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UNIVERSITY OF NORTHERN COLORADO

Greeley, Colorado

The Graduate School

THE RELATIONSHIP BETWEEN TRAUMA, ATTACHMENT,
SELF-COMPASSION, AND EMOTION REGULATION:
A STRUCTURAL EQUATION MODEL

A Dissertation Submitted in Partial Fulfillment
of the Requirements of the Degree of
Doctor of Philosophy

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College of Education and Behavioral Sciences
Department of Applied Psychology and Counselor Education
Program of Counseling Psychology

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This Dissertation by: Susanna Jane Turner

Entitled: *The Relationship Between Trauma, Attachment, Self-Compassion, and Emotion Regulation: A Structural Equation Model.*

has been approved as meeting the requirement for the Degree of Doctor of Philosophy in College of Education and Behavioral Sciences in Department of Applied Psychology and Counselor Education, Program of Counseling Psychology.

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ABSTRACT

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Previous research has examined the relationship between trauma, attachment, self-compassion, and emotion regulation, but never with an incarcerated population. Given the link between emotion regulation and illegal behaviors, it may be helpful to more fully understand this relationship in order to lay the groundwork for future intervention research. I gathered data from 378 participants. I then examined the relationships between these constructs on data from 204 participants, the number that remained after cleaning the data, by way of a structural equation model. Findings suggest that greater experiences of trauma may lead to insecure attachment styles, impacting individuals' ability to trust and access supportive relationships, both of which lead to difficulties regulating emotions, which has been shown to be related to illegal behavior and incarceration. A lack of security in relationships and difficulties in regulating emotions are also connected to an individual's self-report of self-compassion. This highlights the systemic impact of trauma and ways it may predispose those who have experienced trauma to be more likely to engage in illegal behavior and self-judgment. Research and practice implications are discussed.

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CHAPTER I

INTRODUCTION

The present approach to rehabilitation for those who are justice-involved is ineffective, given that over 75% of those who are released from prison are rearrested within a 5-year period (Durose et al., 2014). Trauma is disproportionately experienced by those who are justice-involved, with reports of any type of trauma being recorded at 99% (Wolff et al., 2014) and, when restricted to physical and sexual abuse, being at 64% (Tripodi & Pettus-Davis, 2013). Importantly, childhood trauma has been theorized to be an important variable involved in the pipeline to prison (Stensrud et al., 2018). These statistics suggest there may be a relationship between abuse and justice-involvement. This abuse can often lead to difficulties with emotion regulation, which has been found to be a significant predictor of arrests in juveniles (Kemp et al., 2017). Trauma can also lead to PTSD, which can increase the likelihood of arrest from 1.4-1.5 times (Sadeh & McNeil, 2014). Further research suggests that those with less severe PTSD and lower reports of avoidance of uncomfortable feelings and situations experience higher levels of self-compassion (B. L. Thompson & Waltz, 2008). Stosny (1995) described self-compassion as being "incompatible with antisocial behavior" (p. 82). In addition, self-compassion mediated the relationship between childhood maltreatment severity and later emotion dysregulation on a psychologist sample (Vettese et al., 2011). Attachment style has also been shown to be related to incarceration, as it has been highlighted as a protective factor for violent behavior, non-sexual recidivism, and drug use (Elisardo Becoña et al., 2014; Franke, 2000; Spice et al., 2013). Thus, previous literature has separately suggested that trauma, attachment, self-compassion, and

emotion regulation may be related to justice-involvement, but further research is needed to understand the complex interplay between these factors in order to work towards more efficacious treatments or prevention efforts for those involved with the justice system.

Theoretical Basis

Attachment Theory

In order to frame the current study, attachment theory and self-compassion theory were utilized to understand the relationship of trauma, attachment, self-compassion, and emotional regulation. The idea of attachment was coined by Bowlby (1969), when he stated that “attachment behavior is any form of behavior that results in a person attaining or maintaining proximity to some other dearly identified individual who is conceived as better able to cope with the world” (pp. 26-27). Bowlby (1969) believed that this child’s interactions with their primary caregiver would result in the development of an internal working model. The internal working model is a cognitive system that helps the child to interact within the world in an adaptive way through working models of the self, world, and others. However, these systems are sometimes faulty due to receiving distorted information.

In order to better understand attachment styles between infants and their mothers, Mary Ainsworth (1979) created The Strange Situation experiment and labeled attachment styles as: secure, insecure avoidant, and insecure ambivalent. This experiential situation, where the child’s behavior was observed during the departure and arrival of his or her mother, helped to create a way of organizing the experiences children had in their childhood and the impact of these experiences on the way the individual interacts in the world. It is theorized that when children feel safe with their caregiver, that they come back to them to seek comfort and help regulating

their emotion, using their caregiver as a secure base. Once they feel secure, they can venture back out to explore new stimuli again (Ainsworth, 1979).

Of these three attachment styles, secure attachments are characterized by individuals viewing their caregivers as responsive, emotionally available, generally accessible, and effective at meeting their needs. Given that they view their caregivers this way, they often carry this safety into their future relationships and are able to regulate their emotions (Ainsworth, 1978). Those who have insecure avoidant relationships generally experienced emotionally distant, rejecting, or neglectful caregivers, which shaped their current view of relationships. These individuals are often aggressive and avoid close, intimate relationships, as they often assume others will be emotionally distant and rejecting, like their parents (Ainsworth, 1978). Finally, a third attachment style is insecure ambivalent (also referred to as anxious), which denotes individuals whose parents were inconsistently available. This attachment style generally leads to mixed feelings regarding relationships in the future. These individuals are often uncomfortable receiving and not receiving support from important others in their lives, and tend to be easily frustrated (Ainsworth, 1978). Finally, in 1986, Main and Solomon introduced the disorganized attachment style. This style described individuals with frightening or frightened parents which leads to fear of the caregiver, contradictory affect occurring simultaneously, or dissociation in the child (Main & Hesse, 1990; Main & Solomon, 1986). This information suggests that individuals with more secure attachment styles are better able to regulate their emotions, while those with more avoidant or anxious attachment styles are more likely to become aggressive or easily frustrated, respectively.

In previous research, attachment styles have been examined categorically (Bartholomew & Horowitz, 1991), but attachment does not always neatly fit into one box. Brennan et al. (1998)

highlighted a new way of viewing attachment from a dimensional model based on levels of anxiety and avoidance, with lower levels in each of these areas representing a more secure attachment style; high anxiety and low avoidance leading to anxious-ambivalent; high avoidance and low anxiety leading to avoidant; and high anxiety and high avoidance representing a more disoriented/disorganized and insecure style. It is important to note that, though there are still categories, shifting to view attachment as dimensional allows for greater discrimination and nuanced understanding of the experience, as opposed to collapsing the data into groups, where precision and power can be lost (Brennan et al., 1998).

As previously mentioned, attachment theory suggests that those who have higher levels of secure attachment will be better able to regulate their emotions, whereas those who are closer to the avoidant or anxious ends of the continuum may experience more emotion dysregulation (Ainsworth, 1978). The compilation of information related to attachment theory serves as the basis for using attachment as a mediating variable on the relationship between trauma and emotion regulation within my model as measured by adult attachment.

The internal working model, which is characteristic of attachment, suggests that children internalize the interactions they have with their caregiver(s). If the caregiver interacts with the child in a kind, compassionate, and supportive way, the child is more likely to develop these self-compassionate characteristics for their own internal dialogue. Conversely, if an individual experiences critical and unsupportive interactions from their caregiver, they are more likely to develop an internal dialogue with these self-critical characteristics. The judgment they receive from their caregivers may make it more difficult to hold their experience in non-judgmental awareness, as is necessary for self-compassion. This self-talk may be the basis for self-compassion, the supplementary theory I used in the current study.

Self-Compassion Theory

Self-compassion theory involves holding the pain you experience in awareness, without judgment, and turning towards this pain with kindness toward yourself (Neff, 2003). It may be more natural to respond in a self-loving way if an individual had a secure attachment figure who consistently responded to them in a loving way, as some research has discovered negative correlations between anxious and avoidant attachment styles and self-compassion (Joeng et al., 2017). An aspect of this theory, mindfulness of emotions, highlights the importance of holding uncomfortable feelings and thoughts in awareness without over-identifying with them (Neff, 2003). This awareness of and lack of over-identifying with emotions may allow a more secure individual to better regulate emotions, without suppressing or becoming entangled with them. In this way, self-compassion theory supports attachment theory as a theoretical foundation for this study.

These two theories, attachment and self-compassion, work together to help us understand the process of emotion regulation. When an individual is young, they internalize the way their parents interact with them and talk to them. If these interactions are kind, supportive, and represent a secure base of acceptance and love, they are likely to develop a kind way of speaking to themselves. If these words and interactions are critical or abusive (more insecure representations), they may develop a more critical, harsh, and less compassionate way of speaking to themselves. It may be that individuals who have less secure attachment styles may over-identify with these negative views of self, as this may be their internal working model. It may also be that for individuals who have more secure attachment styles, that they are more self-compassionate with themselves, resulting in awareness of emotions that leads to emotion regulation, as their internal working model is positive, caring, and supportive.

The interconnectedness of attachment and self-compassion is supported by research, given the correlation between attachment and self-compassion and the reported increase in self-compassion when individuals participated in interventions aimed at increasing attachment security (Pepping et al., 2015; Raque-Bogdan et al., 2016). Further, self-compassion has been found to predict emotion regulation in previous studies (Diedrich et al., 2016; Finlay-Jones et al., 2015). Emotion regulation has also been consistently linked to trauma (Alink et al., 2009; Courtois, 2004; Herman, 1992). In order to more fully understand relationship between trauma, attachment, self-compassion, and emotion regulation, I provided research support related to these constructs, beginning with trauma.

Trauma

Trauma has most often been defined as an emotional response to a severe event resulting in symptoms such as flashbacks, unpredictable emotions, or physical reactions including nausea and headaches (American Psychological Association [APA], n.d.). Herman (1992) described a type of trauma, complex trauma, which often results from cumulative interpersonal trauma experienced in childhood. This type of trauma often results in disturbances of emotions, self, and relationships (Cloitre, 2016). Research has discovered a dose-response relationship between collective maltreatment experienced and symptoms such as emotional pain, dissociation, relational problems, and overall distress (Messina et al., 2007). This information suggests that the number of traumatic experiences an individual survives may impact later emotional and relational functioning. Importantly, many individuals who are incarcerated have experienced intersectional experiences of childhood trauma, where those who experienced one type of abuse (e.g., physical, emotional, sexual) were significantly more likely to have experienced other types of abuse or neglect (Stensrud et al., 2018). The current study viewed trauma as experiences in

childhood related to sexual abuse (witnessing or surviving inappropriate sexual experiences), punishment (e.g., harsh punishment involving physical abuse), negative home environment (e.g., witnessing physical and emotional abuse, neglect, lacking support, witnessing alcohol or substance misuse) and emotional abuse (e.g. being yelled at, called names, and/or insulted) and the terms trauma, abuse, and maltreatment are used interchangeably, which is consistent with the literature.

Reports of maltreatment experienced within the justice system range from 99%, when abuse is defined more loosely to include any trauma, such as direct violence (95.8%), being robbed (68.5%), seeing dead bodies that were not at funerals (68.3%), or having a spouse/partner or child die (39.1%), to 64%, when reports strictly examine physical or sexual abuse (Tripodi & Pettus-Davis, 2013; Wolff et al., 2014). When strictly examining childhood trauma, 65.7% of incarcerated females, 64.4% of those incarcerated for sexual offenses, and 42.7% of low-risk prisoners endorsed four or more traumatic experiences as measured by the Adverse Childhood Experiences scale (Stensrud et al., 2018). This is in comparison to 15.2 % of females and 9.2% of males in the general population who endorsed four or more traumatic experiences using the same measure (Felitti et al., 1998). Importantly, the high rates of trauma experienced may be a risk factor for justice-involvement, given that increases in the presence of PTSD are associated with higher rates of rearrests (Sadeh & McNeil, 2014). Given the high prevalence of childhood trauma in those who are justice-involved, and trauma's association with insecure attachment styles (Cyr et al., 2010), more thorough understanding of this complex relationship is imperative in order to create more efficacious treatments for an incarcerated population.

Attachment Style

It is of note that individuals within the prison system predominately have attachment styles on the insecure side of the spectrum, which supports the data stating that the overwhelming majority of those in prison have experienced significant trauma (Fonagy et al., 1997; Tripodi & Pettus-Davis, 2013; Wolff et al., 2014). Insecure attachment styles associated with both mother and father are significantly correlated with emotional abuse, emotional neglect, physical abuse, physical neglect, and/or sexual abuse (Cuadra et al., 2014). This maltreatment (which is often perpetuated by the caregiver) leaves the child viewing the world as scary, unpredictable, and that the caregiver is inconsistent and unsafe, characteristics which often lead to insecure attachment styles (Ainsworth, 1978; Alink et al., 2009). Further, this childhood maltreatment from caregivers has been theorized to be related not only to dysfunction within the attachment relationship, but to concurrent difficulties with emotion regulation (Padykula & Conklin, 2010).

Importantly, 83.3% of women who are incarcerated reported insecure attachment styles (Dishon-Brown et al., 2017). When examining incarcerated men, this percentage stays relatively constant with 79% reporting insecure attachment styles (Grattagliano et al., 2014). Conversely, 53% of a sample of men and women from the general population reported insecure attachment styles (Konrath et al., 2014). This figure further supports the disproportionate prevalence of insecure attachment styles within the justice system. The current study aimed to provide a fuller understanding of attachment as it pertains to self-compassion and emotional regulation in those who are incarcerated and to lay the groundwork for future intervention research.

Self-Compassion

Neff (2003) highlighted three areas of self-compassion, stating, “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). Self-compassion may be uniquely important to examine within a justice-involved sample, given the stigma associated with possessing a criminal history and the forced separation they experience from society (Ispa-Landa & Loeffler, 2016). However, no research has been conducted to date examining self-compassion in an adult justice-involved sample. This lack of prior research coupled with the need for more effective interventions with a justice-involved population highlights the importance of conducting future research on self-compassion with this population.

Isolation for those who are justice-involved may occur in many ways. When the self is judged, it increases self-consciousness, which leads to feelings of isolation (Neff, 2015). Given this increased self-criticism, those who have been justice-involved may be isolated not only from society, but also from themselves. Those with more insecure attachment styles are less likely to actively explore their environment (Bowlby, 1973), which may lead to further isolation.

Self-compassion may have implications throughout the period of incarceration, as well as in reintegration into society. Formerly incarcerated individuals often face difficulties upon release, including stigmatization and ostracization from the community, which can lead to feelings of isolation and perpetuate the reoffending cycle (United Nations Office on Drugs and Crime, 2018). Self-compassion counteracts this isolation by fostering a sense of social

connectedness (Neff, 2003). Self-compassion may also foster this reintegration into society is by increasing the individual's ability to regulate their emotions, a construct which has been found to be linked to recidivism (Grieger et al., 2012).

Emotion Regulation

Emotion regulation is the procedure people use to affect the emotions they experience and the expression of their emotions (Gross, 1998). These procedures can be either automatic or controlled (Gross, 1998). The conceptualization of emotion regulation expanded to include the need to be aware of, accepting of, and clear about the emotion experienced, as well as being able to allow the uncomfortable experience that may come with these emotions, without becoming impulsive and, instead, working towards goal directed behavior (Gratz & Roemer, 2004). When individuals fail to experience their emotions and instead suppress them, they may be more likely to participate in impulsive behaviors (Freud, 1961).

Lack of emotion regulation has also been implicated in juvenile arrests and experiences of psychopathology, which draws awareness to the importance this mechanism has in offending behavior (Kemp et al., 2017). This relationship is commensurate with the high prevalence of trauma experienced within this population (Tripodi & Pettus-Davis, 2013; Wolff et al., 2014), which is related to higher levels of reported insecure attachment (Cuadra et al., 2014). Trauma experienced is also known to be related to difficulties with emotion regulation (Alink et al., 2009). Additionally, difficulties with emotion regulation have been found to be predicted by self-compassion (Finlay-Jones et al., 2015), and some researchers have suggested compassion-based practices may increase an individual's ability to regulate their emotions (Barlow et al., 2017). Importantly, an intervention which was aimed at increasing emotion regulation abilities was found to decrease disciplinary incidents for incarcerated youth by 54% (Ford & Hawke, 2012).

Integrating the above information, individuals who have experienced childhood trauma may have formed less secure relational styles, leading them to internalize these negative or critical views of themselves, and potentially resulting in difficulties regulating their emotions. Conversely, individuals who experienced less trauma may have more secure relationships with others that represent kinder self-talk, leading the individual to internalize higher levels of self-compassion, and a greater ability to regulate their emotions. Finally, improvement in emotion regulation abilities may decrease offending behavior, suggesting the importance in targeting emotion regulation for an incarcerated population.

Study Rationale and Purpose

The United States' approach to incarceration appears to be ineffective, given the high rate of reincarceration for those who are released (Durose et al., 2014). This suggests there is a need for new methods of rehabilitation within the justice system, in order to decrease recidivism and release individuals who are healthy, contributing members of society. Emotion regulation has been found to be a significant predictor of juvenile arrests, and may be an important process to target in future intervention research (Kemp et al., 2017). For example, individuals who have difficulty regulating their emotions may misperceive attachment threats, react in violent ways to anger, or find other unhealthy ways to self-regulate such as using substances or committing crimes. In order to more fully understand emotion regulation and how it may affect those within the justice system, there is a need to understand the relationship of emotion regulation with trauma, attachment, and self-compassion.

Individuals who are incarcerated have experienced disproportionate levels of trauma and abuse, with reports ranging from 64-99% (Tripodi & Pettus-Davis, 2013; Wolff et al., 2014). Trauma has been linked to difficulties with emotion regulation (Alink et al., 2009). For example,

trauma and abuse experienced can lead to dissociation from one's emotions (Herman, 1992). This suggests that trauma or abuse could lead to difficulty regulating emotions, as they may not be aware of their emotions. Thus, given the disproportionate levels of abuse experienced by this population, it was essential to more fully understand this relationship in order to create more efficacious treatments (Tripodi & Pettus-Davis, 2013; Wolff et al., 2014) and prevention efforts for counseling psychologists.

Negligent, abusive, or inconsistent behavior from a caregiver can often result in insecure attachments. Attachment style has been found to be a protective factor for some illegal behavior (Elisardo Becoña et al., 2014; Franke, 2000; Spice et al., 2013). Additionally, the majority of individuals who are incarcerated reported having more insecure attachment styles, which coincides with the reports related to trauma (Dishon-Brown et al., 2017; Grattagliano et al., 2014). In these conditions, individuals may not feel secure and safe in relationships and may internalize a voice that is critical, as this may be what has been modeled for them from their caregivers. This critical internal working model could also be viewed as the opposite of self-compassion and likely influences individuals' ability to regulate their emotions.

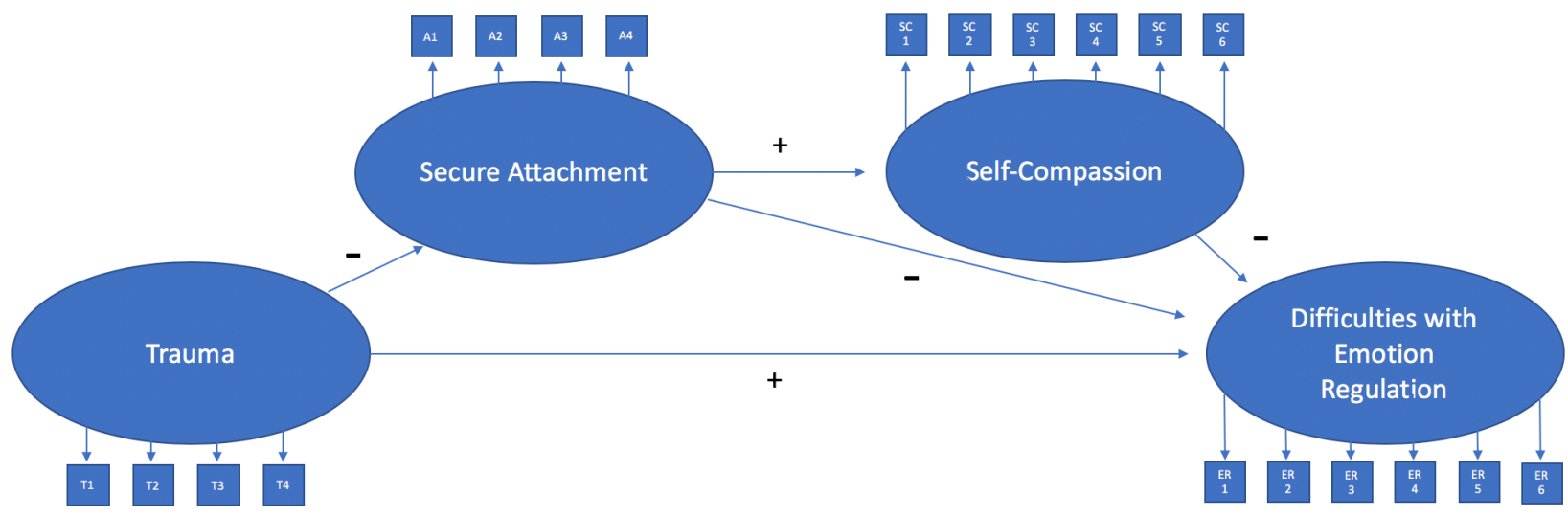
The purpose of the current study was to further understand the complex relationship between trauma, attachment style, self-compassion, and emotion dysregulation for those who are justice-involved, in order to lay the groundwork for future intervention and prevention research with this population. Therefore, I constructed a primary model (see Figure 1) where there was a direct positive relationship between trauma experienced and difficulties with emotion regulation (Hebert et al., 2018; Stevens et al., 2013). Additional research supports a significant negative relationship between traumatic experiences (physical abuse, physical neglect, emotional abuse, emotional neglect, and/or sexual abuse) and levels of attachment security (Cuadra et al., 2014).

Attachment style has been shown to be related to emotion regulation, with individuals who experience impaired attachment styles experience greater difficulties regulating emotions, which supports the negative relationship between attachment (secure) and difficulties with emotion regulation (Cook et al., 2005). Secure attachment levels are also related to increases in self-compassion, with a study finding that implementing an intervention which aimed to increase attachment security simultaneously increased reported self-compassion, which supports a positive direct path between attachment and self-compassion (Pepping et al., 2015). Additionally, self-compassion has been shown to negatively predict difficulties with emotion regulation, supporting the negative direct path between self-compassion and emotion regulation (Finlay-Jones et al., 2015).

However, there is a lack of consensus regarding the directionality of the relationship between self-compassion and emotion regulation, with one study finding emotion regulation mediating the relationship between PTSD symptom severity and self-compassion as the outcome variable (Scoglio et al., 2015). It is for this reason that I proposed an alternative model where difficulties with emotion regulation were hypothesized to predict lower levels of self-compassion. Overall, the goal was to use the findings from this research as a theoretical basis for intervention research focused on self-compassion and attachment relationships in order to increase emotion regulation and decrease recidivism among those in the justice system.

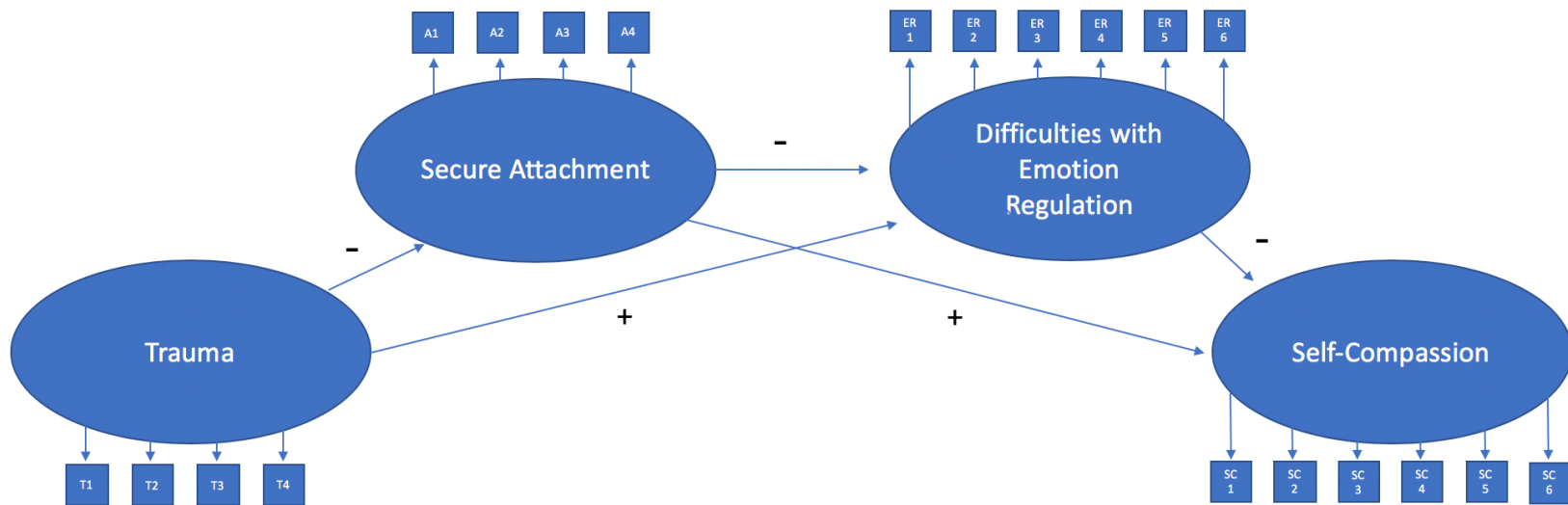
Figure 1

Primary Model



Research Questions

- Q1 Does the data fit the model examining the mediating effect of secure attachment levels and self-compassion abilities on the relationship between traumatic experiences and difficulties in emotion regulation for those who are justice involved (see Figure 1, Primary Model).
- H1 It was hypothesized that there is an indirect effect of trauma on emotion dysregulation through secure attachment style and self-compassion, with there being a negative relationship between trauma and attachment, where a greater number of traumatic experiences in childhood predicts less secure relationships, a positive relationship between secure attachment and self-compassion, and then a negative relationship between self-compassion and emotion dysregulation, where those who report greater levels of self-compassion also report less difficulties regulating their emotions. Additionally, it is hypothesized that there is a direct positive relationship between trauma and decreased emotion regulation, where more traumatic experiences leads to greater reports of difficulties with emotion regulation.
- Q2 As an alternative model, does the data fit of the model examining the mediating effect of attachment style and difficulties with emotion regulation on the relationship between trauma and self-compassion (see Figure 2, Alternative Model).
- H2 It was hypothesized that trauma experiences indirectly affects self-compassion through the partial mediating variables of attachment and emotion dysregulation. Specifically, the greater number of traumatic experiences in childhood indirectly affects self-compassion through lower levels of attachment security and a greater reports of difficulties with emotion regulation.

Figure 2*Alternative Model*

Definition of Terms

In this study, scales related to trauma, attachment, self-compassion, and emotion regulation were utilized to operationalize the constructs. Previous research provides support for the use of self-compassion, emotion regulation, trauma, and attachment as latent constructs (Finlay-Jones et al., 2015; Garland et al., 2013; Wei et al., 2003). Specifically, trauma was operationalized as sexual abuse, punishment, negative home environment/neglect, and emotional abuse as measured by the Child Abuse and Trauma Scale (CATS; Sanders & Becker-Lausen, 1995); Attachment was operationalized as attachment anxiety and avoidance as measured by the Experiences in Close Relationships- Revised (ECR-R; Fraley et al., 2000); Self-compassion was operationalized as common humanity, self-kindness, mindfulness, isolation, self-judgment, and over identification as measured by the Self-Compassion Scale (SCS; Neff, 2003); Emotion regulation was operationalized by different aspects of emotion regulation, including goals, non-acceptance, impulse, clarity, awareness, and strategies as measured by the Difficulties in Emotion Regulation Scale-18 (DERS-18; Victor & Klonsky, 2016).

Attachment Style

The current study defined secure attachment style as patterns of interacting and relating to others based on internal working models which were created from previous experiences and bonds with caregivers. This style can be determined by the combination of high or low levels of attachment anxiety and attachment avoidance (Brennan et al., 1998). Thus, secure attachment levels are based on the combination of both anxious and avoidant attachment levels as measured on the Experiences in Close Relationships- Revised (ERC-R; Fraley et al., 2000)

Attachment Anxiety. The current study employed Brennan et al.'s (1998) definition: anxiety related to abandonment in relationships.

Attachment Avoidance. Brennan et al. (1998) posited that attachment avoidance is related to “discomfort with closeness and dependency” in relationships (p. 48).

Emotion Regulation

Emotion Regulation and Dysregulation. The present study employed a combination of Rottenberg and Gross’ (2003) and Gratz and Roemer’s (2004) definitions of emotion regulation, as measured by the Difficulties with Emotion Regulation Scale-18 (DERS-18; Victor & Klonsky, 2016): the process an individual goes through to change or influence their emotions on different levels: which ones they experience, in what ways they experience, and the expression of said emotions, including awareness and acceptance of their emotions, being able to control their behavior when experiencing distressing emotions, and the ability to use one’s goals to change their emotions. The absence of these abilities indicates a greater presence of emotion dysregulation.

Self-Compassion

The current study used Kristin Neff’s (2003) definition of self-compassion: providing compassion to one’s self during times of perceived failings or suffering. She indicated that there are six components (three bipolar pairs) to self-compassion as measured by the Self-Compassion Scale (SCS; Neff, 2003): self-kindness and self-judgment, common humanity and isolation, and mindfulness and over-identification. Scores from over-identification, self-judgment, and isolation are reverse scored and all subscale scores are combined to create an overall self-compassion score, with higher scores indicated greater self-compassion.

Common Humanity vs Isolation. The present study drew from Neff’s (2015) definition of this dichotomy, as the ability to recognize “the shared human experience, understanding that

all humans fail and make mistakes, that all people lead imperfect lives. Rather than feeling isolated by one's imperfection . . ." (p. 2).

Mindfulness vs Overidentification. Neff (2003) defined this bi-polar construct as an individual's ability to be "aware of one's present moment experience of suffering with clarity and balance, without being caught up in an exaggerated storyline about negative aspects of oneself or one's life experience" (p. 2). The current study used this definition.

Self-Compassion vs Self-Judgment. Neff (2015) defined this as the "ability to be caring and understanding with one's self, rather than being harshly self-critical under the presence of suffering or failure" (p. 2). This definition was employed in the current study.

Trauma/Abuse

The current study defined trauma as an individual's current subjective perception of the level of trauma or stress experienced in their childhood with the assumption that the way the child interprets these experiences influences the impact on the child (Sanders & Becker-Lausen, 1995). The experiences measured in this study consist of sexual abuse, punishment, negative home environment/neglect, and emotional abuse (Kent & Waller, 1998; Sanders & Becker-Lausen, 1995).

Measures

Attachment. There are a number of attachment measures available for use. However, many of these measures, such as the Relationship Styles Questionnaire (Griffin & Bartholomew, 1994) measure relative fit into a specific attachment style category. The current measure, Experiences in Close Relationships- Revised (ECR; Fraley et al., 2000) was selected due to its strong psychometric properties and ability to measure attachment theoretically congruent to Brennan et al.'s (1998) model of Dimensional Attachment.

Emotion Regulation. Commonly used measures (Catanzaro & Mearns, 1990; Salovey et al., 1995) gauge an individual's belief that acting in a specific way will decrease negative feelings or increase positive feelings or examine an individual's ability to reflect on and manage their difficult emotions. These scales emphasize eliminating or managing their uncomfortable emotions, as opposed to experiencing them and continuing to behave in a targeted way. The selected measure, Difficulties in Emotion Regulation Scale-18 item (DERS-18; Victor & Klonsky, 2016) measures a variety of facets of emotion regulation, including awareness and acceptance of emotions, ability to engage in targeted behavior while feeling these difficult emotions, and possessing emotion regulation strategies that are believed to be helpful.

Self-Compassion. Given the relative newness of the construct of self-compassion in research, there was only one scale available for use to measure this construct: The Self-Compassion Scale (Neff, 2003).

Trauma. Many of the trauma scales are aimed at measuring symptoms of trauma as opposed to experiences which may have been traumatic (Ford et al., 2015). The current study aimed to examine the presence of certain events (childhood trauma) as opposed to examining the stereotypical symptoms associated with PTSD. Other scales were created for specific populations (McDonald et al., 2009). The Child Abuse and Trauma Scale was selected due to its sufficient psychometric properties and focus on measuring childhood experiences which could be traumatic (CATS; Sanders & Becker-Lausen, 1995).

Summary

To summarize, there is a significant need for more effective treatments for those who are justice-involved in order to decrease recidivism. Both attachment theory and self-compassion

theory provide a theoretical basis for this study, where attachment theory highlights the process by which difficulties with emotion regulation originated and self-compassion theory which provides language which can be used to measure outcomes in emotion regulation as it relates to attachment and self-compassion. Previous literature has highlighted the relationship between these constructs, where trauma has been found to be related to insecure attachment styles. Both of these variables are correlated to self-compassion, a construct which predicts emotion regulation. Some literature also indicates that emotion regulation is the predictor of self-compassion. The current study examined the relationship between trauma, attachment style, self-compassion, and emotion regulation in order to understand the relationship between these variables in greater depth and lay the groundwork for future intervention research within the correctional system.

CHAPTER II

REVIEW OF LITERATURE

The purpose of the present study was to understand the complex relationship between trauma, attachment style, self-compassion, and emotion dysregulation incarcerated and formerly incarcerated individuals, in order to lay the groundwork for future intervention and prevention research with this population.

Historical Background

The national trend for individuals incarcerated in prison has grown significantly in recent years. In 1980, the state prison population was reported at approximately 300,000 (U.S. Department of Justice, Bureau of Justice Statistics, 1981). Today, that number has risen to over 1.3 million (U.S. Department of Justice, Bureau of Justice Statistics, 2018). Current statistics state that 75% of individuals who are released from state prison in the United States are rearrested within 5 years (Durose et al., 2014). These statistics highlight the failing of our current correctional system.

Throughout the last 50 years, the goal of the prison system has shifted. Along with it, the types of programming have also changed. In the beginning of the 1970's, the goal was rehabilitation (Phelps, 2011). However, a large amount of publicity in the mid 1970s's stated that prisons were ineffective and that nothing was successful in rehabilitating those who were incarcerated to live crime-free lives (Martinson, 1974). This led to a shift in sentencing and a tough on crime rhetoric. Rehabilitation became stigmatized within the correctional system and

sentencing structures began to shift (Ward & Maruna, 2007). This shift continued into the 1980's and "resembled nothing so much as a runaway punishment train, driven by political steam and fueled by media-induced fears of crime" (Haney & Zombardo, 1998, pp. 712). Along with the focus on containment, the U.S. implemented the Sentencing Reform Act of 1984 which took away the opportunity for parole and reduced time served for good behavior, drastically increasing the prison population (U.S. Department of Justice, Bureau of Justice Statistics, 2018). Importantly, though this was a federal Act, many states adopted similar policies. The focus on and funding for education decreased, staff could not supply the demand, and a rise in reentry programs was observed, as these were cheaper to fund (Phelps, 2011). Since this time, rehabilitation has become associated with reentry related programs which teach life-skills, such as completing a resume and interviewing skills (Phelps, 2011). While these skills are beneficial for reintegration into society, there is a lack of support being provided for other critical issues experienced by those who are incarcerated.

Individuals who experience maltreatment have been found to engage in a larger amount of criminal behaviors and arrests as adults than those who do not have a history of maltreatment (Cuadra et al., 2014; Horan & Widom, 2015). Leach et al. (2008) proposed that the incarcerated population may experience unresolved grief, which may result in criminal activity. They suggested the need to examine treatments focusing on trauma in order to decrease current recidivism rates (Leach et al., 2008).

Psychotherapy, which focuses on increasing emotion regulation abilities, is suggested following trauma perpetuated by a close other (Leahy et al., 2011). One study found that, for those who have survived maltreatment, a combination of emotion regulation targeting and exposure therapy was more effective than exposure and supportive therapy (Cloitre et al., 2010).

Additionally, Stosny (1995) indicated that self-compassion fosters emotion regulation while simultaneously serving as an “incompatible response with antisocial behavior,” suggesting that this may be an important construct to understand more fully with those who are justice-involved (p. 82).

Freud’s idea of ‘strangled affect’ suggests that those who may not process and feel their emotions may create an internal pressure. This pressure continues to build until it exceeds an individual’s ability to inhibit its expression, resulting in impulsive reactions (Freud, 1961). This suggests that when individuals have not developed effective emotion regulation strategies, they may be more prone to impulsive and aggressive behaviors.

Additionally, it has been proposed that a major challenge in effective interventions within an incarcerated population is related to their ability to effectively engage in emotional content, which bolsters the change process (Livesley, 2007). Emotion regulation is such an important construct regarding offending behavior that Day (2009) provided a review highlighting the implications emotion regulation strategies may have and arguing that this construct should be a target of programming for an incarcerated population.

Given the importance of this construct, it is shocking that there is limited research examining the impact of interventions aimed at emotion regulation on outcomes such as offending behavior and recidivism. Only one study could be located which examined these outcomes after an emotion regulation intervention was implemented, finding that there was a 54% decrease in disciplinary incidents for incarcerated youth who participated in the study and that recidivism declined significantly following implementation of the intervention though, participation was not found to be related to recidivism (Ford & Hawke, 2012). The current study

aimed to more fully understand emotion regulation within an incarcerated sample, in order to lay the groundwork for future intervention research which can address this gap in the literature.

Focusing on maltreatment by way of an outcome (emotion regulation difficulties) may be one approach to treatment. However, this maltreatment is often associated with insecure attachment styles, with incarcerated individuals disproportionately experiencing greater insecure attachment styles (Dishon-Brown et al., 2017; Konrath et al., 2014). Due to the impact of the family on offending behavior, juveniles involved in the criminal justice system are often approached via a systemic approach that includes family members (Baglivio et al., 2014). Ansbro (2008) strongly advocates for the application of attachment theory with those who are justice involved. This researcher highlights the increase in empathy and emotion regulation which are associated with secure attachment, factors which could decrease offending behavior. Focusing on the attachment system may be another way to approach treatment in an incarcerated population. The proposed models (Figures 1 and 2) laid out the hypothesized paths, suggesting that intervention at attachment and/or self-compassion may be ways to impact emotion regulation abilities.

Theoretical Framework

Attachment Theory

H. F. Harlow (1958) conducted research on rhesus monkeys, where these monkeys chose proximity with a cloth “mother” over the wire “mother” that fed them. This study highlighted the innate desire creatures have to be loved and connected to another, which was stronger than the need for food. This study also brought awareness to the process of attachment as it occurs in animals and created curiosity about similar processes between human child and caregiver.

Attachment theory continued to examine this development with humans, stating that individual's perceptions, actions, and feelings are often the result of the experiences they encountered in childhood (Bowlby, 1969). Bowlby (1973) also highlighted that we see not only the world, but also ourselves in the way which is modeled for us through interactions with our caregivers. If an individual has internalized a healthy view of self through their caregivers, they may speak to themselves in a kind and loving manner. On the other hand, if they have an insecure attachment with their caregiver, their self-directed speech may be harsh and critical.

Ainsworth (1978) researched attachment through a task termed "the strange situation." This experiment highlighted the differences between children, resulting in the creation of three attachment styles. One of these attachment styles is labeled secure. Children in this category use their caregiver as a secure base from which they leave to explore and return for safety. When these children participated in the strange situation and the caregiver left the child in an unfamiliar location, the child became noticeably concerned and their exploration diminished. Upon the caregivers return, the child was easily soothed and returned to exploring the environment. In general, the mothers of these children were more responsive to the child's signals. It is hypothesized that these children have an internal model of their caregiver as generally responsive and accessible. This view is often carried into their interactions with others (Ainsworth, 1979). Therefore, the experiences they had with their caregivers as reliable, supportive, and secure is transferred to other significant relationships.

Another attachment style articulated by Ainsworth (1979) was the insecure avoidant style, which is indicated by children who become distressed by being held and become even more upset by being put down. During the separation, the children would rarely cry and would often ignore their caregiver upon return. It is theorized that the caregivers were rejecting,

neglectful, and emotionally distant, resulting in these children becoming avoidant, noncompliant, and aggressive (Ainsworth, 1979; Bowlby, 1973). Their worldview has a lack of trust in their caregivers to provide comfort and support, which results in the children failing to seek these experiences out in this and other significant relationships, as they assume others are also rejecting and distant.

The third and final attachment style, insecure ambivalent, describes a child who becomes severely distressed regardless of the type of separation. Children with this attachment style generally feel ambivalent about relationships into adulthood (Bowlby, 1973). Upon return, they sought comfort from the mother, while simultaneously resisting and refusing to be soothed. These children are often viewed as easily frustrated and less persistent (Ainsworth, 1979).

Brennan et al. (1998) transformed Bowlby's model by suggesting that attachment is represented on two orthogonal dimensions, whereas attachment is on a continuum of anxious on the y axis and avoidance on the x axis, with low to high scores possible on each construct. Individuals who score low on anxious and low on avoidance are generally classified as secure, those who score high on anxious and low on avoidance are generally classified as preoccupied (previously termed ambivalent), those high on avoidance and low on anxious are often classified as dismissing, and those high on anxious and high on avoidance are generally classified as fearful (previously termed avoidant). However, for the current study, I examined attachment on a continuum of secure to insecure, with total higher scores on the Experience in Close Relationships-Revised (Fraley et al., 2000) indicating higher levels of attachment security (post reverse total scores). Fraley indicated that lower scores on these scales indicate attachment security, providing support for the use of reverse scoring on the Experiences in Close

Relationships-Revised scale to indicate attachment security, as conducted in this study (Fraley, 2012).

In order to create these attachment styles, attachment theory states that our caregivers provide a secure base through being consistently available to meet our emotional and physical needs. Children who are most emotionally stable have parents who respect their autonomy, while simultaneously being available for the child (Bowlby, 1988). Due to this and additional information, this theory hypothesizes that emotions are most often a reflection of the individual's affectional bonds early in life (Bowlby, 1969). Research also suggests that people generally seek out romantic partners who are similar to their attachment figures (Brumbaugh & Fraley, 2006). It is for this reason that some measures of attachment ask about recent romantic relationships, as opposed to parental relationships.

Though current discussion around attachment suggests that the attachment style with caregivers continues in romantic relationships, there is a discrepancy between the views regarding permanence of an attachment style. Fraley (2002) examined the competing theories of attachment: the prototype perspective and the revisionist perspective. The prototype perspective suggests that early representations are stable over time and are related to attachment behavior later in life. The revisionist perspective posits that early experiences are able to be modified if an individual experiences new attachment environments. Fraley (2002) found that attachment security is relatively stable throughout the first 19 years, providing support for the prototype perspective.

However, attachment style does not have to be a stable construct. Research has supported a new type of attachment, earned secure, in which an individual has counteracted the unhealthy caregiver history and becomes more similar to individuals who are securely attached (Siegel,

1999). Compared to the waitlist, the treatment group evidenced significant decreases in attachment avoidance and dependence. Though there is empirical support for attachment styles being altered with those who have committed sexual offenses, it is difficult to generalize these findings to individuals who have been convicted of other types of offenses.

Earned secure attachment is another important construct to understand with those who have committed criminal offenses, given that changes in attachment style may impact the level of risk for recidivating, especially for interpersonal crimes (Spice et al., 2013). These subsequent changes in attachment style may increase their ability to be involved in healthy relationships. Healthy relationships with others may be one area to focus on, but it is also important for those who are incarcerated to have healthy relationships with themselves, by way of self-compassion. Where attachment theory helps us to understand the history of relational styles, self-compassion can increase our understanding of the processes that occur in interactions with self, due to these relational styles.

Regarding an incarcerated population, research suggests the incarcerated population has a disproportionate number of individuals who experience insecure attachment styles (Dishon-Brown et al., 2017; Grattagliano et al., 2014; Konrath et al., 2014). Scholars have recognized this high prevalence rate and advocate for focus to be placed on the attachment relationship for those who are incarcerated (Ansbro, 2008). Given the impact changes in attachment style can have on recidivism, more fully understanding the role attachment plays in an incarcerated sample's life and discerning its relationship with other impactful constructs is pertinent (Spice et al., 2013).

Self-Compassion Theory

Many researchers have proposed ways to measure a healthy view of self. Neff (2003) drew upon Buddhist philosophy from Buddhist teachers, such as Kornfield (1993) to present

self-compassion. This concept has existed in Eastern philosophy, both historically and presently. However, Western psychology has recently begun drawing upon the wisdom inherent in Eastern philosophy teachings, as evidenced by the increased use of ancient practices, such as mindfulness (Kabat-Zinn, 1982) and self-compassion (Neff, 2003).

Self-compassion theory highlights the need to hold the pain an individual experiences in non-judgmental awareness while turning towards it with self-kindness (Neff, 2003). In order to accomplish this, it is important that individuals allow themselves to be impacted by their own suffering without avoiding it. In this process, Neff (2003) suggested the need to bring into awareness the reality that this pain stemming from fear, inadequacies, and failure is a part of the human condition. These are considered the three main aspects of self-compassion: mindfulness, common humanity, and self-kindness.

Mindfulness is a main component of self-compassion. In order to notice that others have faced similar experiences and feelings (common humanity) and to be kind to yourself regarding these experiences and feelings (self-kindness), it is first necessary to be aware of these emotions. It is for this reason that mindfulness is the precursor to the other two. Mindfulness can be viewed as awareness and acceptance of emotions without judging them or becoming over-identified with them (Neff, 2003). Without this acceptance of the experience, it may be kept out of awareness or become all consuming (Hayes et al., 1996). Additionally, the non-judgmental stance related to experiences and feelings helps to foster an increased capacity to fight isolation, increased ability of the individual to recognize interconnectedness, and the ability to be less critical of the self (Neff, 2003). The mechanism through which the non-judgmental stance fights isolation and criticalness may be that when we are judging ourselves and emotions, we may feel less-than and separate ourselves from others. However, if we are nonjudgmentally aware of our experience, we

may not feel inferior and pull-back and may be more likely to recognize that others also experience these feelings (common humanity).

The ability of mindfulness to decrease feelings of isolation leads directly into the next construct: common humanity. This construct highlights the need to recognize that all humans make mistakes and engage in imperfect behaviors. Instead of allowing these perceived failings to separate us from others, this view of common humanity connects us to others by highlighting that we all experience this suffering, it is a common experience of being human, and can be a point of connection to others instead of isolation (Neff, 2015). Self-compassion also increases a sense of social connection and is theorized to support feelings of responsibility to others (Neff, 2003). This may be due to the connection experienced related to common humanity. This construct may be especially necessary for those who experience stigma associated with criminal histories, as this stigma may result in feeling disconnected or isolated from others.

The final concept associated with self-compassion, self-kindness, can often be misunderstood. This construct highlights the importance of being kind, gentle, understanding, and supportive towards self. Instead of judging the self for the perceived failings, self-kindness provides acceptance and support, especially when experiencing distress or difficult times. Many people fear that, in being kind and supportive towards the self when they have perceived failures, this will encourage this behavior and decrease motivation and accomplishment. However, self-kindness involves more than simply being kind to yourself when distressing times arise. It also means becoming aware of what leads to this unnecessary distress and taking steps to prevent the suffering (Neff, 2003). Self-compassion encourages proactive behaviors to prevent this unnecessary suffering. This concept could be applied to a justice-involved sample, as refraining from certain actions may result in a decrease in individual's being "locked-down" or

participating in appropriate behaviors in the community, which may lead to reincarceration.

Ultimately, self-compassion and attachment theory provide a way to understand the experience of those incarcerated and are important to understand more fully with an incarcerated population.

Regardless of self-compassion's theoretical relationship to an incarcerated population, a paucity of research exists examining self-compassion with an incarcerated sample. Stosny (1995) highlighted the importance in using a compassion based approach in working with those who are incarcerated, followed by Morley (2015) who provided support for self-compassion's role in violent behavior, but research regarding this topic did not begin until the last 2 years. The latest literature aimed to validate the use of the Self-Compassion Scale on the scores from an incarcerated population (Ptacek & Daubman, 2018). Only one other peer-reviewed study has examined self-compassion with an incarcerated population, finding that self-compassion mediated the relationship between practicing mindfulness and impulsivity (Morley, 2018). Given the importance outlined above regarding the relationship between self-compassion and offending behavior, it is pertinent to more fully understand the relationship. To begin, I examined the integration between attachment and self-compassion theories which are the underpinnings of the current study,

Integration of Attachment and Self-Compassion Theory

Attachment theory and self-compassion theory integrate to provide a deeper understanding of the processes that lead to and support or decrease emotion regulation abilities. During the childhood years, individuals internalize the interactions they have with their parents to create an internal working model, including the way their parents talk to them. For those who have supportive and kind interactions with their caregivers and whose caregivers provide a secure base of love and acceptance, these individuals are likely to internalize self-kindness as a

way of interacting with and caring for themselves. On the other hand, individuals whose caregivers respond in an abusive or critical way (often associated with insecure attachment styles) are more likely to internalize a voice of self-judgment when interacting with themselves. If parents are critical or unavailable, this may lead to individuals feeling as though the outside world is unable to help them regulate their emotions, which could lead to feelings of isolation. Conversely, if individuals have a secure attachment with their caregivers, they are more likely able to seek out support from others and recognize these uncomfortable emotions as something that all individuals go through, similar to the construct of common humanity. It was hypothesized that individuals with less secure attachment styles may over-identify and internalize these negative self-views, creating a critical internal working model. However, individuals who possess a more secure attachment style may internalize a more kind and compassionate way of interacting with themselves, resulting in more mindful emotional awareness and emotion regulation abilities due to their caring and supportive internal working model.

Whereas attachment theory provides a basis for the process which leads to the mechanisms of self-compassion, self-compassion provides language and a way to measure the outcomes associated with different attachment styles. Attachment theory provides groundwork highlighting the process of attachment and the impact that different characteristics from caregivers may have on children. For instance, when caregivers are kind and supportive, this leads to more secure attachment styles characterized by trust, and when caregivers are critical and inconsistent, this leads to less secure attachment styles characterized by distress. However, self-compassion takes this theory one step further, highlighting the impact this attachment style may have on their present day functioning in their interactions with self, thoughts, emotions, and

view of others. When caregivers are not attuned to or minimize the emotions of a child, the child learns they cannot trust their experience and often lose connection with it or view it as bad.

These experiences can lead them to be less mindful of their emotions, as they may become either overidentified with them or unaware of them. Additionally, due to the critical interactions with their caregivers, they may speak to themselves with self-judgment as opposed to self-kindness. Thus, the combination of attachment theory and self-compassion theory assists us in more fully understanding the individual and how they interact with and regulate their emotions. Next, I discuss research which highlights the relationship between these attachment and self-compassion.

Empirical Support

Attachment and Self-Compassion

Attachment theory posits that individuals internalize the interactions they have with their attachment figure, including narratives about themselves (Siegel, 1999). When a parent is critical or rigid, the parent's criticism or rigidity may be the working model that is internalized by the child, suggesting that these individuals may have lower levels of self-compassion. Alternatively, when individuals have secure relationships with their caregivers which are characterized by support, validation, consistency, and care, the internal working model this child will develop will have the aforementioned qualities.

Research supports these theoretical statements, finding that a secure attachment relationship with caregivers may help an individual to care for the self, fostering the creation of self-compassion (Neff & McGehee, 2010). Further research continues to highlight the relationship between attachment and self-compassion, finding significant negative correlations between self-compassion and both attachment anxiety ($r = -.434$) and attachment avoidance ($r =$

-.188; Raque-Bogdan et al., 2016). Additional studies continue to support that less secure attachment styles are correlated with less self-compassion, even finding that interventions conducted to increase attachment security led to a respective increase in state self-compassion (Pepping et al., 2015). These studies highlight not only the interconnectedness of these two constructs, but also that attachment interventions can have a later impact of self-compassion.

It is important to note that no research could be located examining the relationship between these concepts on an incarcerated population. Given the high and disproportionate prevalence of insecure attachment styles for those who are incarcerated, with approximately 80% of those incarcerated having insecure attachment styles, (Dishon-Brown et al., 2017; Konrath et al., 2014) and research which theorized that self-compassion was in conflict with some criminal behavior (Stosny, 1995), it is imperative that we more fully understand the relationship between these two constructs in an incarcerated population. Oftentimes, the experience of trauma is the prelude to insecure attachment (Lynch & Cicchetti, 1991) which can lead to difficulties with self-compassion (Pepping et al., 2015) and may be a risk factor for incarceration (Sadeh & McNiel, 2014), suggesting its importance in the current study.

Trauma

The American Psychological Association (APA, n.d., para. 1) states that trauma is “an emotional response to a terrible event like an accident, rape, or natural disaster. Immediately after the event, shock and denial are typical. Longer term reactions include unpredictable emotions, flashbacks, strained relationships and even physical symptoms like headaches or nausea” (para 1). Additional negative outcomes have been associated with the experience of trauma, including depression, anxiety, substance use, dissociation, risk-taking behaviors, self-hatred, and difficulties in interpersonal relationships (Courtois, 2004; Herman, 1992). Further,

research has discovered a dose-response relationship between cumulative trauma experienced and self-reported symptoms, suggesting that the more experiences an individual has, the greater the symptomatic response (Messina et al., 2007; Steine et al., 2017). The International Classification of Diseases-Eleventh Edition (ICD-11) has recently proposed a new conceptualization of trauma, termed “complex trauma” which often results from interpersonal trauma, including cumulative events such as abandonment and neglect. Symptoms related to complex trauma include disturbances in emotions, self, and relationships (Cloitre, 2016). This concept of complex trauma was supported by van der Kolk (2005) when he made an argument that the field of psychology’s current conceptualization of Posttraumatic Stress Disorder (PTSD) does not capture the impacts of childhood trauma, which disrupts emotion regulation, attachment, and results in behavioral and emotional lability. Thus, this study conceptualized trauma as maltreatment that is experienced related to sexual abuse, punishment, negative home environment/neglect, and emotional abuse (Kent & Waller, 1998; Sanders & Becker-Lausen, 1995) and uses the terms trauma and maltreatment interchangeably.

Trauma is experienced disproportionately by those who are involved with the justice system compared to the general population, with reports as high as 99% (when including many experiences of trauma) and decreasing to a 64% prevalence rate (when strictly measuring physical and/or sexual abuse) in the justice-involved sample (Tripodi & Pettus-Davis, 2013; Wolff et al., 2014). Importantly, 56% of incarcerated males endorsed experiencing physical abuse as children (Wolff et al., 2009). When examining individuals who endorsed four or more experiences of childhood trauma, 15% of women in the general population fell into this category, compared to approximately 65.5 % of incarcerated women (Felitti et al., 1998; Stensrud et al., 2018). The high prevalence of trauma may be an important risk factor for involvement with the

justice system, as the presence of PTSD increases the odds for re-arrest by 1.4-1.5 times (Sadeh & McNiel, 2014). Given that maltreatment is so prevalent in the lives of those who are justice-involved (Tripodi & Pettus-Davis, 2013; Wolff et al., 2014), and has been associated to insecure attachment styles (Cyr et al., 2010), it is imperative to more fully understand these relationships in order to work towards more efficacious treatments for those involved with the justice system.

Trauma and Attachment

Experiences of trauma have the potential to impact an individual's attachment style, both of which are inextricably related to emotion regulation. One theory, the self-regulation model, highlights the integration of these two constructs, positing the existence of attachment trauma. Padykula and Conklin (2010) observed a trend with their clients who had difficulties regulating their emotions, with the etiological base being the same for most clients: dysfunction within the attachment system due to the experience of trauma. Another study supported this theory, finding that maltreatment experienced in childhood may interfere with an individual's ability to regulate his or her own emotions, which are skills oftentimes acquired through healthy interactions with an attachment figure (Lyons-Ruth et al., 2013). Maltreated children are more likely to develop insecure attachment styles with their mothers (Lynch & Cicchetti, 1991) and research has discovered a significant medium correlation ($r = .38$) between childhood emotional maltreatment and avoidant attachment, a type of attachment insecurity (Lassri et al., 2016). Overall, mother and father insecure attachment is most strongly positively correlated with emotional abuse and neglect, though relationships with physical neglect, physical abuse, and sexual abuse are also significant (Cuadra et al., 2014). Due to this maltreatment, their perception of the world is unpredictable and scary and the caregiver (who is often the one perpetuating the maltreatment) is unavailable to provide support and regulation (Alink et al., 2009). This interaction highlights the

process by which those who experience maltreatment may move into difficulties with emotion regulation.

The maltreatment may also predispose individuals to difficulties with emotion regulation by exposing them to overwhelming emotions without strong attachment bonds which could provide a secure base for the emotions to regulate. It is for these reasons that van der Kolk (2005) proposed a model of complex trauma which recognizes that trauma exposure may result in adverse outcomes, such as difficulties with emotion regulation and interpersonal relationships, which can be even more impacted by the attachment relationship to their caregivers. The absence of secure attachment relationships correlated to poorer outcomes, which are magnified even more if the caregiver was the perpetrator of this maltreatment. This information highlights the complex interplay between maltreatment, attachment, and emotion regulation.

Given the novelty of the construct of self-compassion in empirical literature, this construct has not yet been woven thoroughly into researchers view of the relationship between trauma, attachment, and emotion regulation. However, recent studies have found that factors related to attachment predicted self-compassion and that experimentally increasing attachment security led to respective increases in self-compassion (Pepping et al., 2015). In order to elicit this increase in secure attachment, undergraduate participants were asked to use a security priming method where they pictured a safe and supportive other for 10 minutes. This practice led individuals to significantly increase their self-reported experience of self-compassion. Another recent study found that self-compassion mediates the relationship between childhood maltreatment and later emotion dysregulation, predicting later emotion dysregulation above and beyond current psychological distress, substance use, and maltreatment history (Vettese et al., 2011). These studies provide support for the proposed model (see Figure 1).

Emotion Regulation

Emotion regulation is broadly defined as the process by which people modify the emotions they experience, when and how they experience them, and how they express them (Rottenberg & Gross, 2003). However, Gratz and Roemer (2004) expanded on this idea, suggesting the need be aware of, clear about, and accepting of the emotions, while simultaneously being able to tolerate the suffering that may come with them, abstain from becoming impulsive, and to work towards goal directed behavior. Given that impulsive nature is often associated with illegal acts, this portion of emotion regulation may be especially important for those who are justice involved.

No research to date has examined emotion regulation with the general population of justice involved individuals. Instead, research has examined the importance of emotion regulation among those who have committed specific crimes. Through examining subgroups, emotion regulation has been implicated in many types of offenses, including violent, sexual, and substance use charges (Gardner et al., 2014; Polaschek et al., 2001; Wilcox et al., 2016). Given emotion regulations importance as a focus of treatment with those who are incarcerated and its relationship to specific types of offenses, obtaining a fuller understanding of emotion regulation with an adult incarcerated population may help us to more effectively tailor interventions for this population.

Some research has been conducted examining emotion regulation capacity in a juvenile population, finding that adolescents who engage in minor delinquent behaviors are more likely to have deficits in emotion regulation (Pihet et al., 2012). Teacher-reported emotion regulation abilities predicted justice involvement among adolescents above and beyond race, socioeconomic status, gender, and substance use (Kemp et al., 2017). These studies highlight that

there is a relationship between emotion regulation and those who are incarcerated, while simultaneously highlighting the lack of information we have about this construct with this population.

Trauma and Emotion Regulation

Given that trauma may be related to the attachment relationship, as highlighted above, it makes sense that it could also be related to processes which are acquired through the attachment relationship, such as emotion regulation abilities. These caregiver relationships often teach children how to become aware of and regulate their emotions by modeling this behavior and being in tune with the emotions of the child (Padykula & Conklin, 2010). Further research has supported that traumatic experiences in childhood are related to poor emotion regulation outcomes (Alink et al., 2009; Courtois, 2004; Herman, 1992). Emotion regulation is so strongly associated with trauma, that it has been included in the ICD-11 as one of the symptoms which develops from complex trauma (World Health Organization, 2018) and difficulties regarding emotion regulation are often conceptualized when discussing complex trauma (Cloitre, 2016; Herman, 1992).

There are many ways that researchers theorize that trauma can impact emotion regulation. Some studies suggest that this childhood maltreatment interferes with attachment and that it is through attachment relationships that children learn emotion regulation skills (Alink et al., 2009; Lyons-Ruth et al., 2013). Another theory is that invalidating environments may imply that children's perceptions of their emotions are incorrect and may not provide adequate care for the emotions that arise (Linehan, 1993). Extreme forms of this could include emotionally abusive environments where emotions viewed as negative may be ignored, minimized, punished, or taken on and exaggerated due to the caregiver's inability to regulate their emotions. This type of

response from the caregiver may lead to unhealthy ways of managing emotions, such as avoidance or suppression (Krause et al., 2003). Finally, childhood maltreatment is often internalized as though they deserved the abuse (Briere, 1992).

Correlations between childhood trauma and emotion regulation and dysregulation consistently show correlations ranging from $r = -.14$ to $r = .39$, respectively (Hebert et al., 2018; Stevens et al., 2013). However, the relationship becomes less clear when you examine the different types of maltreatment, as it appears that different types of maltreatment (physical abuse, physical neglect, emotional abuse, emotional neglect, and/or sexual abuse) are more strongly related to emotion regulation, depending upon the population of incarcerated individuals sampled (Gardner et al., 2014). For example, only physical abuse was significantly related to emotion regulation ($r = .45$) for those who committed violent crimes against non-intimate partners, while only emotional abuse ($r = .40$) was significantly related to emotion regulation for those who committed violent crimes against their intimate partners (Gardner et al., 2014).

It is important to note that there is a limited amount of research on the relationship between these constructs within an incarcerated population and I was only able to locate two studies which fit the criteria, with the first study listed above. The second study which fit the criteria stated that, in certain types of abuse in a female incarcerated population, the negative impacts on emotion regulation may be cumulative, as these impacts increased with additional types and number of experiences of abuse (Walsh et al., 2011).

The variables included in this study are inextricably related. For instance, one study highlighted that maltreating mothers are more likely to be invalidating to the emotional responses of their children (a characteristic of insecure attachment; Shipman et al., 2005), which could model that emotions and their expression are wrong, leading to difficulties with emotion

expression and regulation. This highlights the complex interplay between maltreatment, attachment, and emotion regulation. Self-compassion, due to its novelty, has not yet been as intimately connected to these constructs in the literature. However, recent studies are highlighting that attachment may predict self-compassion (Pepping et al., 2015) and that self-compassion mediates the relationship between maltreatment in childhood and emotion regulation later in life (Vettese et al., 2011), which supports the inclusion of self-compassion between attachment and emotion regulation in the proposed model.

Attachment and Emotion Regulation

Initially, children must rely on their caregivers to take care of their emotional needs (Bowlby, 1969). As children grow older, if they are securely attached, they will start to become secure in the availability of others and will view themselves positively. Through this view, healthy emotion regulation strategies are formed. However, if attachment figures are not available or are inconsistent, the child could learn that their caregivers are not available or are inconsistently available, which may result in unhealthy ways of coping with distress (Bowlby, 1988; Mikulincer et al., 2003; van der Kolk, 2005). Bowlby (1969) also highlighted the importance of parents being attuned to their child's emotions, helping the child to become aware and name their experience. This theory is supported by the fact that regulating emotions requires awareness of them, a process which is reinforced through healthy attachment relationships (Gross, 1998; Lyons-Ruth et al., 2013; R. A. Thompson, 1994).

In the absence of a secure attachment relationship, which could enhance emotion regulation skills, insecure attachment relationships often invalidate a child's emotions and fail to model healthy emotion regulation strategies (Alink et al., 2009; Linehan, 1998). Children, as early as 30 months, who have experienced maltreatment which resulted in an impaired

attachment relationship are noted to have deficits in the ability to label and discriminate between different emotions as they arise (Cook et al., 2005). These studies highlight the theoretical views examining the interplay between attachment and emotion regulation and provide a basis for understanding the relationship between self-compassion and emotion regulation.

Self-Compassion and Emotion Regulation

Definitions of self-compassion are intricately related to those of emotion regulation. The process of self-compassion is centered around awareness of one's emotions, where an individual turns towards his or her feelings with kindness and understanding, as opposed to avoidance or criticalness (Neff, 2003; Neff et al., 2007). Emotion regulation also requires that an individual pays attention to their emotions before they manage them or how they present (Gross, 1998; R. A. Thompson, 1994). This basic process of becoming aware of or mindful of their emotions is one similarity between the processes of self-compassion and emotion regulation.

The relationship between these constructs continues, as it has been theorized that self-compassion can serve as a type of emotion regulation that can help individuals turn towards and accept their emotions (Ogden et al., 2006). Though there are many similarities, there are differences in these two processes. When individuals describe emotion regulation, they often describe attempts to decrease negative emotions, where self-compassion does not attempt to change emotions (though this can often be a by-product of the process), but instead to hold them in mindful awareness (Gross et al., 2006; Neff, 2003).

Considering the relative novelty of self-compassion in the empirical literature, a large amount of research supports that these constructs are related. Self-compassion significantly negatively predicted difficulties with emotion regulation (Finlay-Jones et al., 2015) and positively predicted emotion regulation ($r = .40$; Diedrich et al., 2016). One study examined the

relationship between self-compassion and difficulties with emotion regulation on a population who had experienced significant trauma, which revealed a strong negative relationship ($r = -.70$; Barlow et al., 2017). Notably, self-compassion was found to explain difficulties in emotion regulation above and beyond other predictors, including experiences of maltreatment and current levels of distress (Vettese et al., 2011).

Limited research has been conducted on the relationship between these constructs in an incarcerated population. One study on a population of justice-involved adolescent males found significant correlations between self-compassion and cognitive emotion regulation strategies (Musalay & Laliteshwari, 2018). However, no research to date has examined this relationship in justice-involved adults.

Importantly, there is a lack of consensus on the directionality of the relationship between self-compassion and emotion regulation. The majority of research suggests that self-compassion comes before emotion regulation. For example, Vettese et al. (2011) found that self-compassion mediates the relationship between childhood maltreatment and later emotion regulation difficulties. Another study using structural equation modeling analysis highlighted emotion regulation as the mediator between self-compassion and depressive symptomology, suggesting that self-compassion predicts emotion regulation abilities (Diedrich et al., 2016). One study proposed that fostering self-compassion via compassion focused practices may increase an individual's ability to regulate their emotions (Barlow et al., 2017).

On the other hand, some research has been proposed which found that emotion regulation was in fact the mediator that helped to explain self-compassion when examining the relationship between PTSD symptom severity and self-compassion (Scoglio et al., 2015). Due to this discrepancy regarding the directionality of the relationship between self-compassion and

emotion regulation, the current study proposes a primary model and an alternative model to test both hypotheses, one with emotion regulation predicting self-compassion and the other vice versa.

Summary

To summarize the previous information, there is a large need for more effective and feasible treatments for those who are incarcerated in order to facilitate successful reintegration into society and decrease recidivism. Both attachment theory and self-compassion theory work to provide a theoretical basis for this research, with attachment theory highlighting the process by which difficulties with emotion regulation originated (from the attachment relationship), and self-compassion theory, which provides verbiage and a way to measure outcomes related to attachment and self-compassion as it relates to emotion regulation. Empirical literature highlights the connection between these constructs, with trauma being related to insecure attachment styles. These variables are also related to lower levels of self-compassion, a construct which has been shown to predict emotion regulation. Importantly, some research suggests that emotion regulation in fact predicts self-compassion. The current study examined the relationship between trauma, attachment style, self-compassion, and emotion regulation via two models in order to more fully understand the relationship between these variables and potentially lay the groundwork for future intervention studies within the correctional system.

CHAPTER III

The current study aims to further understand the nuances relationship between trauma, attachment style, self-compassion, and emotion dysregulation for those who are incarcerated or formerly incarcerated, in order to lay the groundwork for intervention and prevention research with this population.

METHODS

The current study was a non-experimental design that collected self-report data from 204 individuals who were either incarcerated or had been justice involved within the last 7 years. Upon completion of data collection, I implemented a structural equation model (SEM) to analyze the data in order to understand the complex relationship among the variables of interest. SEM is an analysis that examines the relationship between latent variables, or variables that measure constructs that cannot be directly observed by using measurable indicators for the latent variable (Kline, 2016). For the current study, the subscale scores on the self-report measures were the observable indicator variables for the constructs of interest. One of the main advantages in using SEM is its ability to incorporate error of the measures into the model (Weston & Gore, 2006). It is important to note that, though causality is hypothesized with SEM, it cannot be supported strictly by this analysis (Weston & Gore, 2006).

Previous research has highlighted a trend that individuals who have experienced trauma often have dysfunction within the attachment system related to this trauma and experience difficulties regulating their emotions. (Lyons-Ruth et al., 2013; Padykula & Conklin, 2010). This

suggests there may be a path from traumatic experiences in childhood to insecure attachment styles (Cuadra et al., 2014), to difficulties with emotion regulation (Cook et al., 2005). Recent research found a significant negative correlation between self-compassion and both anxious and avoidant attachment styles (Joeng et al., 2017). Another study supported self-compassion as a mediator between childhood maltreatment and emotion regulation (Vettese et al., 2011). This research is supported by attachment theory, which posits that individuals internalize their interactions with their caregivers to serve as internal working models (Bowlby, 1973). If their parent is maltreating or critical, then they may internalize a critical voice to talk to themselves, a voice that lacks self-compassion. It is with this support that I added self-compassion as an additional mediating variable between childhood traumatic experiences and emotion dysregulation. Based on attachment theory, individuals first internalize the interactions they have with their caregivers that then become an internal working model for interacting with themselves (Bowlby, 1973). It is for this reason that self-compassion was placed after attachment in the model and theorized to have a positive relationship with secure attachment. Finally, self-compassion is described as turning towards one's own emotions with kindness. In order to regulate emotions, you must first be aware of them (Neff, 2003). It is for these reasons that I hypothesized self-compassion coming before emotion regulation in the initial model and proposed a negative relationship between self-compassion and emotion dysregulation.

The main research question was: To what extent do the level of traumatic experiences, attachment style, and self-compassion help to explain difficulties in emotion regulation in a justice-involved population. This overarching question was broken into competing models (see Figures 1 and 2) supported by theory, in order to determine which model is a better fit with the data (Weston & Gore, 2006).

- Q1 Does the data fit the model examining the mediating effect of attachment style and self-compassion on the relationship between traumatic experiences and difficulties in emotion regulation for those who are justice involved (see Figure 1, Primary Model).
- H1 It was hypothesized that there is an indirect effect of trauma on emotion dysregulation through secure attachment style and self-compassion, with there being a negative relationship between trauma and attachment, where a greater number of traumatic experiences in childhood predicts less secure relationships, a positive relationship between secure attachment and self-compassion, and then a negative relationship between self-compassion and emotion dysregulation, where those who report greater levels of self-compassion also report less difficulties regulating their emotions. Additionally, it is hypothesized that there is a direct positive relationship between trauma and decreased emotion regulation, where more traumatic experiences leads to greater reports of difficulties with emotion regulation.

However, other literature suggests that emotion dysregulation mediates the relationship between trauma symptom severity and self-compassion (Scoglio et al., 2015). It is for this reason that I proposed the following alternative model.

- Q2 As an alternative model, does the data fit of the model examining the mediating effect of attachment style and difficulties with emotion regulation on the relationship between trauma and self-compassion (see Figure 2, Alternative Model).
- H2 It was hypothesized that there is an indirect effect of trauma on self-compassion through attachment style and emotion dysregulation, with there being a negative relationship between trauma and secure attachment, where a greater number of traumatic experiences in childhood predicts less secure relationships, a negative relationship between secure attachment and emotion dysregulation, where those who report secure attachment styles have less difficulties regulating their emotions, and then a negative relationship between emotion dysregulation and self-compassion, where those who report difficulties with emotion regulation report less self-compassion.

Participants

Data were collected from 378 individuals from throughout the U.S. who were justice-involved. The majority of participants were from the South, Midwest, and Rocky Mountain regions and were obtained from correctional facilities, drug court programs, day reporting

centers, treatment facilities, groups (virtual and in-person) for those recovering from substance misuse, online groups for those who are formerly incarcerated, Facebook, and listservs that serve those who are formerly incarcerated. In order to clean this data to determine what was usable, I deleted all participants who did not accurately follow instructions on the two validity check items or who were past the inclusion criteria of being within 7 years post-release from their most recent incarceration/arrest. Specifically, for the data collection via Amazon MTurk, I also examined the question related to arrest which led to the most recent incarceration, as there were some participants who would provide a nonsense response to this question (Ex: 500). Given the criteria of at least 200 participants to complete a SEM that yields useful results, this final sample size of 204 after cleaning the data were deemed sufficient (Kline, 2016; Weston & Gore, 2006).

Regarding demographics for the final sample, 27% were currently incarcerated and 73% were formerly incarcerated. Their age range was from 18-73, with 61% male, 35% female, 4% who did not indicate gender, 62% white, 13% Hispanic, 6% Black, 7% Asian/Pacific Islander, 4% Bi/Multi-Racial, 3% Native American, 3% who did not indicate ethnicity, and .5% who indicated their ethnicity was not listed, as they identified as Mexican American. Eighty-six percent endorsed being Straight/Heterosexual, 4 did not respond, and 10% from the LGBTQ community (12 bisexual, 4 gay, 3 lesbian, 1 polysexual, and 1 pansexual). Regarding prior arrests, 19% endorsed drug charges, 11% DUI, 4% sexual offenses, 26% violent charges, 13% theft, and 27% other or not specified, with 8 being the average number of times previously incarcerated, and average of 26 months that has passed since being incarcerated and/or released. See Table 1 for more demographic information.

Table 1*Participant Characteristics as a Percentage of the Sample*

Characteristics	<i>n</i>	% of Sample
Incarceration Status		
Formerly Incarcerated	149	73.0
Currently Incarcerated	55	27.0
Gender		
Male	125	61.0
Female	71	35.0
Ethnicity		
White	127	62.0
Hispanic	26	13.0
Asian/Pacific Islanders	14	7.0
African American/Black	13	6.0
Biracial/Multiracial	9	4.0
Native American	7	3.0
Did Not Indicate	7	3.0
Mexican American	1	5.0
Marital Status		
Single, Never Married	94	46.0
Married/Domestic Partnership	58	28.0
Widowed	3	1.5
Divorced	21	10.0
Separated	8	4.0
Cohabiting	11	5.0
Marital Status Not Listed Above	1	5.0
Did Not Respond	8	4.0

Table 1 (continued)

Characteristics	<i>n</i>	% of Sample
Sexual Orientation		
Straight/Heterosexual	175	86.0
Bisexual	12	6.0
Gay	4	2.0
Lesbian	3	2.0
Polysexual	1	.5
Pansexual	1	.5
Did Not Respond	8	4.0
Prior Arrests		
Not Specific	55	27.0
Violent Charges	53	26.0
Drug Charges	39	19.0
Theft	27	13
Driving Under the Influence	22	11.0
Sexual Offense	8	4.0
Highest Level of Education		
Some College Credit, No Degree	50	25.0
High School/GED	49	24.0
Bachelor's Degree	45	22.0
Technical College/Credit	21	10.0
Beyond Bachelors	14	7.0
Associate Degree	9	4.0
Some High School	4	2.0
Less Than High School Degree	4	2.0

* Results may not add up to 100% as numbers were rounded

Measures

In SEM, Kline (2016) suggested locating measures with empirical support for a similar population, when available. While I could not find all measures that had been previously used with an incarcerated sample, I located empirical support for use of these measures with individuals who have experienced trauma.

Importantly, given that over 40% of the incarcerated population has not completed high school, it is important to ensure that the measures selected are appropriate for this population (C. Harlow, 2003). The Self-Compassion Scale (SCS; Neff, 2003) and the Experiences in Close Relationships-Revised (ECR-R; Fraley et al., 2000) have produced scores with good reliability with an incarcerated population (Goldenson et al., 2007; Morley, 2018). In order to ensure that the Child Abuse and Trauma scale (CATS; Sanders & Becker-Lausen, 1995) and the Difficulties in Emotion Regulation Scale (DERS-18; Victor & Klonsky, 2016) were appropriate for use with this population, these scales were compared to the SCS and ECR-R on reading level by way of the Fischer-Kincaid measure calculated by Word. The SCS and ECR-R shows reading levels of 6.7 and 10.5, respectively. This suggests that the DERS (8.0), CATS (6.4), and Demographics questionnaire (6.8) were acceptable for use with this population.

Trauma

The Child Abuse and Trauma scale (CATS; Sanders & Becker-Lausen, 1995) is a 38-item self-report survey that measures the frequency of experiences of maltreatment and has been used to assess various traumatic experiences (Tasca et al., 2013). The original measure inquires about events in multiple domains, including sexual abuse, punishment, and negative home environment/neglect, the three factors which emerged during creation of the scale (Sanders & Becker-Lausen, 1995). Validity evidence was provided in a study of non-clinical women to

support an extension of this scale, which formed an additional subscale measuring emotional abuse from seven of the remaining items which did not load onto another subscale (Kent & Waller, 1998). Though this factor did not emerge in the creation of the scale, it was found to be psychometrically sound and a significant predictor psychopathology. Each domain includes between six to 14 items, with five items that do not load onto any subscale but are factored into the overall trauma score. These additional items were not included in the analysis, due to their lack of loading onto any of the empirical subscales. Response options for all items range from 0 “*never*” to 4 “*always*.” Overall scores from the measure range from 0-152, with higher scores suggesting more experiences of trauma. Initial studies examined the reliability of the three factor CATS scores with an undergraduate sample, revealing adequate alpha coefficients of these scores for the overall scale, negative home atmosphere/neglect scale, sexual abuse scale, and punishment scale at .90, .86, .76, and .63, respectively based on the sample. The reliability of the scores of the four-factor model with an undergraduate and nursing student sample ranged from .80-.90 with the exception of the sexual abuse scale (alpha = .61; Kent & Waller, 1998). Higher scores indicate experiencing greater frequency of various forms of maltreatment or trauma. The CATS was specified with four indicator variables consistent with the empirically supported subscales (i.e., sexual abuse, punishment, negative home environment/neglect, and emotional abuse) with each summed subscale score used as an indicator for the latent variable of trauma. Convergent validity was established by correlating the CATS subscales with a dissociation measure (Dissociative Experiences Scale; Bernstein & Putnam, 1986). Correlations were significant and in the expected direction, ranging from $r = .14-.29$ (Sanders & Becker-Lausen, 1995).

Attachment

The Experiences in Close Relationships Revised (ECR-R; Fraley et al., 2000) is a self-report survey that examines adult attachment avoidance and attachment anxiety and was used to measure the latent variable of secure attachment. The ECR-R is a revised version of the ECR (Brennan et al., 1998) by Fraley et al. (2000). The 36-item ECR-R is comprised of two subscales, Anxiety and Avoidance, both of which have 18 items. For the revised subscale, items were examined from a number of attachment measures. Then, 2 factors from a 3-factor solution were selected, and items were selected for each factor that loaded higher than .40 on the factor of interest and less than .25 with scores on the other factor (Fraley et al., 2000). Higher scores indicate higher levels of the construct being measured (i.e., attachment anxiety or attachment avoidance). Each item is scored on a 7-point Likert-type scale from 1 (*strongly disagree*) to 7 (*strongly agree*). A previous study revealed internal consistency of $\alpha = .93$ for the scores on the anxiety subscale and $\alpha = .94$ for the avoidant subscale scores with an undergraduate sample (Sibley et al., 2005). Cronbach's alpha was $\alpha = .95$ for the scores on the anxiety subscale and $\alpha = .89$ for the scores on the avoidant scale with a female incarcerated sample (Goldenson et al., 2007). Convergent and divergent validity evidence was obtained with an undergraduate sample by highlighting how the ECR-R had a higher correlation to diary entries related to their romantic partners ($r = .51$) than those with platonic friends or family members ($r = .25$ and $.07$, respectively), as was expected (Sibley et al., 2005). An example item from the Anxiety subscale is "I worry that I won't measure up to other people" and an example item from the Avoidant subscale is "I get uncomfortable when this person/others want to be very close."

Due to the interest in measuring attachment security in the current study, the total score from the anxiety and avoidant subscales were combined and then the total score was reverse

scored, where higher total scores indicate higher levels of attachment security. The balanced parceling method was used with each subscale to create two parcels per subscale, which resulted in four total indicators for the overall latent variable of attachment (Little et al., 2002). In order to parcel items, I conducted an exploratory factor analysis of the items associated with each subscale, forcing unidimensionality (Little et al., 2002). I created the parcels by examining the coefficients and using the two highest valued items as anchor items for each parcel. I then added the next two highest items in an inverted order and continued this process until all items were equally parceled. This resulted in two indicators per subscale for a total of four indicators for the ECR-R.

Self-Compassion

The Self-Compassion Scale (SCS; Neff, 2003) is a self-report survey that examines an individual's self-compassion and was used to measure the latent variable of self-compassion in the current study. The scale has six subscales which are empirically supported factors: self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification (Neff, 2015). The first two subscales include five items and the other four contain four items each, for a total of 26 items. Items were scored on a 5-point Likert-type scale from 1 (*almost never*) to 5 (*almost always*). Items on the over-identification, isolation, and self-judgment subscales are reverse coded. Generally, mean scores are then calculated for each subscale and then summed to determine a total self-compassion score, where higher scores indicate higher levels of self-compassion. However, for this study, each summed subscale score was used as an indicator variable for the latent variable, self-compassion. During scale development, internal consistency for the total SCS scores with an undergraduate sample was $\alpha = .92$. Scores from an incarcerated sample also revealed a Cronbach's alpha of .92 (Morley, 2018). To provide

construct validity-related evidence, correlations between scores on the SCS and scores from numerous other scales measuring related or contrasting constructs computed on a sample of 232 undergraduate students (Neff, 2003). As hypothesized, results observed a statistically significant negative correlation between the SCS and the self-criticism subscale of the DEQ ($r = -.65$), and statistically significant positive correlations found between a separate measure, Social Connectedness Scale, ($r = .41$) and all three subscales of the Trait-Meta Mood Scale: Repair ($r = .55$), Clarity ($r = .43$), and Attention ($r = .11$; Neff, 2003). Convergent validity was determined as the SCS was significantly positively correlated with the Life Satisfaction scale and significantly negatively correlated with Spielberger's Trait Anxiety Inventory and the Beck Depression Inventory as expected (Neff, 2003).

Difficulties in Emotion Regulation

The Difficulties in Emotion Regulation Scale (DERS-18; Victor & Klonsky, 2016) is a self-report survey that aims to recognize how individuals identify, accept, and manage their affect and was used to measure the latent variable of difficulties with emotion regulation in the current study. This measure was originally created by Gratz and Roemer (2004) as a 36-item measure, with Victor and Klonsky (2016) creating the 18-item version which was used in this study. This short version with 18-items has six subscales (goals, non-acceptance, impulse, clarity, awareness, and strategies) with three items each. Importantly, these subscales were found to be similar to the original scale, as the DERS-18 maintained the six-factor structure, with the appropriate items loading on the same measures as the original scale (Victor & Klonsky, 2016). The items are rated on a 5-point Likert-type scale from 1 (*almost never*) and 5 (*almost always*). The items on the Awareness subscale are reversed coded, and then all items are summed together, with higher scores indicating more difficulties with emotion regulation. The revision

process was conducted by Victor and Klonsky (2016) on five samples: high school and undergraduate students, adolescents at an in-patient facility, participants from a scale validation study, and adults who were in a study related to non-lethal self-harm. When examining the samples individually, most scores revealed Cronbach's α from .78-.98 (Victor & Klonsky, 2016). Only one subscale, Awareness, had scores from a female undergraduate sample which produced a Cronbach's alpha below this range at $\alpha = .69$. Significant correlations (.90-.98) were found when comparing the DERS-18 to the DERS (Gratz & Roemer, 2004). Construct validity with an undergraduate sample was shown on the original DERS by a positive correlation with a measure of experiential avoidance and a negative correlation with an emotional expressivity measure, suggesting convergent and discriminant validity, respectively (Gratz & Roemer, 2004).

Consistent with Kline (2016), the latent variables were specified by multiple observed indicators. For the CATS (Sanders & Becker-Lausen, 1995), I specified four indicators consistent with the empirically supported subscales (sexual abuse, punishment, negative home environment/neglect, and emotional abuse); for the ECR-R (Fraley et al., 2000), I created four indicators, two for the anxious subscale using the balanced parceling method (Little et al., 2002) and two for the avoidant subscale using the balanced parceling method; The SCS (Neff, 2003) was specified with six indicators consistent with the empirically supported subscales (self-kindness, self-judgment, mindfulness, over-identification, common humanity, and isolation); and for the DERS-18 (Victor & Klonsky, 2016), I used six indicators consistent with the empirically supported subscales (goals, non-acceptance, impulse, clarity, awareness, and strategies). For additional information about the indicators used for each latent variable (see Table 2).

Table 2*Latent Variables and Indicator*

Latent Variables	Scale (Authors, year)	Indicator (# of items)
Trauma	Childhood Trauma and Abuse Scale (Sanders & Becker-Lausen, 1995)	Sexual Abuse (6 items) Punishment (6 items) Negative Home Environment/Neglect (14 items) Emotional Abuse (7 items)
Attachment	Experience in Close Relationships-Revised (Fraley et al., 2000)	Two Indicators for Anxious Subscale (18 items per scale/9 per indicator) Two indicators for Avoidant Subscale (18 items per scale/9 per indicator)
Self-Compassion	Self-Compassion Scale (Neff, 2003)	Self-Kindness (5 items) Self-Judgment (5 items) Mindfulness (4 items) Over-Identification (4 items) Common Humanity (4 items)
Difficulties with Emotion Regulation	Difficulties w/ Emotion-Regulation Scale-18 (Victor & Klonsky, 2016)	Isolation (4 items) Goals (3 items) Non-Acceptance (3 items) Impulse (3 items) Clarity (3 items) Awareness (3 items) Strategies (3 items)

Procedures

Participant recruitment

A cross sectional design was used in the current study. Given that this is a difficult population to gain access to, it was necessary to use numerous methods to locate participants. Convenience sampling was used initially by seeking out local correctional facilities. In this process, I reached out to different centers and offices via email, providing a brief description of the research and inquiring whether they would be willing to provide me with access to those they serve. Importantly, three jails in the Rocky Mountain region agreed for me to conduct the current study in their facilities. Due to the Covid-19 pandemic, data collection during this time period did not occur at these facilities. A work release facility allowed for me to collect data within their facility. Importantly, work release facilities are often offered as a privilege for good behavior or in place of serving a jail sentence for a lower-level crime. In these facilities, individuals are housed in the work-release program but are able to leave the facility during work hours and then return once they finish with work. In this process, I entered into a group room with a staff member, provided a brief overview of the study, handed out paper packets, and then collected and secure them upon completion. This sampling technique was used initially, given that these individuals are closer in time to having participated in illegal behaviors.

Second, snowball sampling was used via social networking sites (i.e., Facebook and reddit) to obtain participation from justice-involved individuals, should it be difficult to locate the necessary number of participants. This technique was employed next given that this sample may no longer participate in illegal behavior and may indicate a different subsection of the population of interest. For this approach, I posted information about the research study and a link to this study's Qualtrics page in groups, on pages, and distributed via email lists consisting of

formerly incarcerated individuals. Importantly, these lists were located via groups I am involved with which consist of formerly incarcerated individuals along with lists which were discovered after reaching out to organizations who serve formerly incarcerated individuals. I also messaged this link to individuals who were personally known to have been incarcerated within the last 7 years.

Finally, participants were recruited from MTurk, a crowdsourcing marketplace which provides businesses and individuals with services completed by humans. The work completed via this method is compensated via financial payment. Once individuals indicated they had met the inclusion criteria and selected to participate, they were directed to the Qualtrics study from above. Eighty-five participants were collected from MTurk, 47 from work release, 1 from Facebook, and 71 from the snowball sampling techniques listed above.

Inclusion criteria for this study detailed that participants must be either currently incarcerated or have been incarcerated within the last 7 years. Exclusion criteria was being under 18 years of age.

Informed Consent and Survey Process

For individuals who were currently incarcerated or in a facility such as a substance use treatment center, a paper packet was compiled of two copies of the consent form (one for the researcher's records and one for the participant's records), items from the questionnaires listed above, a demographic questionnaire, and a debriefing form (see Appendices A-F). The consent form, a document which informs the participant of their rights and provides basic information on the study, was always presented first due to the importance of providing the potential participant with the opportunity to make an informed decision before participating. Next, the SCS, DERS-18, ECR-R, and CATS were presented in randomized order to prevent an order effect, followed

by the demographic questionnaire. Lastly, the packets included the debriefing form, which discusses the constructs being measured, additional resources where they could obtain more information related to these constructs, and resources available should the measures incite uncomfortable feelings. Importantly, alternative options for resources were discussed with the treatment advisor at the facilities to provide resources which could be accessed by those incarcerated (i.e., requesting to see a counselor on staff, sharing uncomfortable feelings with staff).

There were similar processes for collecting data at each facility. I went into a large room with a staff member and the incarcerated individuals would join us. I went through a group informed consent, was available for questions, and then collected completed questionnaires.

For individuals who were not currently incarcerated, the consent, items from the CATS, SCS, ECR-R, and DERS-18, a demographic survey, and a debriefing form were compiled and added to an online survey site, Qualtrics. The consent was always presented first, followed by a randomization of the CATS, SCS, ECR-R, and DERS-18. The survey always concluded with the demographic information. Participants were contacted through social media (i.e., Facebook). I shared a post on my Facebook wall, articulating the same verbiage used on the consent form to express the content of the survey and a link for the Qualtrics survey. Finally, I asked for help from my “friends” on Facebook in sharing the survey to others who may be interested. Then, I shared this same post throughout different groups which include previously incarcerated individuals to gain participation. In the Qualtrics survey, the participants read and consented to participate in the study, and then were provided information for online services that are available, should they feel emotionally aroused due to the content of the surveys. They were then directed to the survey. Upon completion of the survey, they were directed to a debriefing form which

provided additional information on the constructs being measured and additional resources they could use for further information.

Participants who were currently incarcerated were not reimbursed, as it is important to ensure participants are not coerced to participate due to allocational vulnerability experienced while incarcerated (Knapp et al., 2012). Participants obtained from any other capacity (i.e., probation, parole, or currently being housed in a treatment facility) had the chance to be entered into a random drawing for one of five \$10 gift cards.

Data Analysis

The self-report measures and demographic information from those currently incarcerated were collected, inputted manually, and verified upon entry into IBM SPSS Statistics software (Version 24) by me. The data collected from participants via Qualtrics was transferred electronically from to SPSS. Mplus implements maximum likelihood estimation for items missing at random (MAR). I used this preset to handle missing data. Studentized residuals, leverage, and Mahalanobis distance were examined on all outliers (Cousineau & Chartier, 2010). Outliers were then examined to determine if they were due to input errors or invalid responses. Due to the fact that outliers are not always influential to the analysis, I also examined Cook's D on all outliers (Cousineau & Chartier, 2010). No Cook's D scores were over 1. In order to test for multicollinearity, I first conducted a single linear regression with collinearity diagnostics, including each of the predictor variables summed (trauma, attachment, self-compassion, and emotion regulation) and selecting a random dependent variable. VIF below 10 suggests no concerns with multicollinearity (Kline, 2016).

In order to test the assumptions and examine descriptive characteristics of the data, I used IBM SPSS statistics software (Version 24) to run analyses on frequencies, descriptive statistics

for all obtained data and demographic information, skew and kurtosis, probability plots, scatter plots of residuals, and probability plots of residuals. Upon examination of frequencies and descriptive data, it was determined that all data were approximately normally distributed with values for skewness and kurtosis falling below the established cutoffs of $|2|$ and $|7|$, respectively (Hoyle, 1995). The results from the probability plots did not show any obvious deviations from normality. To assess for linearity and homoscedasticity, scatter plots and probability plots of residuals were examined, with no obvious deviations from normality being observed.

As recommended per Kline (2016), I tested the a priori models described previously. I followed a two-step procedure by first testing the measurement models and then the structural model. The process of identifying the model, ensures that we are statistically able to obtain a unique solution from a given structural equation model (Kline, 2016). Given the fact that I implemented a two-step process to evaluate the model, it was pertinent to assess identification for both the measurement and structural aspects of the models. Latent variables with at least three indicators per factor are identified (Kline, 2016). Given the fact that there were four or more indicators per latent variable, it is hypothesized that the model was over identified. Kline (2016) also indicated that structural models must a) have degrees of freedom equal to or greater than zero in order to be considered identified and b) that each latent variable within the model must have a scale metric assigned. Given that each model listed had the number of parameters to be estimated as less than the potential number of parameters, the models in this study were considered over-identified.

The measurement model examines the relationship between observable measures and the constructs these variables are believed to measure to determine if the indicators are truly measuring the latent variables they are hypothesized to measure (Weston & Gore, 2006). The

first step in conducting the structural modeling analysis was to conduct separate confirmatory factor analyses on each latent variable, to ensure adequate measurement of each latent variable (Kline, 2016). In order to create the indicators for the latent variables, the following steps were completed.

For the measurement phase, due to the recommendation of providing multiple indicators for each latent construct in a structural model (Kline, 2016), I used indicators based on subscale scores as noted above. Each latent variable was measured by at least three indicators each, as suggested by Kline (2016). For the ECR-R, which only has two subscales, the parceling method using a balanced procedure was implemented, which has been shown to result in good measurement model fit (Little et al., 2002; Little et al., 2013). In order to parcel the items, Little et al. (2002) recommended to conduct an exploratory factor analysis on the items of each subscale forcing unidimensionality. This process was completed by using IBM SPSS statistics software. Then, I created the parcels by balancing the coefficient values, with the two highest valued items being the anchor items on each parcel, followed by the next two highest being split between each parcel in an inverted order, until all of the items were equally divided (Little et al., 2002). For attachment, as measured by the ECR-R, this resulted in two measurement models being created which contained two balanced parcels for each subscale: one for the anxiety subscale and one for the avoidance subscale, resulting in four indicators for the attachment construct. For this study, items from the subscales were summed and means were computed (Little et al., 2002).

Once the indicators are created, a confirmatory factor analysis (CFA) was completed (Kline, 2016). If a CFA has two or more factors and has two or more indicators per latent variable, it is considered identified (Kline, 2016). However, a minimum of three is preferred

(Kline, 2016). Given this information, each of the latent variables were considered identified. Once the CFA was analyzed, I checked the factor loadings and covariances between indicators and items to verify that they each load onto the hypothesized factor (Weston & Gore, 2006). Finally, I checked model fit with the appropriate fit indices and their respective cutoff criteria.

Appropriate goodness of fit statistics were analyzed including the comparative fit index (CFI), non-normed fit index (NNFI) which has also been referred to as the Tucker Lewis Index (TLI), as well as the badness of fit statistics of Steiger-Lind root-mean-square-error of approximation (RMSEA) and a standardized root-mean-square residual (SRMR). For the goodness of fit indices, CFI determines the improvement of fit of the model I proposed to a null model, with values ranging from 0-1.0 where values closer to 1.0 suggest better fit (Weston & Gore, 2006). Non-normed Fit Index (NNFI) aka Tucker Lewis Index (TLI) is another goodness of fit index, though the values can exceed 1.0. This fit index results in greater penalties for complex models (Kline, 2016). For the badness of fit indices, RMSEA corrects for the complexity of the model and should both models explain the data equally well, this index will have a lower value for the simpler model (Weston & Gore, 2006). SRMR examines how much difference there is between the model and the observed data with smaller values suggesting better fit (Weston & Gore, 2006). Finally, the absolute fit index, chi-square, directly assesses how well the observed data fit the data, where a significant test indicates the model does not fit the data and an insignificant test indicates the model does fit the data (Weston & Gore, 2006). Generally, a cutoff of .95 for the CFI and NNFI, and .06 and .08, respectively, for the RMSEA and SRMR are used, as outlined by Hu and Bentler (1999). However, Weston and Gore (2006) proposed new guidelines when models are not complex and sample sizes are less than 500: $CFI \geq .90$, $RMSEA \leq .10$, and $SRMR \leq .10$. I used these guidelines, due to the lack of complexity,

indicated by the low number of parameters, and sample size under 500. However, it is important to note that these guidelines are strictly rules of thumb and may lead to rejection of an acceptable model (Marsh et al., 2004). Hu and Bentler (1999) also found that, for the least Type I and Type II errors, researchers could examine CFI and SRMR together, using the cutoffs $< .96$ and $> .09$, respectively. This suggests there may be flexibility in the cutoff for CFI and these guidelines were taken into account when analyzing the data.

For the structural phase of the analysis, the hypothesized model was constructed based on previous literature as shown in Figures 1 and 2. I used a maximum likelihood (ML) estimation method to estimate the parameters and treated the data obtained via the Likert-type scales as continuous (Bentler & Chou, 1987).

Mplus (Version 8.6) was used to analyze the initial model with partial mediation. A Satorra-Bentler approximate scaled chi-square goodness of fit test (χ^2) was examined, where a non-significant chi-square and lower values indicate a better fit (Satorra & Bentler, 2010). The same guidelines were used to assess the structural model fit as were used to assess the measurement model fit: $CFI \geq .90$, $RMSEA \leq .10$, and $SRMR \leq .10$. Again, it is important to note that these guidelines are strictly rules of thumb and may lead to rejection of an acceptable model (Marsh et al., 2004). Hu and Bentler's guideline for examining CFI and SRMR together, using the cutoffs $< .96$ and $> .09$, respectively, were also taken into account when analyzing the data. Lastly, I assessed the structural model by analyzing structural parameters for statistical significance and plausibility among the paths (Kline, 2016), based on $\alpha < .05$.

Kline (2016) also recommended it may be necessary to respecify the models if the initial models do not fit the data adequately. Often the proposed model is not the best-fitting model, and respecification may be necessary. Respecification includes altering the estimated model by

freeing or estimating additional parameters (Weston & Gore, 2006) in a way which is consistent with theory and may result in a better model fit (Kline, 2016). It is important to note that when these types of post hoc analyses are engaged in, this increases the likelihood of results which are data driven and may not be generalizable (Weston & Gore, 2006). I respecified the primary and alternate models and then compared them.

Given that both respecified models provided adequate fit, I compared the primary respecified model with the alternative respecified model (Kline, 2016) in three ways (Weston & Gore, 2006). First, I compared the statistical significance of parameter estimates. Next, I examined the change in explained variance or parameter estimates for parameters in the models. Finally, I compared the two models by testing the significance of improvement in model fit by examining the Akaike Information Criterion (AIC) between the two models, where lower values suggest better models (Weston & Gore, 2006). The chi-square difference test was not utilized due to the models not being nested and structural changes among the latent variables (Kline, 2016).

The final step in the analysis process included reporting the results in line with the recommended guidelines (Weston & Gore, 2006). In order to follow these guidelines, in the results section I reported all values from the previously listed fit indices (chi-square, CFI, NNFI, RMSEA, and SRMR), along with standardized and unstandardized parameter estimates.

CHAPTER IV

RESULTS

As a reminder, the purpose of the present study was to further understand the relationship between trauma, attachment style, self-compassion, and emotion dysregulation for those who are justice-involved, in order to lay the groundwork for future intervention and prevention research with this population

In order to more fully understand patterns regarding missing data, a missing values analysis was conducted for the 204 participants in this study. Results revealed that 44 of the responses did not include information for the 6th item on the CATS scale, as this question failed to be included in the paper form of the survey due to researcher failing to include it in the paper packets. Additionally, there was 1 response missing on two questions from the ECR and 1 response missing on 1 item from the SCS. All other data were complete. Missing data were coded as “-99” and resolved using maximum likelihood estimation for items missing at random (MAR) via MPlus as communicated by using the phrase “missing” within the syntax. This is the preset in this data analysis software when using maximum likelihood estimation and was appropriate for this data as there did not appear to be a relationship among the missing data.

Given the different populations included in the study, I compared the means of the measures (CATS, ECR-R, SCS, and DERS-18) by way of a MANOVA, comparing those currently incarcerated versus those who are not currently incarcerated. Results of this analysis suggested that the groups were statistically different based on Wilks' criterion ($L = .812$), $F(4, 199) = 11.55$, $p < .001$. The univariate analyses highlighted differences between the mean scores

of those who were currently incarcerated versus those who were formerly incarcerated on the scales measuring trauma and emotion regulation, but not on the scales measuring attachment or self-compassion. Univariate analyses revealed incarceration status differences for the CATS (Sanders & Becker-Lausen, 1995) $F(1, 202) = 12.18, p < .001, R^2 = .052$; and the DERS (Victor & Klonsky, 2016), $F(1, 202) = 5.82, p = 0.17, R^2 = .012$. This suggests that 5.2% and 1.2% of the differences on the CATS (Sanders & Becker-Lausen, 1995) and the DERS were accounted for by incarceration status. The guidelines laid out by Cohen (1998) suggested that the effect size for differences in incarceration status was small and I noted these differences and continued with the analyses as a single sample group. Of note, the mean score difference for those previously incarcerated ($M = 36.09, SD = 25.93$) was higher than for those currently incarcerated ($M = 51.43, SD = 25.79$) on the CATS (Sanders & Becker-Lausen, 1995) and lower for those currently incarcerated ($M = 39.55, SD = 11.79$) versus those who were formerly incarcerated ($M = 45.14, SD = 14.08$) on the DERS (Victor & Klonsky, 2016).

Next, studentized residuals, leverage, and Mahalanobis distance were examined for all outliers (Cousineau & Chartier, 2010). First, studentized residuals were examined. Two participants had residuals over 3. The next step identified 23 participants with a leverage score above $2p/n = .03922$. Data were then examined using a multivariate analysis for outliers. After calculating the Mahalanobis Distance, the square of Mahalanobis Distance was calculated using a central χ^2 with a degree of freedom of four. None of χ^2 were significant, with all values $p > .001$ (the lowest being .019). Next Cook's D was examined. However, outliers were not believed to be driving the analyses, as all Cook's D's fell below 1.0 (largest = .16). The data for the 26 participants were examined for data entry errors. After no errors were discovered and given the

findings from the Mahalanobis distance and Cook's D analysis, all 204 participants were retained and utilized for the following analyses.

In order to test for multicollinearity, I first conducted a single linear regression with collinearity diagnostics, including each of the predictor variables summed (trauma, attachment, self-compassion, and emotion regulation) and selecting a random dependent variable. The VIF for each of these variables were below 10 (Trauma VIF = 1.63, Attachment VIF = 2.05, Self-compassion VIF = 1.99, and Emotion Regulation VIF = 2.56), suggesting there were no concerns with multicollinearity (Kline, 2016). Data for these 204 participants were then further screened for multicollinearity by examining the correlation matrix between these variables. Data for this matrix can be found in Table 3. Importantly, none of the correlations were above .80 besides the correlation between two subscales of the CATS scale (CAT NEG and CAT EA), and the parceled indicators (ANX1 and ANX2 and AVO1 and AVO2), suggesting no concerns with multicollinearity due to levels being below .90 (Kline, 2016).

Examination of Assumptions

In order to test the assumptions via IBM SPSS statistics software (Version 24), I analyzed frequencies, descriptive analyses for all data and demographic information, skew and kurtosis, probability plots, scatter plots of residuals, probability plots of residuals, and examination of variance. First, I conducted a test of univariate normality, which revealed trauma (skew = .256; kurtosis = -.968), attachment (skew = .410; kurtosis = .175), self-compassion (skew = .095; kurtosis = -.034), and emotion regulation (skew = .245; kurtosis = -.219). These scores are below the established cutoffs of |2| and |7|, respectively, and supports there are no concerns related to normality (Hoyle, 1995).

Table 3*Correlations and Descriptive Statistics for All Indicators*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19.	20.	Mean	SD	α
1.	-																				22.66	13.31	.93
2.	.598*	-																			4.35	5.68	.89
3.	.630*	.445*	-																		9.58	4.38	.55
4.	.876*	.546*	.650*	-																	11.52	6.86	.91
5.	-.590*	-.381*	-.314*	-.529*	-																35.44	12.94	.82
6.	-.628*	-.393*	-.368*	-.558*	.869*	-															33.64	12.44	.91
7.	-.253*	-.156*	-.073	-.224*	.419*	.390*	-														31.90	10.72	.79
8.	-.174*	-.090	-.066	-.100	.358*	.339*	.846*	-													31.76	10.48	.82
9.	-.208*	.064	-.055	-.129	.425*	.396*	.394*	.468*	-												15.25	4.86	.86
10.	-.402*	-.222*	-.216*	-.344*	.590*	.550*	.330*	.243*	.514*	-											14.28	5.05	.86
11.	-.112	.008	-.162*	-.108	.261*	.266	.207*	.279*	.605*	.248*	-										12.73	3.77	.77
12.	-.471*	-.262*	-.295*	-.410*	.635*	.641*	.305*	.263*	.486*	.833*	.246	-									11.71	4.04	.83
13.	-.202*	-.154*	-.173	-.179*	.381*	.385*	.304*	.370*	.736*	.376*	.730*	.396*	-								13.35	3.56	.80
14.	-.453*	-.296*	-.296	-.431*	.650*	.659*	.283*	.198*	.441*	.760*	.284*	.793*	.398*	-							12.00	3.98	.82
15.	.129	.109	.116	.091	-.257*	-.274*	-.385*	-.475*	-.482*	-.137	-.421*	-.181*	-.469*	-.167	-						6.90	2.76	.77
16.	.403*	.457*	.297*	.419*	-.442*	-.498*	-.316*	-.256*	-.217*	.375*	-.151*	-.457*	-.288*	-.468*	.390*	-					6.52	2.91	.84
17.	.495*	.258*	.254*	.406*	-.502*	-.540*	-.253*	-.227*	-.351*	-.580*	-.160*	-.618*	-.274*	-.643*	.122	.393*	-				9.25	3.30	.88
18.	.513*	.476*	.391*	.518*	-.519*	-.559*	-.258*	-.154*	-.230*	-.387*	-.157*	-.478*	-.339*	-.592	.248*	.596*	.545*	-			6.80	3.17	.89
19.	.438*	.377*	.279*	.409*	-.498*	-.447*	-.319*	-.254*	-.280*	-.552*	-.084*	-.596*	-.252*	-.565*	.163*	.540	.530*	.533*	-		7.60	3.43	.87
20.	.579*	.496*	.489*	.530*	-.580	-.611*	-.290*	-.255*	-.275*	-.507*	-.165*	-.614*	-.331	-.629	.157*	.603	.596*	.716*	.615*	-	6.86	3.02	.81

Note. CAT= Subscales from the Child Abuse and Trauma Scale, ANX = Parcels from the ECR-R Attachment Anxiety subscale, AVO = Parcels from the ECR-R Attachment Avoidance subscale, SCS= Subscales from the Self-Compassion Scale, and DERS= Subscales from the Difficulties with Emotion Regulation Scale

* indicates $p < .01$

Upon determining normality, I examined scatterplots and probability plots to verify the presence of a linear relationship between the predictor and outcome variables and the assumption of homoscedasticity. The results from the probability plots did not show any obvious deviations from normality. To assess for linearity and homoscedasticity, scatter plots and probability plots of residuals were examined, with no obvious deviations from normality being observed.

Lastly, in order to test the assumption of equal variance, I calculated the variance for each variable and determined the ratio of the largest variance to the smallest. Given that the variance ratio was < 10.0 (Kline, 2016), I determined that the assumption was met and proceeded to analysis for the measurement model.

Measurement Model

I followed a two-step procedure for analyzing the model, and my first step in this process was to complete a confirmatory factor analysis (CFA) of the measurement model. There were four indicators for each of the latent variables, indicating that this model is over-identified (Kline, 2016). In order to assess the fit of the data to the proposed measurement model, I conducted separate confirmatory factor analyses on each of the latent factors besides attachment, as the indicators were determined for this scale by using the balanced parceling method. Each CFA evaluated the fit of the previously listed indicators as factors (Kline, 2016). I assessed the fit by using the criteria set by Weston and Gore (2006) previously listed in Chapter III for when models are not complex and sample sizes are less than 500: $CFI \geq .90$, $RMSEA \leq .10$, and $SRMR \leq .10$. The SCS ($CFI = .929$, $RMSEA = .060$, and $SRMR = .054$) and DERS-18 ($CFI = .973$, $RMSEA = .051$, and $SRMR = .036$.) showed good model fit.

Regarding the CATS scale, measures of badness of fit fell within acceptable ranged for small sample sizes ($RMSEA = .089$, $SRMR = .072$). However, the goodness of fit index was not

acceptable (CFI = .825) and the χ^2 was significant ($p < .001$). However, there has been some debate over the last 20 years regarding the utility of the two-step process, suggesting that if the model is driven by theory, that the testing of the measurement model may not be necessary (Herting & Costner, 2000). Additionally, Iacobucci (2010) posited that there may be some flexibility regarding cut-off scores for fit indices and indicated that if $\chi^2/df < 3$, that the data may still fit the model. For the current study, using $\chi^2(458) = 1193$ the quotient is < 3 (2.61). Given this information, I continued forward with the analyses.

Next, since the ECR-R has only two subscales, I implemented the parceling method using a balanced procedure, as it has been shown to result in good measurement model fit (Little et al., 2002; Little et al., 2013). I conducted an exploratory factor analysis (EFA) in IBM SPSS statistics software on the items of each subscale of the ECR-R separately and forced unidimensionality. I then examined the coefficient values, with the two highest values from each subscale to be used for anchors on each indicator. I then selected the next two highest loadings and placed them on the indicators in an inverted order until all items were equally divided between indicators. For the latent variable, attachment, as measured by the ECR-R, I had two measurement models: one for anxious attachment and one for avoidant attachment (Little et al., 2002). From these measurement models and the resulting balanced parceling method, I created four indicators to measure the overall construct of attachment. Reliability for the data from this sample on the anxious subscale, $\alpha = .93$ and for the avoidant subscale, $\alpha = .89$.

Structural Model

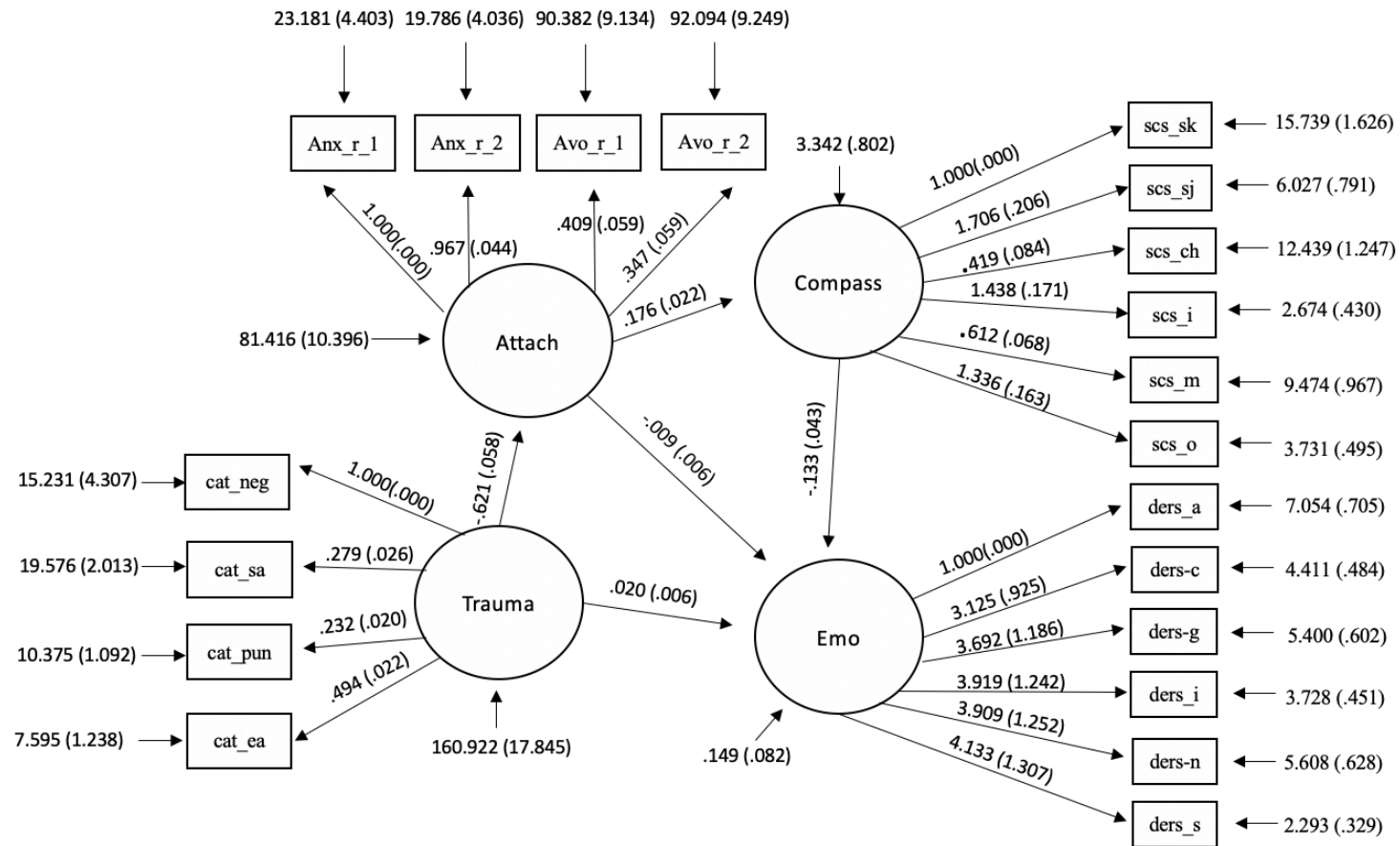
After examining the fit of the data on the proposed measurement model, I analyzed the data from 204 participants for fit of the primary structural equation model as outlined in Chapter III (see Figure 3). The model was estimated using MPlus (Version 8.6) software using a

maximum likelihood (ML) estimation with the data treated as continuous (Bentler & Chou, 1987). The results for this model are presented in Tables 4 and 5. Importantly, four of the five structural path coefficients were statistically significant with $\alpha < .05$ (trauma to secure attachment, trauma to emotion regulation, attachment to self-compassion, and self-compassion to emotion regulation). However, the parameter estimate of secure attachment to emotion regulation failed to be statistically significant. The χ^2 test for absolute fit was significant ($\chi^2(165) = 921.72, p < .001$), which failed to confirm absolute fit (Satorra & Bentler, 2010). Additionally, the fit indices did not support good fit of the data to the primary model (CFI = .756, RMSEA = .150, and SRMR = .106). Again, it is important to note that these guidelines are rules of thumb and may lead to rejection of an acceptable model (Marsh et al., 2004). The alternative model was examined next.

The alternative model (Model 2, see Figure 4) was estimated using the same approach as the primary model. The results for this model are presented in Tables 4 and 5 and were similar to the findings from the primary model, except all structural path coefficients in this model were statistically significant with $\alpha < .05$ (compassion to emotion regulation, compassion to attachment, trauma to emotion, attachment to emotion, and trauma to attachment). The χ^2 was also significant ($\chi^2(165) = 928.57, p < .001$), and fit indices did not support good model fit (CFI = .754, RMSEA = .151, and SRMR = .108). Given how close the fit indices were between models, I also examined the Akaike Information Criterion (AIC) between the two models, where lower values suggest better models (Weston & Gore, 2006). The AIC from the primary model (22,734.16) was faintly lower than the AIC from the alternative model (22,741.00). Given the slightly better CFI and AIC of the primary model and the significant parameter path estimates of the alternative model, both were retained for the next step.

Figure 3

Primary Model Post Analyses



Note. Estimates are reported as unstandardized parameters. CAT = Trauma (Child Abuse and Trauma Scale), Attach = Attachment (Experiences in Close Relationships Revised), Compass = Self-Compassion (Self-Compassion Scale), and Emo = Difficulties with Emotion Regulation (Difficulties in Emotion Regulation Scale).

Table 4*Overall Model Fit Statistics for the Structural Model*

Model	χ^2	<i>df</i>	CFI	RMSEA	SRMR
1	921.72*	165	.756	.150	.106
2	928.57*	165	.754	.151	.108
3	425.34*	159	.914	.091	.081
4	452.30*	160	.906	.095	.084

Note. Model 1 = Primary Model; Model 2 = Alternative Model; Model 3 = Respecified Primary Model; Model 4 = Respecified Alternative Model (Final Model); χ^2 = Satorra-Bentler scaled chi-squared statistic; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual.

* indicates $p < .001$.

Table 5*Parameter Estimates for Structural Paths for the Final Model (Respecified Alternative Model 4)*

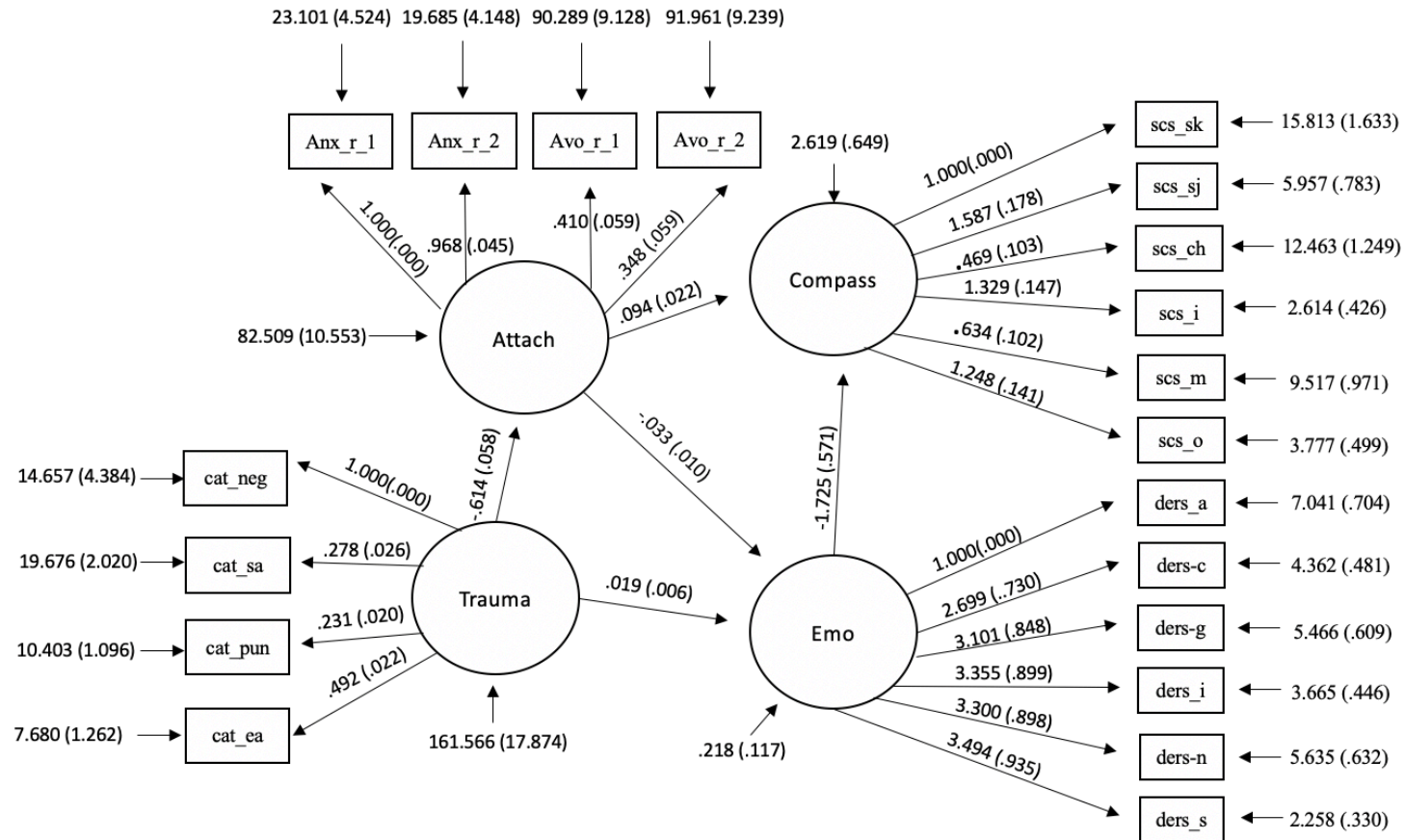
Parameter	Unstandardized		Standardized	
	Coefficient	SE	Coefficient	SE
Trauma → DER	.020*	.008	.354*	.096
Attachment → DER	-.029*	.011	-.491*	.104
DER → Compassion	-1.808*	.632	-.510*	.095
Attachment → Compassion	.075*	.025	.357*	.093
Trauma → Attachment	-.623*	.058	-.643*	.052

Note. DER = Difficulties with Emotion Regulation. Attachment = secure attachment. SE = Standard Error.

* indicates $p < .001$.

Figure 4

Alternate Model Post Analyses



Note. Estimates are reported as unstandardized parameters. CAT Trauma (Child Abuse and Trauma Scale), Attach = Attachment (Experiences in Close Relationships Revised), Compass = Self-Compassion (Self-Compassion Scale), and Emo = Difficulties with Emotion Regulation (Difficulties in Emotion Regulation Scale).

Kline (2016) also recommended it may be necessary to respecify the structural models if the initial models do not fit the data adequately. Often the proposed model is not the best-fitting model, and respecification may be necessary. Respecification includes altering the estimated model by freeing or estimating additional parameters (Weston & Gore, 2006) in a way which is consistent with theory and may result in a better model fit (Kline, 2016). It is important to note that when these types of post hoc analyses are engaged in, this increases the likelihood of results which are data driven and may not be as generalizable (Kline, 2016).

From the primary model, modification indices were requested and calculated from Mplus (Version 8.6), as has been suggested by Kline (2016), with the minimum M.I. value for inclusion being 50. Though this process provides all parameters which may increase model fit, only modifications which were supported by theory were implemented. These indices suggested to include a covariance path between the two parceled indicators for attachment avoidance, which is in line with these indicators initially coming from the same subscale (Fraley et al., 2000). Additional covariance paths between the positive-scored indicators of self-compassion (self-kindness, mindfulness, and common humanity) were requested. Given that these variables were pieces of the same construct, it would make sense that they would be correlated (Neff, 2003). Finally, covariance paths between the awareness and clarity subscales of the DERS-18 were requested. These subscales were measuring very similar constructs of emotional regulation related to awareness and understanding of their emotions (Victor & Klonsky, 2016). Though it was not requested, I also added in a covariance path to the parceled anxious attachment subscales, given that they were from the same original subscale (Fraley et al., 2000).

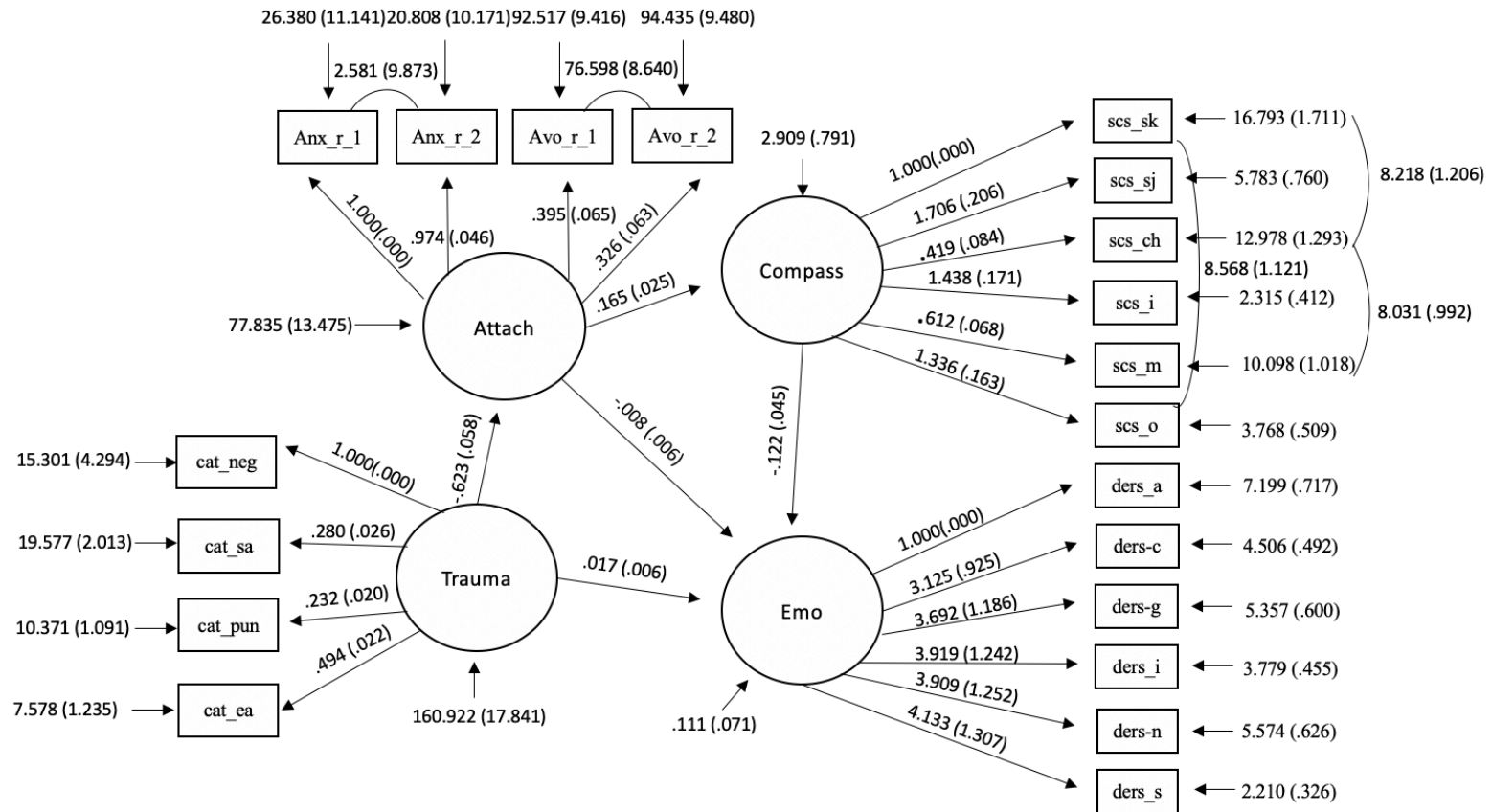
Using the above outlined model as the respecified primary model, a new structural model, Model 3 (see Figure 5), was analyzed via MPlus (Version 8.6). Results from this analysis

determined that all of the parameter estimates were significant besides the relationship between attachment and difficulties with emotion regulation. In addition, all of the covariances were significant besides the one between the parceled anxious attachment subscales. Fit indices for this model were examined next (see Table 4). The χ^2 for this respecified primary model ($\chi^2(159) = 425.34, p < .001$) remained significant failing to support an exact fit with the data. Additional fit indices were examined for Model 3 (Figure 3; CFI = .914, SRMR .081, and RMSEA = .091). These results suggest that the respecified primary model demonstrated good overall fit for the data, providing 4 statistically significant structural paths out of the 5 which were tested. See Tables 4 and 5 for additional information.

From the alternative model, modification indices were also requested and calculated from Mplus (Version 8.6), as has been suggested by Kline (2016), with the minimum M.I. value for inclusion being 50. Only modifications which were supported by theory were implemented. These indices suggested to include a covariance path between the two parceled indicators for attachment avoidance and covariance paths between the positive-scored indicators of self-compassion (self-kindness, mindfulness, and common humanity). Though it was not requested, I also added in a covariance path to the parceled anxious attachment subscales, as justified above.

Figure 5

Primary Respecified Model



Note. Estimates are reported as unstandardized parameters. CAT = Trauma (Child Abuse and Trauma Scale), Attach = Attachment (Experiences in Close Relationships Revised), Compass = Self-Compassion (Self-Compassion Scale), and Emo = Difficulties with Emotion Regulation (Difficulties in Emotion Regulation Scale).

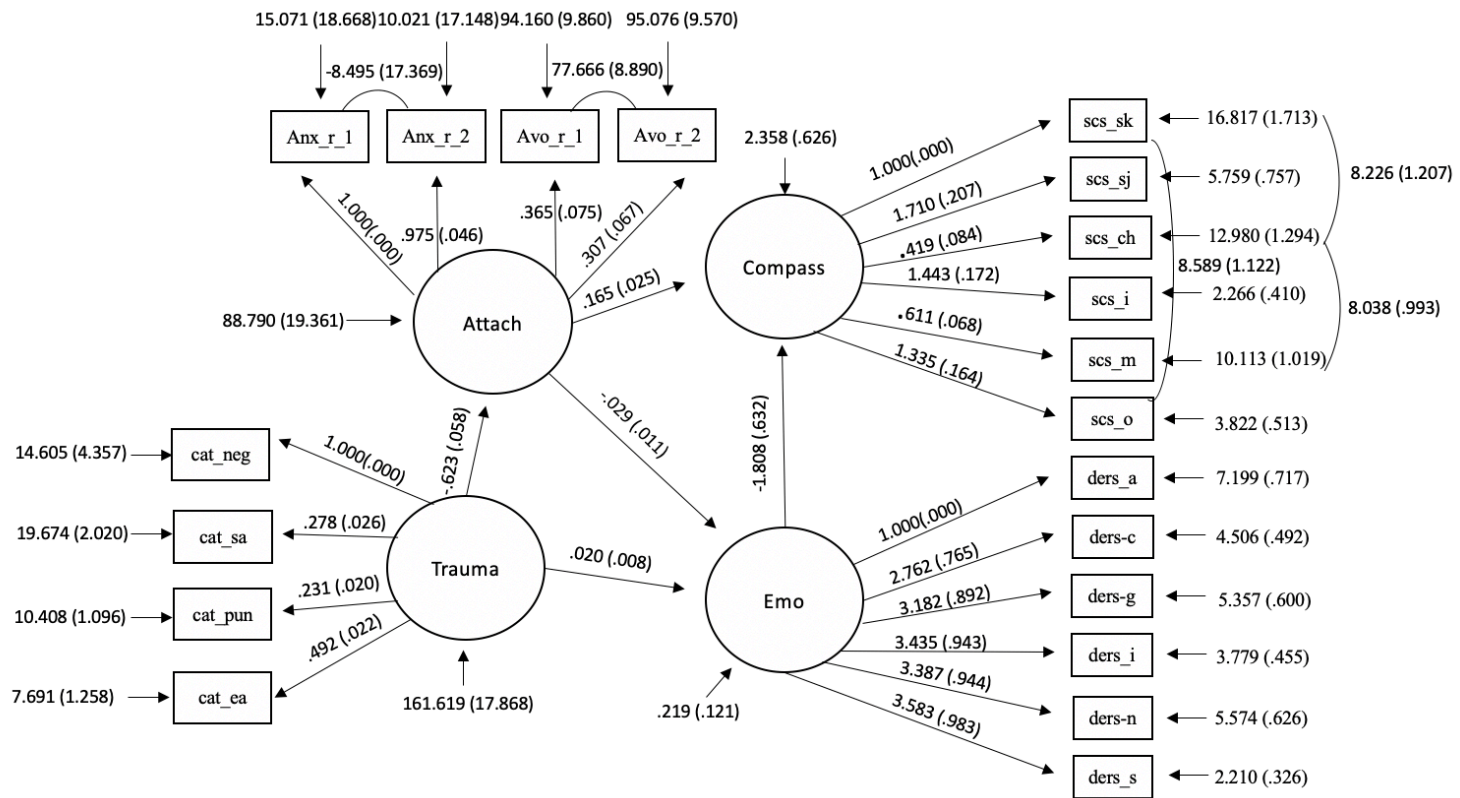
Using the above outlined model as the respecified alternate model, a new structural model, Model 4 (see Figure 6, was analyzed via MPlus (Version 8.6). Results from this analysis determined that all of the parameter estimates were significant. In addition, all of the covariances were significant besides the one between the parceled anxious attachment subscales. Fit indices for this model were examined next (see Table 4). The χ^2 for this respecified alternate model ($\chi^2(160) = 452.30, p < .001$) remained significant, failing to support an exact fit. Additional fit indices were examined for Model 4 (Table 4; CFI = .906, SRMR .084, and RMSEA = .095). These results suggest that the respecified alternate model demonstrated good overall fit for the data, with all of the structural paths which were examined being statistically significant. See Tables 4 and 5 for additional information.

Interpretation of Structural Equation Model

Model 3 (see Figure 5 which included covariance paths between the two parceled indicators for attachment avoidance, covariance paths between the positive-scored indicators of self-compassion (self-kindness, mindfulness, and common humanity), covariance paths between the awareness and clarity subscales of the DERS-18, and a covariance path to the parceled anxious attachment subscales showed good overall fit for the data. While the model χ^2 statistic was significant ($\chi^2(159) = 425.34, p < .001$), additional fit indices (CFI = .914, SRMR .081, and RMSEA = .091) all fell within the acceptable range as defined by Weston and Gore (2006). In examining the model χ^2 statistic, I used Iacobucci's previously referenced guideline suggesting that if $\chi^2/df < 3$, that the data may still fit the model. The results of this formula for the respecified = 2.68, which is less than 3, suggesting acceptable model fit.

Figure 6

Alternate Respecified Model



Note. Estimates are reported as unstandardized parameters. CAT = Trauma (Child Abuse and Trauma Scale), Attach = Attachment (Experiences in Close Relationships Revised), Compass = Self-Compassion (Self-Compassion Scale), and Emo = Difficulties with Emotion Regulation (Difficulties in Emotion Regulation Scale).

Cohen's (1992) guidelines were utilized in order to interpret parameter estimates, indicating that values around .10 suggest a small effect size, around .30 suggest a medium effect size, and values $> .50$ as indicative of a large effect size. Results indicated that trauma to emotion regulation revealed a statistically significant medium effect (unstandardized = .017; standardized = .341) and self-compassion to emotion regulation had a statistically significant medium to large effect (unstandardized = -.122; standardized = -.500). Attachment has a large statistically significant effect on self-compassion (unstandardized = .165; standardized = .754), while trauma has a large statistically significant effect on secure attachment (unstandardized = -.623; standardized = -.667). Secure attachment's effect on emotion regulation failed to be statistically significant. Regarding the variance explained by the model, 41% of the variance in attachment can be explained by the model, 65% of the variance in self-compassion can be explained by the model, and 59% of the variance in difficulties with emotion regulation can be explained by the model.

Model 4 (see Figure 6) which included covariance paths between the two parceled indicators for attachment avoidance, covariance paths between the positive-scored indicators of self-compassion (self-kindness, mindfulness, and common humanity), and a covariance path to the parceled anxious attachment subscales showed good overall fit for the data. While the model χ^2 statistic was significant ($\chi^2(160) = 452.30, p < .001$), additional fit indices (CFI = .906, SRMR = .084, and RMSEA = .095) all fell within the acceptable range as defined by Weston and Gore (2006). Using Iacobucci's (2010) previously articulated formula for the respecified alternate model resulted in a score less than 3 (2.67), suggesting acceptable model fit.

Results indicated that the effects between trauma and emotion regulation (unstandardized = .020; standardized = .354), attachment and emotion regulation (unstandardized = -.029;

standardized = $-.491$), and attachment and self-compassion (unstandardized = $.075$; standardized = $.357$) were statistically significant and medium. The effect between emotion regulation and compassion (unstandardized = -1.808 ; standardized = $-.510$) and trauma and attachment (unstandardized = $-.623$; standardized = $-.643$) were large and statistically significant. Regarding the variance explained by the model, 45% of the variance in attachment can be explained by the model, 57% of the variance in self-compassion can be explained by the model, and 73% of the variance in difficulties with emotion regulation can be explained by the model. This model explained a greater amount of the variance for attachment and difficulties with emotion regulation than Model 3 and explain less variance in self-compassion than Model 3.

Given that the fit indices and AIC between the respecified primary model and the respecified alternative model were very similar (Model 3: (CFI = $.914$, SRMR = $.081$, and RMSEA = $.091$, AIC = 22249.779); Model 4: (CFI = $.906$, SRMR = $.084$, and RMSEA = $.095$, AIC = 22274.735) and both suggested a good fit of the data to the model and that all of the respecified alternate model's (Model 4's) parameter estimates were significant as opposed to 4 out of 5 parameter estimates which were significant within the respecified primary model (Model 3), I retained the respecified alternate model (Model 4).

CHAPTER V

DISCUSSION

The purpose of the current study was to understand the complex relationship between trauma, attachment style, self-compassion, and emotion dysregulation in incarcerated and formerly incarcerated individuals. This research aims to lay the groundwork for future intervention and prevention research with this population.

Our current recidivism rate of 75% over a 5-year period in the United States suggest significant concerns regarding rehabilitation while incarcerated (Durose et al., 2014). Given the disproportionate amount of trauma experienced by those who are involved with the legal system (Tripodi & Pettus-Davis, 2013; Wolff et al., 2014), and trauma being posited as an important variable in the school to prison pipeline (Stensrud et al., 2018), it may be helpful to examine the relationship between trauma and potential additional variables in order to clarify a target for treatment. One area of interest is self-compassion, which Stosny (1995) said is "incompatible with antisocial behavior" (p. 82). Self-compassion has also been found to help make sense of the relationship between trauma and difficulties regulating emotions (Vettese et al., 2011). Another important factor which has been found to be a protective factor against incarceration is attachment (Elisardo Becoña et al., 2014; Franke, 2000; Spice et al., 2013), which has also been found to be connected to trauma (Lynch & Cicchetti, 1991), emotion regulation (van der Kolk, 2005) and self-compassion (Raque-Bogdan et al., 2016). Thus, prior literature may support the trauma, attachment, self-compassion, and emotion regulation may be related to justice-involvement. The purpose of the current study was to further understand the multifaceted

relationship between trauma, attachment style, self-compassion, and emotion dysregulation for those who are justice-involved, with the goal of laying the groundwork for intervention and prevention research with this important population

Importantly, neither hypothesized model provided adequate fit for the data. Each of the models were respecified per Kline's (2016) procedures to determine which would be the best fit (Figures 5 and 6). This respecification process resulting in the addition of covariance paths that were supported by current theory and research, connecting the parcels between subscales of attachment anxiety/avoidance and subscales which make up the positively scored construct of self-compassion on both models and two subscales from the DERS on Model 3 (Figure 5). Though both of the respecified models indicated good fit for the data per Weston and Gore's (2006) guidelines, the respecified alternate model (Model 4; Figure 6) had more significant structural paths. For this reason, the respecified alternate model (see Figure 6) was retained as the best model highlighting the interrelationships between the constructs trauma, attachment, self-compassion, and emotion regulation.

Full Model Interpretation

The findings from the present study suggest that the respecified alternate model, Model 4, was the best fit for the data (see Figure 6). In addition to the parameters which were laid out for the alternative model, Model 2 (see Figure 2), examining the mediating effect of attachment style and difficulties with emotion regulation on the relationship between trauma and self-compassion, Model 4 (see Figure 6) also included covariance paths between the two parceled indicators for attachment avoidance, covariance paths between the positive-scored indicators of self-compassion (self-kindness, mindfulness, and common humanity), and a covariance path between the parceled anxious attachment subscales.

Findings highlight that trauma had a negative statistically significant large effect on attachment security, where a greater number of traumatic experiences reported was related to lower levels of attachment security. This supports previous literature which discovered that maltreatment as a child was positively correlated with insecure attachment styles (Lynch & Cicchetti, 1991). Given how attachment is rooted in a sense of safety, attunement, and reliability (Bowlby, 1973), traumatic experiences understandably challenge this sense of safety and reliability. This is especially important for an incarcerated population, as they have likely experienced a disproportionate amount of trauma, which may lead to difficulties forming and maintaining relationships, supports which have been shown to provide a buffer against recidivism (Wright et al., 2013). Importantly, though we cannot change traumatic experiences after they have occurred, there may be other areas of intervention available to impact emotion regulation abilities and self-compassion.

Findings from the current study also highlight that trauma had a statistically significant medium effect on emotion regulation, where a greater number of experiences of trauma were linked to higher self-reports of difficulties regulating emotions. This supports a plethora of previous literature that has linked childhood trauma to difficulties regulating emotions (Konecky & Lynch, 2019; Lyons-Ruth et al., 2013; Padykula & Conklin, 2010). Notably, these results suggest that these findings hold true for populations who have been or are currently incarcerated. This is unsurprising, given the relationship of difficulties with emotion regulation to different illegal behaviors (e.g., substance use, violent behavior, etc.). Overall, this suggests that the trauma individuals experience within childhood may lead to difficulties regulating their emotions, leaving these individuals more prone to engaging in illegal behavior. These findings

serve to challenge the moralistic view of illegal behavior, highlighting that these behaviors are more likely rooted in trauma as opposed to a moral failing.

The current study also discovered a medium to large negative effect of attachment on emotion regulation, where higher reports of attachment security were related to lower reports of difficulties with emotion regulation. These findings are commensurate with the vast amounts of theory (Bowlby, 1988) and research (Alink et al., 2009; Girme et al., 2021; Linehan, 1998) which have already posited and discovered the link between these two constructs. Specifically, for those who are incarcerated, less secure attachment styles are more prevalent than in the general population (Dishon-Brown et al., 2017; Grattagliano et al., 2014; Konrath et al., 2014), leading to great difficulties regulating emotions, as mentioned above. Thankfully, attachment is a malleable construct, with the opportunity and possibility for becoming more securely attached, regardless of the attachment style you began with (Grady et al., 2016; Siegel, 1999). These findings suggest that, should attachment style be a place of intervention where attachment security was increased, this may lead to an increase in an individual's ability to regulate their emotions. This is especially important to consider when considering those who have been incarcerated, as changes in attachment style may impact risks regarding recidivism, especially for crime which are interpersonal in nature (Spice et al., 2013).

The results from this study suggest there is a medium effect of attachment on self-compassion, where higher scores of attachment security were related to higher self-report of self-compassion. As mentioned previously, these findings support theory which suggests that there is a direct relationship between these variables. This suggests that having secure attachment relationships predicts the way that individuals interact with themselves. This is especially important to consider with an incarcerated population where attachment styles have been shown

to have higher amounts of insecure attachment styles, which suggests that incarcerated populations may have a harder time being compassionate with themselves. Given the stigma and biases which are already present in our society, supporting incarcerated and formerly incarcerated populations in developing self-compassion may be especially important in order to combat the biases they face from society on a regular basis.

Of note, the primary model and alternative model differed in directionality for the path between emotion regulation and self-compassion, with the primary model suggesting that self-compassion had a statistically significant medium-to-large negative direct effect on emotion regulation, where the retained model revealed emotion regulation difficulties has a statistically significant negative large effect on self-compassion. By examining both models further, the findings suggest that higher levels of self-compassion are related to lower levels of difficulties with emotion regulation and vice versa. When individuals are more able to regulate their emotions, they can then engage in the task of self-compassion and being gentle with themselves. When they are emotionally overwhelmed, it may be more difficult to engage in this self-compassion and may lead to more critical engagement with self. Specifically for those who are incarcerated or have previously been incarcerated, those who have difficulty regulating their emotions, which may be associated with more illegal behavior and more arrests, may simultaneously be less compassionate towards themselves. Not only are these individuals being treated more unfairly by our society, but their prior trauma may have led to insecure attachment styles and difficulty regulating emotions and may also be leading them to be less compassionate in their interactions with self.

Taken together, the final model, Model 4 (see Figure 6) suggests that greater experiences of trauma may be associated with insecure attachment styles, impacting individuals' ability to

trust and access supportive relationships, both of which lead to difficulties regulating emotions, which has been shown to be related to illegal behavior and incarceration. A lack of security in relationships and difficulties in regulating emotions are also connected to an individual's self-report of self-compassion, or an ability to hold one's emotions and be kind to themselves while experiencing pain or suffering. This highlights the systemic impact of trauma and ways it may predispose those who have experienced trauma to be more likely to engage in illegal behavior and self-judgment.

However, the inverse of the above-mentioned relationships is also true. For those who experienced less trauma as children, they reported experiencing more security in their attachment relationships, more ability to regulate their emotions, and more ability to engage in self-compassion. These findings speak to the necessity in focusing on policy related to prevention and supports for those individuals who are most likely to experience childhood trauma. Supports related to attachment and emotion regulation may lay the foundation for healthier relationships and ways of interacting with self by way of self-compassion.

Finally, regarding the variance explained by the model, 45% of the variance in attachment can be explained by the model, 57% of the variance in self-compassion can be explained for by the model, and 73% of the variance in difficulties with emotion regulation can be explained for by the model. This suggests that, though the model explains a large amount of the variance associated with these variables, that there are additional factors which may help to more effectively predict the scores on these constructs.

Theoretical Implications

The findings from the current study simultaneously support and challenge the integration of Attachment (Bowlby, 1969) and Self-Compassion Theory (Neff, 2003), as presented in

Chapter I. The integration of these theories as discussed previously suggested that Attachment and Self-Compassion Theory could be used to more fully understand how the process of emotion regulation occurs. Importantly, it appears that these theories are, in fact, integrated along with emotion regulation abilities. However, the findings from the study suggest that emotion regulation mediates the relationship between attachment and self-compassion, as opposed to the integration of attachment and self-compassion leading to emotion regulation (see Figure 6).

It may be that having someone who is an available other, as presented in Attachment Theory, provides a foundation for an individual to be able to regulate their emotions. This experience of witnessing their caregiver's attunement with themselves along with witnessing their caregiver regulate their own emotions may have provided a positive internal working model of how to successfully navigate emotions as they arise. Witnessing the tactics their caregivers use to regulate emotions along with their caregivers supporting them in practicing these tactics may have provided the foundation necessary to engage in self-compassion.

Additionally, if individuals have secure relationships with their caregivers, they may be more likely to seek out support from others, allowing for more opportunities to co-regulate. In this process of co-regulation, those who they are seeking support from may be providing comforting and caring words and actions, continuing to impact the client's internal working model. Through this process of co-regulation, they may learn and internalize ways of being kinder and compassionate towards themselves (self-kindness) along with being able to engage more with their emotions (mindfulness), as this is the behavior they are receiving from the supportive other. Importantly, this co-regulation with a parent may lay the foundation for future co-regulation with a romantic partner.

When examining this process from the tenants of self-compassion, the way emotion regulation may lead to self-kindness and mindfulness, two constructs of self-compassion (Neff, 2003), was discussed in the previous paragraph. However, there is a third conceptual piece to self-compassion: common humanity. As outlined above, when individuals are more securely attached, they may have stronger relationships with others and feel more comfortable reaching out for support in helping them to regulate their emotions. It may also be that other individuals feel safer reaching out to them for support as well, leading them to witness they are not alone in their struggles. This experience of a reciprocal supportive relationship may provide the foundation for common humanity, as it highlights they are not alone in their struggles and the feelings they are experiencing are a normal part of life. It is in this way emotion regulation may provide the foundation for individuals to engage with themselves in a more compassionate manner.

Importantly, it does appear that attachment theory provides the basis for the process which leads to self-compassion, though the shift in the integration of the theory as supported by the current study suggests that emotion regulation is a part of the process allowing for the integration. Attachment may lead to an individual's ability to regulate their emotions, which may then provide the foundation for an individual to engage with their emotions from a place of kindness, compassion, and understanding of common humanity. Self-compassion, as theorized, may still provide a way to measure to outcomes of attachment style as it pertains to how they relate to themselves. However, it appears that emotion regulation is an important piece connecting these two theories.

Practice Implications

One study highlighted that 40.6% of males and 70.8% of females returning home from incarceration have self-reported mental illness (James & Glaze, 2006), while more recent research has suggested the rates are even higher for incarcerated women, revealing 91% of those surveyed reported a lifetime prevalence of mental illness and a 70% rate for self-reported mental illness over the last 12 months (Moran, 2014). One review found lifetime prevalence rates of mental illness in incarcerated women ranging from 1.9-14.4x larger than those in the general population (Karlsson & Zielinski, 2020). From those who endorsed mental illness, half reported engaging in mental health services post release (The Urban Institute, 2008). While this number highlights that many formerly incarcerated people are not receiving support for their mental health concerns, it also highlights that many individuals are seeking support. Given the high prevalence and treatment engagement, it is imperative that the professionals who are supporting these individuals are providing tailored care guided by research conducted with formerly incarcerated individuals.

There are a number of practical implications for counseling psychologists when working with those who have been or are currently incarcerated. As has been previously established in the literature, this study supports the relationship between trauma experienced and attachment security for those who have been incarcerated. Being intentional to discuss and support individuals in understanding this connection may increase self-compassion surrounding an individual's attachment style and their ensuing difficulties with emotion regulation.

The findings continue to support existing literature which suggest the importance of using a trauma informed approach in working with formerly incarcerated individuals. Previous literature has proposed that incarcerated populations may be experiencing unresolved grief,

leading to illegal activity, and that treatments focused on trauma may decrease recidivism rates (Leach et al., 2008). This study provides further support for the importance of focusing on trauma therapy for incarcerated or formerly incarcerated populations, given the high levels of emotion regulation difficulties and low levels of attachment security and self-compassion which are connected to these experiences in trauma. Previous literature has discovered that changes in attachment style were found to be related to risk of recidivism, especially for interpersonal crimes (Spice et al., 2013). This study compliments those findings, suggesting that those who have lower levels of attachment security could benefit from support related to emotion regulation and self-compassion. Additionally, this study broadens the research from those who are currently incarcerated to those who were formerly incarcerated. This is important information for counseling psychologists who are serving individuals who were formerly incarcerated. Assessing an individual's experience of trauma, attachment style, emotion regulation abilities, and levels of self-compassion could lead to effective therapeutic work with individuals from a formerly incarcerated population.

Another important area of intervention for those who are formerly incarcerated is attachment style, exploring interpersonal relationship and their relationship to consequent emotion regulation concerns and difficulties regarding self-compassion. This exploration and subsequent growth in attachment security may not only have positive effects on an individual's interpersonal relationships, but also simultaneously impact emotion regulation and self-compassion abilities. Previous literature has discovered that changes in attachment style towards insecurity were found to be related to risk of recidivism, especially for interpersonal crimes (Spice et al., 2013). Additional research has shown that certain therapeutic approaches, including Attachment-Based Compassion Therapy, have been effective in changing individuals'

attachment styles towards secure and decreased their self-report of attachment avoidance and anxiety (Navarro-Gil et al., 2020). This study supports these findings, suggesting that those who were previously incarcerated and have lower levels of attachment security could benefit from support related to emotion regulation and self-compassion.

A potential important practical application for counseling psychologists may be to teach formerly incarcerated clients emotion regulation/grounding strategies before attempting to teach self-compassion strategies. This makes sense given the tenants of self-compassion: self-kindness, common humanity, and mindfulness. Before an individual is able to be kind to themselves, there needs to be some level of regulation of their emotions which occurs, before they are able to engage in the mindfulness aspect of “holding one’s painful thoughts and feelings in balanced awareness rather than over-identifying with them” (Neff, 2003, p. 89). Learning this skill of emotion regulation may be especially important in an incarcerated population, where individuals may be prone to impulsive behaviors, given previous theory which suggests that when individuals fail to experience their emotions and instead suppress them, they may be more likely to participate in impulsive behaviors (Polivy, 1998). It appears that emotion regulation skills may be a doorway into self-compassion, as there is overlap between the two constructs: emotion regulation helps an individual to be aware of and sit with uncomfortable emotions, while they still engage in goal directed behavior. It may be that people are more able to engage in kindness towards self when they are further grounded by engaging in goal directed behavior. Self-compassion also has some overlap with emotion regulation, where it indicates the importance of holding these thoughts in awareness, though self-compassion uses this awareness to inform and invite compassion towards self and a sense of connection.

Though this study did not specifically measure recidivism, previous research has connected many of these constructs to recidivism. For counseling psychologists who are working with those who are at risk for becoming involved in the legal system, assessing levels of trauma, attachment, emotion regulation, and self-compassion could provide targets for intervention, as these may provide some buffer against future illegal behavior. Overall, these results highlight the importance of counselors or other helping professionals to attend to attachment styles, emotion regulation abilities, and self-compassion in formerly incarcerated clients who have experienced childhood trauma. Assessing these constructs and intentionally focusing on them throughout the course of treatment may allow for more effective and tailored treatment.

Limitations

This study has a number of limitations. First, the data were obtained via self-report surveys. Relying on a single type of measure does not allow for the data to be verified by additional sources, leading to the mono-method bias. This type of bias had the potential to lead to Type I and Type II errors (Spector, 2006). Importantly, some of the selected surveys require self-awareness related to the constructs being measured accurately (i.e., self-compassion, attachment, and emotion regulation). Should the individual not have awareness related to these constructs, the data provided may be biased where reports of attachment security and self-compassion may be higher and reports of difficulties with emotion regulation may be lower. Future research could use self-report along with other-report data in order to attempt to account for this mono-method bias.

Additionally, the study used a cross-sectional design. As such, it is not possible to determine causal relationships between the variables (Levin, 2006), limiting the interpretations that can be made from the findings. It is important to keep this limitation in mind while

interpreting and applying findings. Though the results suggest relationships between constructs, it is unclear whether there is another variable which may account for this relationship between the two variables, as correlation does not equal causation.

Importantly, there was missing data for 44 participants from the in-person data collection where 1 item was left off the child abuse and trauma questionnaire (item #6) due to researcher error. Though this missing data were treated as MAR in the data analysis because there was no significant pattern to the missing data, it is possible it may have impacted the findings in the current study. Future research could repeat this study, ensuring the inclusion of all items from the current measure were used with all participants.

Next, due to the fact that neither hypothesized model provided a good fit for the data, respecification was necessary to locate a model which fit the data. Though this process has been supported by researchers specializing in structural equation models (Kline, 2016) and the fact that the modifications implemented were supported by theory, this process has been known to increase the risk of the model being data driven (Kline, 2016). This may limit the accuracy of these results.

Importantly, the population was not fully from an incarcerated population. Due to constraints as a result of COVID-19 and an inability for non-essential personnel to enter jails, the researcher was unable to recruit participants in a timely manner and modified the inclusion criteria to include those who are formerly incarcerated. Though some individuals were currently being housed at a work release facility, the majority of individuals reported their last time incarcerated was 26 months ago. Though research suggests that people who have made it to 7 years post-release without being rearrested are no more likely to be arrested than their non-incarcerated counterparts (Kurlychek et al., 2006), there may be some unconsidered variables

which may differentiate those who have been released from currently incarcerated individuals, such as creating earned secure attachment styles or learning additional ways of regulating their emotions, limiting the studies ability to generalize to incarcerated populations.

Another factor which may limit the generalizability of the sample is the racial make-up of the sample. Importantly, those from black and brown communities are more likely to be incarcerated due to racial disparities and biases and make up a larger percentage of those incarcerated (Mauer, 2011). The Bureau of Justice Statistics (Carson & Anderson, 2015) reported that 38% of state prisoners are Black, 35% of are White, and 26% are Hispanic. The current study consisted of 6.4% Black, 62.3% White, and 7.8% Hispanic. Future research could examine these constructs with a population with a more similar racial make-up to those currently incarcerated.

Along with this limitation, findings from the current study suggested that these populations may be different on variables related to trauma and emotion regulation, given the small effect size between those currently incarcerated and those formerly incarcerated. It is important to recognize the differences in these populations when interpreting the model, as the data may have fit the model differently depending upon if the population was fully formerly incarcerated individuals or currently incarcerated individuals at a work-release facility. Given this information, the findings should be interpreted with caution.

The limited research available for these constructs on an incarcerated population is another limitation of this study. There may be additional factors which are related to the proposed constructs which are not yet identified but may help to more fully explain the relationship between these variables. As such, it is possible that many important constructs were not included in this study and may lead to a better fitting model.

A final limitation includes the approach to measuring trauma. Previous research has highlighted that retrospective accounts to self-report of trauma are impacted by the individual's current mental health status (Roemer et al., 1998). Given that the data for the current study was collected during a global pandemic, which has been shown to have impacted individual's mental health (Weir, 2020), it may be that the current pandemic impacted individuals report of trauma. It may be helpful to keep these limitations in mind while interpreting the findings of this study, along with recognizing the importance in replicating this study while addressing these limitations. Not only does this study measure trauma via a retrospective approach, the loading values for the measurement model for this scale did not provide adequate fit. Using a scale with stronger psychometric properties with this population may allow for a better fitting model.

Directions for Future Research

The current study has helped to fill an important gap in the literature examining the interrelationship between trauma, attachment, self-compassion, and emotion regulation on an incarcerated and formerly incarcerated population. Importantly, there are a number of ways future research could address the limitations of the current study. First, this study could be duplicated with a sample consisting only of currently incarcerated individuals in order to ensure that the results are generalizable to the population of interest. Importantly, the current study used a sample consisting of both formerly incarcerated and currently incarcerated individuals. Means comparison and the small effect size between groups suggests that these populations may be significantly different. Another factor which could be considered with the current study was the sample size. Given that the final respecified model had 70 parameters and the guideline laid out by Kline (2016) of including 20:1 or, less ideally, 10:1 ratio of participants to parameter, at least 700 but up to 1400 participants should be included in future studies. Though the RMSEA value

met the guidelines laid forth by Weston and Gore (2006), the study's relatively small sample size for SEM standards may have resulted in a higher RMSEA, suggesting poor fit of the data.

Future research could also more deeply examine the relationship between self-compassion and emotion regulation. The current study discovered that difficulties with emotion regulation negatively predicted self-reported scores on self-compassion. However, previous research has discovered that difficulties with emotion regulation were predicted by self-compassion (Finlay-Jones et al., 2015), and some researchers have suggested compassion-based practices may increase an individual's ability to regulate their emotions (Barlow et al., 2017). Clarifying this relationship and examining a potentially bidirectional/reciprocal relationship could clarify the best way to conceptualize these constructs and to intervene on them with this population.

The current study also revealed small effect size differences between formerly incarcerated and currently incarcerated individuals on the CATS and the DERS-18. It may be that the formerly incarcerated individuals were from a different population than the currently incarcerated individuals sampled, as those who were from the work-release facility may have experienced less trauma, as was reported. Future research could examine whether these differences are present between these populations and whether these differences necessitate tailoring approaches or resources necessary for each of these populations.

Given the importance of co-regulation for those who are justice involved, as they may have difficulty regulating their emotions, future research could examine ways to support co-regulation for those who are incarcerated and those who are being released. Specifically, couple's research could be conducted when individuals are being released. It may be helpful for the romantic partner of the incarcerated individual to learn emotion regulation techniques and to

support their partner by way of co-regulation to help assist in a successful release from incarceration.

Additional research could also examine the application of the findings from this study. Specifically, are incarcerated client's more able to internalize self-compassion if they have learned and implemented emotion regulation strategies or does the inclusion of pre-intervention emotion regulation strategies have any impact on the individual's ability to engage in self-compassion? Along these lines, as suggested by Ptacek and Daubman (2018), future research should examine whether self-compassion plays a role in decreasing illegal behavior. Morley (2015) outline a theoretical model for which self-compassion may lead to a decrease in violent crimes. The current study has provided an important foundation for this research, examining self-compassion as it presents in incarcerated and formerly incarcerated individuals. However, no study to date has examined the role of this construct as it relates to reducing the risk for recidivism. Given the high rate of recidivism in the United States, and the potential this construct has been theorized to have, it is pertinent that this study be conducted in a timely fashion.

Conclusions

The current study found the data fit the model highlighting the relationship between trauma, attachment, emotion regulation, and self-compassion in an incarcerated and formerly incarcerated sample. As presented in the final respecified alternate model, Model 4 (see Figure 6), emotion regulation has medium effect on trauma and attachment, compassion has a large effect on emotion regulation and a medium statistically significant effect on attachment, while secure attachment has a large effect on trauma. These findings fill an important gap in the research of those who are incarcerated or formerly incarcerated, providing important information that can be implemented in theoretical understanding, practice, and used to guide future research.

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APPENDIX A
INFORMED CONSENT FOR THOSE INCARCERATED



Survey: Consent 1 (for use with incarcerated individuals)

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH
UNIVERSITY OF NORTHERN COLORADO

Project Title: A deeper understanding of emotions.
Researcher: Susanna Turner, PhD student of Applied Psychology Counselor Education
Phone Number: (970) 351-2731
E-mail: turn2473@bears.unco.edu
Research Advisor: Stephen Wright, Ph.D., Dept. of Applied Psychology Counselor Education
Phone Number: (970) 351-1838, E-mail: Stephen.wright@unco.edu

In the present study, I am researching how we interact with our emotions in the context of previous experiences. As a participant in this study, you will be asked to complete a paper questionnaire. The questionnaire will assess different childhood experiences within your family of origin, the way you interact within romantic relationships, the way you view yourself, and ways that you interact with your emotions. Some example items are “Did you feel safe living at home?” and “When I’m upset, I have difficulty getting work done.” The questionnaire will take approximately 10 minutes of your time.

For the questionnaire, you will not be asked to submit your name, but you will be asked to provide basic demographic questions such as age, gender, number of times incarcerated, etc. Your responses will be recorded on paper, which will be kept in a locked box, and transferred into a locked computer after it has been de-identified. Only the Principal Investigator will have access to it. Participants will receive a participant number and data will be de-identified. All identifying information will be kept separately from the reportable data and all results will be reported in aggregate form. Due to the nature of data collection, we cannot guarantee confidentiality; however, we will strive to protect the confidentiality of your participation in our study and the privacy of your information.

Risks to you are minimal. Some of the questions may bring back unpleasant memories that could result in an uncomfortable emotional experience. Support can be located by contacting the staff, who will assist you. There will be no compensation for your participation in this study. However, your participation may provide important information to more fully understand experiences around emotions.

Participation is voluntary. Your decision will be respected if you choose to not participate in this study, and you can choose to discontinue the survey at any time once you have begun. Your decision to end participation in this study will not result in loss of benefits you may have received for participation in this study. Having read the information listed above and having had the opportunity to ask any questions you may have, please complete the following questionnaires if you agree to participate in this study. **By completing the questionnaire, you give your permission to be included as a participant in this study.** Please print this form at this time for your records. If you have any concerns about your selection or treatment as a research participant, please contact Nicole Morse, IRB Administrator, Office of Research, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-1910.

APPENDIX B

INFORMED CONSENT FOR THOSE NON-INCARCERATED



Survey: Consent 1 (for use with non-incarcerated individuals)

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH
UNIVERSITY OF NORTHERN COLORADO

Project Title: A deeper understanding of emotions.
Researcher: Susanna Turner, PhD student of Applied Psychology Counselor Education
Phone Number: (970) 351-2731
E-mail: turn2473@bears.unco.edu
Research Advisor: Stephen Wright, Ph.D., Dept. of Applied Psychology Counselor Education
Phone Number: (970) 351-1838, E-mail: Stephen.wright@unco.edu

In the present study, I am researching how we interact with our emotions in the context of previous experiences. As a participant in this study, you will be asked to complete an online questionnaire. The questionnaire will assess different childhood experiences within your family of origin, the way you interact within romantic relationships, the way you view yourself, and ways that you interact with your emotions. Some example items are “Did you feel safe living at home?” and “When I’m upset, I have difficulty getting work done.” The questionnaire will take approximately 10 minutes of your time.

For the questionnaire, you will not be asked to submit your name, but you will be asked to provide basic demographic questions such as age, gender, number of times incarcerated, etc. Your responses will be recorded electronically, which will be kept in a password protected online account (via Qualtrics), and transferred into a locked computer after it has been de-identified. Only the Principal Investigator will have access to it. Participants will receive a participant number and data will be de-identified. All identifying information will be kept separately from the reportable data and all results will be reported in aggregate form. Due to the nature of data collection, we cannot guarantee confidentiality; however, we will strive to protect the confidentiality of your participation in our study and the privacy of your information.

Risks to you are minimal. Some of the questions may bring back unpleasant memories that could result in an uncomfortable emotional experience. Support can be located by contacting a crisis hotline by texting 741741, calling 1-800-273-8255, or searching psychologytoday.com for a therapist in your area. At the end of the survey, you will have an option to click a link that will take you to a new survey to be entered into a raffle. Should you choose to provide your email on

this new survey, you will be entered into a random drawing for one of five 10\$ gift cards. The information from this survey will be kept separately from the other responses. Additionally, your participation may provide important information to more fully understand experiences around emotions.

Participation is voluntary. Your decision will be respected if you choose to not participate in this study, and you can choose to discontinue the survey at any time once you have begun. Your decision to end participation in this study will not result in loss of benefits you may have received for participation in this study. Having read the information listed above and having had the opportunity to ask any questions you may have, please complete the following questionnaires if you agree to participate in this study. **By selecting “Agree to Participate” below, you give your permission to be included as a participant in this study.** Please print this form at this time for your records. If you have any concerns about your selection or treatment as a research participant, please contact Nicole Morse, IRB Administrator, Office of Research, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-1910.

APPENDIX C
INFORMED CONSENT FOR MTURK



Survey: Consent 1 (for use with MTurk)

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH
UNIVERSITY OF NORTHERN COLORADO

Project Title: A deeper understanding of emotions.
Researcher: Susanna Turner, PhD student of Applied Psychology Counselor Education
Phone Number: (970) 351-2731
E-mail: turn2473@bears.unco.edu
Research Advisor: Stephen Wright, Ph.D., Dept. of Applied Psychology Counselor Education
Phone Number: (970) 351-1838, E-mail: Stephen.wright@unco.edu

In the present study, I am researching how we interact with our emotions in the context of previous experiences. As a participant in this study, you will be asked to complete an online questionnaire. The questionnaire will assess different childhood experiences within your family of origin, the way you interact within romantic relationships, the way you view yourself, and ways that you interact with your emotions. Some example items are “Did you feel safe living at home?” and “When I’m upset, I have difficulty getting work done.” The questionnaire will take approximately 15 minutes of your time.

For the questionnaire, you will not be asked to submit your name, but you will be asked to provide basic demographic questions such as age, gender, number of times incarcerated, etc. Your responses will be recorded electronically, which will be kept in a password protected online account (via Qualtrics), and transferred into a locked computer after it has been de-identified. Only the Principal Investigator will have access to it. Participants will receive a participant number and data will be de-identified. All identifying information will be kept separately from the reportable data and all results will be reported in aggregate form. Due to the nature of data collection, we cannot guarantee confidentiality; however, we will strive to protect the confidentiality of your participation in our study and the privacy of your information.

Risks to you are minimal. Some of the questions may bring back unpleasant memories that could result in an uncomfortable emotional experience. Support can be located by contacting a crisis hotline by texting 741741, calling 1-800-273-8255, or searching psychologytoday.com for a therapist in your area. You will be paid \$2.40 for participating in this survey. At the end of the survey, you will be provided a code which you can take back to MTurk or Prolific to enter,

validating that you completed the survey. **YOU MUST HAVE BEEN INCARCERATED WITHIN THE LAST 7 YEARS, COMPLETE ALL QUESTIONS, AND PASS THE INTERNAL VALIDITY MEASURES TO BE PAID.** Additionally, your participation may provide important information to more fully understand experiences around emotions.

Participation is voluntary. Your decision will be respected if you choose to not participate in this study, and you can choose to discontinue the survey at any time once you have begun. Your decision to end participation in this study will result in loss of benefits you may have received for participation in this study. Having read the information listed above and having had the opportunity to ask any questions you may have, please complete the following questionnaires if you agree to participate in this study. **By selecting “Agree to Participate” below, you give your permission to be included as a participant in this study.** Please print this form at this time for your records. If you have any concerns about your selection or treatment as a research participant, please contact Nicole Morse, IRB Administrator, Office of Research, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-1910.

APPENDIX D
DEMOGRAPHIC QUESTIONNAIRE

DEMOGRAPHIC QUESTIONNAIRE

Age (list in years): _____

Ethnicity:

- White
 Hispanic
 Black
 Native American
 Asian/Pacific Islander
 Multi-Racial _____
 Bi-Racial _____
 Ethnicity not listed above: _____

Current educational status (highest level completed):

- Less than High School
 Some High School
 High School/GED
 Technical College/Certificate
 Some college
 Associate's Degree
 Bachelor's Degree
 Beyond Bachelor's

Do you have any vocational certifications?

- Yes
 No

If yes, what certifications do you have?

What is/are the current charge(s) which led to your most recent incarceration?

Please estimate how many months it has been since your last arrest.

_____ months

Are you currently incarcerated?

Yes

No

If so, what type of facility are you being detained in?

Prison

County Jail

Transitional Center

Other facility not listed above: _____

Please estimate how many months have you been serving the current sentence?

_____ months

Please estimate how many more months until you will be released.

_____ months

Is this your first time incarcerated?

Yes

No

If this is not your first time incarcerated, how many times have you been incarcerated?

Have you taken part in any programs while in Jail or Prison?

Yes

No

If yes, which programs?

Have you ever received treatment for mental health-related concerns issues?

Yes

No

If yes, please specify the type of mental-health treatment

Including the current incarceration (if you are currently incarcerated), how many times have you been incarcerated? (Please list a number)

What state do you live in?

Gender:

Male

Female

Gender not listed above: _____

Sexual Identity:

Straight/Heterosexual

Gay

Lesbian

Asexual

Bi-sexual

Sexual identity not listed above: _____

Marital Status:

Single, never married

Married/Domestic Partnership

Cohabiting

Widowed

Divorced

Separated

Marital status not listed above: _____

APPENDIX E
RECRUITMENT EMAILS

RECRUITMENT EMAILS

For data collected via Qualtrics, participants will be provided a short blurb about the study (see below) and the link to the qualtrics study:

Hi all! My name is Susannah, a formerly incarcerated person and a Counseling Psychology PhD student at the University of Northern Colorado doing research to more fully understand how we interact with our emotions as they relate to previous experiences we may have had. The overall goal of this research is to lay a foundation for future intervention research aimed at reducing recidivism. I am hoping that you will complete some questionnaires related to these topics, that ask questions like “When I’m upset, I have difficulty getting work done.” **If you are a formerly incarcerated person and would like to participate, please click the link below.** Thanks!

Best,
Susannah

For data collected via Qualtrics from individuals currently at a treatment facility, employees of the residence will be provided a short blurb about the study (see below) and the link to the qualtrics study:

Hi all! My name is Susannah, a formerly incarcerated person and a Counseling Psychology PhD student at the University of Northern Colorado doing research to more fully understand how we interact with our emotions as they relate to previous experiences we may have had. The overall goal of this research is to lay a foundation for future intervention research aimed at reducing recidivism. I am hoping that you will **invite those you serve who have been previously incarcerated to complete a few questionnaires related to these topics.** These questionnaires will ask questions like “When I’m upset, I have difficulty getting work done.” Any individual you serve who has been formerly incarcerated and would like to participate, **please invite them to click the link below while in your office or please consider forwarding them this email.** Thanks!

Best,
Susannah

APPENDIX F
DEBRIEFING FORMS

DEBRIEFING FORM (FOR INCARCERATED INDIVIDUALS)

Thank you for your participation in the study! You completed different questionnaires related to adverse experiences, attachment style, self-compassion, and emotion regulation. Your participation is adding to the knowledge of how these different topics relate to one another with the ultimate goal being to create interventions for those who are justice involved to increase well-being and decrease recidivism. Some of the questions may have brought back unpleasant memories that could result in an uncomfortable emotional experience. Support can be located by contacting the staff, who will assist you. Thanks again!

Debriefing Form for Qualtrics/MTurk

Thank you for your participation in the study! You completed different questionnaires related to adverse experiences, attachment style, self-compassion, and emotion regulation. Your participation is adding to the knowledge of how these different topics relate to one another. The ultimate goal of this project is to lay the groundwork for future interventions to increase well-being and decrease recidivism. Some of the questions may have brought back unpleasant memories that could result in an uncomfortable emotional experience. Support can be located by contacting a crisis hotline by texting 741741, calling 1-800-273-8255, or searching psychologytoday.com for a therapist in your area. Thanks again!

APPENDIX G
INSTITUTIONAL REVIEW BOARD APPROVALS



Date: 11/17/2020

Principal Investigator: Susanna Turner

Committee Action: **Expedited Approval - New Protocol**

Action Date: 05/06/2019

Protocol Number: [2005002107](#)

Protocol Title: **The Relationship between Trauma, Attachment, Self-Compassion, and Emotion Regulation: A Structural Equation Model**

Expiration Date:

The University of Northern Colorado Institutional Review Board has granted approval for the above referenced protocol. Your protocol was approved under expedited category (7) as outlined below:

Category 7: Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt.)

All research must be conducted in accordance with the procedures outlined in your approved protocol.

If continuing review is required for your research, your project is approved until the expiration date listed above. The investigator will need to submit a request for Continuing Review at least 30 days prior to the expiration date. If the study's approval expires, investigators must stop all research activities immediately (including data analysis) and contact the Office of Research and Sponsored Programs for guidance.

If your study has not been assigned an expiration date, continuing review is not required for your research.

For the duration of the research, the investigator(s) must:



- Submit any change in the research design, investigators, and any new or revised study documents (including consent forms, questionnaires, advertisements, etc.) to the UNC IRB and receive approval before implementing the changes.
- Use only a copy of the UNC IRB approved consent and/or assent forms. The investigator bears the responsibility for obtaining informed consent from all subjects prior to the start of the study procedures.
- Inform the UNC IRB immediately of an Unanticipated Problems involving risks to subjects or others and serious and unexpected adverse events.
- Report all Non-Compliance issues or complaints regarding the project promptly to the UNC IRB.

As principal investigator of this research project, you are responsible to:

- Conduct the research in a manner consistent with the requirements of the IRB and federal regulations 45 CFR 46.
- Obtain informed consent and research privacy authorizations using the currently approved forms and retain all original, signed forms, if applicable.
- Request approval from the IRB prior to implementing any/all modifications.
- Promptly report to the IRB any unanticipated problems involving risks to subjects or others and serious and unexpected adverse events.
- Maintain accurate and complete study records.
- Report all Non-Compliance issues or complaints regarding the project promptly to the IRB.

Please note that all research records must be retained for a minimum of three (3) years after the conclusion of the project. Once your project is complete, please submit the Closing Report Form.

If you have any questions, please contact Nicole Morse, Research Compliance Manager, at 970-351-1910 or nicole.morse@unco.edu. Please include your Protocol Number in all future correspondence. Best of luck with your research!

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Montemayor". The signature is stylized with a long, sweeping underline.

Mark Montemayor
Chair, Institutional Review Board



- Submit any change in the research design, investigators, and any new or revised study documents (including consent forms, questionnaires, advertisements, etc.) to the UNC IRB and receive approval before implementing the changes.
- Use only a copy of the UNC IRB approved consent and/or assent forms. The investigator bears the responsibility for obtaining informed consent from all subjects prior to the start of the study procedures.
- Inform the UNC IRB immediately of an Unanticipated Problems involving risks to subjects or others and serious and unexpected adverse events.
- Report all Non-Compliance issues or complaints regarding the project promptly to the UNC IRB.

As principal investigator of this research project, you are responsible to:

- Conduct the research in a manner consistent with the requirements of the IRB and federal regulations 45 CFR 46.
- Obtain informed consent and research privacy authorizations using the currently approved forms and retain all original, signed forms, if applicable.
- Request approval from the IRB prior to implementing any/all modifications.
- Promptly report to the IRB any unanticipated problems involving risks to subjects or others and serious and unexpected adverse events.
- Maintain accurate and complete study records.
- Report all Non-Compliance issues or complaints regarding the project promptly to the IRB.

Please note that all research records must be retained for a minimum of three (3) years after the conclusion of the project. Once your project is complete, please submit the Closing Report Form.

If you have any questions, please contact Nicole Morse, Research Compliance Manager, at 970-351-1910 or nicole.morse@unco.edu. Please include your Protocol Number in all future correspondence. Best of luck with your research!

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Montemayor". The signature is fluid and cursive, with a long horizontal stroke at the end.

Mark Montemayor
Chair, Institutional Review Board



and the link to the qualtrics study. Hi all! My name is Susannah, a formerly incarcerated person and a Counseling Psychology PhD student at the University of Northern Colorado doing research to more fully understand how we interact with our emotions as they relate to previous experiences we may have had. The overall goal of this research is to lay a foundation for future intervention research aimed at reducing recidivism. I am hoping that you will invite those you serve who have been previously incarcerated to complete a few questionnaires related to these topics. These questionnaires will ask questions like "When I'm upset, I have difficulty getting work done." Any individual you serve who has been formerly incarcerated and would like to participate, please invite them to click the link below while in your office or please consider forwarding them this email. Thanks! Best, Susannah • Electronic data gathered via Qualtrics will be kept in a password protected account in Qualtrics. Once it is downloaded, it will be kept in a password protected computer.for those who are currently incarcerated. For those who are not currently incarcerated, they can opt in to be a part of a raffle that will randomly award five 10\$ gift cards, with each winner receiving one card. Once participants have completed the survey, they will have the option to continue to a new survey, where they can enter an email address to be entered into the raffle.

- Subjects
- Protocol Permissions
- Questionnaire

As a reminder, all research must be conducted in accordance with the procedures outlined in your approved protocol.

If you have any questions, please contact Nicole Morse, Research Compliance Manager, at 970-351-1910 or nicole.morse@unco.edu.

Sincerely,

Michael Aldridge
IRB Co-Chair, University of Northern Colorado: FWA00000784

Silvia Correa-Torres
IRB Co-Chair, University of Northern Colorado: FWA00000784



UNIVERSITY OF
NORTHERN COLORADO

Institutional Review Board

Date: 03/30/2021

Principal Investigator: Susanna Turner

Committee Action: **APPROVED – Amendment**

Action Date: 03/30/2021

Protocol Number: [2005002107A002](#)

Protocol Title: The Relationship between Trauma, Attachment, Self-Compassion, and Emotion Regulation: A Structural Equation Model

Expiration Date:

The University of Northern Colorado Institutional Review Board (IRB) for the protection of human subjects has reviewed and approved the following amendments to your protocol:

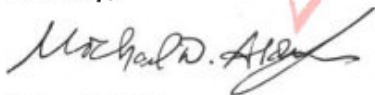
Changing data collection methods to include recruiting from an in person facility (Casa de Vida), sharing on Facebook walls, and using MTurk.

- Others
- Protocol Permissions

As a reminder, all research must be conducted in accordance with the procedures outlined in your approved protocol.

If you have any questions, please contact Nicole Morse, Research Compliance Manager, at 970-351-1910 or nicole.morse@unco.edu.

Sincerely,



Michael Aldridge
IRB Co-Chair, University of Northern Colorado: FWA00000784



UNIVERSITY OF
NORTHERN COLORADO

Institutional Review Board

Silvia Correa-Torres

Silvia Correa-Torres
IRB Co-Chair, University of Northern Colorado: FWA00000784

2005002107A002



Date: 03/30/2021
Principal Investigator: Susanna Turner
Committee Action: **APPROVED – Amendment**
Action Date: 03/30/2021
Protocol Number: [2005002107A003](#)
Protocol Title: The Relationship between Trauma, Attachment, Self-Compassion, and Emotion Regulation: A Structural Equation Model
Expiration Date:

The University of Northern Colorado Institutional Review Board (IRB) for the protection of human subjects has reviewed and approved the following amendments to your protocol:

I would like to invite participation via MTurk and Prolific

- Protocol Permissions
- Questionnaire

As a reminder, all research must be conducted in accordance with the procedures outlined in your approved protocol.

If you have any questions, please contact Nicole Morse, Research Compliance Manager, at 970-351-1910 or nicole.morse@unco.edu.

Sincerely,

A handwritten signature in black ink that reads "Michael D. Aldridge".

Michael Aldridge
IRB Co-Chair, University of Northern Colorado: FWA00000784



UNIVERSITY OF
NORTHERN COLORADO

Institutional Review Board

Silvia M. Correa-Torres

Silvia Correa-Torres
IRB Co-Chair, University of Northern Colorado: FWA00000784

2005002107A003