated

___Remarried

What is the highest level of education completed by your parent/primary caregiver?

___Some schooling completed

___High School/GED

___Technical College/Certificate

___Bachelor's Degree

___Master's Degree

___Doctorate Degree

Parent 2/Primary Caregiver 2, if applicable: What is the highest level of education completed by your parent?

  ___Some schooling completed

  ___High School/GED

  ___Technical College/Certificate

  ___Bachelor's Degree

  ___Master's Degree

  ___Doctorate Degree

What is your major? _____

Estimated Household Income: _____ per year

Number of persons in household: _____

Socioeconomic Status/Social Class:

  ___Upper class

  ___Middle class

  ___Lower/Working class

Participant Employment Status:

  ___Employed, Full time

  ___Employed, Part time

  ___Not employed

Racial/Ethnic Identity:

  ___White/Caucasian/European descent

  ___Latinx/Hispanic/Spanish descent

  ___African American/Black/African descent

___Native American/American Indian/Alaska Native

___Asian American/Asian descent

___Native Hawaiian/Pacific Islander

___Bi-Racial_____

___Multi-Racial _____

___Ethnicity not listed above: _____

Gender Identity:

___Cisgender man

___Cisgender woman

___Transgender woman

___Transgender man

___Non-binary

___Gender fluid

___Gender not listed above/Self-identify: _____

Sexual Identity:

___Straight/Heterosexual

___Gay

___Lesbian

___Bi-sexual

___Asexual

___Pansexual

___Queer

___Sexual identity not listed above/Self-identify: _____

Religious/Spiritual Identity:

    ___Christian

    ___Jewish

    ___Muslim

    ___Buddhist

    ___Hindu

    ___Mormon

    ___Spiritual, non-religious

    ___Agnostic

    ___Atheist

    ___Other/Self-identify: _____

Have you been diagnosed with any of the following disabilities or impairments?

    ___Not diagnosed with a disability or impairment

    ___Sensory impairment

    ___Mobility impairment

    ___Learning disability

    ___Mental health disorder

    ___Disability or impairment not listed above

APPENDIX B

INSTITUTIONAL REVIEW BOARD APPROVAL

UNIVERSITY OF NORTHERN COLORADO

Institutional Review Board

DATE: September 25, 2019

TO: Abigail Kimm, B.A.
FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [1471113-2] Interpersonal trauma, adult attachment, and self-compassion: A relational model of shame
SUBMISSION TYPE: Amendment/Modification

ACTION: APPROVAL/VERIFICATION OF EXEMPT STATUS
DECISION DATE: September 25, 2019
EXPIRATION DATE: September 25, 2023

Thank you for your submission of revised materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Nicole Morse at 970-351-1910 or nicole.morse@unco.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

APPENDIX C

**CONSENT FORM FOR HUMAN PARTICIPANTS
IN RESEARCH**

UNIVERSITY OF
NORTHERN COLORADO

Institutional Review Board

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH

Project Title: Interpersonal trauma, adult attachment, and self-compassion: A relational model of shame

Researcher(s): Abigail Kimm, Doctoral Student in Counseling Psychology, Phone Number: 765.618.7075, E-mail: abigail.kimm@unco.edu

Research Advisor: Stephen Wright, Ph.D., Department of Applied Psychology and Counselor Education, Phone Number: 970.351.1838, E-mail: stephen.wright@unco.edu

The purpose of the current study is to explore connections among past experiences, patterns in relating to others and ourselves, and resulting emotions. Your participation would contribute to the knowledge base regarding these topics as well as inform the development of treatment for people who are at high risk of experiencing the negative effects of past events, such as undergraduate students. As a participant, you will be asked to respond to a series of questions regarding these areas using an online survey format. The questionnaire will take approximately 20 minutes to complete.

You will not be asked to provide your name, Bear number, or other readily identifiable information; however, you will be prompted to answer basic demographic questions such as your age. Your responses will be recorded through the secure internet survey platform. The data will be downloaded into a password protected file on a password protected hard drive and/or encrypted flash drive, and the researcher and research advisor will have access to the data. All results will be reported in an aggregate format.

Potential risks to participants are no greater than those normally encountered during daily life and regular classroom participation. You may experience discomfort in connection to remembering past experiences or considering current relational dynamics or emotions. If this occurs, participants are encouraged to seek emotional support via the following resources: the National Counseling Hotline at 1-800-273-TALK, the Colorado Crisis Services: 1-800-493-TALK(8255), or the University of Northern Colorado Counseling Center: 970-351-2496. There are no known costs associated with participating in the study other than the time you spend completing the survey.

One benefit to you may include increased self-awareness regarding the topics studied, and if applicable, compensation will be provided in the form of extra credit or verification of research participation to satisfy a research experience course requirement. If extra credit is provided, alternative forms of extra credit of comparable effort and equal value are available. (Please see

syllabus or speak with instructor for additional options.) If you are a PSY 120 student consenting to participate as part of your research experience requirement, you are acknowledging that you understand that participation in this study is only one way to satisfy the research experience requirement for PSY 120 and that you may, if you choose, select an alternative assignment to being a research participant. Please do not hesitate to contact us at the emails provided above with any questions.

Participation is voluntary. You may decide not to participate in this study, and if you begin participation, you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled. Please take your time to read and thoroughly review this document and decide whether you would like to participate in this research study. If you decide to participate, your completion of the research procedures indicates your consent. Please keep or print a copy of this form for your records. If you have any concerns about your selection or treatment as a research participant, please contact Nicole Morse, Office of Research, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-1910.

APPENDIX D

SCRIPTED PROMPT/STUDY DESCRIPTION

Scripted Prompt/Study Description:

[Introduction, if applicable] I want to share an opportunity to participate in a study as part of my [information regarding primary researcher if presented by another] dissertation research exploring connections among past experiences, patterns in relating to others and ourselves, and resulting emotions. The results of the study may provide important information used to support people who have experienced negative events and understand relationships among these concepts more broadly. The online survey will take approximately 20 minutes and you will not be asked any directly identifying information. [Information about relevant compensation in the form of course/extra credit or random incentives drawing] Thank you for considering participating! What questions might you have? [Instructions to access electronic survey]

APPENDIX E

DEBRIEFING INFORMATION

Debriefing Information:

Thank you for your participation! This study was conducted to explore the types of relating that may influence the relationship between experiencing difficult events throughout the lifetime and shame. Specifically, the study was designed to assess cumulative interpersonal trauma, adult attachment style, self-compassion, and shame. The goal of the study was to clarify how anxious or avoidant dimensions of adult attachment and self-compassion may directly or indirectly influence the recognized connection between experiencing adverse events perpetrated by another human being and shame. If you experienced any distress answering questions regarding potentially traumatic events, relationship patterns, and/or shame and would like to speak with someone further, please access support using any of the resources provided below. Please also print and/or save a copy of this page for your records.*

National Counseling Hotline: 1-800-273-TALK(8255)
Colorado Crisis Services: 1-800-493-TALK(8255)
University of Northern Colorado Counseling Center: 970-351-2496*

*[To be included only for participants who are eligible for the random incentives drawing] After printing or saving a copy of this page, please click on the link below if you would like to provide an email address to enter a raffle for one of five $10 Amazon electronic gift cards.