

2020

Attachment style and emotion dysregulation as serial mediators of betrayal trauma experiences and level of satisfaction in romantic relationships

Amanda Katherine Buduris
Iowa State University

Follow this and additional works at: <https://lib.dr.iastate.edu/etd>

Recommended Citation

Buduris, Amanda Katherine, "Attachment style and emotion dysregulation as serial mediators of betrayal trauma experiences and level of satisfaction in romantic relationships" (2020). *Graduate Theses and Dissertations*. 18100.

<https://lib.dr.iastate.edu/etd/18100>

This Dissertation is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

Attachment style and emotion dysregulation as serial mediators of betrayal trauma experiences and level of satisfaction in romantic relationships

by

Amanda Katherine Buduris

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirement for the degree of
DOCTOR OF PHILOSOPHY

Major: Psychology (Counseling Psychology)

Program of Study Committee:
Loreto Prieto, Major Professor
Meifen Wei
Carolyn Cutrona
Warren Phillips
Amie Zarling

The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this dissertation. The Graduate College will ensure this dissertation is globally accessible and will not permit alterations after a degree is conferred.

Iowa State University

Ames, Iowa

2019

Copyright © Amanda Katherine Buduris, 2019. All rights reserved.

TABLE OF CONTENTS

	Page
LIST OF TABLES	iv
ACKNOWLEDGEMENTS	v
ABSTRACT.....	vi
CHAPTER 1: INTRODUCTION	1
CHAPTER 2: LITERATURE REVIEW	6
Betrayal Trauma.....	7
Attachment.....	16
Emotion Regulation	29
Relationship Satisfaction	35
The Present Study	64
Research Hypotheses	66
CHAPTER 3: METHOD	69
Participants.....	69
Procedure	71
Measures and Materials	71
CHAPTER 4: RESULTS	78
CHAPTER 5: DISCUSSION.....	98
Betrayal Trauma.....	98
Attachment.....	100
Emotion Regulation	103
Relationship Satisfaction	105
Limitations	108
Future Research	111
Implications for Practice.....	112
REFERENCES	115
APPENDIX A. IRB APPROVAL	138
APPENDIX B. INFORMED CONSENT.....	139
APPENDIX C. DEMOGRAPHICS & RELATIONSHIP HISTORY QUESTIONNAIRE	142

APPENDIX D. BRIEF BETRAYAL TRAUMA SURVEY	143
APPENDIX E. EXPERIENCES IN CLOSE RELATIONSHIP – SHORT FORM.....	144
APPENDIX F. DIFFICULTIES IN EMOTION REGULATION SCALE	145
APPENDIX G. INVESTMENT MODEL SCALE	146
APPENDIX H. POST-HOC ANALYSES	147

LIST OF TABLES

	Page
Table 1. Participant Demographics	70
Table 2. Sample Means, Standard Deviations, and Ranges for Study Measures	79
Table 3. Correlations Among Measures	83
Table 4. Number of Trauma Events Endorsed.....	85
Table 5. Trauma Event Endorsement.....	86
Table 6. Age First Experienced Trauma Event.....	87
Table 7. Anxious Attachment and DERS Awareness as Serial Mediators of Medium-Betrayal Trauma and Relationship Satisfaction	92
Table 8. Anxious Attachment and DERS Clarity as Serial Mediators of Medium-Betrayal Trauma and Relationship Satisfaction	92
Table 9. Avoidant Attachment and DERS Clarity as Serial Mediators of Medium-Betrayal Trauma and Relationship Satisfaction	93
Table 10. Anxious Attachment and DERS Awareness as Serial Mediators of High-Betrayal Trauma and Relationship Satisfaction.....	95
Table 11. Anxious Attachment and DERS Clarity as Serial Mediators of High-Betrayal Trauma and Relationship Satisfaction.....	95
Table 12. Avoidant Attachment and DERS Clarity as Serial Mediators of High-Betrayal Trauma and Relationship Satisfaction.....	96
Table 13. Direct and Indirect Effects of Significant Serial Mediation	96
Table 14. Indirect Effect Comparison of Significant Serial Mediation Effects.....	97
Table 15. Original Significant Serial Mediation Pathways	148
Table 16. Post-Hoc Significant Serial Mediation Pathways.....	148

ACKNOWLEDGEMENTS

I would like to express my thanks to Dr. Loreto Prieto, my graduate advisor and committee chair, for supporting me in exploring this field of research, and for his reminders to slow down and not take on too much at once. His continual encouragement, belief in my ability, and dedication to helping me complete my dissertation were so appreciated.

I would also like to thank Drs. Meifen Wei, Carolyn Cutrona, Warren Phillips, and Amie Zarling, my committee members, for agreeing to be on my committee and for their excellent advice and willingness to answer questions and generate solutions.

Lastly, I would like to express my gratitude to my family. To my partner, whose support, love, and reminders for self-care were endless and helped me make it through this process. To my cats, who encouraged me to take breaks by walking across or lying down on my laptop keyboard.

ABSTRACT

Betrayal trauma theory asserts that traumas imposed by trusted individuals are more detrimental than those traumas imposed by unknown individuals or nature, because of the level of mistrust and insecurity generated by these events in survivors. As such, individuals experiencing betrayal traumas are more likely to experience post-event stress symptoms, such as insecurity in their romantic relationships and difficulties with regulating their emotions. Empirical research demonstrates that those with a history of interpersonal trauma, insecure attachment styles, and difficulties with emotion regulation experience greater degrees of dissatisfaction with their adult romantic relationships. The purpose of my study was to examine how insecure attachment styles and emotion dysregulation serially mediate the direct relation between betrayal trauma experiences and relationship satisfaction. Results indicated that, for participants endorsing higher levels of anxious attachment, either a lack of emotional awareness or lack of emotional clarity serially mediated the direct relation between betrayal trauma experiences and relationship satisfaction. As well, for participants endorsing higher levels of avoidant attachment, a lack of emotional clarity serially mediated the direct relation between betrayal trauma experiences and relationship satisfaction. Implications for future research concerning the role of attachment style and emotion regulation in the context of betrayal trauma history and romantic relationship satisfaction, as well as implications for clinical work in this area, are discussed.

CHAPTER 1. INTRODUCTION

Overview

Individuals' histories of traumatic experiences help researchers and therapists to understand how these events affect people across the course of their lives, including how these experiences affect individuals' attachment styles in adult romantic relationships (Freyd, 1996; Cook et al., 2005; Platt & Freyd, 2012), their ability to regulate emotions in a healthy manner within adult romantic relationships (Mikulincer, Shaver, & Horesh, 2006; Mikulincer, Shaver, & Solomon, 2015; van der Kolk, 2014), and their levels of satisfaction within their adult romantic relationships (Allen, Rhoades, Stanley, & Markman, 2010; Erbes, 2011; Nelson Goff, Crow, Reisbig, & Hamilton, 2007).

Recently, a specific theory (Betrayal Trauma Theory; Freyd, 1994, 1996) has highlighted how traumatic events experienced at the hands of a close, trusted other (like a parent or other trusted family member) can lead individuals to develop a number of psychological and interpersonal difficulties, particularly regarding attachment style and the regulation of emotions. Within this theory, varying levels of betrayal trauma are defined: a 'high-betrayal' trauma includes any direct abuse or neglect perpetrated on an individual by someone that s/he cares for, relies on, or trusts. Conversely, a 'low-betrayal' trauma includes more 'impersonal' events such as natural disasters or vehicular accidents, where trust relations between parties are not operative in the event.

Individuals suffering significant or high-betrayal trauma events are more likely to have difficulty with forming healthy romantic attachments (Friedrich, 2002); regulating their emotions, resolving conflict, and communicating with romantic partners (Talbot, Talbot, & Tu, 2004; Taft, Watkins, Stafford, Street, & Monson, 2011); and, more likely experience lower

marital satisfaction and subsequent divorce or separation from a partner (Whisman, 2006). These effects can be exacerbated if both partners are survivors of high betrayal traumatic experiences (Ruhmann, Gallus, & Durtschi, 2017).

Trauma and Attachment Theory

Attachment theory (Bowlby, 1969, 1982) has been utilized by many scholars to explain how early parent-child relationships form individuals' thoughts and expectations of themselves and others (Bartholomew & Horowitz, 1991), including the adoption of different emotion regulation strategies according to individuals' prevalent *attachment style* (Crittenden, 1992; Kobak & Sceery, 1998).

Originally, attachment theory studied relationships between infants and caregivers and subsequently coined the term 'attachment styles' (secure, anxious/ambivalent, avoidant, disorganized) depending on how infants emotionally and behaviorally responded to caregivers leaving and returning to a room (Ainsworth, Blehar, Waters, & Wall, 1978). Later, researchers applied attachment theory to adult romantic relationships, noting several key similarities in the relationship between an infant and caregiver and that formed by two romantic partners (Hazan & Shaver, 1987, 1990; Fraley & Shaver, 2000). Attachment styles developed in childhood are seen to lead to individual differences in forming and navigating close romantic relationships in adulthood, with such individual differences being a direct result of previous experiences in the child-parent relationship. An individual with a history of childhood trauma would be less likely to develop a secure attachment to caregivers, and later romantic partners, due to disruptions in safety, comfort, and trust in other persons to meet physical and emotional needs. For example, survivors of traumatic experiences are more likely to withdraw from conflict situations, thereby increasing problems in relationships (Talbot, Talbot, & Tu, 2004; Taft, Watkins, Stafford, Street,

& Monson, 2011). Those with more insecure attachment styles tend also to either make more demands of or totally ignore partners during conflict (Creasey & Hesson-McInnis, 2001; Domingue & Mollen, 2009), or, despite knowing more adaptive responses, may be unable to enact these, and subsequently worsen conflict (Vicary & Fraley, 2007; Turan & Vicary, 2010).

Trauma and Emotion Regulation

Early trauma experiences are also related to the inability for individuals to regulate their emotions (Mikulincer, Shaver, & Horesh, 2006; Mikulincer, Shaver, & Solomon, 2015; van der Kolk, 2014). The degree to which individuals can adaptively regulate their emotions – especially, to moderate rather than eliminate negative emotions – is related to particular personal and interpersonal outcomes. For example, difficulties with emotion regulation have been associated with various clinical disorders (Gross & Munoz, 1995; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996; Cloitre, 1998; Mennin, Heimberg, Turk, & Fresco, 2002; Stewart, Zvolensky, & Eifert, 2002) and higher levels of dissatisfaction in romantic relationships (Levenson & Gottman, 1983; Gottman, 1994; Carstensen, Gottman, & Levenson, 1995; Gottman, Coan, Carrere, & Swanson, 1998). Emotion dysregulation has been shown to negatively impact both the individual struggling to regulate emotions, as well as romantic partners (Butler, Egloff, Wilhelm, Smith, Erickson, & Gross, 2003; Ben-Naim, Hirschberger, Ein-Dor, & Mikulincer, 2013), due to engagement in damaging emotional and behavioral responses during conflicts in romantic relationship (Dorahy et al., 2013). These responses increase conflict, increase the expression of more negative affect, and increase relationship dissatisfaction (Ben-Naim, Hirschberger, Ein-Dor, & Mikulincer, 2013; Levenson & Gottman, 1983; Gottman, 1994; Carstensen, Gottman, & Levenson, 1995; Gottman, Coan, Carrere, & Swanson, 1998).

Trauma and Relationship Satisfaction

The experience of betrayal trauma has also been linked to the degree to which individuals experience dissatisfaction in later adult romantic relationships (Cohan & Bradbury, 1997; Whiffen & Gotlib, 1989). The variable of relationship satisfaction is a critical outcome variable to examine in relation to the potential effects that trauma, attachment style, and emotional regulation can exert upon it. Research has consistently shown satisfaction in romantic relationships relates directly with better mental and physical health, and an increased resilience to stress (Gove, Hughes, & Style, 1983; Holt-Lunstad, Birmingham, & Jones, 2008; Kolves, Ide, & De Leo, 2012). Relationship dissatisfaction, on the other hand, is related to higher incidence of separation or divorce, increased suicidality, hopelessness, and depression (Stack, 1990; Wyder, Ward, & De Leo, 2009; Batterham, Fairweather-Schmidt, Butterworth, Calear, Mackinnon, & Christensen, 2014; Till, Tran, & Niederkrotenthaler, 2016; Whisman, 2006). As well, exploring how relationship satisfaction is impacted by attachment style and emotion regulation can enable clinicians to better conceptualize and more specifically treat the distressed individuals or couples with whom they work.

The Present Study

Although attachment style has frequently been studied and referenced as the primary explanation for behavior dynamics and satisfaction in adult romantic relationships (Shi, 2003; Domingue & Mollen, 2009; Creasey & Hesson-McInnis, 2001; Ben-Naim, Hirschberger, Eindr, & Mikulincer, 2013), a history of betrayal trauma and the effect of emotion regulation, also established as variables strongly affecting relationship behaviors and satisfaction, have not yet been studied in concert with attachment styles. I examined these constructs in concert, specifically with regard to how attachment styles and emotion dysregulation may serially

mediate the relation of betrayal trauma experiences on relationship satisfaction, to aid researchers and clinicians in a more thorough understanding of individual differences contributing to difficulties within romantic relationships.

Importance of Present Study

My study provided a deeper understanding of how betrayal trauma, attachment style, emotion dysregulation relate to level of satisfaction in adult romantic relationships. By assessing the serially mediating roles of attachment styles and emotion regulation on the relation between betrayal trauma experiences and relationship satisfaction, my work can specifically help to shed light on how distinct insecure attachment styles (anxious and avoidant) relate to and act in a serial fashion with several distinct elements of emotion dysregulation to mediate the direct effect of level of betrayal trauma on relationship satisfaction. My resultant data can serve to generate hypotheses for future research and clinical implications based on statistically significant patterns of attachment style and emotion dysregulation elements exerting indirect effects on relationship satisfaction, which in turn can assist in targeting more specific treatments for survivors of betrayal trauma experiences in psychotherapy, aimed at reducing insecure attachments and maladaptive emotional reactions in order to increase relationship satisfaction.

CHAPTER 2. LITERATURE REVIEW

Individual differences in relationship engagement, such as interpersonal trauma histories and attachment style, can reveal how and why individuals perceive and respond differentially to threats to their relationships (Marroquín & Nolen-Hoeksema, 2015; Burk & Seiffge-Krenke, 2015; Dorahy et al., 2013; Talbot, Talbot, & Tu, 2004; Taft, Watkins, Stafford, Street, & Monson, 2011). As well, individual evaluation of various relationship threats depends upon previous experiences in close relationships (Johnson, Makinen, & Millikin, 2001; Knobloch & Carpenter-Theune, 2004). How individuals manage their emotional reactions to these threats during conflict with a romantic partner in turn impacts the stability and security of their romantic relationships (Gottman & Notarius, 2000; Gottman, Coan, Carrere, & Swanson, 1998). Last, these interpersonal dynamics impact individuals' satisfaction with their romantic partners (Allen, Rhoades, Stanley, & Markman, 2010; Erbes, 2011; Nelson Goff, Crow, Reisbig, & Hamilton, 2007; Hadden, Smith, & Webster, 2014; Mikulincer, Florian, Cowan, & Cowan, 2002; Tuval-Mashiach, Hanson, & Shulman, 2014; Aron, Mashek, & Aron, 2004).

These constructs – experiences with interpersonal trauma, how people attach themselves to their romantic partners, emotion regulation, and relationship satisfaction – are important for applied psychologists to understand, especially with respect to how clients experience conflict in their romantic relationships. Specifically, examining the relations of these constructs can help to clarify the implications that interpersonal trauma history, differential attachment styles, emotion regulation, and relationship evaluation have for clients' adjustment, growth, and future behavior in their romantic relationships. Examining the relations of these variables is the focus of my study. In the next sections, I will detail these variables, what past research indicates as far as their

effects within romantic relationships, and what I will be doing specifically to explore the relations among these variables.

Next, I will review the theory of developmental traumas, and how those relate to our behaviors in romantic relationships.

Betrayal Trauma

One primary distinction within trauma research has to do with the differential effects of traumas precipitated by natural circumstances and without personal intent, versus those perpetrated by significant others. A breadth of research highlights general differences between impersonal (e.g., natural disasters, car accidents, etc.) and interpersonal (e.g., neglect, physical or sexual abuse, etc.) traumas, finding that interpersonal traumas are more strongly related to post-traumatic symptomatology (e.g., Briere & Elliott, 2000; van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005; Huang, Chen, Su, & Kung, 2017).

Scholars conducting trauma research have argued post-traumatic stress disorder (PTSD) is an inadequate diagnosis of those with prolonged exposure to, and experience with, interpersonal violence. Herman (1992) published one of the landmark works on trauma and trauma recovery. Herman highlighted the limitation of a PTSD diagnosis to those with interpersonal traumas, arguing PTSD diagnosis was conceptualized for specific, circumscribed traumatic events: combat, disaster, and rape. For individuals with experiences of prolonged and repeated traumas, including being in a state of captivity, feeling unable to escape a situation/person, or being under control of a perpetrator, the diagnosis of PTSD diagnosis (American Psychiatric Association, 2000) did not accurately capture their symptomatology and therefore clients were not being appropriately treated.

Rather, Herman (1992) contended inclusion of a disorder referred to as *Disorders of Extreme Stress Not Otherwise Specified* (DESNOS) might better capture the unique psychological impacts of prolonged and repeated trauma experiences. In a similar vein, others reasoned a *Complex PTSD* (C-PTSD) diagnosis would be a more accurate diagnosis (Cook et al., 2005) for these types of clients. Herman (1992) outlined seven unique symptom clusters to parse out PTSD and C-PTSD, related to dysregulations of: 1) affect and impulses; 2) attention or consciousness; 3) self-perceptions; 4) perceptions of the perpetrator; 5) relations with others; 6) somatization; and, 7) systems of meaning. Bryant (2010) further asserted that emotion dysregulation is the most symptomatic feature of C-PTSD. Last, researchers and clinicians who have directly worked with trauma survivors have suggested the inclusion of a *Developmental Trauma Disorder* (DTD), which focuses on the impact of multiple interpersonal trauma in childhood that affects multiple areas of functioning (i.e., affective, somatic, behavioral, cognitive, relational, self-attribution) later in life, would best capture what these clients are experiencing (e.g., van der Kolk, 2005).

“Developmental trauma” and “complex trauma” are terms often used interchangeably – both addressing developmentally-adverse interpersonal traumas with an early-life onset. Developmental trauma refers to experiences early in life that are traumatic and interpersonal in nature (e.g., sexual or physical abuse, neglect), multiple in number, and chronic and prolonged in experience (van der Kolk, 2005). This subtype of traumas, specifically, underlines the immediate and long-term consequences of exposure to maltreatment or other traumatic experiences during childhood. Experience with developmental trauma is assumed to impede on the development of the ability of individuals to regulate their emotions and relate to others with trust (Cook et al., 2005). Notably, individuals with developmental trauma histories also typically endorse feelings

of shame and guilt (Ford, Stockton, Kaltman, & Green, 2006), which impinge on their ability to thrive in social relationships.

Shame and guilt have been extensively studied in victims of interpersonal violence. Scholars have argued these emotions contribute to pathological responses to interpersonal trauma experiences, because in addition to feeling shame over the traumatic event, survivors also experience shame for having been traumatized and how they handled the event (Boon, Steele, & Van der Hart, 2011; Herman, 2011). Andrews, Brewin, Rose, and Kirk (2000) indicated these feelings of shame independently predicted the degree to which individuals endorsed PTSD symptoms. These findings underline how developmental or complex traumas can severely undermine individuals' perceptions of self. This self-degradation makes forming and maintaining healthy relationships later in life difficult for survivors of developmental trauma.

Misconceptions exist regarding the prevalence of traumatic childhood experiences. Kaiser Permanente and the Center for Disease Control recruited approximately 9,500 adults to report on adverse childhood experiences (ACE; Felitti et al., 1998). Notably, exposure to sexual abuse was experienced by almost a quarter of all participants (22%), while psychological and physical abuse were reported by 11.1% and 10.8%, respectively. As well, 25.6% were exposed to substance abuse in the household, 18.8% mental illness, 12.5% witnessed their mother being abused, and 3.4% of adults reported a household member went to prison. Over 50% of the respondents reported at least one trauma exposure, while 25% reported two or more. Those who experienced more traumatic exposures had increased health risks, including alcoholism, depression, and severe obesity, later in life. The results of the Adverse Childhood Experiences (ACE) study (1998) indicated not only the high prevalence rate of traumatic childhood

experiences in the United States, but also the detrimental physical and emotional toll such experiences have on trauma survivors.

Betrayal Trauma Theory. One of the dominant theories within the interpersonal and developmental trauma research is Betrayal Trauma (e.g., Freyd, 1994, 1996). The theory of betrayal trauma provides suppositions of how individuals process information about traumatic events based on the relationship between the perpetrator and the victim. Trauma is considered high in betrayal when the victim cares for, relies on, or trusts the perpetrator (e.g., parent-child relationships), and more extensive histories of high-betrayal traumas are associated with higher levels of dissociation in victims (Freyd, Klest, & Allard, 2005; Hulette et al., 2008; Goldsmith, Freyd, & DePrince, 2012). Freyd (1996) posited the shame and dissociation experiences typical for individuals with betrayal trauma histories serve as a function to protect a needed relationship. In day-to-day interactions, betrayal trauma victims give more attention to, and focus primarily upon, positive connections in a relationship, while attempting to suppress any incidences of their experienced abuse. This pattern of interaction then leads to the development of further shame, in which victims perceive their negative emotions from their experienced trauma as a result of their own flaws, instead of a response to betrayal trauma events (Platt & Freyd, 2012). This is a concept referred to as “betrayal blindness” (Freyd, 1996).

Empirical studies have demonstrated the adaptability of dissociation for high-betrayal trauma survivors (e.g., Becker-Blease, Freyd, & Pears, 2004; DePrince & Freyd, 2001). Related, some research has indicated experience with high-betrayal traumas is linked to memory impairment for experiences of physical and sexual abuse (Freyd, DePrince, & Zurbriggen, 2001), highlighting the use of dissociating as a coping strategy for trauma victims. In the case of low-betrayal traumas (e.g., car accidents, natural disasters), researchers argue victim dissociation

may not be as needed as the victim is not directly concerned with their survival (Becker-Blease et al., 2004; DePrince & Freyd, 2001; Freyd et al., 2001). If the victim does not know the perpetrator, it is most adaptive to remove themselves from the situation (if possible) and avoid the perpetrator. If the trauma is impersonal, recognizing the danger and fleeing from it is the most adaptive response.

Platt and Freyd (2015) examined the impact of betrayal trauma on shame, dissociation, and fear among a sample of 124 female trauma survivors. Participants looked at images coded into interpersonal or impersonal threats (e.g., boy with a black eye versus tornado, respectively). Results indicated those with a history of high-betrayal trauma experienced increases in shame and dissociation in response to interpersonal threats, as compared to those with low-betrayal trauma histories. As well, those with a history of low-betrayal trauma experienced increased fear in impersonal threats, compared to those with high-betrayal trauma histories. These findings indicate individuals are more impacted by threatening images that relate to the personal nature of their traumatic experiences, and that shame and dissociation are core experiences after the experience of betrayal trauma.

Platt, Luoma, and Freyd (2017) found additional support for the theory of betrayal trauma, in a study where dissociation induction in participants actually increased state dissociation, itself associated with higher levels of shame, rather than dissociation preventing shame. The researchers asserted higher levels of dissociation and increased levels of shame post-induction were likely the results of triggered trauma experiences in participants.

Sex differences in experiences of betrayal trauma. Research has indicated a sex difference in the actual reported experience of high- versus low-betrayal traumas (e.g., DePrince & Freyd, 2002), with women being more likely to experience high-betrayal trauma (e.g., sexual

assault), and men being more likely to experience low-betrayal trauma (e.g., accidents, physical assaults, combat trauma; Norris, Foster, & Weisshaar, 2002; Goldberg & Freyd, 2006). In regard to post-trauma outcomes, there is also evidence that suggests women are twice as likely as men to struggle with PTSD (10-13% versus 5-6%), and to suffer this disorder more than twice as long (five years versus two years; Kessler, Sonnega, & Bromet, 1995). Scholars have postulated these differentials as leading to the sex difference in PTSD prevalence. Tolin and Foa (2006) conducted a meta-analysis that found females generally had higher rates and symptom severity of PTSD in response to both impersonal and interpersonal trauma events. However, they found no sex differences in PTSD prevalence in cases of child and adult sexual assault. Other studies have found mixed results regarding whether sex or trauma type play a greater role in the development of PTSD symptoms (e.g., Brewin, Andrews, & Valentine, 2000; Kessler et al., 1995; Neria, Bromet, & Sievers, 2002).

On the whole, women more frequently report experience with interpersonal traumas perpetrated by people who are close to them, whereas men report they are more frequently mistreated by someone not close to them (Goldberg & Freyd, 2006). Given this, Goldberg and Freyd (2006) hypothesized degree of relational closeness to a perpetrator of trauma may mediate the relation between sex and PTSD prevalence rates. Supporting this hypothesis, Culbertson and Dehle (2001) found that women were more distressed from traumatic experiences when a perpetrator was an acquaintance, or a cohabiting or married partner, and less distressed when the perpetrator was a casual dating or casual sexual partner. When a trauma act occurs at the hands of someone an individual had otherwise had a secure and trusting relationship, the trauma has a greater and more severe effect on the survivor. Betrayal trauma, then, may be a more direct causative agent in the development of PTSD or other anxiety or mood disorder symptoms.

Tang and Freyd (2012) explored potential differences in outcomes of post-trauma events in a sample of over 1,000 college-aged participants and approximately 200 adults from a surrounding community. They found traumas rated as high-betrayal were more strongly related to symptoms of PTSD, depression, and anxiety, in comparison to lower level betrayal traumas. As well, women reported higher rates of high-betrayal traumas than men and reported experiencing higher rates of anxiety and depression surrounding their traumas than men. Finally, women reported higher rates of re-experiencing symptoms related to their trauma, compared to their male counterparts. These results underline the importance for researchers to account for sex differences in the experience and aftermath of trauma, as such differences could hold significantly implications for differential treatment planning by client sex.

Effects of developmental trauma on romantic relationships. Research has demonstrated links between stressful life events and lower relationship satisfaction (e.g., Cohan & Bradbury, 1997; Whiffen & Gotlib, 1989). Emotion regulation difficulties and maladaptive coping strategies, as a result of high betrayal trauma experiences, have been highlighted as difficulties for trauma survivors (Mikulincer, Shaver, & Horesh, 2006; Tottenham et al., 2010; Goldsmith, Chesney, Heath, and Barlow, 2013; Mikulincer, Shaver, & Solomon, 2015; van der Kolk, 2014). As well, studies have shown the post-trauma reactions of an individual can affect their family members, romantic partners, and peers (e.g., Johnson, 2002; Goff & Smith, 2005; Figley & Kiser, 2013). This is important to note, as interpersonal relationships can serve both as protective factors and support systems for trauma survivors (e.g., Matsakis, 2004; Schumm, Briggs-Phillips, & Hobfoll, 2006; van der Kolk, 2007). Symptoms of trauma, as described by the DSM-V (American Psychiatric Association, 2013) include feeling detached, holding negative

beliefs, and avoidance. These symptoms can affect survivors' ability to form and maintain romantic relationships within which they feel secure (e.g., Balcom, 1996; Johnson, 2002).

In day-to-day interactions, trauma survivors typically oscillate between seeking closeness and comfort from their partners, and also distancing themselves from their partners as a means to avoid triggering re-experience of their trauma. Partners of trauma survivors may feel their own needs are not being met in the romantic relationship, and simultaneously helpless in their ability to help their partners manage their symptoms (Goff et al., 2006; Goff & Smith, 2005; Hecker, 2007). In comparison to spouses of non-traumatized partners, spouses of trauma survivors report higher levels of depression, anxiety, sleep disturbances, emotional exhaustion, loneliness, and psychiatric symptoms (Arzi, Solomon, & Dekel, 2000; Goff, Crow, Reisbig, & Hamilton, 2009). Finally, due to these difficult relationship dynamics, partners generally experience lower levels of marital satisfaction, and their relationship is more likely to terminate than couples without these difficulties (Gottman, 1994; Goff & Smith, 2005).

Dorahy et al. (2013) explored the impact of complex trauma on intimate relationships. They found significant differences between high- and low-complex PTSD groups on degree of dissociation, state and trait shame, state guilt, and self-attack responses in reaction to relationship conflict. Individuals who rated high on complex PTSD symptoms engaged in more obsessing or rumination over sensitive topics in their relationships, as well as endorsed greater relationship anxiety and depression in their relationships. In conflict with a relationship partner, individuals with trauma histories are more likely to withdraw in response to their shame and the degree to which they are preoccupied with events in relationships. This finding is consistent with other research indicating trauma survivors either physically or mentally withdraw from situations evoking painful, and particularly shameful, affect, thereby increasing relationship difficulties

(Talbot, Talbot, & Tu, 2004; Taft, Watkins, Stafford, Street, & Monson, 2011). Finally, Dorahy et al. indicated developmental trauma survivors not only experience a high degree of self-criticism in response to relationship conflict, but also that anger toward a partner in the relationship is redirected towards the self, reflecting a pattern that perpetuates the degree to which trauma survivors feel unworthy of positive outcomes in their relationships and is reflective of earlier experiences with relationship distress (Putnam, 1997).

Similarly, Whisman (2006) found that victims of childhood physical abuse, rape, or other serious trauma were more likely to experience marital disruption (separation, current or past divorce), and were twice as likely to have first marriages end in separation or divorce. Individuals who reported being raped or sexually molested in childhood also experienced lower marital satisfaction. The single childhood trauma most strongly related to both marital disruption and marital dissatisfaction was rape, which Whisman attributes to betrayal trauma. Notably, childhood experiences with traumatic events such as accidents or natural disasters possessed no significant relation to marital disruption or satisfaction, indicating traumas involving interpersonal violence more negatively impact later functioning in romantic relationships.

Ruhmann, Gallus, and Durtschi (2017) noted that not much literature currently exists on the specific ways trauma impacts relational functioning in couple dyads. In addition, there is even less known about the differences in relational functioning when one or both partners identify as trauma survivors (single- versus dual-trauma couples, respectively; e.g., Balcom, 1996). A better understanding of how these issues impact people in romantic relationships is needed (Balcom, 1996; Nelson, Wangsgaard, Yorgason, Kessler, & Carter-Vassol, 2002; Nelson et al., 2014). Of the limited research available, scholars have found that partners in a dual-trauma dyad often encounter states of crisis, and the difficulties present when one partner has a trauma

history (e.g., emotional reactivity, discomfort with intimacy, etc.) is compounded when both partners identify as trauma survivors (Balcom, 1996; Nelson et al., 2002; Nelson Goff et al., 2014). Regardless of whether partners in a dual-trauma dyad have experienced similar or different traumatic events, both partners in these situations may have unresolved attachment needs and maladaptive coping strategies, particularly during conflicts in the relationship (Alexander, 2014; Creasey, 2014). Researchers have hypothesized trauma survivors are attracted to one another as romantic partners on the basis of their similar histories, and the mental health difficulties their common experiences can bring (Balcom, 1996; Nelson et al., 2002). Although this common history may bring difficulties in emotional regulation and communication, their similar histories makes them feel connected in ways to each other that they may not feel with others.

In summary, research illustrates the negative impact a history of developmental trauma can have on functioning later in romantic relationships. Feelings of shame and guilt, dissociation during conflict, difficulty with emotional regulation, and a struggle to navigate closeness and intimacy from partners, all can dictate the extent to which these individuals feel satisfied in their relationships. More often than not, those with developmental trauma histories are unsatisfied in their romantic relationships, and feel their needs are not being met by their partners. Several of these above relationship difficulties are also related to issues surrounding adult attachment style.

Attachment

Attachment, as a theory, was defined by John Bowlby as a “lasting psychological connectedness between human beings” (Bowlby, 1969, p.194). According to attachment theory, individuals either seek to attain or maintain connectedness (physical or emotional) with other individuals they believe are better able to cope with life’s difficulties (Bowlby, 1982). An

attachment style is argued to form from a human's first social relationship (i.e., with caregivers), and as such attachment was first studied in the context of infant-mother relationships (Bowlby, 1969).

Infant attachment. Bowlby (1969) formed the attachment construct by studying infant-mother relationships. Ainsworth, Blehar, Waters, and Wall (1978) helped to clarify and differentiate infants' behaviors and emotional reactions to mothers with respect to their attachment styles. In the "strange situation" experiment, the experimenters separated infants from their mothers and observed the infants' reactions, which ranged from comfortable exploration of the environment to persistent crying. It was concluded that the differences in how infants reacted to being separated from their mother was a function of how the infant attached to their mother. Bowlby (1988) termed four core characteristics of attachment based on his research and the work of Ainsworth et al. (1978). First, we desire to be near the people to whom we are attached; Bowlby referred to this as *proximity maintenance*. Next, most infants view their attachment figures as *safe havens*. As such, infants desire to be near their attachment figures for comfort and safety in response to fear or a threat. Further, attachment figures serve as a *base of security*, such that infants can safely explore the environment around them, knowing their attachment figure is nearby for protection. Finally, infants may experience varying degrees of anxiety as a result of being without their attachment figure; Bowlby referred to this as *separation distress*.

Given these four characteristics of attachment, researchers characterized four different styles of attachment for infants and children: secure, anxious-resistant, anxious-avoidant, and disorganized/ disoriented (Ainsworth & Bell, 1970; Ainsworth et al., 1978). *Secure* attachment is characterized by an infants' comfort and confidence in freely exploring its environment and

engaging with others without fear when the attachment figure (caregiver) is nearby. Infants and children who are securely attached do become visibly upset when separated from their attachment figure; however, they are easily soothed and experience a decrease in emotional distress once their attachment figure returns. For those who are securely attached, the attachment figure is perceived as a “secure base.” That is, the caregiver is consistently available to them and acts as an anchor for the infant to explore the world. As such, research indicates attachment figures displaying high levels of caring and attention, as well as consistent responding to needs, best promote the development and maintenance of a secure attachment within infants (Dunst & Kassow, 2008; Aronoff, 2012). As well, a secure attachment is believed to be the most adaptive and mentally healthy attachment style for infants to acquire (Ainsworth et al., 1978). The other three attachment styles are classified as *insecure* attachment styles. These insecure styles are characterized by sub-optimal resolutions of infants’ experiences with, and trust of, caregivers as a stable base of safety and support from which they can explore the world.

The first insecure attachment style is referred to as *anxious-resistant* attachment, otherwise known as ambivalent or dismissing attachment (Ainsworth et al., 1978). In conditions such as the “strange situation”, infants in the anxious-resistant attachment style seem to be hesitant to increase distance between the self and the attachment figure. For these infants, exploring the environment around them is fearful. Relatedly, those who hold anxious-resistant attachment styles are uneasy around and suspicious of strangers. When separated from their attachment figures, these infants become highly distressed. While some of this distress is ameliorated once the attachment figure returns, the infants still experience feelings of worry, and are uncertain about their safety and availability of support. Research indicates inconsistent responding, particularly in safe and supportive ways, promote the development of an anxious-

resistant attachment. In response, infants develop a sense of ambivalence towards attachment figure, as these caregivers are an unstable a source, support, and comfort upon which the child can rely (Crittenden, 1999).

The second insecure attachment style is referred to as *anxious-avoidant* attachment. Infants holding this attachment style generally avoid or ignore their attachment figure, and demonstrate visibly no change in emotion when attachment figures leave or return to them (Ainsworth et al., 1978). It is hypothesized infants in this attachment style attempt to mask their internal distress regarding the instability of their bond with their attachment figures, and therefore only appear indifferent and unemotional as a means to cope with their internal distress (Ainsworth & Bell, 1970). Research indicates a history of rejection and a lack of meeting attachment needs from attachment figures promotes the development of an anxious-avoidant attachment (Main, 1979). As such, demonstrating avoidant behavior allows infants to maintain their proximity to their attachment figures, while simultaneously avoiding the potential for rejection.

The last insecure attachment style is referred to as *disorganized/disoriented* attachment. Infants with this attachment style display a lack of consistency with regard to how they respond to being separated from and reunited with attachment figures (Ainsworth et al., 1978). In the “strange situation” experiments, these infants were described as having contradictory behaviors and emotions, random movements, and periods of disengagement from environmental stimuli. Many scholars criticize the disorganized/disoriented attachment style because its descriptors are too encompassing, it does not possess sufficient unique and discriminating characteristics, and it overlaps substantially with characteristics associated with the anxious attachment style (Crittenden, 1999). Subsequently, this attachment style is not considered as valid as the other

three attachment styles discussed thus far. In much of the current literature regarding infant or child attachment, including measures tapping attachment style, the disorganized/disoriented style is not taken into account.

As social beings, a fundamental human motivation is to connect with, relate to, and form bonds with one another (Baumeister & Leary, 1995). We form both psychological and emotional attachments to close others, in both real and symbolic ways. An attachment relationship formed between an infant and attachment figure holds strong implications for how the infant develops socially. Our initial thoughts concerning who we are and what we give to others in relationships, as well as what we can expect from others, form our expectations and reactive behaviors in other relationships as we age (Sund & Wichstrøm, 2002). Regarding attachment theory, Bowlby (1969) suggested working models of self and others acquired in infancy and childhood continue across both natural development as well as types of relationships. As children grow and age, they naturally distance themselves from initial attachment figures. Accordingly, future relationships (especially romantic ones) serve as a primary source for love and psychological and emotional support.

Studying romantic relationships through the lens of attachment is particularly insightful since individuals (for the most part) choose with whom they form romantic relationships. We may either look for relationships that parallel those we held with initial attachment figures, or ones that vary drastically as a potential corrective emotional experience. Given their early attachment relationships, individuals form clear ideas of the partners they want, regardless of whether they then date someone who matches their ideals (Frazier, Byer, Fischer, Wright, & DeBord, 1996; Latty-Mann & Davis, 1996; Chappell & Davis, 1998; Collins, Cooper, Albino, & Allard, 2002). At a broader level, a litany of research has laid out theoretical and empirical

support for the roles attachment plays in our romantic relationships as we age (Hazan & Shaver, 1987, 1990, 1994). A romantic partner in many ways replaces the love and security we received as infants from our caregivers. We then turn to romantic partners, instead of caregivers, for psychological support and emotional comfort. Examining adult attachment styles in the context of romantic relationships has strong clinical implications in the treatment of maladaptive behaviors, conflict management, and emotion regulation within their relationships. Next, I will detail how the early attachment style of children evolves into those held later in adulthood.

Adult attachment. Hazan and Shaver (1987, 1990) extended Bowlby's model of infant-mother attachment to romantic relationships, noting many similarities in what is perceived and received in these two types of relationships. With regard to romantic partners, partners feel safe when the other is attentive and responsive to their needs; partners provide support through physical touch; partners experience varied emotions when away from and reunited with one another; and partners may engage in "baby talk", which mimics communication patterns from caregivers. Much like Bowlby's (1988) central tenets of infant-mother attachment, Fraley and Shaver (2000) described similar central characteristics of adult attachment. First, the two relationships (infant-mother and romantic) elicit similar emotional and behaviors dynamics and reactions as they are governed by the same *biological system*. Second, variations in attachment styles lead to expressed *individual differences* in relationships with others. Next, these individual differences serve as *reflections of people's experiences* with previous close relationships (such as those with caregivers). Last, the interaction of *attachment, caregiving, and intimacy* influences the dynamics and success of romantic relationships.

The four adult attachment styles are referred to as *secure, anxious-preoccupied, dismissive-avoidant, and fearful-avoidant* (Bartholomew & Horowitz, 1991; Pietromonaco &

Barrett, 1997). Compared to the childhood attachment styles, one rather than two anxious style exists, and two rather than one avoidant styles exists. With regard to measurement, most common adult attachment scales combine the two avoidant attachment styles into a single “avoidant” style, referring to the psychological attachment need underlying the two varied behavioral expressions of this attachment need. Largely, the current adult attachment literature present two main dimensions on which to assess individual differences: attachment anxiety and attachment avoidance (Brennan, Clark, & Shaver, 1998; Cassidy & Kobak, 1988; Mikulincer & Shaver, 2003, 2007). Many attachment scales assess for the degree of anxious or avoidant attachment on two subscales, where low scales on both subscales constitute secure attachment.

Much like childhood attachment, anxious attachment includes a desire for closeness to and protection provided by the partner, extreme and frequent worrying regarding the availability of the partner and the extent to which one is valued by the partner, and the utilization of hyperactivation strategies to cope with attachment insecurities. Alternatively, the avoidance dimension depicts discomfort with closeness to a partner, hesitancy in using a partner as a secure base, emotional distance and self-reliance, and the utilization of deactivation strategies to cope with attachment insecurities (Mikulincer & Shaver, 2007). Though infant attachment has already been reviewed, I will briefly review the four adult attachment styles below.

Secure adult attachment is seen as the outcome of a secure childhood attachment. This attachment style has been promoted by a childhood caregiver who was emotionally available, responsive to the child’s needs, and was capable of emotion regulation (Sable, 2008). Adults who are securely attached consistently engage with their romantic partners in warm and responses ways. As well, they have positive and stable views of themselves, their romantic partners, and their relationships (Bartholomew & Horowitz, 1991). Finally, like with child

attachments, adults who are securely attached typically behave in more adaptive ways, and report maladaptive ways of coping with emotions less frequently compared to those who are insecurely attached (Collins & Read, 1990; Feeney & Noller, 1990).

Anxious-preoccupied attachment in adulthood represents a style of extreme relational distress. Adults who endorse this attachment style consistently seek approval, responsiveness, and intimacy from their partners as a means to seek reassurance of the romantic relationship (Bartholomew & Horowitz, 1991). Individuals in this attachment style typically become overly dependent on their romantic partners, in part due to a persistent negative self-esteem that partners at times might mitigate. Generally, people with anxious-preoccupied attachments yearn to be accepted by those close to them (Bartholomew & Horowitz, 1991; Hazan & Shaver, 1987; Main, Kaplan, & Cassidy, 1985). As well, they typically view themselves below their partners, and engage in self-criticism during difficulties in the relationship (Mikulincer & Shaver, 2007). These individuals are highly emotionally expressive, and spend much time and effort seeking reassurance from others in order to feel secure in themselves and their relationships (Bartholomew & Horowitz, 1991; Mikulincer & Shaver, 2007).

Dismissive-avoidant attachment is characterized by a strong value on personal independence in all relationships, especially romantic ones. Like the childhood-equivalent attachment style, individuals endorsing a dismissive-avoidant style have difficulty in trusting others and forming deep attachments to them (Bartholomew & Horowitz, 1991). As such, they might withhold their emotional experiences for fear of their partner being unable to meet their needs (Creasey & Hesson-McInnis, 2001). Within romantic relationships, individuals in this style exude lower degrees of emotional intimacy and endorse less value on their partners. These dynamics are likely due to experiences with early caregivers of feeling unworthy and not trusting

others to meet their needs – a belief that then carries on into adulthood (Ainsworth et al., 1978; Main, 1979).

Last, *fearful-avoidant attachment* in adulthood represents a desire to be distant or completely abstain from romantic relationships. While these individuals wish to have an emotionally close relationship, they also believe they are unworthy, and simultaneously have negative views and expectations of others (Hazan & Shaver, 1987; Bartholomew & Horowitz, 1991). Like those with a dismissive-avoidant attachment, these individuals do not express positive affect and engage in deep levels of intimacy in their relationships. As well, they do not see partners as a secure base, and believe partners will disappoint them and be inconsistent in providing care (Bartholomew & Horowitz, 1991). Both avoidant attachment styles in adulthood have behavioral components which aim to protect them against potential threats and disappointment, and yet simultaneously create difficulties in connecting with others.

Researchers disagree on the extent to which attachment style in infancy and childhood determine adult attachment style. As Bowlby (1973) originally stated, the attachment system develops and is organized via early experiences with caregivers. Developmental psychologist Piaget (1953) argued individuals incorporate new information to existing knowledge bases. If this is true, when someone develops an insecure attachment with an early caregiver, they may be more likely to try and confirm these negative models of self and others. In support of this idea, Bowlby (1973) posited individuals want their adult experiences in relationships to be congruent with their early attachment experiences and models, and therefore may seek relationship partners to fit these experiences and models. At the same time, Bowlby (1969, 1982) noted attachment working models may be altered, since they reflect actual experiences in relationships. For example, individuals who have otherwise had secure and positive relationships with close others may

increasingly endorse feelings similar to those in insecure attachment styles after a romantic partner has engaged in infidelity. Empirically, Fraley (2002) conducted a meta-analysis and found varied relations between attachment styles at different ages: correlation of .32 ($N = 896$) across the second year of life (1-12 months); .35 ($N = 161$) at one and four years old; and .67 ($N = 131$) over six years. These numbers generally suggest attachment styles become more stable with age; however, Fraley also found a low correlation of .27 ($N = 218$) between attachment styles in infancy and adulthood (19-20 years old). This may support Bowlby's notion that attachment styles may transform based on more experiences with others in relationships.

A popular model of adult attachment sets the styles against two domains of views of self (levels of dependence: how much can I emotionally depend on others?) and views of others (levels of avoidance: how available and supportive are others?) (Bartholomew & Horowitz, 1991; Bartholomew, 1997; Domingue & Mollen, 2009), where secure attachment is a positive view of self and others; dismissive-avoidant attachment is a positive view of self and negative view of others; anxious-preoccupied attachment is a negative view of self and positive view of others; and fearful-avoidant attachment is a negative view of self and others.

Adult attachment in romantic relationships. Attachment invariably impacts dynamics in romantic relationships. A relationship calls for both individuals to make a deep emotional investment in one another. How each partner in the relationship both experiences and regulates their emotions has strong implications for how they behave in the relationship and handle various events in it, particularly conflict (Marroquín & Nolen-Hoeksema, 2015; Burk & Seiffge-Krenke, 2015). Attachment style is strongly related to emotion regulation (e.g. Ben-Naim et al., 2013), and will be discussed more in depth later in this literature review. How individuals experience their emotions, regulate them, and act on them during relationship conflict holds many

implications for other relationship variables, such as relationship satisfaction and relationship outcome. Attachment styles hold strong implications for how conflict is handled, particularly with regard to models of how they have seen conflict handled, their confidence in themselves to engage in and solve conflict, and their confidence in their partners to do the same, as well as provide attachment support. Below, I will briefly outline literature connecting different attachment styles and varied responses to relationship conflict.

Secure. Individuals who are securely attached engage in higher levels of direct verbal communication and engagement, self-disclosure of thoughts and feelings, and discussion and understanding during relationship conflict. Notably, secure attachment in conflict is characterized by a desire to compromise with partners, and therefore securely attached individuals aim to listen to their partners' needs and decide with their partner how both can get their needs met (Shi, 2003). For individuals who are securely attached, conflict serves as a means to adjust to each other's needs and constructively work towards increasing intimacy. They are confident in their ability to speak up for their needs and trust their partner to respond supportively (Domingue & Mollen, 2009). This style of communication and conflict resolution is seen as a healthy way for each partner to get their needs met and supports relationship satisfaction.

Insecure. Unsurprisingly, research findings indicate individuals who are insecurely attached endorse difficulties in managing conflict (Creasey & Hesson-McInnis, 2001). They engage in more maladaptive conflict resolution strategies such as making demands, giving their partner the "silent treatment", or withdrawing (physically or mentally) from their partners (Domingue & Mollen, 2009).

Avoidant. Individuals who are avoidantly attached (either dismissive- or fearful-avoidant) report minimal emotional distress during conflict with partners. Instead, they engage in hurtful actions aimed at making the partner feel bad or escalate the conflict – doing so in a cool or detached manner (Creasey & Hesson-McInnis, 2001). Those with an avoidant attachment style tend to withdraw from conflict and are unlikely to work towards compromising each partner's needs. It is thought they behave in this manner due to a desire to avoid creating an expectation of showing affection and wanting to evade disappointment from their partner (Shi, 2003). As a result, individuals who are avoidantly attached engage in more self-protective coping mechanisms because they do not trust their partner to soothe their attachment needs. Finally, they may engage in a unitary solution-focused approach to conflict in order to avoid discussing the conflict in detail or trying to negotiate agreement with their partner (Shi, 2003).

Anxious. Adults who are anxiously attached tend to actually be or have the perception they are more emotionally invested in their relationships, since they view success of the relationship as a validation of the self. Due to negative self-views, they are insecure in their ability to engage in emotion regulation during conflict and tend to appear hostile in their communication. While they tend to be more active in conflict than avoidantly attached individuals, this active participation mostly ends in them hurting their partners with their hostile actions (Creasey & Hesson-McInnis, 2001). However, because they see relationship success as self-validation, they seek to promote relationship longevity. This clash between actions and intentions leads to dominating the conflict, pressuring the partner, and embodying greater hostility. Overall, there is a severe lack of mutual discussion and understanding. During or after the conflict, those who are anxiously attached endorse strong feelings of guilt, worry, and hurt due to the hostility they evoked and likely sustained. Nevertheless, their attachment patterns

mean difficulty and even resistance in working towards improving how they may communicate in conflict more effectively (Shi, 2003).

Adult attachment dynamics. A number of studies examined the impact of attachment on conflict resolution with regard to how attachment styles and behaviors impact what decisions individuals make in conflict, and how these attachment dynamics impact one's partner. Research by Ben-Naim et al. (2013) instructed couples to engage in a point of conflict, and they found evidence for moment-by-moment cognitive, emotional, and physiological reactions. With each reaction, individuals adapt and choose how to respond next.

A unique study by Vicary and Fraley (2007) asked participants to read an interactive story during which they would be presented with options about how the story would proceed. Participants were presented with two types of choices, where one was coded as a choice that would enhance the relationship, and the other was coded as one that would be detrimental to the relationship. Participants were instructed to pick which option they would choose in real life. Individuals who were securely attached chose the most relationship-enhancing decisions. Those who were insecurely attached, on the other hand, either consistently chose more detrimental decisions, or chose relationship-enhancing decisions at a slower rate than individuals with secure attachments. A follow up study by Turan and Vicary (2010) showed anxiously attached individuals were aware the detrimental choices would have negative impacts on their relationships; however, they still chose to pick these choices over the relationship-enhancing ones. This is important as it highlights people who are anxiously attached are aware of adaptive ways to handle conflict, yet they have difficulty in applying this knowledge in situations where attachment-related threats may be high.

These studies illustrate how attachment impacts conflict behaviors in romantic relationships. During conflict, even if individuals know how they “should” or want to respond, the perceived threat from the conflict is either overwhelming or too threatening to risk adopting an emotion regulation or conflict management style they are not used to or comfortable with. As such, insecurely attached individuals are more distressed in conflict than individuals who are securely attached. This extreme distress and lack of agreement in conflict may lead to relationship dissatisfaction and eventual dissolution. Given this, attachment and its related emotions and behaviors are key factors in relationship dynamics, functioning, and success. I will discuss specific relationship issues surrounding emotional regulation in the next section.

Emotion Regulation

Individuals wish to evade or hide from many “negative” emotions, such as sadness and anger. Emotion regulation is an attempt to either avoid any negative affect or to decrease the extent to which individuals experience a negative emotion once activated (Tice & Bratslavsky, 2000; Gross, Richards, & John, 2003). One widely cited model of emotion regulation (Gross, 1998; Richards & Gross, 2000) states individuals’ strategies towards emotional regulation are either antecedent-focused or response-focused, where antecedent-focused strategies intend to prevent emotions from arising, and response-focused strategies aim to manage evoked emotions.

One common form of antecedent-focused emotion regulation is *reappraisal*, or the attempt to construe a situation in manner that decreases the likelihood of negative affect (Beck, 1991; Gross, 1998b). For example, one might try to adopt a positive mindset before approaching a potentially negative situation or conversation (Jackson, Malmstadt, Larson, & Davidson, 2000). Empirical studies have demonstrated that participants experience negative emotions less intensely if asked to engage in a reappraisal task before entering into a potentially threatening

situation, such as a conflict-based conversation with a romantic partner (Lazarus & Alfert, 1964; Gross, 1988b; Richards & Gross, 2000; Ben-Naim, Hirschberger, Ein-Dor, & Mikulincer, 2013). As well, other studies have indicated memories for relationship events, particularly conflict, are stronger and more accurate when individuals engaged in reappraisal before the events (Richards & Gross, 1999, 2000; Richards, Butler, & Gross, 2003); a key finding, as being able to remember what each partner says about their perspectives and values surrounding different issues in relationships is important for relationship success (Sillars, Weisberg, Burggraf, & Zietlow, 1990).

Conversely, the other common form of response-focused emotion regulation is *expressive suppression*, or an attempt to hide verbal and non-verbal indicators of affect (Richards & Gross, 2000). Previous research has indicated people are quite successful at appearing neutral, even if they are experiencing negative affect (Gross & Levenson, 1993; Richards & Gross, 1999). Theoretically, suppressing the expression of an emotion should relate to a decrease in experience of the emotion; however, this has consistently found to be untrue. In fact, suppression of emotion has no reductive power in terms of experiencing emotion and can lead to an even more intense experience of emotion (Gross, 1988b; Gross & Levenson, 1993; Richards & Gross, 1999). Suppression of emotion increases cardiovascular arousal due to the amount of effort expended to hide such feelings (Gross & Levenson, 1993, 1997; Hagemann, Levenson, & Gross, 2006), and can decrease memory for relationship events (Richards & Gross, 1999, 2000; Richards, Butler, & Gross, 2003). However, suppression of emotion can lead to better memory for an actual emotional experience and the expressive behaviors of relationship partners, as compared to those engaging in reappraisal (Carver & Scheier, 1981; Larsen, 2000; Richards, Butler, & Gross, 2003). As such, poorer memory of relationship events and preoccupation with one's own

emotions and suppressed communication, can be detrimental to future relationship interactions, particularly in future relationship conflicts. Due to these facts, expressive suppression has been found to be a maladaptive emotion regulation strategy.

Many scholars view emotion regulation as means to control both emotional experiences and the expression of various emotions (Kopp, 1989; Cortez & Bugental, 1994; Zeman & Garber, 1996; Garner & Spears, 2000). Alternatively, others argue emotional regulation concerns an ability to experience a full range of emotions, moderate negative emotions, and respond to situations in adaptive ways (Cole, Michel, & Teti, 1994; Thompson, 1994). Difficulties in the ability to regulate emotionality in this way is considered at least as maladaptive as avoiding negative affect (Cole et al., 1994; Gross & Munoz, 1995; Paivio & Greenberg, 1998).

Adaptive emotion regulation, then, is defined as being aware of and in touch with emotional experiences, being accepting of these emotions, being able to modify those experiences as needed, and understanding the importance of these skills (Linehan, 1993a, 1993b; Thompson & Calkins, 1996). Adaptively regulating emotions is focused on changing the intensity of, or the length at which, emotions are experienced, without changing or getting rid of the emotion itself (Thompson, 1994; Thompson & Calkins, 1996). Last, adaptive emotion regulation includes the ability to be flexible in the way emotions are handled, such that individuals utilize a variety of coping strategies as opposed to primarily using one strategy (Cole et al., 1994; Thompson, 1994). In sum, adaptive emotion regulation includes: a) being aware of and understanding various emotions; b) accepting the full range of emotions; c) having the ability to avoid impulsive action and behave in ways that reflect desired goals; and, d) having the ability to use situation-specific emotion regulation strategies. Not possessing any or all of these abilities likely indicates a measure of difficulty in emotion regulation (Gratz & Roemer, 2004).

Difficulties with emotion regulation have been increasingly implicated as common symptomatology in clinical disorders (Gross & Munoz, 1995; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996; Cloitre, 1998; Mennin, Heimberg, Turk, & Fresco, 2002; Stewart, Zvolensky, & Eifert, 2002). Evasion and constriction of emotional experiences and expressions is related to increased physiological arousal (Notarius & Levenson, 1970; Gross & Levenson, 1997), making an individual more prone to emotion dysregulation. Such individuals become upset with themselves for experiencing negative emotions and their inability to regulate or diminish these emotions, which leads to further difficulties in regulating experienced emotion (Cole et al., 1994; Paivio & Greenberg, 1998; Hayes, Strosahl, & Wilson, 1999).

It is important to note there are multiple dimensions in which an individual may struggle to regulate their emotions. Gratz and Roemer (2004) created the *Difficulties in Emotion Regulation Scale* (DERS), in which they explored these multiple dimensions. They found six factors: 1) nonacceptance of emotional responses (NONACCEPTANCE); 2) difficulties in engaging in goal-directed behavior (GOALS); 3) impulse control difficulties (IMPULSE); 4) lack of emotional awareness (AWARENESS); 5) limited access to emotion regulation strategies (STRATEGIES); and, 6) lack of emotional clarity (CLARITY). NONACCEPTANCE measures the extent to which individuals experience secondary reactive emotions in response to their primary emotions (e.g., becoming angry with oneself for feeling sad) or the degree to which one does not accept the emotions they are experiencing. GOALS taps into how much people struggle to engage with or accomplish tasks while feeling distressed. IMPULSE refers to a desire for someone to control their behavior when distressed. AWARENESS measures how much an individual is able to reflect on and be aware of the emotions and emotional responses they experience and enact. STRATEGIES assesses how much people believe they have the skills

necessary to control their emotions, as well as the extent to which they believe these skills will be effective. Finally, CLARITY gauges an individual's ability to name their emotions. The utilization of the DERS can help illustrate whether there are particular dimensions upon which people struggle to regulate their emotions, or whether they struggle with all aspects of emotion regulation.

Emotion regulation in romantic relationships. Gottman and Notarius (2000) assert emotion regulation abilities critically impact relationship quality and future relationship stability. A series of studies provided empirical evidence indicating one partner's negative affect impacts the likelihood of their partner also experiencing negative affect; this combined negativity has been found to create more negativity in conflict and higher relationship dissatisfaction (Levenson & Gottman, 1983; Gottman, 1994; Carstensen, Gottman, & Levenson, 1995; Gottman, Coan, Carrere, & Swanson, 1998). Conversely, couples reporting more satisfaction in relationships experience more positive than negative affect during difficult interactions, a likely reflection of the presence of adaptive emotion regulation strategies (Gottman, 1993).

Although partners' emotional experiences undoubtedly impact each other, few researchers have examined this process in interactions within romantic relationships. In an early study in this area, Butler, Egloff, Wilhelm, Smith, Erickson, and Gross (2003) paired two strangers together to watch an emotional film and discuss it afterward. In two different conditions, one participant was instructed to either engage in cognitive reappraisal or expressive suppression; in the other, the participant was not given any instructions. Results indicated if one person engaged in expressive suppression, their partner experienced a significant increase in physiological arousal. If emotion regulation strategies can impact a non-romantic pair to this degree, it is likely physiological reactions will be present to a heightened degree within romantic

partners. Conflict between two romantic partners, depending on conflict is handled, can either lead to resolution and improvement of the relationship, or escalate the conflict and diminish the quality of the relationship (Gottman, 1993; Weiss & Heyman, 1990).

Ben-Naim, Hirschberger, Ein-Dor, and Mikulincer (2013) examined emotion regulation during conflict between committed romantic partners, instructed to either engage in cognitive reappraisal or expression suppression. Results confirmed those found by Butler et al. (2003) that expressive suppression of one partner negatively impacts the other partner. Specifically, Ben-Naim et al. found expressive suppression by one partner led to increased cardiovascular arousal, increased expression of negative emotions, and decreased expression of positive emotions by the other partner. In fact, the negative impact on the expressive partner was found to be significantly greater than on the non-expressive partner. As well, participants in the expressive suppression condition reported difficulty in performing this task and reported experiencing increased negative emotionality and decreased positive emotionality. Ben-Naim et al. noted that although their findings were contrary to those obtained in certain studies (e.g., Richards et al., 2003) using dating samples, they suggested their results may be more specific to partners in committed romantic relationships. This study highlights the interactive and iterative nature of conflict between relationship partners; notably, the extent to which decisions about how to regulate emotions during conflict can significantly impact both partners.

Poor management of emotions, and the negative emotions that maladaptive strategies can evoke in a partner, are considered to be toxic for long-term relationship stability. Gottman et al.'s (1998) "four horsemen of the apocalypse" highlight 'contempt' for a romantic partner as a pathway by which destines a relationship for failure. When one or both partners engage in expressive suppression, contempt between the partners has a higher potential to arise. As such,

attention to difficulties with emotional regulation can help psychologists working with individual or couples in therapy to determine better paths for effective conflict resolution.

Relationship Satisfaction

The degree to which one is satisfied in a romantic relationship holds significant influence on a plethora of individual-level variables. To name a few, high relationship satisfaction associates with: happiness and satisfaction with life (Glenn & Weaver, 1981; Markey, Markey, & Gray, 2007); a lesser degree of general mental and physical health concerns (Gove et al., 1983; Holt-Lundstad et al., 2008; Kolves et al., 2012; Kietcolt-Glaser & Newton, 2001; Logan, Hall, & Karch, 2011); increased resiliency against stress (Coyne & DeLongis, 1986; Markey et al., 2007); and decreased risk of suicidality (Gove et al., 1983; Kolves et al., 2012; Batterham et al., 2014). Conversely, feeling dissatisfied in a romantic relationship can lead to vulnerability for mental and physical health.

At least one study found that partners perceive one another to be positive influences on their physical health, specifically noting increased quality of nutrition and amount of physical exercise due to their partner (Markey et al., 2007). This effect was more prominent for women than men; however, for both men and women, perceiving one's better to be a good influence on their health also related to being more satisfied in the relationship and perceiving one's self as healthier. Not perceiving one's partner as a good influence, then, associated with lower levels of relationship satisfaction and perception of the self as healthy.

Multiple studies have indicated those not satisfied with their romantic relationships, or who are separated or divorced from a marital partner, report more symptoms of depression, including hopelessness and suicidality (Stack, 1990; Wyder et al., 2009; Batterham et al., 2014; Till et al., 2016). Till et al. (2016) specifically found that risk factors for suicide were more

prominent amongst individuals who reported being dissatisfied with their relationships, and less prominent amongst those reporting higher levels of relationship satisfaction. Similarly, previous studies have indicated profound statistics regarding the rates of depression within samples facing relationship difficulties, including divorced men being 45 times more likely to develop symptoms of a major depressive disorder compared to men in happy marriages (Bruce & Kim, 1992). Notably, divorced men were also 14 times more likely to experience major depression compared to men who were dissatisfied in their marriages, but not yet divorced.

In light of other individual-level relationship variables, such as attachment, it is important to consider how satisfied individuals are in their relationships, and possible steps to take to improve relationship satisfaction. Previous research has found anxious attachment to relate to extreme interpersonal distress and emotion management in general, but that is also heightened during conflict or relationship termination (e.g., Ben-Naim et al., 2013; Park et al., 2011). This population then may be more likely to endorse symptoms of depression or suicidal ideation when unsatisfied with their relationships.

It is important to note that relationship satisfaction in itself does not hold as the determining factor by which individuals persist in a relationship. Rusbult, Martz, and Agnew (1998) created a widely-cited model of relationship persistence, termed the Investment Model. Noting a lack of previous measures tapping into commitment to persist in a romantic relationship, as well as the variables that feed into commitment itself, Rusbult et al. created the *Investment Model Scale (IMS)* which measures satisfaction, quality of alternatives, investment, and commitment. The IMS was based on Interdependence Theory (Kelley, 1979), which posits there is a degree to which an individual relies or depends on a relationship, the level of which depends on how much the relationship meets their needs or desired outcomes.

Within the IMS, satisfaction level taps the overall extent to which an individual experiences positive and negative affect within the relationship based on the perception of their partner meeting their most important needs. Relatedly, the quality of alternatives construct measures the degree to which an individual perceives their needs may be better met outside of the romantic relationship. This is an important construct because even though one person may perceive their partner is not meeting their needs the way they would like them to, they may also perceive no better options and therefore persist in the relationship even if they aren't satisfied. As well, how invested individuals are in their relationships may supersede how satisfied they are in them. Investment may include degree of vulnerability already expressed in the relationship or shared resources/relationships such as friends, family, and children. Again, though one may be unsatisfied in their relationship, they may persist due to their level of investment. Last, commitment level is defined as the intent to persist in a relationship and is the summative by-product of wanting to persist (being satisfied), feeling a need to persist (being highly invested), and perceiving no other option but to persist (lack of better alternatives).

Given relationship satisfaction may be ignored in response to quality of alternatives and investment size, it is clear to see how lack of satisfaction in a relationship relates to many negative mental health outcomes. The choice to persist in a relationship even if unsatisfied may become more complicated based on history of interpersonal trauma experiences and attachment style, where quality of alternatives and investment size may be distorted due to internal models of self and others. Especially in light of this, relationship satisfaction is an important variable to investigate.

Trauma and Attachment

Research indicates that both the experience of, and recovery from, traumatic experiences is strongly related to the relationships survivors have with others in their social support network, such that having strong attachment bonds relates to a decrease in the duration and severity of trauma symptoms (Matsakis, 2004; van der Kolk, 2007; Johnson & Williams-Keeler, 1998; Muller, Sicoli, & Lemieux, 2000). However, since early trauma experiences can activate an insecure attachment style, trauma may disrupt the ability to form and maintain healthy and secure relationships with others in social support networks (van der Kolk, 2014).

In fact, many individuals with a history of childhood trauma are later diagnosed with *Borderline Personality Disorder* (BPD), with some studies suggesting anywhere between 30 and 90 percent of individuals diagnosed with BPD having experienced childhood abuse and/or neglect (Battle et al., 2004; Yen et al., 2002; Zanarini et al., 2006). BPD is, in part, characterized by difficult interpersonal relationships, as well as emotion regulation difficulties (American Psychiatric Association, 2013). Many researchers have argued symptoms of BPD largely overlap with symptoms of PTSD and *Disorders of Extreme Stress Not Otherwise Specified* (DESNOS). As described earlier in this review, DESNOS as a diagnosis is a current stand-in for complex-PTSD experiences and captures symptoms that are in response to prolonged experiences with interpersonal traumatic events in childhood as opposed to experiences with violence or death (Herman, 1992; Cook et al., 2005). Specific diagnosis aside, it is clear experiences with interpersonal trauma in childhood lead to later difficulties in relationships, which can be measured through attachment styles.

Many studies have indicated the development of a secure attachment style is threatened in experiences of maltreatment (Baer & Martinez, 2006; Lamb, Gaensbauer, Malkin, & Schultz,

1985). Specifically, findings illustrate a significant relation between childhood sexual abuse and anxious attachment styles, or any experience of maltreatment to relate to avoidant attachment styles (Minzenberg, Poole, & Vinogradov, 2006). Regarding betrayal trauma theory (Freyd, 1996), evidence suggests both high- and medium-betrayal traumas are associated with BPD diagnoses, whereas low-betrayal traumas are not associated with BPD symptoms (Kaehler & Freyd, 2009). In step with findings reflecting a gender disparity between experiences of high- and low-betrayal traumas, findings also indicate individuals diagnosed with BPD are disproportionately women (American Psychiatric Association, 2000).

In examining the relation between insecure attachments and PTSD symptoms in a sample of over 1,000 adults with a history of traumatic experiences, Ogle, Rubin, and Siegler (2015) found that attachment anxiety was positively related to PTSD re-experiencing, avoidance, and hyper-arousal symptoms. Attachment avoidance was also positively related to avoidance and hyper-arousal symptoms. Both of these insecure attachment styles were related to greater PTSD symptom severity. Insecure attachment styles accounted for greater variance in PTSD symptoms than neuroticism and the centrality of traumatic experiences to participant identities. Notably, the relation between anxious attachment and PTSD symptoms was stronger for individuals who reported early life traumas versus traumas in adulthood. Finally, anxious attachment style was associated with participants reporting a greater emotional intensity of their traumatic memories, more intense physical reactions to remembering trauma, and more frequently (in)voluntarily recalling traumatic experiences. These findings highlight the strong relation between anxious attachment, traumatic experiences, and subsequent PTSD symptoms, as well as the stronger impact of early life traumas on current symptom experience.

Scholars have also investigated the relation between experience of interpersonal trauma and attachment style. Most noteworthy are findings indicating strong, positive relations between childhood abuse or neglect and insecure attachment styles (e.g., Alexander, 1992; Rosenstein & Horowitz, 1996). Traumatic experiences involving significant others (caregivers, family members, or romantic partners) can activate an insecure attachment process, which in turn brings the likelihood of failure in the ability of individuals to regulate their emotions, and contributes to greater PTSD symptoms as a result of ineffective coping (e.g., Mikulincer, Shaver, & Horesh, 2006; Mikulincer, Shaver, & Solomon, 2015). As mentioned previously, betrayal trauma suggests a trauma is high in betrayal when the victim cares for, relies on, or trusts the perpetrator (Freyd, 1994; 1996), in line with attachment theory and the associated dangers of disruptions to the secure attachment process. The degree to which interpersonal relationships and connectedness are trusted and valued shapes the extent to which attachment styles are developed or altered, as well as how much traumatic experiences negatively impact individuals later in life.

Huang, Chen, Su, and Kung (2017), examining a sample of 162 Taiwanese young adults, found those who experienced interpersonal trauma had higher attachment anxiety than those who experienced impersonal trauma. As well, for those who experienced interpersonal trauma, attachment anxiety was also related to greater severity of PTSD symptoms, even after controlling for age and level of distress caused by the traumatic event. These findings demonstrate that, particularly in collectivist cultures, experience with interpersonal traumas cause severe disruption in the secure attachment system.

Using self-report data from a sample of 80 adolescent girls, Shapiro and Levendosky (1999) concluded attachment style and coping strategies mediated the effects of childhood sexual abuse on later psychological distress and interpersonal conflict. They also found avoidant coping

impacted interpersonal conflict to a greater degree than effects of childhood abuse. These results demonstrate the mediating role of attachment style on outcomes associated with trauma, and further supports the argument that individuals' interpretation and coping strategies surrounding a traumatic event are more impactful than the event alone. However, the strength and direction of effect concerning the relations among trauma, attachment, coping strategies, and interpersonal conflict are unclear when applied to romantic relationships.

In a similar study, Pearce et al. (2017) examined childhood trauma experiences, attachment styles, and severe mental health outcomes (i.e., psychotic experiences). They found the fearful/disorganized dimension of insecure attachment styles (i.e., negative view of self and others), specifically, positively related to experiences of trauma and psychotic experiences, such as dissociating and suffering from paranoia. In addition, fearful attachment mediated the relation between childhood trauma experiences and paranoia, suggesting that the attachment-threatening events individuals with insecure attachment may experience lead to concerns about safety within relationships. So, developing a fear of others and simultaneous negative view of self in response to experiences with interpersonal trauma is what predicts later mental health difficulties. Again, how the individual copes with the experiences of trauma holds more impact for future functioning than the trauma experiences itself.

Relatedly, Hocking, Simons, and Surette (2016), utilizing betrayal trauma theory, found evidence for attachment as a mediator between experience of maltreatment in childhood and the likelihood of experiencing betrayal trauma as an adult. They suggested experience with maltreatment may lead to the development of an anxious attachment style and bring individuals to cling to unhealthy relationships as adults, rather than distancing themselves and ensuring safety – an assertion which is supported in previous studies (e.g., Henderson et al., 1997).

Specifically focusing on how traumatic experiences affect individuals in romantic relationships, Ruhlmann, Gallus, and Durtschi (2017) explored the relationships of 35 married couples where one or both partners had a trauma history. In addition to experiences with trauma, participants provided information on their marital satisfaction and their perceived attachment behaviors as well as those of their partner. Within single-trauma couples, wives' trauma experience related to lower marital satisfaction for husbands; however, husbands' trauma experience did not significantly relate to wives' marital satisfaction. In dual-trauma couples, when wives had higher numbers of traumas, their husbands were more likely to report that both partners engaged in more secure attachment behaviors (such as being accessible, responsive, and engaged). The same effect was not found when husbands experienced a higher number of traumas. For both wives and husbands, a greater endorsement of PTSD symptoms was associated with perceiving less secure attachment-promoting behaviors from themselves and their partners. Finally, greater endorsement of PTSD symptoms for husbands was related to lower levels of satisfaction for both partners. Being in a single- or dual-trauma partnership was found to moderate many of the relations between trauma history and the outcome variables (i.e., perceived attachment behaviors, relationship satisfaction).

Ruhlmann et al. (2017) found that, contrary to other studies, individuals in dual-trauma relationships may actually benefit from the shared experienced of trauma, which may increase their bonds and desire to securely attach to one another. Even still, high levels of PTSD symptoms may distort the extent to which individuals perceive or interpret attachment behaviors, which can lead to relationship dissatisfaction. Last, results of this study further highlight sex differences in the experience of trauma, and how it impacts heterosexual romantic relationships.

A primary limitation in this area of research is a lack of longitudinal studies, making it more difficult to establish causal evidence that high-betrayal, interpersonally traumatic experiences impact the development or alteration of attachment style over time. Nevertheless, findings do indicate a strong and positive relation between betrayal trauma experiences and insecure attachment. Key to my study, evidence indicates attachment style likely acts as a mediator between betrayal trauma experiences and outcomes such as emotional distress and interpersonal conflict in romantic relationships (Hocking, Simons, & Surette, 2016; Pearce, Simpson, Berry, Bucci, Moskowitz, & Varese, 2017; Shapiro & Levendosky, 1999).

Trauma and Emotion Regulation

As stated earlier, traumatic experiences involving close others (caregivers, family members, or romantic partners) activate insecure attachment, thereby causing a failure in the ability of individuals to regulate their emotions and behaviors and contributes to more PTSD-like symptoms as a result of being unable to effectively cope with the trauma (e.g., Mikulincer, Shaver, & Horesh, 2006; Mikulincer, Shaver, & Solomon, 2015; van der Kolk, 2014). In addition to occurrences of dissociation, shame, and betrayal blindness, high betrayal trauma has also been found to relate to avoidance and numbing (e.g., Kelley, Weathers, Mason, & Pruneau, 2012). As well, the comorbidity between traumatic experiences in childhood and emotion regulation difficulties is captured through DESNOS or BPD diagnoses. Individuals with a BPD diagnosis, specifically, experience increased emotional sensitivity, difficulty regulating intense emotional responses, and a lengthy return to a stable emotional baseline (Cattane, Rossi, Lanfredi, & Cattaneo, 2017). Further, at least one theory holds that BPD and its related difficulties regarding emotion regulation and expression develop in response to individuals feeling invalidated or unaccepted by others in their developmental environment (Linehan, 1993a,

1993b). As a result, those who experience interpersonal trauma in their childhood do not understand their emotions, from naming them to regulating them. It is therefore hypothesized by some that difficulties with emotion regulation is the most notable feature of those with a complex-PTSD diagnosis (e.g., Bryant, 2010).

Physiologically, traumatic experiences can bring changes to the brain, which can directly contribute to difficulties with emotional regulation. Etkin and Wager (2007) conducted a meta-analysis of studies examining emotional processing in anxiety disordered people, via brain imaging, including trauma sufferers diagnosed with PTSD. They found hyperactivity in several brain regions, notably certain portions of the amygdala (a brain region associated with the processing of and response to emotions) and the insula (a brain region associated with processing negative emotions and regulating the autonomic nervous system). These findings suggested an exaggerated fear circuitry and increased fear responses for those with trauma histories. Trauma sufferers with PTSD were also found to possess hypo-activity of some brain regions, including different amygdala nuclei as well as the anterior hippocampus (areas related to emotional numbing, dissociation, memory, and regulation of the adrenal gland, which produces stress hormones). The researchers concluded trauma-based anxiety is distinctly separate from other types of anxiety in that reactions during fear-inducing situations initiate difficulties in emotion regulation, a more complex reaction than other anxiety disorders related to simple fear.

Focusing on early life adversities, Tottenham et al. (2010) studied the effect of being raised in orphanages on the development of children's limbic systems, a system highly related to emotional behavior. They found children who spent more time in an orphanage (before being adopted) had larger amygdala mass, which previous research has shown is related to higher levels of anxiety (e.g., De Bellis et al., 2000). As well, on tasks assessing frontal lobe executive

function, the brain lobe that oversees emotional and behavioral control, children who waited longer to be adopted made more errors by responding to negative facial expressions when these faces served as distractors to more pleasant facial expressions. Of import, this pattern of errors demonstrated ‘false alarms’, and not true misses, meaning children were reacting in a conditioned fashion to these facial expressions (as opposed to momentarily pausing, or making a true error in selection). The researchers suggest this pattern indicates children were unable to regulate and control their behavior because the negative facial expressions were highly emotionally arousing stimuli for them. The results of this study reflect how early life adversities related to disruptions in attachment and relationship-building are related to changes in brain function and regulation of responses to emotional stimuli. Other studies have shown similar effects with a history of developmental trauma being related to extreme difficulties in individuals regulating their emotions, particularly in the presence of threatening stimuli (e.g., Pollak, Vardi, Putzer Bechner, & Curtin, 2005; Briere & Rickards, 2007; Pollak, 2008; Rellini, Vujanovic, Gilbert, & Zvolensky, 2012).

More closely related to my study, Goldsmith, Chesney, Heath, and Barlow (2013) found emotion regulation difficulties mediated the relation between high-betrayal traumas and psychological symptoms of depression, anxiety, avoidance, and intrusion. However, this effect did not exist for low-betrayal traumas, suggesting unique impacts of high-betrayal traumas on emotion dysregulation. As such, examination of the extent to which difficulties in emotion regulation mediate the relation between betrayal trauma experiences and relationship outcomes, such as relationship satisfaction, are of importance. Interestingly, recent research indicates that adaptive emotion regulation strategies, such as cognitive reappraisal, can be helpful in gaining new insights about difficult experiences (e.g., traumatic events, romantic relationship break-ups),

thereby mitigating symptoms of distress, depression, and dissatisfaction with life (Boals, Valentine, & Beike, 2015).

Trauma and Relationship Satisfaction

When experiences of traumatic events lead to PTSD or other trauma-related symptoms, afflicted individuals face significant adjustment-related difficulties. Of particular interest, interpersonal relationships seem to suffer in response to trauma symptoms (Monson & Synder, 2012). More specifically, trauma symptoms have been found to negatively correlate with romantic relationship satisfaction (Allen, Rhoades, Stanley, & Markman, 2010; Erbes, 2011; Nelson Goff, Crow, Reisbig, & Hamilton, 2007).

Many of the current studies examining the impact of traumatic experiences on relationship satisfaction have specifically utilized military populations, given the high propensity for those who have served to encounter potentially traumatic events. Findings indicate those reporting more severe trauma symptoms generally experience more relationship difficulties and lower relationship satisfaction than those with less severe or no trauma symptoms (Erbes, 2011; Cook, Riggs, Thompson, Coyne, & Sheikh, 2004; Sayers, Farrow, Ross, & Oslin, 2009). Some studies have indicated this is due to increased conflict and less expressed warmth in the relationship in response to the trauma symptoms (e.g., Caska et al., 2014). Further, individuals may experience greater detriments to relationship satisfaction when they attribute their internal experiences of the trauma symptoms to their partner's personality as opposed to the external factors (e.g., combat exposure) that actually caused the trauma symptoms (Renshaw, Allen, Carter, Markman, & Stanley, 2014; Renshaw, Rodrigues, & Jones, 2008). Finally, perceived loneliness in one's experiences (based on factors such as demographic distance from close loved

ones or platoon relations) may decrease level of relationship quality and increase other mental health concerns such as suicidal ideation (Cacioppo et al., 2016).

Nelson Goff and Smith (2005) proposed the Couple Adaptation to Traumatic Stress (CATS) Model, describing how both the individual and the couple is affected by traumatic events. The primary assumption of the model postulates that the primary trauma survivor's functioning in response to the trauma (i.e., degree of severity of trauma symptoms) predicts the potential development of secondary trauma symptoms in the partner, which may then exacerbate trauma symptoms of the primary partner. Overall, the CATS Model holds that how the couple adapts to experiences of trauma is determined by: 1) the individual level of functioning of both partners; 2) any risk factors and the availability of resources for both partners; and, 3) the level of functioning of the couple dyad. This model not only implies the existence of partner effects on relationship satisfaction, but also that how the couple navigates their relationship before and after an experience of trauma holds significant weight as well.

One study examined the importance of communication skills between partners in a romantic relationship, given that communication is an important contributor to relationship satisfaction (Woodin, 2011). Bakhurst, McGuire, and Halford (2018) observed military couples communicating about a point of conflict in their relationship. They found a higher severity of trauma symptoms in men predicted low relationship satisfaction for both men and women. As well, the researchers coded positive and negative aspects of communication (where "positive" was agreeing, accepting, self-disclosing, and providing positive suggestions, and "negative" was disagreeing, justifying, withdrawing, criticizing, and providing negative suggestions), and found trauma symptoms in women negatively correlated with positive communication, but that when

women used positive communication there was a higher degree of relationship satisfaction for both men and women.

In testing communication as a mediator between trauma symptoms and relationship satisfaction, they found positive communication used by women fully mediated men's trauma symptom severity and women's relationship satisfaction; however, results also indicated men using a high degree of negative communication reported a higher degree of relationship satisfaction (Bakhurst, McGuire, & Halford, 2018). The researchers suggested the specific type of "negative communication" may have had an impact on this result. For example, men expressing their negative affect may be therapeutic for them and increase their connection with their partner, whereas men withdrawing from their partners may feel more disconnected and less satisfied. In sum, this study demonstrates the powerful effect communication can have on the relation between trauma experiences and relationship satisfaction – a result that, surely, is not exclusive to military couples.

Regarding non-military couples, Knapp, Knapp, Brown, and Larson (2017) examined how conflict resolution styles may mediate the relation between experiences of sexual abuse as a child and adult relationship satisfaction and stability. They found couples in which one partner was an abuse survivor use hostility as a conflict resolution style significantly more than couples in which neither partner was an abuse survivor. This dynamic was particularly emphasized in women survivors. As well, non-validating forms of conflict resolution styles negatively predicted relationship satisfaction and stability. Hostility, specifically, for both men and women, was the strongest negative predictor of the outcome variables compared to all other styles. Regarding a mediation effect, only men's report of their partner's volatility negatively predicted his reported relationship stability – no other mediation effects were found. These findings indicate the

conflict resolution styles one develops may not be directly affected by early trauma experiences, but rather multiple experiences throughout family and romantic relationships. In other words, an experience of relational trauma by itself may not predict relationship dissatisfaction and instability, but rather the relational skills individuals learn as they age – which may be particularly important for relational abuse survivors – are the important predictors of these relationship outcome variables. These findings alongside those discussed above indicate focusing on what goes on for each partner and between the partners during conflict, emotionally and in communication, may be important areas for clinical focus in improving relationship quality.

Nevertheless, the psychological impacts of trauma on interpersonal relationships are undeniable. One study compared psychological effects (i.e., satisfaction with a) self; b) friendships; c) past romantic/sexual relationships; d) current romantic relationships; and e) current sexual relationships) of adults who experienced sexual assault in childhood, adults who only experienced sexual assault in adulthood, and adults who never experienced sexual assault (Hyland, Tsujimoto, & Hamilton, 1993). Compared to women who never experienced sexual assault or did not experience sexual assault until adulthood, adult women who experienced childhood sexual assault were significantly less satisfied in their past romantic/sexual relationships. Compared to those who never experienced a sexual assault, women who were assaulted in childhood or adulthood were significantly less satisfied in their friendships, past romantic/sexual relationships, and romantic relationships. These results indicate similar psychological effects regardless of age during the trauma experience.

Some have argued the unique traumatic effects of incestuous sexual abuse lead to a lack of security in trusting adults, as well as potential distorted expectations of future romantic relationships (Davis & Petretic-Jackson, 2000). Further, research has suggested sexual abuse by

a familial perpetrator, as opposed to abuse perpetrated by a stranger or other known individual, is associated with the highest risk for relationship difficulties as an adult (Bronwyn & Halford, 2010). In addition, women who have survived incestuous sexual abuse have negative expectations about marriage and may wait longer to get married than those not abused in childhood (Larson & Lamont, 2005). These women also perceive their partners and their relationships more negatively (Walker et al., 2011; Busby, Walker, & Holman, 2011) and thereby report less satisfaction and stability in their relationships (DiLillo, 2001; Nelson & Wampler, 2000). Finally, survivors of incestuous sexual abuse may take more risks in their romantic relationships, such as moving in with their partners before they may be ready to and having multiple abusive partners (Friesen, Woodward, Horwood, & Fergusson, 2010). Compared to those without this abuse history, survivors separate or divorce from their relationships more frequently (DiLillo, 2001).

Interestingly, one study found that the extent to which a history of trauma impacts the relationship negatively is in part dependent on whether a partner has also experienced a trauma. Ruhlmann, Gallus, and Durtschi (2018) examined married couples' satisfaction and perceived attachment-promoting behaviors across those in single-trauma couples (a relationship where only one member has a trauma history) and dual-trauma couples (a relationship where both partners have a trauma history). In single-trauma couples, only one significant actor-partner effect was found: husbands were more dissatisfied in their marriage when their wives had experienced more (i.e., higher in numbers) trauma. In dual-trauma couples, there were an increased number in actor-partner effects. First, wives who experienced more trauma reported they perceived their husbands to engage in secure attachment promoting behaviors, and their husbands agreed they perceived themselves and their wives to engage in these behaviors. Second, husbands and wives

reporting greater PTSD symptoms was associated with decreased perception of secure attachment promoting behaviors in the relationship. Third, a husband's endorsement of greater PTSD symptoms was related to both lower level of their own and their wife's satisfaction with the marriage.

Additionally, single- or dual-trauma couple status was found to moderate many of the found effects (Ruhlmann, Gallus, & Durtschi, 2018). First, for wives reporting more trauma events, husbands reported less perceived attachment behaviors in a single-trauma couple, but husbands in a dual-trauma couple reported more perceived attachment behaviors. Similarly, for wives reporting more trauma events, husbands in a single-trauma couple were less satisfied and husbands in a dual-trauma couple were more satisfied. Finally, husbands with higher reports of PTSD symptoms were more satisfied in a single-trauma couple and less satisfied in a dual-trauma couple. The findings of this article support the CATS Model's (Nelson Goff & Smith, 2005) proposition that experiences of trauma have partner effects, for better or worse, and that how successfully the couple copes with these experiences is dependent on each individual's level of functioning and the stability of the dyad itself.

Overall, it is important for studies to continue to examine factors that may mediate the relation between relational abuse experiences and current relationship functioning. If research can continue to pinpoint what variables impacted by trauma, such as conflict communication styles and emotion regulation, have the most impact on relationship quality, this gives clinicians a clear path for treatment within individual or couples' therapy. Current research in this area indicates a healthy, intimate relationship may decrease trauma-related symptoms, thereby mitigating the typical relationship difficulties with which trauma survivors struggle (e.g.,

Feinauer, Callahan, & Hilton, 1996; Vaillancourt-Morel, Rellini, Godbout, Sabourin, & Bergeron, 2018).

Attachment and Relationship Satisfaction

Given the variance in how those with differing attachment styles view themselves and others, it is no surprise they also experience and evaluate their relationships differently. Specifically, anxious and avoidant attachment are consistently found to correlate negatively to relationship satisfaction, whereas secure attachment relates more positively to relationship satisfaction (e.g., Hadden, Smith, & Webster, 2014; Mikulincer, Florian, Cowan, & Cowan, 2002). Anxious attachment is associated with hypervigilance and potential “clinginess” in relationships, as well as a general worry that a partner will not be available in a time of need, whereas avoidant attachment relates to being emotionally detached in relationships, disengaging from them, and at times rejecting intimacy (Shaver & Mikulincer, 2005). These interpersonal dynamics may already predispose one to having a lower level of relationship satisfaction, and, in fact, findings have indicated insecure attachment relates to even greater decreased in relationship satisfaction over the length of a relationship (e.g., Sadikaj, Moskowitz, & Zuroff, 2015). Research in this area also has illustrated gender effects in heterosexual relationships, with anxious attachment in women relating to lower relationship satisfaction for men, and avoidant attachment in men relating to lower relationship satisfaction for women (Collins & Read, 1990; Simpson, 1990; Kirkpatrick & Davis, 1994; Givertz, Woszidlo, Segrin, & Knutson, 2013).

One meta-analysis demonstrated interesting gender and relationship length effects between attachment and relationship outcome variables (Hadden et al., 2014). They found, for both men and women, anxious and avoidant attachment styles related negatively to their own relationship satisfaction, and that avoidant attachment related more strongly negatively to

satisfaction. As well, anxious attachment related negatively to relationship commitment for women, but not men, whereas avoidant attachment related negatively to commitment for both men and women. Again, avoidant attachment related more strongly negatively to commitment than did anxious attachment.

In addition, the length of the romantic relationship moderated the relation between the anxious attachment style and relationship satisfaction (Hadden et al., 2014). For anxiously attached men in a six-month relationship, there was no significant association between their attachment style and level of satisfaction; however, there was a significant negative relation between anxiously attached men in 2- or 5-year-long relationships. Women with an anxious attachment style, on the other hand, were significantly dissatisfied in their relationships, regardless of the length of the relationship. Avoidant attachment style significantly negatively predicted relationship satisfaction for both men and women across various relationship lengths, including a declining relationship satisfaction as the length of the relationship increased.

Given the general negative association between insecure attachment and relationship quality, it is important that research continue to explore what particular dynamics of attachment contribute to relationship satisfaction. Just as importantly, research should explore what other individual-level variables may be impacted by the various attachment styles – for example, emotion regulation – and how these variables may change or further explain the relation between attachment and relationship satisfaction.

Emotion Regulation and Relationship Satisfaction

The literature on the relation between emotion regulation and relationship satisfaction is relatively new and therefore little is known about the interaction of these two concepts. To begin with, examining emotion regulation abilities of individuals within a romantic relationship is

important as emotions are at the core of many couples' counseling therapies such as *Emotionally Focused Couples Therapy* (Johnson, 2004) and *Gottman's Couple Therapy* (Navarra & Gottman, 2011). Relatedly, the extant literature indicates partners experience a higher degree of relationship satisfaction when they are able to effectively handle disagreements and cope with natural stressors within the relationship (Tuval-Mashiach, Hanson, & Shulman, 2014), but that difficult experiences in romantic relationships cause one to question their ability to succeed during times of conflict in relationships, relating to lower abilities to cope with relationship distress (Aron, Mashek, & Aron, 2004). As well, how partners perceive one another during conflict can have a significant effect on what emotions come up for them. Research has shown that perceptions of criticism from a partner are just as negatively impactful as having an objectively critical partner (Butzlaff & Hooley, 1998; Masland & Hooley, 2015), and that perceptions of criticism are largely influenced by emotion regulation abilities.

Some level of criticism within relationships is warranted, particularly when it is constructive and is used to better the relationship. In fact, constructive criticism (i.e., disagreement with or disapproval of a partner's behaviors) has been found to have a moderately positive relation with relationship satisfaction; on the other hand, hostile criticism (i.e., global negative comments about a partner) holds a strongly negative relation with relationship satisfaction (Campbell, Renshaw, & Klein, 2015; Renshaw et al., 2010). However, perceptions of constructive versus hostile criticism may not be so clear cut. People who experience more difficulty with emotion regulation tend to view others' behaviors as less positive and more negative and aggressive (Barnow et al., 2009), and tend to withhold displaying their own positive or negative emotions which may make them appear more hostile (Gratz & Roemer, 2004).

In examining perceptions of constructive versus hostile criticism, Klein, Renshaw, and Curby (2016) asked couples to discuss a problem in their relationship and found that individuals who reported greater global difficulties with emotion regulation and reported globally using expressive suppression as a primary emotion regulation strategy were more likely to perceive hostile criticism from their partners overall. In addition, when specifically discussing a problem unique to their relationship, individuals who reported greater emotion regulation difficulties during the discussion reported using higher levels of expressive suppression and reported perceiving their partners as using hostile criticism. Though this study did not measure relationship satisfaction, it is clear to see how a pattern of suppressing one's own emotions as well as perceiving one's partner as hostile can contribute to overall lower satisfaction in a relationship, as supported by research previously mentioned (e.g., Renshaw et al., 2010). As such, exploring the impact of emotion regulation difficulties on the individual, their partner, and their relationship satisfaction is a fruitful area of research, as it can help determine areas for intervention.

Rick, Falconier, and Wittenborn (2017) studied 104 heterosexual couples currently seeking couples or family therapy regarding how their emotion regulation abilities impact their own and their partner's relationship satisfaction. They found the following significant effects: for both men and women, access to emotion regulation strategies positively related to their own relationship satisfaction; men's awareness of their emotions negatively related to their own relationship satisfaction; women's acceptance of their emotions negatively related to men's and their own relationship satisfaction; and women's impulse control positively related to men's relationship satisfaction. The strongest effects on relationship satisfaction were men's and

women's access to emotion regulation strategies, indicating learning adaptive strategies may promote higher satisfaction in relationships.

Relatedly, Vater and Schröder-Abé (2015) examined how various emotion regulation strategies influenced relationship satisfaction after discussing a point of conflict and relationship satisfaction at a six-month follow-up. First, they found perspective taking related to more positive interpersonal behavior during conflict, while expressive suppression and aggressive externalization related to less positive interpersonal behavior during conflict. Next, lower levels of expressive suppression, higher levels of perspective taking, and lower levels of aggressive externalization related to higher relationship satisfaction after the conflict and at the follow-up. Aggressive externalization, on the other hand, related to decreased relationship satisfaction after the conflict and at follow-up.

Additionally, another study demonstrated that consistently utilizing emotional suppression strategies decreased the likelihood of intrapersonal and interpersonal growth after a relationship dissolution; however, consistently utilizing more adaptive emotion regulation strategies, such as cognitive reappraisal, was associated with increased intrapersonal growth after a break up (Norona, Scharf, Welsh, & Shulman, 2018). As well, high levels of relationship satisfaction in the current relationship and past relationships predicted lower levels of distress after the current relationship ended.

What specific emotion regulation strategies one uses significantly impacts interpersonal relationships. Expressive suppression leads to negative outcomes, such as decreased likelihood of a new relationship forming (Butler et al., 2003), decreased social satisfaction and closeness (English, John, Srivastava, & Gross, 2012), and increased thoughts of ending a romantic relationship (Impett et al., 2012). Within the context of individual or couples' therapy, it may be

helpful for a therapist to both teach more adaptive ways of regulating emotions (e.g., perspective taking, reappraisal, sharing emotions) and help the individuals understand the impact of more negative emotion regulation strategies (e.g., expressive suppression, aggressive externalization). These interventions would likely lead to an increase in relationship satisfaction over time.

Attachment and Emotion Regulation

With regard to how individuals, especially children, cope with perceived threats, Crittenden (1992) and Kobak and Sceery (1998) proposed children's internal representation models (i.e., model of self and others; see Bartholomew & Horowitz, 1991) influence their coping strategies. Given how their attachment style develops, children come to form expectations about future interpersonal situations and how to manage conflicts in those situations. Therefore, as a result of maltreatment or abuse, children are more likely to develop insecure attachment styles and coping strategies that are contextually appropriate (e.g., avoidance). However, these coping strategies may no longer be effective in later interpersonal relationships, especially if there is no real or current threat to the individual. Because coping strategies are inherently tied to an internal representation model acquired early in life, it can be difficult to change or adopt new coping strategies.

Within attachment theory, Bowlby (1969, 1973) asserted the attachment system both helps to protect individuals from potential threats (real or imagined) as well as to regulate negative affect in response to perceived threats. Mikulincer and Shaver (2003) developed a model highlighting how the emotions individuals experience, and how those emotions are handled in response to a potential threat, are based on their attachment style. Those who are securely attached are confident their attachment figures will be able to meet their needs and help relieve any potential distress; as such, they are able to use more problem-focused coping

strategies in response to the threat and are less hindered by fear. Those who are anxiously attached are not confident their attachment figures will be responsive to their needs and alleviate distress; therefore, their attachment system and fear remains activated, and they utilize emotion-focused coping strategies in response to the threat. Last, those who are avoidantly attached try to escape the discomfort of distress or anxiety and adopt coping strategies that aim to inhibit and control their emotions and are indifferent to their caretakers. In support of this, Velotti et al. (2016), recently found anxious and avoidant attachments to relate to lack of clarity of experienced emotion as well as non-acceptance concerning negative emotions. Anxiously attached individuals struggle with controlling their impulses, while avoidantly attached individuals lack emotional self-awareness. Last, these researchers also found an effect by sex, such that anxiously attached women experienced greater difficulty in engaging in goal-directed behavior while distressed. These findings give unique insight into the specific measured deficits in emotion regulation unique and common among the insecure attachment styles. As well, these findings highlight sex by attachment style interaction effects.

Viddal, Berg-Nielsen, Belsky, and Wichstrøm (2017) investigated attachment style and emotional regulation in children from four to six years old, and six to eight years old. Results of this study found increases in attachment security from four to six years old were related to increases in adaptive emotion regulation from six to eight years old. Alternatively, decreases in attachment security from four to six years old were related to increases in maladaptive emotion regulation from six to eight years old. These results corroborate arguments that emotion regulation abilities are characteristic of differing attachment styles over time, such that adaptive emotion regulation is characteristic of secure attachment, and emotion dysregulation is characteristic of insecure attachment styles (e.g., Velotti et al., 2016).

Regarding outcomes, research has indicated secure attachments are associated with higher levels of adaptive emotion regulation and lower levels of depression and generalized anxiety disorder (GAD) symptoms (Marganska, Gallagher, & Miranda, 2013). Alternatively, anxious and avoidant attachment were associated with increased emotion dysregulation and higher levels of depression and GAD symptoms. These researchers found confidence in ability to use adaptive emotion regulation strategies, acceptance of negative emotions, and controlling impulsive behaviors were mediators of insecure attachment style and experience of depression and GAD symptoms. Individuals who were anxiously or avoidantly attached, who perceived they were unable to effectively regulate their emotions, who were uncomfortable with their negative emotions, and who behaved impulsively were more likely to struggle with depression or anxiety.

The relation between attachment and emotion regulation is clear, with evidence suggesting individuals who are insecurely attached and who experience difficulties in emotion regulation also experience psychological and social difficulties. These constructs are important to examine in the context of outcomes in romantic relationships.

Trauma, Attachment, and Relationship Satisfaction

Given the intrapersonal and interpersonal difficulties faced in response to experiences with interpersonal trauma or the development and maintenance of insecure attachment styles, individuals who have both trauma backgrounds and insecure attachment styles undoubtedly experience difficulties in their romantic relationships. Some evidence indicates traumatic events may lead to the development of insecure attachment styles, leading to overall psychological distress, which in turn impacts distress within a relationship (Whiffen & MacIntosh, 2005; Godbout, Sabourin, & Lussier, 2009). Though a plethora of studies have argued that experiences of trauma alone do not lead to the development of insecure attachment or PTSD-related

symptoms (e.g., Hocking, Simons, & Surette, 2016; Pearce et al., 2017; Shapiro & Levendosky, 1999), it is of interest to examine the potentially mediating role insecure attachment styles may play in the relation between trauma experiences and relationship outcomes.

A recent longitudinal study examined the interplay between childhood sexual abuse (CSA) experiences, personality characteristics (i.e., degree of self-criticism and avoidant attachment), and relationship satisfaction (Lassri, Luyten, Fonagy, & Shaher, 2018). From baseline to Time 2 (six months later), the researchers found CSA experiences to directly relate to low levels of satisfaction within adult romantic relationships. As well, they found low levels of relationship satisfaction to predict future avoidant attachment level, which subsequently predicts further decreased levels of relationship satisfaction. Importantly, the researchers found that experiences of CSA directly impacted the development of self-criticism; however, no direct relation was found between CSA and the development of avoidant attachment.

Lassri et al. (2018) speculated CSA may only impact global self-schemas and not relationship-specific schemas due to re-directing feelings of shame or blame from the abuser to the self as a means to protect the parent-child relationship. This idea is similar to the concept of “betrayal blindness” referred to earlier in this review (Freyd, 1996). The researchers further suggested it is the experience of dissatisfaction in a relationship that may lead to changes in avoidant attachment levels over time. As these results specifically examine the impacts of CSA, and not other trauma experiences such as physical or emotional abuse, it may be important for future studies to examine these other interpersonal traumas longitudinally to further understand the interplay of trauma, attachment, and relationship satisfaction. Additionally, exploring how one regulates emotions evoked from instances of self-criticism is important to consider as well,

as this may also have a mediating effect on the relation between interpersonal trauma experiences and relationship satisfaction.

The only other study currently in the literature that has explored trauma, attachment, and relationship satisfaction is one mentioned earlier in this review (Ruhmann, Gallus, & Durtschi, 2018), where it was found that wives with trauma histories perceive their husbands to engage in secure attachment behaviors, but that both husbands and wives with higher PTSD symptomatology do not perceive secure attachment behaviors from their spouse. Notably, husbands' greater PTSD symptom endorsement related to decreases in their own and their wives' marital satisfaction. Further, husbands who were a part of a dual-trauma dyad were more satisfied in their relationships than those a part of a single-trauma dyad. While the results of this study illustrate how experiences of trauma may impact relationship satisfaction, including perception of partners, it is important to note this study measured "attachment behaviors" as opposed to attachment styles. This is an important distinction as numerous studies examining attachment style and behaviors in relationship have shown that individuals with insecure, particularly anxious, attachments may have a good awareness of what secure attachment-promoting behaviors may be, but still have difficulty implementing these behaviors (e.g., Turan & Vicary, 2010). As such, there is an apparent gap in the literature regarding how trauma experiences and attachment styles interact to predict satisfaction in romantic relationships. Knowing more about how these constructs work together can help to clarify areas of intervention within counseling.

Trauma, Emotion Regulation, and Relationship Satisfaction

The relation between experiences of trauma and emotion regulation difficulties has been outlined (e.g., Briere & Rickards, 2007; Rellini, Vujanovic, Gilbert, & Zvolensky, 2012; Boals,

Valentine, & Beike, 2015). As well, studies to date have illustrated how more effective emotion regulation strategies may decrease distress within romantic relationships (Rick, Falconier, & Wittenborn, 2017; Tuval-Mashiach, Hanson, & Shulman, 2014; Vater & Schröder-Abé, 2015). Interestingly, some studies have found the most common relationship difficulties amongst women who have survived trauma in childhood include difficulties with emotional intimacy and a related inhibited expressed sexual desire, leading to difficulty becoming sexually aroused, resulting in decreased levels of sexual satisfaction in relationships (DeSilva, 2001; Lewis et al., 2010; Rellini & Meston, 2007). It has been argued that emotion regulation is a key construct that helps to explain the relation between trauma experiences and experiences of satisfaction in a relationship, and that difficulties with emotion regulation may exacerbate the effects of childhood trauma and adult relationship distress (Rellini, 2008; Rellini, Vujanovic, & Zvolensky, 2010).

A recent study exploring the interplay between experiences of trauma, emotion regulation, and relationship satisfaction (Rellini, Vujanovic, Gilbert, & Zvolensky, 2012) demonstrated the unique effects of emotion dysregulation on distress in romantic relationships. The researchers found that severity of maltreatment in childhood negatively predicted sexual and relationship satisfaction, and positively predicted difficulties in emotion regulation. On its own, emotion dysregulation added incremental variance in the relation between childhood maltreatment and sexual satisfaction in adulthood, and emotion regulation difficulties were more strongly related to sexual satisfaction than experiences of maltreatment. Of import to note, emotion dysregulation did not have a significant relation to intimacy in the relationship or satisfaction with affection in the relationship, suggesting a unique effect on sexual satisfaction. Betrayal trauma theory (Freyd, 1996) again seems to explain this relation, as experiences of

being betrayed by a close other in childhood, especially if the betrayal related to physical boundaries, may lead to an overall distrust for close others in adulthood to respect one's physical desires. Another study (Bradbury & Shaffer, 2012) exploring the mediating role of emotion regulation (as measured through the DERS) of emotional maltreatment in childhood and young adult relationship satisfaction found nonacceptance of emotion responses, impulse control difficulties, and lack of emotional awareness to fully mediate the relation, after controlling for sex of the participant and length of the current relationship at the time of study.

Again, there is a lack of extensive research that examines the impact of trauma experiences (especially interpersonal, betrayal-based traumas) on relationship satisfaction as explained through emotion regulation. Because emotion regulation abilities are largely impacted by trauma experiences, it is important to understand the role of emotion regulation in relationship satisfaction, so as to gain clarity in intervening within a counseling setting.

Trauma, Attachment, Emotion Regulation, and Relationship Satisfaction

Taken together, experiences of developmental trauma, insecure attachment, and difficulties with emotion regulation, separately, have been shown to relate to relationship dissatisfaction. Few studies have examined multiple of these constructs together, and none to date have examined all four in conjunction. By studying these variables which are conceptually and empirically highly related, it is possible to have a more thorough and in depth understanding of the various intra- and interpersonal dynamics that affect one's satisfaction with a romantic relationship. With this higher level of understanding, clinicians might be able to better assess and treat these complicated areas of concerns individually or within the context of couple's therapy.

Summary. The research I reviewed above describes how developmental trauma, attachment style, emotion regulation, and relationship satisfaction appear to be strongly

connected. However, to date, no research has examined how all four are inter-related. As well, few studies parse out the six dimensions of emotion regulation to examine the specific ways individual-level variables (such as trauma survivor and attachment style) may specifically impact emotion regulation and therefore relationship satisfaction. Attachment style and emotion regulation, separately, have been cited as mediators to developmental trauma experiences and later romantic relationship outcomes. In my study, I will look at how all four of these constructs interact. My research represents a significant and important addition to the literature in this area.

The Present Study

The literature on developmental trauma and betrayal trauma theory have provided explanations for how attachment may be disrupted. Although many studies have shown the relation between developmental trauma and attachment, only a few have explored attachment as a mediator between developmental trauma experiences and various romantic relationship outcomes. This is an important dynamic to gain insight on as this relation likely strongly impacts foci for the clinical treatment of relationship problems.

The regulation of emotion has also been shown to be strongly negatively impacted by developmental trauma experiences. Again, a sizeable portion of the literature has examined how developmental trauma is related to attachment style and emotional regulation, and some has examined these two variables act as independent mediators between developmental trauma and various psychological outcomes. However, research in this area is markedly less present in the literature as compared with studies that examine developmental trauma and subsequent attachment style. Again, further knowledge of these issues would give insight into potential foci for treatment for psychologists to address with clients.

In the current study, I will be examining the mediating effects of attachment style and emotion regulation on the relation between developmental traumas (specifically, the degree of betrayal trauma, which is more central to effects on attachment style) and romantic relationship satisfaction. Although some extant research draws connections in the relation between developmental trauma and difficulties in relationships that lead to decreased relationship satisfaction, these works are primarily geared towards individuals with high levels of PTSD via experiences with war-related trauma (e.g., Bakhurst, McGuire, & Halford, 2018; Knapp, Knapp, Brown, & Larson, 2017). While important, this literature does not illustrate the effects of multiple and ongoing traumatic events experienced perhaps at a very young age by a known individual. In other words, these studies may miss the potentially heightened negative impacts on relationship outcomes due to the unique effects of being betrayed by a loved one and the impact on attachment style and relationship navigation after an experience of trauma (Davis & Petretic-Jackson, 2000).

As well, difficulties in emotion regulation have been tied to higher levels of relationship dissatisfaction (e.g., Vater & Schröder-Abé, 2015), but it is important to understand life events that may have contributed to difficulties in emotion regulation so as to better understand why a particular area(s) of emotion regulation may be complicated. To date, few studies have put emotion regulation and relationship satisfaction in the context of betrayal trauma experiences and attachment styles, and as such the current study has much to offer with regard to understanding the complex interplay of these variables. Finally, this area of literature is important to expand on as some research indicates clinicians are not well trained to assess and attend to potential relational traumas that may inform current relationship issues (Harway & Faulk, 2005; Mohl, 2010).

Given this conceptual and empirical evidence, the following hypotheses appeared warranted:

Research Hypotheses:

I predicted the relation between more extensive betrayal trauma experiences and romantic relationship satisfaction would be serially mediated by greater endorsement of anxious and avoidant attachment styles, and greater endorsement of difficulties within the six elements of emotion regulation. Specifically, I expected the following hypotheses to hold true:

Overall hypotheses:

1. For those reporting low betrayal trauma experiences, attachment style and emotion dysregulation variables will not serially mediate the direct relation between betrayal trauma and level of relationship satisfaction.

2. For those reporting medium-betrayal trauma experiences, greater endorsement of anxious and avoidant attachment styles, and greater endorsement of each emotion dysregulation element, will serially mediate the direct relation between level of betrayal trauma and level of relationship satisfaction.

3. For those reporting high-betrayal trauma experiences, greater endorsement of anxious and avoidant attachment styles, and greater endorsement of each emotion dysregulation element, will serially mediate the direct relation between level of betrayal trauma and level of relationship satisfaction.

At each level of betrayal trauma experience, evidence of a serial mediation effect will be demonstrated by the ability of attachment style scores and emotion dysregulation scores, *in a serial fashion*, to reduce the extant coefficient of the direct relation between level of betrayal trauma and level of relationship satisfaction to a statistically insignificant level or to zero. The

specific hypotheses below are focused on anticipated statistically significant serial mediation effects based on past empirical evidence and as informed by theory. Any relations not specified in the hypotheses below are presumed a priori to be not statistically significant.

Specific hypotheses concerning serial mediation effects:

Concerning anxious attachment

1. Medium- or high-betrayal trauma experience → greater levels of anxious attachment → greater levels of *nonacceptance* of emotional responses → Lower level of relationship satisfaction

2. Medium- or high-betrayal trauma experience → greater levels of anxious attachment → greater difficulties engaging in *goal-directed behavior* → Lower level of relationship satisfaction

3. Medium- or high-betrayal trauma experience → greater levels of anxious attachment → greater *impulse control* difficulties → Lower level of relationship satisfaction

4. Medium- or high-betrayal trauma experience → greater levels of anxious attachment → greater levels of *lack of access to emotion regulation strategies* → Lower level of relationship satisfaction

5. Medium- or high-betrayal trauma experience → greater levels of anxious attachment → greater levels of *lack of emotional clarity* → Lower level of relationship satisfaction

Concerning avoidant attachment

6. Medium- or high-betrayal trauma experience → greater levels of avoidant attachment → greater levels of *nonacceptance* of emotional responses → Lower level of relationship satisfaction

7. Medium- or high-betrayal trauma experience → greater levels of avoidant attachment
 → greater levels of *lack of emotional awareness* → Lower level of relationship satisfaction

8. Medium- or high-betrayal trauma experience → greater levels of avoidant attachment
 → greater levels of *lack of access to emotion regulation strategies* → Lower level of
 relationship satisfaction

9. Medium- or high-betrayal trauma experience → greater levels of avoidant attachment
 → greater levels of *lack of emotional clarity* → Lower level of relationship satisfaction

In addition, it is predicted there will be an observed increase in the serial mediation effects of attachment style and emotion dysregulation, as the level of the severity of reported trauma increases (Low < Medium < High).

CHAPTER 3. METHOD

Participants

My study was approved by the Iowa State University Institutional Research Board (see Appendix A). Undergraduate college students at Iowa State University voluntarily participated in this study via the SONA system in the Department of Psychology. I obtained informed consent from participants at the beginning of the study (see Appendix B). Participants confirmed that they were currently in a romantic relationship and that they were at least 18 years of age. Students were awarded one research credit for their participation in this study. Courses that require research credits within the department include: Introduction to Psychology, Developmental Psychology, Social Psychology, and Introduction to Communication Studies. Each participant was enrolled in at least one of these courses; however, participants could participate in the study only once.

A total of five hundred eighty-one (581) undergraduate students participated in the study. Five cases were discarded because these participants responded only to one item and then discontinued the survey, and one case was discarded because this participant discontinued the survey halfway through. In addition, 66 cases were discarded because they reported being “single” at the time of participation. Finally, 102 cases were discarded as they denied any experience with traumatic events. A total of 407 cases were included for data analysis.

The sample had a mean age of 19 years and consisted of 288 female-identified participants (71% of the sample). Most of the sample (82%) identified as European American and primarily identified as heterosexual (90%). The average length of relationship at the time of the study was 17 months. On average, participants reported being 15.7 years old at the age of their first romantic relationship and reported, to date, having been in 2.80 romantic relationships

since their first relationship (including their current relationship). On average, participants indicated being “*Quite close*” to “*Extremely close*” to their partners, and believed their partners felt “*Quite close*” to “*Extremely close*” to them.

Table 1
Participant Demographics

<i>Items</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Range</i>
<u>Sex</u>				
Female	288			
Male	117			
Age		19.11	1.83	18-43
<u>Sexual Orientation</u>				
Bisexual	22			
Gay	5			
Heterosexual	367			
Lesbian	2			
Questioning	6			
Other	3			
<u>Race/Cultural Affiliation</u>				
American Indian/Alaskan	2			
Native	8			
African American	13			
Asian American	333			
European American	20			
Hispanic American	0			
Hawaiian or Pacific Islander	14			
International	3			
Middle Eastern American	12			
Bi/Multi-racial/Other				
<u>Current relationship status</u>				
Single (never married)	391			
Married	10			
Widowed	0			
Length of current relationship (in months)		17	20.3	0-276
Age of first relationship (in years)		15.7	1.73	12-22
Number of relationships to date (including current one)		2.80	2.18	1-30
Emotionally close to partner		4.33	.81	1-5
Perception of partner's emotional closeness		4.37	.86	1-5

Note. In the reported range of “0-276” for length of current relationship, “0” reflects relationships that were reported as less than 1 month (e.g., 2 weeks).

Procedure

Students voluntarily signed up for participation in the study through the SONA system. Upon sign-up for the study, participants were directed to the Qualtrics® survey site, where they affirmatively endorsed an informed consent document before being extended the opportunity to complete research materials. After obtaining informed consent, participants provided information on a demographic and relationship history questionnaire, and completed the BBTS (Goldberg & Freyd, 2006), ECR-S (Wei, Russell, Mallinckrodt, & Vogel, 2007), DERS (Gratz & Roemer, 2004), and the Satisfaction Level subscale of the IMS (Rusbult, Martz, & Agnew, 1998). At the end of the survey, participants were instructed to follow a link where they verified their participation in order to receive research credit. All data records were anonymous.

Measures and Materials

Demographic & Relationship History Questionnaire

Participants completed a demographic questionnaire, soliciting information on sex, age, sexual orientation, race/cultural affiliation, current relationship status, length of current relationship, age of first romantic relationship, number of romantic relationships to date, current thoughts of the future of the relationship (“*Staying in it*”, “*Don’t know*”, “*Leaving the relationship*”), and items assessing how emotionally close participants felt towards their partners, and their partners toward them (see Appendix C).

Brief Betrayal Trauma Survey

The *Brief Betrayal Trauma Survey* (BBTS; Goldberg & Freyd, 2006), based on the Betrayal Trauma Inventory (BTI; Freyd, DePrince, & Zurbriggen, 2001), is designed to tap traumatic experiences classified as low-, medium-, or high-betrayal traumas. A trauma experience is deemed a *betrayal* trauma when perpetrators of the trauma are related to or

emotionally close to the trauma survivors and is considered high-betrayal due to the disruption of trust or boundaries between the perpetrator and survivor (Goldberg & Freyd, 2006). An example of a high-betrayal trauma is being emotionally, physically, or sexually abused by a parent or loved one. A medium-betrayal trauma would include being abused by someone not close to the survivor or if the survivor witnessed someone else being abused. Finally, a low-betrayal trauma would include events that are more impersonal in nature, such as natural disasters and car accidents.

Participants responded to 11 items concerning potential traumatic experiences across their lifespan. An additional 12th item allowed participants to specify if they experienced a specific trauma not listed within the initial 11 items. Goldberg and Freyd (2006) created items across the axes of four broad dimensions: interpersonal versus impersonal events; betrayal events versus other interpersonal events; childhood versus adult events; and, physical/sexual/emotional abuse. Example BBTS items include: *“Been in a major earthquake, fire, flood, tornado”* (low-betrayal); *“Personally witnessed someone with whom you were very close committing suicide, being killed, or being injured by another person”* (medium-betrayal); and, *“You were made to have some form of sexual contact by someone with whom you were very close”* (high-betrayal; see Appendix D).

Goldberg and Freyd (2006) suggested categorizing items into either “High”, “Medium”, and “Low” betrayal subscales, or “High/More Betrayal” and “Low/Less Betrayal” betrayal subscales. In my study, I used “High,” “Medium”, and “Low” betrayal categories to examine differences in variables of interest based on experiences with impersonal trauma, interpersonal trauma with unknown others, and interpersonal trauma with known others. Although BBTS subscales are labeled “Low”, “Medium”, and “High” betrayal traumas, only “High” betrayal

items actually capture the betrayal trauma theory construct, as the associated items pertain to experiences of physical, sexual, or emotional abuse or neglect by a close individual. Participants responded to the BBTS items on a 3-point scale of frequency of events experienced up to the time of the study: 0 = never, 1 = once, 2 = two or more times. Each subscale score was calculated by summing the frequency of endorsed events within the subscale; low-betrayal scores could range from 0-6, medium-betrayal scores could range from 0-12, and high-betrayal scores could range from 0-6.

Evidence of concurrent validity for the BBTS (DePrince, 2001) was found in a strong correlation between scores on the BBTS and the Betrayal Trauma Inventory (BTI; Freyd, DePrince, & Zurbriggen, 2001), which is an extensive measure assessing for sexual, physical, and emotional abuse, as well as stressful life events such as natural disasters, divorce, and illness ($r = .77$ for emotional abuse items; $r = .64$ for physical abuse items; $r = .74$ for sexual abuse by a close other and $r = .68$ for sexual abuse by a non-close other; $r = .77$ for natural disaster items). BBTS scores were also significantly related in expected directions with measures of dissociation and PTSD (e.g., *The Dissociative Experiences Scale*, Bernstein & Putnam, 1986, $r = .44$; *The Revised Civilian Mississippi Scale for PTSD*, Norris & Perilla, 1996, Withdrawal subscale $r = .25$, Arousal subscale $r = .23$, Intrusion subscale $r = .40$). As to reliability, three-year test-retest reliability has been found to be 83% for events occurring in childhood and 75% for events occurring in adulthood (Goldberg & Freyd, 2006). These reliabilities are reported as percentages as they refer to the percentage of the same response pattern (e.g., N-N, Y-Y, N-Y, Y-N) from the first administration and second administration when responses were measured as “Y=Yes, the event did occur” and “N=No, the event did not occur.” Platt and Freyd (2015) found subscale

reliability coefficients of .61 for low-betrayal and .85 for high-betrayal (medium-betrayal score not reported).

The internal reliabilities for the current sample were as follows: low-betrayal trauma = .08, medium-betrayal trauma = .43, high-betrayal trauma = .42. Detailed information regarding the incidence and experience of trauma events is presented in Tables 4 through 6.

Experiences in Close Relationship Scale-Short Form (ECR-S)

The *Experiences in Close Relationship-Short Form* (ECR-S; Wei, Russell, Mallinckrodt, & Vogel, 2007), based on the *Experiences in Close Relationship* (ECR) scale (Brennan et al., 1998), measures how individuals emotionally experience their relationships, and categorizes these internal perceptions into anxious and avoidant attachment style tendencies. The ECR-S is a 12-item questionnaire, employing a seven-point Likert scale (1 = “*Strongly Disagree*”, 4 = “*Neutral*”, 7 = “*Strongly Agree*”). The two ECR-S subscales assess attachment-related anxiety (six items) and attachment-related avoidance (six items) within relationships. Example items include: “*I worry a lot about my relationships*” (anxiety), and “*I am nervous when partners get too close to me*” (avoidance) (see Appendix E). Four of the twelve items are reverse scored, and items on each subscale (anxious and avoidant) were summed and divided by the number of items in their respective subscales, so that mean scores aligned with the five-point Likert scale qualitative anchors. As to interpretation, *higher* average scores on each scale indicate tendencies toward *greater* anxious or avoidant (insecure) attachments in relationships.

Validity was established for the ECR-S across a series of studies conducted by Wei et al. (2007), utilizing exploratory and confirmatory factor analyses to reduce their original 36-item measure. A CFA model yielded good fit indices ($CFI = .95$, $RMSEA = .09$, $SMRs = .10$). Internal reliability coefficients of .78 and .84 were found for the anxiety and avoidance subscales,

respectively. Test-retest reliability over a 1-month interval was $r = .80$ and $r = .83$ for the anxiety and avoidance subscales, respectively.

The means, reliabilities, and correlations for the current sample are provided in Tables 2 and 3.

Emotion Regulation

The *Difficulties in Emotion Regulation Scale* (DERS; Gratz & Roemer, 2004) was designed to assess for difficulties in regulating emotion during times of distress. The scale consists of 36 items, employing a five-point Likert scale (1 = “*Almost never*” to 5 = “*Almost always*”, with a midpoint 3 of “*About half the time*”). The DERS has six subscales: non-acceptance of emotional responses (NONACCEPTANCE), difficulty engaging in goal-directed behavior (GOALS), impulse control difficulties (IMPULSE), lack of emotional awareness (AWARENESS), limited access to emotion regulation strategies (STRATEGIES), and lack of emotional clarity (CLARITY). Example items include: “*When I’m upset, I become angry at myself for feeling that way*” (NONACCEPTANCE), “*When I’m upset, I have difficulty focusing on other things*” (GOALS), “*I experience my emotions as overwhelming and out of control*” (IMPULSE), “*I pay attention to how I feel*” (AWARENESS), “*When I’m upset, I believe that I will remain that way for a long time*” (STRATEGIES), and “*I have no idea how I am feeling*” (CLARITY; see Appendix D). Eleven of the 36 items are reverse scored. *Higher* scores indicate *greater* problems within a particular dimension of emotion regulation.

With respect to construct validity, Gratz and Roemer (2004) compared the composite and subscales scores for the DERS to another commonly used measure of emotion regulation, the *Generalized Expectancy for Negative Mood Regulation Scale* (NMR; Catanzaro & Mearns, 1990). The NMR captures the extent to which individuals endorse beliefs that avoiding or

eliminating negative emotion will help them to feel more positive, which the literature has shown to be more reflective of emotion dysregulation (Cole et al., 1994; Gross & Munoz, 1995; Paivio & Greenberg, 1998). The DERS composite score and subscales scores were statistically significantly related in expected directions with the NMR ($-.34 < r_s < -.69$). Gratz and Roemer (2004) reported internal reliability coefficients of .85 for NONACCEPTANCE; .89 for GOALS; .86 for IMPULSE; .80 for AWARENESS; .88 for STRATEGIES; and, .84 for CLARITY. Test-retest coefficients for a period of four to eight weeks yielded alphas of .69 for NONACCEPTANCE; .69 for GOALS; .57 for IMPULSE, .68 for AWARENESS; .89 for STRATEGIES; and, .80 for CLARITY. More recently, Ritschel, Tone, Schoemann, and Lim (2015) examined factor invariance across both sex and racial groups (i.e., European American, African American, and Asian American), and found similar indices of goodness of fit (CFI between .909 and .942; RMSEA between .903 and .937), indicating the factor stability of the DERS across demographic groups

The means, reliabilities, and correlations for the current sample are provided in Tables 2 and 3.

Relationship Satisfaction

Relationship satisfaction was measured utilizing the ‘satisfaction level’ subscale from the *Investment Model Scale* (IMS; Rusbult, Martz, & Agnew, 1998). The relationship satisfaction subscale was designed to capture global satisfaction within a romantic relationship, as well as degree to which needs are met in a relationship. The subscale consists of 10 items, where the global items employ an eight-point Likert scale (1 = “Do not agree at all” to 8 “Agree completely”, with a midpoint 4 of “Agree somewhat”) and assess for degree of satisfaction, how much the relationship is close to ideal, and how happy the relationship makes an individual; the

facet items, on the other hand, employ a four-point Likert scale (1 = “*Don’t agree at all*” to 4 “*Agree completely*”) and assess for the degree to which a current relationship meets one’s needs for intimacy, companionship, security, emotional involvement, and sex. An example global item is: “*My relationship is close to ideal*” and an example facet item is: “*My partner fulfills my need for emotional involvement (feeling emotionally attached, feeling good when another feels good, etc.)*”. Higher scores indicate a greater degree of satisfaction with the relationship.

Rusbult et al. (1998) utilized a series of factor and correlational analyses to establish validity for the IMS. Across three separate studies, eigenvalues greater than 1.00 were found for each of the four factors (Commitment, Satisfaction, Alternatives, Investment), accounting for 98-100% of the variance in the IMS items. The Satisfaction Level subscale, particularly, yielded the largest eigenvalues (34.21, 38.95, and 65.27) across the three studies. Regarding construct validity, the Satisfaction Level subscale correlated with other measures of relationship functioning and dynamics such as satisfaction and cohesion ($r_s = .79$ and $.51$, respectively; Dyadic Adjustment Scale; Spanier, 1976), Inclusion of Other in Self Scale ($r = .69$; Aron, Aron, & Smollan, 1992), total trust and faith in a partner ($r_s = .61$ and $.71$, respectively; Trust Level; Rempel, Holmes, & Zanna, 1985), and love for partner ($r = .71$, Rubin, 1970). Rusbult et al. (1998) found internal reliability coefficients for the Satisfaction Level subscale between $.92$ and $.95$ for the global items, and $.79$ to $.93$ for the facet items.

The means, reliabilities, and correlations for the current sample are provided in Tables 2 and 3.

CHAPTER 4. RESULTS

Missing Data

Within the useable 407 cases, a total of 43 participants each failed to endorse items across study measures. On the DERS, 28 participants failed to respond to one item, and three participants failed to endorse nine consecutive items on the DERS (likely a participant skipped an entire page of the survey). The missing data for these three cases were left blank. Within the satisfaction level subscale of the IMS, eight participants missed one item, and three participants either endorsed only half of the items in the subscale or failed to endorse any items; the latter three cases were discarded from analyses. Finally, seven participants missed one item on the ECR-S scale. For all participants with a single item missing, the sample mean for that item was entered.

Statistical Analysis Procedures

For all descriptive analyses and analyses of variance, I used the Statistical Package for the Social Sciences (SPSS; 2017, version 25.0). All measure scores were standardized prior to analyses. I used the Hayes PROCESS module (2015, version 2.15) for SPSS (2017, version 25.0) for serial mediation analyses. A serial mediation analysis was chosen due to aforementioned theoretical and empirical evidence that demonstrates traumatic experiences are etiologically related to the two mediators (development of insecure attachment styles and emotion dysregulation), because attachment style has been shown to highly influence emotion dysregulation, and because the mediators have both been shown to affect levels of romantic relationship satisfaction.

In mediation analyses, the PROCESS module employs bootstrapping techniques, a method of repeated re-sampling of data in order to determine existing confidence intervals and dispersion parameters. This technique is a powerful method for testing the effects of an intervening variable on the relation of independent and dependent variables (MacKinnon et al., 2004; Williams &

MacKinnon, 2008). The confidence intervals determined by repeated re-sampling tests are used to indicate whether the indirect effects of intervening variables are statistically significantly related to the distributional relations of independent and dependent variables (e.g., Shrout & Bolger, 2002), with statistically significant mediation effects being demonstrated when the 95% confidence interval does not include zero.

Descriptive Statistics

In this section, I present the means, standard deviations, and sample ranges for the study measures (BBTS, ECR-S, DERS, and IMS; see Table 2).

Table 2
Sample Means, Standard Deviations, and Ranges for Study Measures

<i>Instruments/ Subscales</i>	M	SD	Possible range	Sample range
LBT	1.00	1.00	0-6	0-6
MBT	1.17	1.47	0-12	0-8
HBT	1.39	1.47	0-6	0-6
Anxious	3.77	1.15	1-7	1-6.67
Avoidant	2.51	1.02	1-7	1-5.33
NONACCEPT	15.70	5.92	6-30	6-30
GOALS	16.19	4.52	5-25	5-25
IMPULSE	12.86	5.20	6-30	6-30
AWARENESS	14.98	4.18	6-30	6-28
STRATEGIES	19.80	7.17	8-40	8-38
CLARITY	11.93	4.06	5-25	5-25
RS	49.66	10.20	10-60	11-60

Note. LBT = low-betrayal trauma; MBT = medium-betrayal trauma; HBT = high-betrayal trauma; NONACCEPT = nonacceptance of emotional responses; GOALS = difficulty engaging in goal-directed behavior; IMPULSE = impulse control difficulties; AWARENESS = lack of emotional awareness; STRATEGIES = limited access to emotion regulation strategies; CLARITY = lack of emotional clarity; RS = satisfaction level subscale of the *Investment Model Scale*.

Inter-correlations of Study Measures

In this section, I present the inter-correlations and alpha coefficients for the BBTS, ECR-S, DERS subscales, and IMS Relationship Satisfaction items (see Table 3).

Endorsement of low-betrayal trauma demonstrated low magnitude but statistically significant positive relations with medium-betrayal trauma, but not to high-betrayal trauma ($r = .16$ and $.05$, respectively). Medium-betrayal trauma demonstrated moderate magnitude and correlated significantly with high-betrayal trauma ($r = .34, p < .001$). Anxious and avoidant attachment style scores demonstrated a low magnitude but statistically significant positive relation to each other ($r = .26, p < .001$), indicating that while the two insecure attachment styles shared some variance (approximately 7%), they measured fundamentally different constructs. DERS subscale scores showed moderate to high magnitude and positive significant intercorrelations with one another. Notably, participants reporting limited access to emotion regulation strategies reported higher impulse control difficulties ($r = .70, p < .001$); nonacceptance of their emotional responses ($r = .63, p < .001$); and, difficulty engaging in goal-directed behavior ($r = .61, p < .001$). As well, participants reporting greater nonacceptance of their emotional responses correlated with greater reported impulse control difficulties ($r = .51, p < .001$) and difficulty engaging in goal-directed behavior ($r = .47, p < .001$).

Betrayal Trauma and Anxious Attachment

Endorsed experiences of low-betrayal trauma did not significantly correlate with either attachment style (anxious or avoidant). However, endorsed experiences of medium-betrayal trauma showed a low magnitude, but statistically significant, positive relation with reported levels of anxious ($r = .15, p < .01$) and avoidant attachment styles ($r = .11, p < .05$). Endorsement of high-betrayal traumas also showed a low magnitude, but statistically significant, positive

relation with reported levels of anxious attachment ($r = .26, p < .001$), and a lesser but still significant correlation with avoidant attachment ($r = .18, p < .001$).

Betrayal Trauma and Emotion Regulation

Low-betrayal trauma. Endorsement of low-betrayal trauma did not significantly correlate with any of the DERS subscale scores ($-.04 < r < .09$).

Medium-betrayal trauma. Endorsement of medium-betrayal trauma correlated significantly with all but one of the DERS subscale scores: lack of emotional awareness (AWARENESS). The subscale scores correlated at low magnitudes with medium-betrayal trauma experiences were: limited access to emotion regulation strategies (STRATEGIES) ($r = .21, p < .001$); impulse control difficulties (IMPULSE) ($r = .21, p < .001$); nonacceptance of emotional responses (NONACCEPT) ($r = .19, p < .001$); and, difficulty engaging in goal-directed behavior (GOALS) ($r = .18, p < .001$).

High-betrayal trauma. Endorsement of high-betrayal trauma correlated significantly with all but one of the DERS subscale scores: lack of emotional awareness (AWARENESS). The DERS subscale scores that correlated at low magnitudes with high-betrayal trauma experiences were: nonacceptance of emotional responses (NONACCEPT) ($r = .25, p < .001$); difficulty engaging in goal-directed behavior (GOALS) ($r = .25, p < .001$); and, limited access to emotion regulation strategies (STRATEGIES) ($r = .24, p < .001$).

Betrayal Trauma and Relationship Satisfaction

Betrayal trauma experiences did not hold strong or significant relations with degree of satisfaction in a current relationship ($-.09 < r < -.03$).

Attachment and Emotion Regulation

Anxious attachment. Anxious attachment scores correlated significantly with all subscale scores on the DERS. Subscales that moderately correlated with anxious attachment were limited access to emotion regulations strategies ($r = .43, p < .001$) and difficulty engaging in goal-directed behavior ($r = .37, p < .001$).

Avoidant attachment. Avoidant attachment scores correlated significantly with all subscale scores on the DERS. Subscales with low to moderate correlations with avoidant attachment were lack of emotional clarity ($r = .43, p < .001$) and lack of emotional awareness ($r = .29, p < .001$).

Attachment and Relationship Satisfaction

Both anxious and avoidant attachment scores were significantly negatively related to reported level of satisfaction with participants' current relationship, with avoidant attachment having a stronger relation in comparison to anxious attachment ($r_s = -.59$ and $-.35$, respectively, $p < .001$).

Emotion Regulation and Relationship Satisfaction

Four of the six DERS subscale scores were significantly negatively correlated with participants' reported level of satisfaction in their current relationships. The DERS subscales correlated, in a low magnitude fashion, with relationship satisfaction were: lack of emotional clarity ($r = -.33, p < .001$) and lack of emotional awareness ($r = -.20, p < .001$).

Table 3
Correlations Among Measures

Instruments	1	2	3	4	5	6	7	8	9	10	11	12
1. LBT	.08											
2. MBT	.16***	.43										
3. HBT	.05	.34***	.42									
4. Anxious	.05	.15**	.26***	.74								
5. Avoidant	.06	.11*	.18***	.31***	.78							
6. NONACCEPT	.09	.19***	.25***	.32***	.19***	.92						
7. GOALS	.05	.18***	.25***	.37***	.15**	.47***	.88					
8. IMPULSE	.03	.21***	.19***	.32***	.21***	.51***	.48***	.87				
9. AWARENESS	-.04	.09	.03	.13**	.29***	.16***	.12*	.15**	.77			
10. STRATEGIES	.07	.21***	.24***	.43***	.19***	.63***	.61***	.70***	.19***	.89		
11. CLARITY	.05	.12*	.15***	.26***	.43***	.39***	.31***	.38***	.54***	.44***	.85	
12. RS	-.09	-.03	-.05	-.35***	-.59***	-.05	-.07	-.15**	-.20***	-.16***	-.33***	.93

Note. *Coefficients significant at $p < .05$. **Coefficients significant at $p < .01$. ***Coefficients significant at $p < .001$. Alpha coefficients are on the diagonal. LBT = low-betrayal trauma; MBT = medium-betrayal trauma; HBT = high-betrayal trauma; NONACCEPT = nonacceptance of emotional responses; GOALS = difficulty engaging in goal-directed behavior; IMPULSE = impulse control difficulties; AWARENESS = lack of emotional awareness; STRATEGIES = limited access to emotion regulation strategies; CLARITY = lack of emotional clarity; RS = satisfaction level subscale of the *Investment Model Scale*.

Descriptive Data for the BBTS

Approximately 50% of the sample reported experiencing at least one low-betrayal trauma event ($M = 1.00$, $SD = 1.00$). Men and women experienced similar rates of low-betrayal trauma items ($M_{\text{males}} = .99$, $SD = .92$; $M_{\text{females}} = 1.01$, $SD = 1.03$); ANOVA analyses indicated no significant difference between low-betrayal trauma endorsement and participant sex.

Approximately 43% of the sample reported experiencing at least one medium-betrayal trauma event. ANOVA analyses indicated men and women reported significantly different rates of medium-betrayal trauma, with women reporting slightly under twice the frequency that men did ($M_{\text{males}} = .84$, $SD = 1.19$; $M_{\text{females}} = 1.31$, $SD = 1.56$; $F = 8.84$, $p = <.01$).

Approximately 38% of the sample reported experiencing at least one high-betrayal trauma event. ANOVA analyses indicated men and women reported significantly different rates of high-betrayal trauma, with women reporting twice the frequency that men did ($M_{\text{males}} = .74$, $SD = 1.03$; $M_{\text{females}} = 1.64$, $SD = 1.53$; $F = 34.56$, $p < .001$). This finding is similar to other research indicating women are more likely than men to experience high-betrayal trauma events (DePrince & Freyd, 2002; Norris, Foster, & Weisshaar, 2002; Goldberg & Freyd, 2006).

Thirty-four point four percent of the sample reported experiencing at least one traumatic event, 24.8% experienced two traumatic events, 18.2% experienced three traumatic events, and 24.6% experienced four or more traumatic events (see Table 4). Regarding frequency of experience with a particular traumatic event, Table 5 illustrates items 4 (“*Witnessed someone with whom you were not so close committing suicide, being killed, or being injured by another person so severely as to result in marks, bruises, burns, blood, or broken bones*”), 8 (“*You were made to have some form of sexual contact, such as touching or penetration, by someone with whom you were very close (such as a parent or lover)*”), and 10 (“*You were emotionally or*

psychologically mistreated over a significant period of time by someone with whom you were very close (such as a parent or lover)”) of the BBTS had the highest rate of revictimization (i.e., participants reported experiencing these events multiple times; 18.9%, 21.9%, and 22.6%, respectively). Finally, Table 6 provides information regarding participant age when they first experienced a particular traumatic event. On average, results indicate individuals first experienced traumatic events between the ages of 10 and 16 years old.

Table 4
Number of Trauma Events Endorsed

	<u>Low-betrayal</u> Frequency (% of sample)	<u>Medium-betrayal</u> Frequency (% of sample)	<u>High-betrayal</u> Frequency (% of sample)	<u>Total trauma events</u> Frequency (% of sample)
0	152 (37.3)	174 (42.8)	155 (38.1)	-
1	201 (49.4)	139 (34.2)	152 (37.3)	132 (32.4)
2	45 (11.1)	59 (14.5)	82 (20.1)	101 (24.8)
3	7 (1.7)	25 (6.1)	16 (3.9)	74 (18.2)
4		6 (1.5)		38 (9.3)
5		2 (.5)		29 (7.1)
6				12 (2.9)
7				10 (2.5)
8				4 (1.0)
9				1 (.2)

Table 5
Trauma Event Endorsement

Item	<u>Never</u> Frequency (% of sample)	<u>Once</u> Frequency (% of sample)	<u>Two or more times</u> Frequency (% of sample)
1	358 (88)	39 (9.6)	9 (2.2)
2	344 (84.5)	55 (13.5)	8 (2.0)
3	297 (73)	73 (17.9)	37 (9.1)
4	204 (50.1)	125 (30.7)	77 (18.9)
5	343 (84.3)	36 (8.8)	28 (6.9)
6	363 (89.2)	24 (5.9)	20 (4.9)
7	378 (92.9)	23 (5.7)	5 (1.2)
8	280 (68.8)	36 (8.8)	89 (21.9)
9	342 (84)	47 (11.5)	18 (4.4)
10	209 (51.4)	106 (26)	92 (22.6)
11	404 (99.3)	2 (.5)	-
12	309 (75.9)	77 (18.9)	21 (5.2)

Note. Items 1, 2, and 4 refer to low-betrayal trauma items. Items 3, 5, 7, 9, 11, and 12 refer to medium-betrayal trauma items. Items 6, 8, and 10 refer to high-betrayal trauma items.

Table 6
Age First Experienced Trauma Event (in years)

Item	N	Mean (SD)	Sample Range
1	47	14.32 (4.61)	2-21
2	59	15.08 (4.28)	2-21
3	100	13.57 (4.17)	3-20
4	198	15.33 (3.20)	0-22
5	59	10.19 (3.92)	3-19
6	39	12.79 (4.42)	3-19
7	26	15.04 (4.02)	7-22
8	117	15.64 (3.28)	0-21
9	61	15.75 (3.78)	4-22
10	190	14.34 (4.36)	0-22
11	2	16 (2.83)	14-18
12	91	13.67 (4.57)	0-22

Note. Items 1, 2, and 4 refer to low-betrayal trauma items. Items 3, 5, 7, 9, 11, and 12 refer to medium-betrayal trauma items. Items 6, 8, and 10 refer to high-betrayal trauma items.

ECR-S

The mean sample score for the anxious attachment subscale was 3.77 (3 = “*Slightly Disagree*” to 4 = “*Neutral*”; SD = 1.15; Range = 1 – 6.67). The mean sample score on the avoidant attachment subscale was 2.51 (2 = “*Disagree*” to 3 = “*Slightly Disagree*”; SD = 1.02; Range = 1 – 5.33). These lower mean scores indicate participants in my sample fall within the more “securely attached” end of the spectrum.

DERS

The mean scores for each DERS subscale were as follows: NONACCEPT ($M = 15.70$, $SD = 5.92$; Range = 6 – 30); GOALS ($M = 16.19$, $SD = 4.52$; Range = 5 – 25); IMPULSE ($M = 12.86$, $SD = 5.20$; Range = 6 – 30); AWARENESS ($M = 14.98$, $SD = 4.18$; Range = 6 – 28); STRATEGIES ($M = 19.80$, $SD = 7.17$; Range = 8 – 38); and, CLARITY ($M = 11.93$, $SD = 4.06$; Range = 5 – 25). These means were approximately at the midpoint of the range for each subscale, indicating participants, on average, endorsed experiencing difficulty with each subscale “*about half of the time*”.

IMS

The mean sample score on the satisfaction level subscale of the IMS was 49.66 ($SD = 10.20$; Range = 11-60), indicating on average participants were quite satisfied with their relationships.

Overview of hypothesized relations

Potential pathways of relations among the key variables of interest in my study, based on theory and past research, are shown in Figure 1. As discussed earlier, betrayal trauma experiences, attachment style, and various elements of emotion dysregulation have each been shown to have relations to relationship satisfaction (Allen, Rhoades, Stanley, & Markman, 2010; Erbes, 2011; Nelson Goff, Crow, Reisbig, & Hamilton, 2007; Cook, Riggs, Thompson, Coyne, & Sheikh, 2004; Sayers, Farrow, Ross, & Oslin, 2009; Knapp, Knapp, Brown, & Larson, 2017; Hyland, Tsujimoto, & Hamilton, 1993; Davis & Petretic-Jackson, 2000; Hadden, Smith, & Webster, 2014; Mikulincer, Florian, Cowan, & Cowan, 2002; Sadikaj, Moskowitz, & Zuroff, 2015; Collins & Read, 1990; Simpson, 1990; Kirkpatrick & Davis, 1994; Givertz, Woszidlo, Segrin, & Knutson, 2013; Rick, Falconier, & Wittenborn, 2017; Vater & Schröder-Abé, 2015;

Butler et al., 2003; English, John, Srivastava, & Gross, 2012; Impett et al., 2012). Attachment style has also been shown to be directly related to facets of emotion dysregulation (Crittenden, 1992; Kobak & Sceery, 1998; Mikulincer & Shaver, 2003; Velotti et al., 2016; Viddal, Berg-Nielsen, Belsky, & Wichstrøm, 2017; Marganska, Gallagher, & Miranda, 2013). Additionally, in past research, both attachment style and emotion dysregulation have been shown to be independent mediators of relationship satisfaction (Whiffen & MacIntosh, 2005; Godbout, Sabourin, & Lussier, 2009; Rellini, 2008; Rellini, Vujanovic, & Zvolensky, 2010; Bradbury & Shaffer, 2012). However, past research has not yet examined the indirect effect of attachment style and emotion dysregulation as serial mediators on the direct relation between betrayal trauma experience and relationship satisfaction; the main focus of my study. Finally, dashed lines in Figure 1 represent relations and potential serially mediated effects that have not yet been established in past research but were tested along with specific hypotheses in order to provide a fuller picture of potentially existing serial indirect effects.

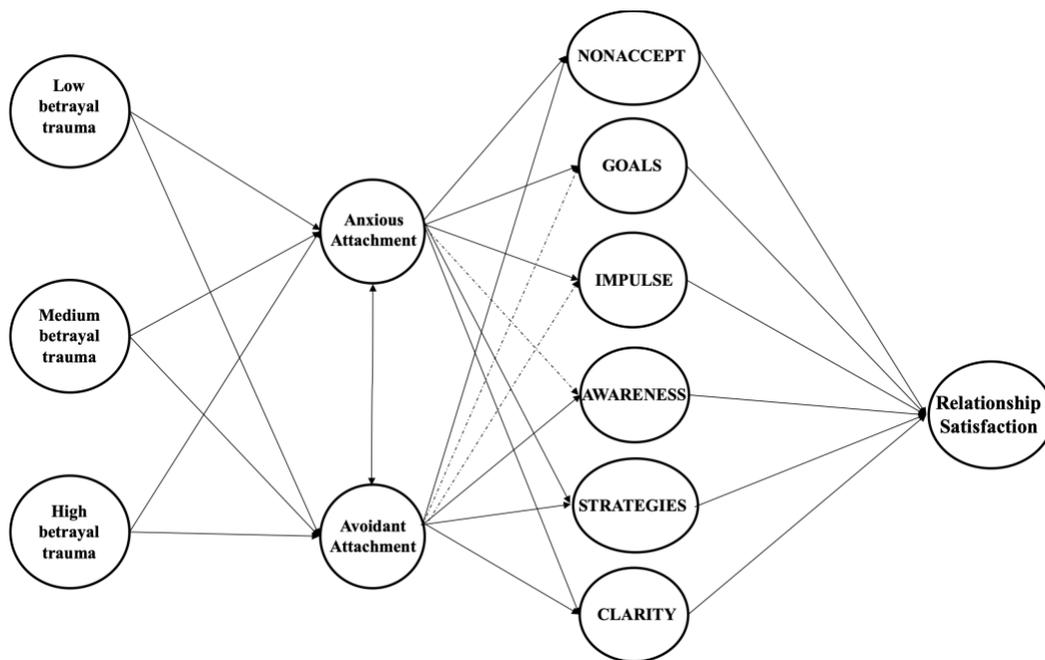


Figure 1. Hypothesized relations among variables.

Overview of specific research hypotheses

Low-Betrayal Trauma

I predicted the relation between low-betrayal trauma experiences and relationship satisfaction would *not* be serially mediated by anxious or avoidant attachment and difficulties with emotion regulation. Low-betrayal trauma frequency scores were entered as the independent variable, IMS relationship satisfaction scores were entered as the outcome variable, and attachment style scores were entered as the first serial mediator variable, with each DERS subscale score separately entered as the second serial mediator. No statistically significant serial mediation effects were found; however, anxious and avoidant attachment scores, separately, fully mediated the relation between low-betrayal trauma and relationship satisfaction. My hypothesis that the relation between low-betrayal trauma experiences and relationship satisfaction would *not* be serially mediated by anxious or avoidant attachment and difficulties with emotion regulation was supported.

A summary of the direct and indirect effects is presented in Table 13.

Medium-Betrayal Trauma

I predicted the relation between medium-betrayal trauma and relationship satisfaction would be serially mediated by anxious or avoidant attachment and difficulties with emotion regulation. Separate pathways of the serial indirect effects of attachment style and difficulties with emotion regulation, on the direct effect of medium betrayal trauma on relationship satisfaction, are specified below.

Anxious attachment. I predicted, through anxious attachment scores, the DERS subscales for: nonacceptance of emotional responses; difficulties engaging in goal-directed behavior; impulse control difficulties; lack of access to emotion regulation strategies; and, lack

of emotional clarity would significantly serially mediate the direct effect of medium-betrayal trauma on relationship satisfaction. The independent, outcome, and mediator variables were entered as specified earlier. Statistically significant serial mediation effects are presented in Tables 7 and 8. For all other analyses, statistically significant serial mediation did not occur. However, anxious attachment scores fully mediated the relation between medium-betrayal trauma and relationship satisfaction. My hypothesis that the relation between medium-betrayal trauma and relationship satisfaction would be serially mediated by anxious attachment and the above listed DERS subscale scores was supported only in the case of anxious attachment scores paired with the DERS subscale score of CLARITY.

Avoidant attachment. I predicted, through avoidant attachment scores, the DERS subscales for: nonacceptance of emotional responses; lack of emotional awareness; lack of access to emotion regulation strategies; and, lack of emotional clarity would significantly serially mediate the direct effect of medium-betrayal trauma on relationship satisfaction. The independent, outcome, and mediator variables were entered as specified earlier. Statistically significant serial mediation effects are presented in Table 9. For all other analyses, statistically significant serial mediation did not occur. However, avoidant attachment scores fully mediated the relation between medium-betrayal trauma and relationship satisfaction. My hypothesis that the relation between medium-betrayal trauma and relationship satisfaction would be serially mediated by avoidant attachment and nonacceptance of emotional responses/lack of emotional awareness/lack of access to emotion regulation strategies/lack of emotional clarity was supported only in the case of avoidant attachment scores paired with the DERS subscale score of CLARITY.

A summary of the direct and indirect effects is presented in Table 13.

Table 7
Anxious Attachment and DERS Awareness as Serial Mediators of Medium-Betrayal Trauma and Relationship Satisfaction

Model	<i>b</i>	<i>se</i>	<i>t</i>	<i>LLCI</i>	<i>ULCI</i>
<u>Model 1 (Anxious Attachment as DV)</u>					
Medium-Betrayal Trauma	.16	.05	3.16**	.0588	.2525
<u>Model 2 (AWARENESS as DV)</u>					
Medium-Betrayal Trauma	.07	.05	1.33	.0390	.2362
Anxious Attachment	.14	.05	2.74**	-.0316	.1646
<u>Model 3 (RS as DV)</u>					
Medium-Betrayal Trauma	.04	.05	.84	-.0530	.1323
Anxious Attachment	-.33	.05	-6.95***	-.4254	-.2378
AWARENESS	-.16	.05	-3.34***	-.2510	-.0651
	<i>Effect</i>	<i>Boot SE</i>		<i>LLCI</i>	<i>ULCI</i>
Indirect Effect	-.0034	.0022		-.0100	-.0007

Note. **Coefficients significant at $p < .01$. ***Coefficients significant at $p < .001$.

AWARENESS = lack of emotional awareness; RS = satisfaction level subscale of the *Investment Model Scale*. $R = .38$, $R-sq = .15$.

Table 8
Anxious Attachment and DERS Clarity as Serial Mediators of Medium-Betrayal Trauma and Relationship Satisfaction

Model	<i>b</i>	<i>se</i>	<i>t</i>	<i>LLCI</i>	<i>ULCI</i>
<u>Model 1 (Anxious Attachment as DV)</u>					
Medium-Betrayal Trauma	.16	.05	3.22***	.0617	.2549
<u>Model 2 (CLARITY as DV)</u>					
Medium-Betrayal Trauma	.08	.05	1.71	-.0124	.1787
Anxious Attachment	.25	.05	5.10***	.1529	.3446
<u>Model 3 (RS as DV)</u>					
Medium-Betrayal Trauma	.05	.05	1.13	-.0383	.1420
Anxious Attachment	-.29	.05	-6.05***	-.3789	-.1929
CLARITY	-.27	.05	-5.66***	-.3583	-.1735
	<i>Effect</i>	<i>Boot SE</i>		<i>LLCI</i>	<i>ULCI</i>
Indirect Effect	-.0105	.0044		-.0225	-.0042

Note. ***Coefficients significant at $p < .001$. CLARITY = lack of emotional clarity; RS = satisfaction level subscale of the *Investment Model Scale*. $R = .43$, $R-sq = .19$.

Table 9
Avoidant Attachment and DERS Clarity as Serial Mediators of Medium-Betrayal Trauma and Relationship Satisfaction

Model	<i>b</i>	<i>se</i>	<i>t</i>	<i>LLCI</i>	<i>ULCI</i>
<u>Model 1 (Avoidant Attachment as DV)</u>					
Medium-Betrayal Trauma	.12	.05	2.34*	.0186	.2142
<u>Model 2 (CLARITY as DV)</u>					
Medium-Betrayal Trauma	.07	.05	1.62	-.0155	.1618
Avoidant Attachment	.42	.05	9.43***	.3358	.5127
<u>Model 3 (RS as DV)</u>					
Medium-Betrayal Trauma	.05	.04	1.23	-.0297	.1299
Avoidant Attachment	-.55	.04	-12.27***	-.6347	-.4594
CLARITY	-.10	.04	-2.27***	-.1897	-.0134
	<i>Effect</i>	<i>Boot SE</i>		<i>LLCI</i>	<i>ULCI</i>
Indirect Effect	-.0050	.0034		-.0142	-.0005

Note. *Coefficients significant at $p < .05$. ***Coefficients significant at $p < .001$. CLARITY = lack of emotional clarity; RS = satisfaction level subscale of the *Investment Model Scale*. $R = .60$, $R-sq = .36$.

High-Betrayal Trauma

I predicted the relation between high-betrayal trauma and relationship satisfaction would be serially mediated by anxious or avoidant attachment and difficulties with emotion regulation. Separate pathways of the serial indirect effects of attachment style and difficulties with emotion regulation, on the direct effect of medium betrayal trauma on relationship satisfaction, are specified below.

Anxious attachment. I predicted, through anxious attachment scores, the DERS subscales for: nonacceptance of emotional responses; difficulties engaging in goal-directed behavior; impulse control difficulties; lack of access to emotion regulation strategies; and, lack of emotional clarity would significantly serially mediate the direct effect of medium-betrayal trauma on relationship satisfaction. The independent, outcome, and mediator variables were entered as specified earlier. Statistically significant serial mediation effects are presented in

Tables 10 and 11. For all other analyses, statistically significant serial mediation did not occur. However, anxious attachment scores fully mediated the relation between high-betrayal trauma and relationship satisfaction. My hypothesis that the relation between high-betrayal trauma and relationship satisfaction would be serially mediated by anxious attachment and nonacceptance of emotional responses/difficulties engaging in goal-directed behavior/impulse control difficulties/lack of access to emotion regulation strategies/lack of emotional clarity was supported only in the cases of anxious attachment scores paired with the DERS subscale scores of AWARENESS and CLARITY.

Avoidant attachment. I predicted, through avoidant attachment scores, the DERS subscales for: nonacceptance of emotional responses; lack of emotional awareness; lack of access to emotion regulation strategies; and, lack of emotional clarity would significantly serially mediate the direct effect of medium-betrayal trauma on relationship satisfaction. The independent, outcome, and mediator variables were entered as specified earlier. Statistically significant serial mediation effects are presented in Table 12. For all other analyses, statistically significant serial mediation did not occur. However, avoidant attachment scores fully mediated the relation between high-betrayal trauma and relationship satisfaction. My hypothesis that the relation between high-betrayal trauma and relationship satisfaction would be serially mediated by avoidant attachment and nonacceptance of emotional responses/lack of emotional awareness/lack of access to emotion regulation strategies/lack of emotional clarity was supported only in the case of avoidant attachment scores paired with the DERS subscale scores of CLARITY.

A summary of the direct and indirect effects is presented in Table 13.

Table 10
Anxious Attachment and DERS Awareness as Serial Mediators of High-Betrayal Trauma and Relationship Satisfaction

Model	<i>b</i>	<i>se</i>	<i>t</i>	<i>LLCI</i>	<i>ULCI</i>
<u>Model 1 (Anxious Attachment as DV)</u>					
High-Betrayal Trauma	.25	.05	5.18***	.1554	.3456
<u>Model 2 (AWARENESS as DV)</u>					
High-Betrayal Trauma	.01	.05	.01	.0466	.2484
Anxious Attachment	.15	.05	2.87***	-.1003	.1010
<u>Model 3 (RS as DV)</u>					
High-Betrayal Trauma	.04	.05	.84	-.0543	.1347
Anxious Attachment	-.34	.05	-7.01***	-.4374	-.2459
AWARENESS	-.15	.05	-3.19***	-.2429	-.0576
	<i>Effect</i>	<i>Boot SE</i>		<i>LLCI</i>	<i>ULCI</i>
Indirect Effect	-.0056	.0031		-.0150	-.0014

Note. ***Coefficients significant at $p < .001$. AWARENESS = lack of emotional awareness; RS = satisfaction level subscale of the *Investment Model Scale*. $R = .38$, $R-sq = .15$.

Table 11
Anxious Attachment and DERS Clarity as Serial Mediators of High-Betrayal Trauma and Relationship Satisfaction

Model	<i>b</i>	<i>se</i>	<i>t</i>	<i>LLCI</i>	<i>ULCI</i>
<u>Model 1 (Anxious Attachment as DV)</u>					
High-Betrayal Trauma	.25	.05	5.20***	.1560	.3455
<u>Model 2 (CLARITY as DV)</u>					
High-Betrayal Trauma	.09	.05	1.78	-.0095	.1860
Anxious Attachment	.24	.05	4.77***	.1397	.3357
<u>Model 3 (RS as DV)</u>					
High-Betrayal Trauma	.06	.05	1.34	-.0293	.1547
Anxious Attachment	-.30	.05	-6.24***	-.3944	-.2055
CLARITY	-.26	.05	-5.59***	-.3543	-.1700
	<i>Effect</i>	<i>Boot SE</i>		<i>LLCI</i>	<i>ULCI</i>
Indirect Effect	-.0156	.0055		-.0307	-.0077

Note. ***Coefficients significant at $p < .001$. CLARITY = lack of emotional clarity; RS = satisfaction level subscale of the *Investment Model Scale*. $R = .43$, $R-sq = .19$.

Table 12
Avoidant Attachment and DERS Clarity as Serial Mediators of High-Betrayal Trauma and Relationship Satisfaction

Model	<i>b</i>	<i>se</i>	<i>t</i>	<i>LLCI</i>	<i>ULCI</i>
<u>Model 1 (Avoidant Attachment as DV)</u>					
High-Betrayal Trauma	.18	.05	3.70***	.0854	.2791
<u>Model 2 (CLARITY as DV)</u>					
High-Betrayal Trauma	.07	.05	1.57	-.0181	.1617
Avoidant Attachment	.42	.05	9.16***	.3279	.5072
<u>Model 3 (RS as DV)</u>					
High-Betrayal Trauma	.06	.04	1.58	-.0157	.1452
Avoidant Attachment	-.56	.04	-12.45***	-.6445	-.4687
CLARITY	-.10	.04	-2.22*	-.1866	-.0113
	<i>Effect</i>	<i>Boot SE</i>		<i>LLCI</i>	<i>ULCI</i>
Indirect Effect	-.0075	.0043		-.0187	-.0011

Note. *Coefficients significant at $p < .05$. ***Coefficients significant at $p < .001$. CLARITY = lack of emotional clarity; RS = satisfaction level subscale of the *Investment Model Scale*. $R = .60$, $R-sq = .36$.

Summary of Findings

Table 13
Direct and Indirect Effects of Significant Serial Mediation

MBT on RS	
Direct	-.026
Indirect	
By Anxious Attachment	-.0557
By Anxious, Awareness	-.0034
By Anxious, Clarity	-.0105
By Avoidant Attachment	-.0687
By Avoidant, Clarity	-.0050
HBT on RS	
Direct	-.051
Indirect	
By Anxious Attachment	-.0908
By Anxious, Awareness	-.0056
By Anxious, Clarity	-.0156
By Avoidant Attachment	-.1090
By Avoidant, Clarity	-.0075

Increasing indirect effects by BBTS trauma level

I predicted that, as the severity of reported trauma increased, there would be an observed increase in strength of the overall serial mediation effects of attachment scores and difficulties with emotion regulation, exerted on the direct effect that betrayal trauma has on relationship satisfaction. In other words, I predicted that the magnitude of serial indirect effects would be lesser for those reporting low-betrayal traumas, as compared to those reporting medium- and high-betrayal traumas; and, lesser for those reporting medium-betrayal traumas, as compared to those reporting high-betrayal traumas. Since there were no significant serial mediation pathways found resulting from low-betrayal trauma experiences, coefficients for this betrayal trauma level are not reported. Table 14 shows the indirect serial mediation effect coefficients, which indicate increases in effects as level of betrayal trauma increases. Although not statistically tested for significant differences among the betrayal trauma levels, a cursory examination suggests that anxious attachment and lack of emotional clarity had the greatest serial influence on those reporting medium- and high-betrayal trauma experiences.

Table 14
Indirect effect comparison of significant serial mediation effects

	Anxious & AWARENESS	Anxious & CLARITY	Avoidant & CLARITY
MBT	-.0034	-.0105	-.0050
HBT	-.0056	-.0156	-.0075

Note. MBT = medium-betrayal trauma; HBT = high-betrayal trauma; AWARENESS = lack of emotional awareness; CLARITY = lack of emotional clarity.

CHAPTER 5. DISCUSSION

The purpose of my study was to examine and understand the interplay of betrayal-based, interpersonal traumas, attachment styles, emotion dysregulation, and relationship satisfaction. Specifically, I aimed to examine how attachment styles and difficulties in emotion regulation serially mediated the relation between experiences of interpersonal trauma and relationship satisfaction. The main goal of my research was to advance an understanding of the impact of interpersonal traumatic events, including the potential development of insecure attachment styles and subsequent difficulties with emotion regulation, on romantic relationships.

Relations between trauma experiences (impersonal and interpersonal) and attachment, emotion dysregulation, and relationship dynamics have been established; however, research has not yet investigated the unfolding of interpersonal and intrapersonal difficulties associated with betrayal trauma experiences, specifically with regard to how different trauma experiences relate to romantic relationship satisfaction through effects of attachment and emotion regulation. I attempted to address this gap in the research literature by including and examining all of these variables simultaneously. By gaining further information on the interplay of attachment and emotion regulation difficulties on relationship satisfaction, in the context of betrayal-based trauma experiences, investigators can continue to examine the individual differences associated with these constructs in relationship behaviors and evaluations, as well as inform their treatment plans and interventions for those presenting with relationship dissatisfaction.

Betrayal Trauma

Betrayal trauma theory, in particular, argues that how individuals process and are impacted by a traumatic event, depends on the nature of the relationship between the perpetrator and the survivor (Freyd, 1994; 1996). Within this theory, the shame, guilt, or even dissociation

experienced post-trauma is thought to serve as a protective factor when the survivor must continue to depend on the perpetrator to have needs met. In many cases, survivors work to suppress negative emotions experienced in response to abuse, and instead over focus on positive aspects of the relationship; this “betrayal blindness” serves as an adaptive coping strategy in the moment but has potentially negative consequences as they navigate the abusive relationship in question and other relationships in the future.

In my sample, experience of low-betrayal trauma did not significantly relate to insecure attachment style; however, both medium- and high-betrayal trauma experiences significantly positively related to anxious and avoidant attachment styles, with high-betrayal trauma experiences demonstrating larger magnitude relations with both anxious and avoidant attachments. Similarly, low-betrayal trauma did not significantly relate to difficulties in emotion regulation, whereas medium- and high-betrayal trauma did significantly positively relate to the DERS subscales (except for lack of emotional awareness).

Experiences of interpersonal trauma have been directly linked to romantic relationship satisfaction; however, the link between relationship satisfaction and interpersonal trauma experiences conceptualized through betrayal trauma theory has not yet been examined. As betrayal trauma theory holds that how individuals react to, cope with, and make sense of the trauma depends on the relation they share with the perpetrator. With this in mind, I predicted the nature of the relation between betrayal trauma and relationship satisfaction would depend on the level of betrayal trauma event, such that the degree to which attachment style and emotion regulation difficulties were subsequently impacted (both known theoretically and empirically to affect relationship satisfaction), would indirectly affect the level of satisfaction experienced in a relationship. As expected, I found no statistically significant relation between each level of

betrayal trauma and relationship satisfaction. However, the relation of betrayal trauma to romantic relationship satisfaction was mediated by both anxious and avoidant attachment styles. In testing a serial mediation model, in concert with either insecure attachment style, lack of emotional awareness and lack of emotional clarity were significant serial mediators of the relation between betrayal trauma and romantic relationship satisfaction. Although insecure attachment style had a greater serial mediation effect than lack of emotional awareness and lack of emotional clarity, my results demonstrate that the effect of betrayal trauma on relationship satisfaction cannot only be explained via the indirect effect of insecure attachment styles but also the indirect effect of emotion dysregulation that exists through experiences with interpersonal traumas and subsequently manifested insecure attachment styles.

I also found significant differences in experiences of the three levels of betrayal trauma, with women having more experiences with medium- and high-betrayal than men. This finding has been consistently noted in the literature; however, no previous evidence has found women to experience more medium-betrayal traumas. Conversely, I did not find men to experience more low-betrayal traumas than women, as suggested by previous empirical evidence (e.g., DePrince & Freyd, 2002; Norris, Foster, & Weisshaar, 2002; Goldberg & Freyd, 2006). In short, women appear to be the most victimized by interpersonal betrayal trauma and may therefore have the greatest vulnerability to developing less healthy attachment and emotional regulation difficulties.

Attachment

Attachment theory provides indications on how individuals navigate various relationships (familial, platonic, romantic, therapeutic), based on their working models of self and self-other relations (Bowlby, 1969; Bartholomew & Horowitz, 1991). Attachment styles reflect the degree of security individuals feel in their relationships; this security subsequently influences an

individual's thoughts, emotions, and behaviors in reaction to threatening events or general distress in relationships (Bowlby, 1988). Research has consistently demonstrated those with secure attachments are more satisfied by, and fulfilled in, their romantic relationships (e.g., Hadden et al., 2014). Based on attachment theory and empirical evidence to date on its relation to interpersonal trauma experiences, I predicted the relation between betrayal trauma experiences and relationship satisfaction would be serially mediated by two variables – the first of which being an insecure attachment style (i.e., anxious or avoidant). Specifically, I predicted experiences of medium- and high-betrayal trauma would lead to higher levels of anxious and avoidant attachment style, and, in fact, they did so in my sample. As well, anxious and avoidant attachment significantly related to lower levels of relationship satisfaction, with avoidant attachment holding a stronger negative relation to satisfaction level than anxious attachment. This finding is consistent with previous literature (Hadden et al., 2014). Finally, I found both insecure attachment styles to significantly relate to all six dimensions of emotion regulation difficulties, suggesting that insecure attachment styles may encourage the development of emotion dysregulation, and discourage the development of emotional intelligence.

Overall, my sample endorsed possessing more 'secure' types of attachment, endorsing low levels of both anxious and avoidant attachment characteristics. It is possible individuals in this sample are reporting less insecure attachment styles in part because the average length of relationships participants were in at the time of the study was relatively lengthy ($M = 17$ months). As well, participants reported having experience with multiple relationships to date ($M = 2.8$) and so they may have had opportunities to learn what needs they have in romantic relationships, learn how to assess for potential partners who can meet their needs, and advocate for getting their needs met.

Bowlby (1969; 1982) stated attachment style has the ability to change and adapt as a function of our continuing experiences in relationships, such that an individual might become more secure in their relationship as the length of the relationship increases. Although a year and a half is a relatively short length of time for a relationship, there is some evidence that even a year in a relationship is long enough to see positive influences on attachment. For example, studies have found individuals in newer relationships (i.e., 1 - 2 years) typically prefer to spend time with their romantic partners, but that as the relationship progresses, preferences for spending time with friends becomes stronger (e.g., Fraley & Davis, 1997; Hazan & Zeifman, 1994; Umemura, Lacinová, Macek, & Kunnen, 2017). As a romantic relationship forms, partners spend more time and energy together in order to increase their degree of comfort and security with one another; as they achieve this stability, their refocusing of time and energy on developing strong relationships with friends may be indicative of greater security within their romantic relationships. In my sample, the average length of relationships was just under a year and a half, and it is possible this relationship variable influenced the lower endorsement of insecure attachment; the relative insecure attachment scores indicate attachment needs are being met in the current relationship. Regardless, my data also show that even with a lesser endorsement of anxious and avoidant attachment styles, the average report of having more than one previous romantic relationship, and having a current romantic relationship of close to two years, when a history of medium- or high-betrayal traumas were present, attachment style still significantly mediated the direct effect of betrayal trauma on level of relationship satisfaction. This suggests that even lower levels of attachment security are sufficient to contribute to decreases in individuals' level of relationship satisfaction.

I also found a significant difference in anxious attachment scores between the sexes, with women in my sample reporting higher anxious attachment than men ($M_{\text{males}} = 3.48$, $SD = 1.10$; $M_{\text{females}} = 3.88$, $SD = 1.10$; $F = 10.25$, $p < .001$). This is consistent with previous research illustrating differences in anxious and avoidant attachment scores (e.g., Del Giudice, 2011). However, the difference in mean anxious attachment scores between the sexes was approximately half of one point on the Likert anchors. Although the difference was statistically significant, it is likely due to the power inherent in the sample size. I suspect a difference of .40 of a point between the sexes likely translates very little into a “real world” difference between the sexes in their level of endorsing an anxious attachment style.

Emotion Regulation

Broadly speaking, there are adaptive and maladaptive ways by which individuals attempt to control their emotions. While the current literature primarily focuses on cognitive reappraisal versus affective suppression as the dominant forms of emotion regulation (e.g., Richards & Gross, 2000), the DERS measure (Gratz & Roemer, 2004) helps investigators and clinicians to understand more specific domains through which individuals may struggle with regulating their emotions. A multitude of factors may contribute to how and why individuals attempt to control their emotions in different ways. For example, many people may not know how to specifically identify emotions they are experiencing, if during their early development through childhood and adolescence, communications with close others did not put an emphasis on labeling emotions in conversations. As well, individuals may not have learned from others, or had modeled by others (e.g., parents, teachers) ways in which to temper their emotions or respond behaviorally in healthy ways. Finally, close others may have communicated messages to individuals about what emotions they are and are not acceptable to experience, and therefore, these individuals may

struggle to accept their experiences of the full spectrum of their emotions. Examining these specific dimensions of difficulties in emotion regulation can be of use to clinicians working with clients presenting with concerns regarding their emotions.

Given the theoretical underpinnings and empirical evidence concerning the relation between attachment style and emotion regulation difficulties, I predicted these two variables would produce a serial mediation effect on the relation between betrayal trauma experiences and relationship satisfaction. When considered in tandem with attachment styles, the only DERS subscales that demonstrated these significant serial mediation effects were a lack of emotional awareness and a lack of clarity of emotions. Theoretically, these findings are in line with the tenets of betrayal trauma theory – that individuals become “blind” (less aware) to the potential negative attributes of the perpetrator as a means to protect themselves and the relationship, upon which survivors may still depend for needs to be met. Some individuals may also then be unclear how they feel about themselves, the perpetrator, the traumatic event, or their relationship with the perpetrator. Given this history of confusing, conflicting, or dismissing emotions, individuals may continue to struggle with reflecting on their emotions and specifically labeling the emotions they experience. Of note, a lack of emotional awareness and a lack of clarity of emotions were significant in the serial mediation of anxious attachment, but only a lack of clarity of emotions was significant in the serial mediation of avoidant attachment. The “betrayal blindness” effect therefore might be more present in those with anxious attachments due to hyperactivating strategies (e.g., reassurance seeking, frequent worry) and perhaps an increased desire to protect and increase safety in the relationship. However, for those who are avoidantly attached in romantic relationships, the de-activating strategies commonly utilized (e.g., emotional distance and self-reliance) in their close relationships may relate to difficulties labeling emotions, as such

distance creating strategies serve the purpose of appearing emotionally non-affected by the threatening actions of close others. Over time, those with avoidant attachments may become less clear about the emotions they feel if their behaviors are continually divorced from their internal emotional experiences. Also notable, being unaccepting of one's emotional responses trended towards significance for avoidant attachment; theoretically, this finding is also in line with the coping strategies utilized by those who are avoidantly attached. This relation should continue to be examined in future research.

I also found a significant difference in several of the DERS subscales scores between the sexes, with women in my sample reporting greater difficulties on the NONACCEPTANCE, GOALS, and STRATEGIES subscales than men. And, although only trending toward significance in difference between the sexes, women endorsed greater difficulty with impulse control, and men endorsed greater difficulty with emotional awareness. For the above findings concerning significant differences, there was a difference of 1.5 points between men and women on the NONACCEPTANCE subscale, a difference of 2 points between men and women on the GOALS subscale, and a difference of 2 points on the STRATEGIES subscale. The magnitude of these mean differences may well demonstrate "real world" differences between the sexes in the endorsed difficulties experienced, and continued research in this area should examine the ability of sex differences to moderate the effect of emotion regulation difficulties on other key variables.

Relationship Satisfaction

Satisfaction within romantic relationships has been tied to a number of benefits; conversely, relationship dissatisfaction has been related to increased psychological distress (e.g., Markey et al., 2007; Batterham et al., 2014; Stack, 1990; Wyder et al., 2009; Till et al., 2016). In my sample, those endorsing greater levels of anxious and avoidant attachments reported greater

relationship dissatisfaction. These results corroborate previous findings that both types of insecure attachments negatively predict relationship satisfaction, and that avoidant attachment is more strongly correlated with relationship dissatisfaction (e.g., Hadden et al., 2014). As well, I found low to moderate negative relations amongst several of the DERS subscales and relationship satisfaction, which corroborates findings in the literature illustrating how difficulties managing or expressing emotions in relationships can lead to decreases in relationship satisfaction over time (Levenson & Gottman, 1983; Gottman, 1994; Carstensen, Gottman, & Levenson, 1995; Gottman, Coan, Carrere, & Swanson, 1998).

Summary of Findings

Overall, participants in my sample were heterosexual, European American, nineteen-year old men and women. On average, they reported having their first romantic relationships at age 16 (approximately three years before sampling), and indicated they had an average of three different relationships during those three years (including their current relationship). They reported being in their current relationship for a little under a year and a half. On average, they reported feeling quite emotionally close to their partners, and reported feeling that their partners felt similarly toward them.

Participants reported an average of one experience across each type of betrayal trauma, endorsing between one and nine total trauma items; reported lower levels of anxious and avoidant attachment characteristics (generally reporting more secure attachments); reported moderate difficulties across the six dimensions of emotion regulation difficulties; and, reported a high level of satisfaction with their current relationships.

Level of betrayal trauma was not strongly directly related to level of relationship satisfaction; however, medium- and high-betrayal traumas did on average predict low to

moderate positive relations with insecure attachment styles and emotion regulation difficulties. Those who reported higher levels of anxious or avoidant characteristics in their attachment style also reported low to moderate relations with emotion regulation difficulties and lower levels of relationship satisfaction. Finally, anxious attachment and lack of emotional awareness and lack of emotional clarity significantly serially mediated (in separate analyses) the relation between betrayal trauma experiences and relationship satisfaction, whereas avoidant attachment and lack of emotional clarity significantly serially mediated this relation.

Regarding effect sizes for these significant serial mediation pathways, indirect effect sizes for the Anxious attachment → Lack of emotional awareness → Relationship satisfaction pathway ranged from -.0034 to -.0056; indirect effect sizes for the Anxious attachment → Lack of emotional clarity → Relationship satisfaction pathway ranged from -.0105 to -.0156; indirect effect sizes for the Avoidant attachment → Lack of emotional clarity → Relationship satisfaction pathway ranged from -.0050 to -.0075. The largest indirect effect sizes found were MBT → Anxious attachment → Lack of emotional clarity → Relationship satisfaction (-.0105) and HBT → Anxious attachment → Lack of emotional clarity → Relationship satisfaction (-.0156).

Emotion dysregulation – specifically, the DERS measure – has not been well examined as a mediator of relationship satisfaction; however, one study that did examine the six DERS subscales as mediators of childhood maltreatment and young adult relationship satisfaction (Bradbury & Shaffer, 2012) found three subscales to be significant mediators: nonacceptance of emotional responses, impulse control difficulties, and lack of emotional awareness. The indirect effect sizes of these pathways were .0171, -.0125, and -.0105, respectively.

Regarding attachment style, one study that explored attachment and coping strategies (i.e., approach vs avoidance emotion regulation strategies, via the *COPE* scale; Carver, Scheier,

& Weintraub, 1989) as mediators of the relation between childhood sexual abuse (CSA) and child abuse/neglect (CA/N) on psychological distress and interpersonal conflict, found attachment style as a mediator to have an indirect effect size between .058 and .096 for CSA, and between .033 and .275 for CA/N (Shapiro & Levendosky, 1999). When running attachment style and coping strategies as mediators, indirect effect sizes ranged between .004 and .058 for CSA, and was .011 for CA/N.

Compared to extant empirical evidence, my findings are similar to or smaller than those reported indirect effects. The influence of betrayal trauma experience, at whatever level, on relationship satisfaction can be in part attributed to the indirect effects of attachment and particular difficulties with emotion regulation. In my study, lack of emotional awareness and lack of emotional clarity were the particular difficulties with emotion regulation. Endorsement of an anxious or avoidant attachment style serving as full, significant mediators in all tested models demonstrates its powerful mediating role. In testing serial mediation models that included emotion dysregulation, the indirect impact of these variables on relationship satisfaction was statistically significant, but as or less strong than those effects previously found in the literature.

Limitations

Sample

Because a sample of college students was used, my findings may not be generalizable to community samples. Nevertheless, many college students are in romantic relationships and it is helpful to understand the relationship concerns and dynamics of these individuals. Still, there are several sample-based limitations in my study.

Age and marital status. As my sample is, on average, relatively young, extrapolating my findings to older individuals should be done with caution. Regarding marital status, 10

participants identified as “married.” It is possible the relation between betrayal trauma experiences and relationship satisfaction may function differently for individuals who are dating but not married and those who are married; however, given the number of married participants was so low, I was not able to test for differences between these groups.

Sexual orientation. The majority of my sample identified as heterosexual (90%). Therefore, I was unable to determine if my main variables of interest (betrayal trauma experience, attachment, DERS, relationship satisfaction) operate differently for those identifying as non-heterosexual. Although preliminary analyses indicated no differences between the two groups on these key variables of interest, I did not collect sufficient numbers of participants identifying as LGBTQ to either assert generalizability of my findings to these groups or to robustly test any extant differences between these groups on key variables of interest.

Race/ethnicity. Only 72 participants identified as people of color in my sample, and were scattered across several different racial/ethnic groups. This low number of participants of color is not sufficient or representative enough to assert generalizability of my findings to all groups of color; my findings are best generalized only to European Americans.

Study participation. Given the nature of the study was advertised as a study on relationship satisfaction and how this may be impacted by trauma experiences, it is possible this focus may have biased my sample with respect to participants who chose to partake in my study. For example, those with more extensive or high-betrayal trauma histories, may have wanted to avoid this study due to potential triggers or difficult emotions they may be asked to recall or process. As well, people who were less satisfied in their relationships at the time of signing up for the study may have opted to not participate out of concern for reporting or exploring this

reality. These factors may have contributed to participants in my sample reporting longer-term relationships, more security in their attachments, and more satisfaction in their relationships.

Measures and Instruments

BBTS. This measure of trauma experiences is specifically based on betrayal trauma theory, as opposed to general traumatic experiences, and as such there are notable limitations of this measure. To begin, the reliabilities of the subscales (low-, medium-, and high-betrayal) were quite low for my sample (.08, .43, and .42, respectively). This may be, in part, because of the construction of the items and the potential for a lack of a clear construct within items within any given level of trauma. For example, the low-betrayal items, which had the lowest reliability coefficients, consisted of items related to experiencing a natural disaster, being in a major accident, and witnessing a non-close other being injured or killed. These items are meant to tap “impersonal” experiences in the sense that there is no direct interpersonal nature of the events, and therefore no ability for someone to be betrayed by someone. However, experiencing one item does not necessarily predispose someone to experience another item in the subscale; in other words, there is likely a low correlation in ‘real life’ of these individual experiences having a common underpinning or relation. Although the BBTS subscales are certainly built to provide different examples and “levels” of increasing betrayal-based traumatic events, the items tapping into the supposed three distinct levels of this construct may need to be refined. It is also worth noting that in many studies using the BBTS measure, test-retest reliability assessments of the scale were conducted by measuring degree of *revictimization*, and rarely were the scales assessed by examining reliability at one time-point administration.

In addition, the BBTS is broadly split in terms of how the different levels of betrayal trauma experiences are used to predict various outcomes. The method used in my study allows

for any one participant to have contributed to three separate scores, potentially offsetting the difficulties inherent in past research that attempts to group participants into individual groups based on highest level of betrayal trauma experienced. However, there was still a degree of overlap associated with the grouping and level determination method I used. That is, participants may perceive more or less day-to-day impact across each level of betrayal-trauma events and, for investigators, it may be difficult to truly partial out the level of impact from one high-betrayal trauma experience or multiple, repeated medium-betrayal experiences on endorsements of emotion dysregulation, attachment style, or relationship satisfaction.

Future Research

In the future, investigators should intentionally recruit individuals with more diverse demography (age, sexual orientation, race/ethnicity). Being able to examine the key variables in my study, across more diverse demographic groups, can further refine information regarding how best to intervene with concerns related to betrayal trauma experiences and relationship satisfaction. To address the limitations in my study related to the endorsement of relatively secure attachments, investigators should actively seek out individuals in both shorter- and longer-term relationships to examine the potential differences in attachment and emotion regulation patterns. As well, exploring a possible moderating effect of relationship length may further clarify how this variable impacts relationship dynamics and outcomes. In addition, researchers should continue to examine the interplay of attachment style and emotion dysregulation with populations who have experienced greater betrayal trauma experiences (particularly medium- and high-betrayal) and that have a greater range in their current levels of relationship satisfaction to determine how these variables affect differences in relationships. Continuing to understand how experiences of betrayal trauma operate within romantic

relationships, given differently held attachment styles and emotion regulation difficulties, will help to inform clinical treatment planning and interventions.

Given the degree of significant differences found between women and men on measures of betrayal trauma experiences, future research would benefit from exploring the role of sex in the overall relation between betrayal trauma experiences and relationship satisfaction. Such examinations would give further information into whether therapeutic interventions addressing these concerns may need to be tailored by sex or whether interventions can be generalized across the sexes.

An additional and relevant area for future research is how to use and apply the results found in my study. One main purpose behind conducting my study was to better understand how difficult or traumatic interpersonal experiences influence individuals' intrapersonal and interpersonal difficulties in relationships, in hopes that intervention methods could be developed to help individuals presenting with these concerns. Investigators should continue to examine how these variables interact as well as the degree of potential improvement in relationship satisfaction if attachment and emotion regulation are the focus of interventions.

Implications for Practice

It is clear, from past research, that betrayal trauma experiences have the ability to impact both attachment style and emotion regulation abilities. As such, individuals who have experienced betrayal traumas may benefit from interventions that focus on the thoughts and emotions that arise in response to potential threats in relationships (e.g., perceived rejection, fear of abandonment) as well as learning skills to identify, regulate, and tolerate these difficult emotions. Many forms of psychotherapy currently exist to help with these presenting concerns, such as Emotionally Focused Couples Therapy (EFCT; Johnson, 2004). As well, empirical

evidence has indicated psychotherapy can be beneficial decreasing insecure attachment styles and promoting more secure attachments, especially for those with a history of interpersonal trauma (Egeland, Jacobvitz, & Sroufe, 1988; Paley, Cox, Burchinal, & Payne, 1999; Pearson, Cohn, Cowan, & Pape Cowan, 1994; Saunders, Jacobvitz, Zaccagnino, Beverung, & Hazen, 2011).

EFCT, in particular, focuses on attachment needs and the extent to which unmet attachment needs result in negative affect and relationship distress. In this process, goals within EFCT relate to exploring, accessing, reprocessing, and expressing attachment-based emotions in more adaptive ways, thereby helping individuals and couples to develop healthier coping strategies together. EFCT has been found to relate to significant improvements in attachment-related behaviors and relationship satisfaction (Burgess Moser et al., 2016). For example, one study found after 21 sessions of Emotionally Focused Couples Therapy, 64.5% of couples, especially those higher on attachment anxiety, experienced clinically significant increases in marital satisfaction after therapy termination (Cohen's $d = .81$; Dalgleish et al., 2015). Other studies have found improvement rates of 70-73% (Johnson, Hunsley, Greenberg & Schindler, 1999). In addition, partners in relationships who attempt to control their emotions (e.g., suppression, avoidance of negative affect) experience greater changes in marital satisfaction after treatment using EFCT (Dalgleish et al., 2015). The EFCT therapeutic process helps individuals to have corrective emotional experiences in exploring, expressing, and reprocessing emotions that have been previously unacknowledged.

Due to the lack of empirical research regarding the utilization of couples counseling by traditional college-aged students, it is imperative to also consider alternative therapy options to address emotional and relational concerns that may arise after interpersonal trauma experiences.

Outside of couples' therapy, clients may largely benefit from Dialectical Behavioral Therapy (DBT; Chapman, 2006; Linehan, 1993a, 1993b, 2018), which, specifically, operates through a skills-based approach, focusing on teaching individuals how to regulate their emotions and tolerate distress. Of import, DBT has been shown to be effective in treating clients with BPD: decreasing depressive symptoms, suicidal ideation, and non-suicidal self-injury, and increasing social functioning and overall well-being (e.g., Kliem, Kröger, & Kosfelder, 2010). Whether clinicians incorporate aspects of DBT within individual therapy or encourage clients to participate in a DBT group, learning concrete emotion regulation skills in addition to exploring and processing past or current relationships can be a helpful approach in working with complex presenting concerns.

Based on this knowledge, clinicians should focus on both client attachment patterns as well as how clients experience emotions in romantic relationships, as both of these factors have a significant influence on relationship dynamics, including evaluation of relationship satisfaction. In my study, a lack of emotional awareness and a lack of emotional clarity were found to be significant in my serial mediation models, and treatments that focus on helping individuals to explore and label their emotions may be helpful in teaching them skills both to better regulate their emotions, as well as finding healthier ways to communicate their emotions and their needs with their partners. Clinicians incorporating a focus on both attachment and emotion dysregulation in the context of interpersonal trauma experiences stand to gain a more thorough understanding of the complexity with which these trauma experiences impact relationships. With this understanding, clinicians have the ability to work more efficiently and effectively with their clientele.

REFERENCES

- Ainsworth, M. D., & Bell, S. M. (1970). Attachment, exploration, and separation: Illustrated by the behavior of one-year-olds in a strange situation. *Child Development, 41*(1), 49-67.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Lawrence Erlbaum: Oxford.
- Alexander, P. C. (1992). Application of attachment theory to the study of sexual abuse. *Journal of Consulting and Clinical Psychology, 60*, 185-195.
- Alexander, P. C. (2014). Dual-trauma couples and intimate partner violence. *Psychological Trauma: Theory, Research, Practice, and Policy, 6*, 224-231.
- Allen, E. S., Rhoades, G. K., Stanley, S. M., & Markman, H. J. (2010). Hitting home: Relationships between recent deployment, posttraumatic stress symptoms, and marital functioning for Army couples. *Journal of Family Psychology, 24*(3), 280-288.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders: DSM-IV-TR*. Washington, DC: American Psychiatric Association.
- American Psychiatric Association (APA). (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: American Psychiatric Association.
- Andrews, B., Brewin, C.R., Rose, S., & Kirk, M. (2000). Predicting PTSD symptoms in victims of violent crime: the role of shame, anger and childhood abuse. *Journal of Abnormal Psychology, 109*, 69-73.
- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self-scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology, 63*, 596-612.
- Aron, A. P., Mashek, D. J., & Aron, E. N. (2004). Closeness as including other in the self. In D. J. Mashek, & A. Aron (Eds.). *Handbook of closeness and intimacy* (pp. 27-42). Mahwah, New Jersey: Lawrence Erlbaum Associates Inc.
- Aronoff, J. (2012). Parental nurturance in the standard cross-cultural sample: Theory, coding, and scores. *Cross-Cultural Research: The Journal of Comparative Social Science, 46*(4), 315-347.
- Arzi, N. B., Solomon, Z., & Dekel, R. (2000). Secondary traumatization among wives of PTSD and post-concussion casualties: Distress, caregiver burden and psychological separation. *Brain Injury, 14*, 725-736.
- Baer, J. C., & Martinez, C. D. (2006). Child maltreatment and insecure attachment: A meta-analysis. *Journal of Reproductive and Infant Psychology, 24*, 187-197.

- Bakhurst, M., McGuire, A., & Halford, W. K. (2018). Trauma Symptoms, Communication, and Relationship Satisfaction in Military Couples. *Family Process, 57*(1), 241-252.
- Balcom, D. (1996). The interpersonal dynamics and treatment of dual trauma couples. *Journal of Marital and Family Therapy, 22*, 431-442.
- Barnow, S., Stopsack, M., Grabe, H. J., Meinke, C., Spitzer, C., Kronmüller, K., & Sieswerda, S. (2009). Interpersonal evaluation bias in borderline personality disorder. *Behaviour Research and Therapy, 47*, 359-365.
- Bartholomew, K. (1997). Adult attachment processes: Individual and couple perspectives. *British Journal of Medical Psychology, 70*(3), 249-263.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61*(2), 226-244.
- Batterham, P. J., Fairweather-Schmidt, A. K., Butterworth, P., Calear, A. L., Mackinnon, A. J., & Christensen, H. (2014). Temporal effects of separation on suicidal thoughts and behaviours. *Social Science & Medicine, 111*, 58-63.
- Battle, C. L., Shea, M. T., Johnson, D. M., Yen, S., Zlotnick, C., Zanarini, M. C., Sanislow, C. A., Skodol, A. E., Gunderson, J. G., Grilo, C. M., McGlashan, T. H., & Morey, L. C. (2004). Childhood maltreatment associated with adult personality disorders: Findings from the collaborative longitudinal personality disorders study. *Journal of Personality Disorders, 18*(2), 193-211.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497-529.
- Beck, A. T. (1991). Cognitive therapy: A 30-year retrospective. *American Psychologist, 46*, 368-375.
- Becker-Blease, K. A., Freyd, J. J., & Pears, K. C. (2004). Preschoolers' memory for threatening information depends on trauma history and attentional context: Implications for the development of dissociation. *Journal of Trauma & Dissociation, 5*, 113-131.
- Ben-Naim, S., Hirschberger, G., Ein-Dor, T., & Mikulincer, M. (2013). An experimental study of emotion regulation during relationship conflict interactions: The moderating role of attachment orientations. *Emotion, 13*(3), 506-519.
- Bernstein, E. M., & Putnam, F. W. (1986). Development, reliability, and validity of a dissociation scale. *Journal of Nervous and Mental Disorders, 174*, 727-735.
- Boals, A., Valentine, L. M., & Beike, D. R. (2015). Gaining insight into insight: Do insights into stressful life experiences have to be correct to be beneficial? *Journal of Social and Clinical Psychology, 34*(6), 476-494.

- Boon, S., Steele, K., & Van der Hart, O. (2011). *Coping with trauma-related dissociation: Skills training for patients and therapists*. Norton, New York/London.
- Bowlby J. (1969). *Attachment and loss: Vol. 1. Loss*. New York: Basic Books.
- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation, Anxiety, and Anger*. New York: Basic Books.
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. London: Tavistock.
- Bowlby, J. (1982). Attachment and loss: Retrospect and prospect. *American Journal of Orthopsychiatry*, 52(4), 664-678.
- Bowlby, J. (1988). *A Secure Base: Clinical Applications of Attachment Theory*. London: Routledge.
- Bradbury, L. L., & Shaffer, A. (2012). Emotion dysregulation mediates the link between childhood emotional maltreatment and young adult romantic relationship satisfaction. *Journal of Aggression, Maltreatment & Trauma*, 21(5), 497-515.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York: Guilford Press.
- Brewin, C. B., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology*, 68, 748-766.
- Briere, J., & Elliott, D. M. (2000). Prevalence, characteristics, and long-term sequelae of natural disaster exposure in the general population. *Journal of Traumatic Stress*, 13, 661-679.
- Briere, J., & Rickards, S. (2007). Self-awareness, affect regulation, and relatedness: Differential sequels of childhood versus adult victimization experiences. *Journal of Nervous and Mental Disease*, 195, 497-503.
- Bronwyn, W., & Halford, W. K. (2010). Classes of childhood sexual abuse and women's adult couple relationships. *Violence and Victims*, 25(4), 518-535.
- Bruce, M. L., & Kim, K. M. (1992). Differences in the effects of divorce on major depression in men and women. *American Journal of Psychiatry*, 149, 914-917.
- Bryant, A. (2010). The complexity of complex PTSD. *American Journal of Psychiatry*, 167(8), 879-881.

- Burgess Moser, M., Johnson, S. M., Dalglish, T. L., Lafontaine, M. F., Wiebe, S. A., & Tasca, G. A. (2016). Changes in relationship-specific attachment in emotionally focused couple therapy. *Journal of Marital and Family Therapy, 42*(2), 231-245.
- Burk, W. J., & Seiffge-Krenke, I. (2015). One-sided and mutually aggressive couples: Differences in attachment, conflict prevalence, and coping. *Child Abuse & Neglect, 50*, 254-266.
- Busby, D. M., Walker, E. C., & Holman, T. B. (2011). The association of childhood trauma with perceptions of self and the partner in adult romantic relationships. *Personal Relationships, 18*(4), 547-561.
- Butler, E. A., Egloff, B., Wilhelm, F. H., Smith, N. C., Erickson, E. A., & Gross, J. J. (2003). The social consequences of expressive suppression. *Emotion, 3*, 48-67.
- Butzlaff, R. L., & Hooley, J. M. (1998). Expressed emotion and psychiatric relapse: A meta-analysis. *Archives of General Psychiatry, 55*, 547-552.
- Cacioppo, J. T., Cacioppo, S., Adler, A. B., Lester, P. B., McGurk, D., Thomas, J. L., & Chen, H. Y. (2016). The cultural context of loneliness: Risk factors in active duty soldiers. *Journal of Social and Clinical Psychology, 35*(10), 865-882.
- Campbell, S. B., Renshaw, K. D., & Klein, S. R. (2015). *Gender differences in the associations of hostile and non-hostile criticism with relationship quality*. Manuscript in preparation.
- Carstensen, L. L., Gottman, J. M., & Levenson, R. W. (1995). Emotional behavior in long-term marriage. *Psychology and Aging, 10*, 140-149.
- Carver, C. S., & Scheier, M. F. (1981). *Attention and self-regulation: A control-theory approach to human behavior*. New York: Springer.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56*, 267-283.
- Caska, C. M., Smith, T. W., Renshaw, K. D., Allen, S. N., Uchino, B. N., Birmingham, W. et al. (2014). Posttraumatic stress disorder and responses to couple conflict: Implications for cardiovascular risk. *Health Psychology, 33*(11), 1273-1280.
- Cassidy, J., & Kobak, R. R. (1988). Avoidance and its relationship with other defensive processes. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment*, (pp. 300-323). Hillsdale, NJ: Erlbaum.
- Catanzaro, S. J., & Mearns, J. (1990). Measuring generalized expectancies for negative mood regulation: Initial scale development and implications. *Journal of Personality Assessment, 54*, 546-563.

- Cattane, N., Rossi, R., Lanfredi, M., & Cattaneo, A. (2017). Borderline personality disorder and childhood trauma: Exploring the affected biological systems and mechanisms. *BMC Psychiatry*, *17*, 1-14.
- Chapman, A. L. (2006). Dialectical behavior therapy: Current indications and unique elements. *Psychiatry*, *3*(9), 62-68.
- Chappell, K. D., & Davis, K. E. (1998). Attachment, partner choice, and perception of romantic partners: An experimental test of the attachment-security hypothesis. *Personal Relationships*, *5*, 327-347.
- Cloitre, M. (1998). Sexual revictimization: Risk factors and prevention. In V. M. Follette, J. I., Ruzek, & F. R. Abueg (Eds.), *Cognitive-behavioral therapies for trauma* (pp. 278-304). New York: Guilford Press.
- Cohan, C. L., & Bradbury, T. N. (1997). Negative life events, marital interaction, and the longitudinal course of newlywed marriage. *Journal of Personality and Social Psychology*, *73*, 114-128.
- Cole, P. M., Michel, M. K., & Teti, L. O. (1994). The development of emotion regulation and dysregulation: A clinical perspective. In N. A. Fox (Ed.), *The development of emotion regulation: Biological and behavioral considerations. Monographs of the Society for Research in Child Development*, *59*, 73-100.
- Collins, N. L., Cooper, M. L., Albino, A., & Allard, L. (2002). Psychosocial vulnerability from adolescence to adulthood: A prospective study of attachment style differences in relationship functioning and partner choice. *Journal of Personality*, *70*(6), 965-1008.
- Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, *58*, 644-663.
- Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., DeRosa, R., Hubbard, R., Kagan, R., Liautaud, J., Mallah, K., Olafson, E., & van, der Kolk, B. (2005). Complex trauma in children and adolescents. *Psychiatric Annals*, *35*(5), 390-398.
- Cook, J. M., Riggs, D. S., Thompson, R., Coyne, J. C., & Sheikh, J. I. (2004). Posttraumatic stress disorder and current relationship functioning among World War II ex-prisoners of war. *Journal of Family Psychology*, *18*(1), 36-45.
- Cortez, V. L., & Bugental, D. B. (1994). Children's visual avoidance of threat: A strategy associated with low social control. *Merrill-Palmer Quarterly*, *40*, 82-97.
- Coyne, J. C., & DeLongis, A. (1986). Going beyond social support: The role of social relationships in adaptation. *Journal of Consulting and Clinical Psychology*, *54*, 454-460.

- Creasey, G. (2014). Conflict-management behavior in dual-trauma couples. *Psychological Trauma: Theory, Research, Practice, and Policy*, 6, 232–239.
- Creasey, G., & Hesson-McInnis, M. (2001). Affective responses, cognitive appraisals, and conflict tactics in late adolescent romantic relationships: Associations with attachment orientations. *Journal of Counseling Psychology*, 48(1), 85-96.
- Crittenden, P. M. (1992). Children's strategies for coping with adverse home environments: An interpretation using attachment theory. *Child Abuse & Neglect*, 16, 329–343.
- Crittenden, P. M. (1999). Danger and development: The organization of self-protective strategies. *Monographs of the Society for Research in Child Development*, 64(3), 145-171.
- Dalgleish, T. L., Johnson, S. M., Burgess Moser, M., Lafontaine, M. F., Wiebe, S. A., & Tasca, G. A. (2015). Predicting change in marital satisfaction throughout emotionally focused couple therapy. *Journal of Marital and Family Therapy*, 41(3), 276-291.
- Davis, J. L., & Petretic-Jackson, P. A. (2000). The impact of child sexual abuse on adult interpersonal functioning: A review and synthesis of the empirical literature. *Aggression and Violent Behavior*, 5(3), 291–328.
- De Bellis, M. D., Keshavan, M. S., Clark, D. B., Casey, B. J., Giedd, J. N., Boring, A. M., Frustaci, K., & Ryan, N. D. (2000). Developmental traumatology part II: brain development. *Biological Psychiatry*, 45(10), 1271-1284.
- DePrince, A. P. (2001). *Trauma and posttraumatic responses: An examination of fear and betrayal*. Doctoral dissertation, University of Oregon: Eugene, OR.
- DePrince, A. P., & Freyd, J. J. (2001). Memory and dissociative tendencies: The roles of attentional context and word meaning in a directed forgetting task. *Journal of Trauma & Dissociation*, 2, 67–82.
- DePrince, A. P., & Freyd, J. J. (2002). The intersection of gender and betrayal in trauma. In R. Kimerling, P. C. Ouimette, & J. Wolfe (Eds.), *Gender and PTSD* (pp. 98–113). New York, NY: Guilford Press.
- DeSilva, P. (2001). Impact of trauma on sexual functioning and sexual relationships. *Sexual and Relationship Therapy*, 16, 269–278.
- Del Giudice, M. (2011). Sex differences in romantic attachment: A meta-analysis. *Personality and Social Psychology Bulletin*, 37(2), 193-214.
- DiLillo, D. (2001). Interpersonal functioning among women reporting a history of childhood sexual abuse: Empirical findings and methodological issues. *Clinical Psychology Review*, 21(4), 553–576.

- Domingue, R., & Mollen, D. (2009). Attachment and conflict communication in adult romantic relationships. *Journal of Social and Personal Relationships, 26*(5), 678-696.
- Dorahy, M. J., Corry, M., Shannon, M., Webb, K., McDermott, B., Ryan, M., & Dyer, K. F. W. (2013). Complex trauma and intimate relationships: The impact of shame, guilt and dissociation. *Journal of Affective Disorders, 147*(1-3), 72-79.
- Dunst, C. J., & Kassow, D. Z. (2008). Caregiver sensitivity, contingent social responsiveness, and secure infant attachment. *Journal of Early and Intensive Behavior Intervention, 5*(1), 40-56.
- Egeland, B., Jacobvitz, D., & Sroufe, L. A. (1988). Breaking the cycle of abuse. *Child Development, 1080-1088*.
- English, T., John, O. P., Srivastava, S., & Gross, J. J. (2012). Emotion regulation and peer-rated social functioning: A 4-year longitudinal study. *Journal of Research in Personality, 46*(6), 780-784.
- Erbes, C. R. (2011). Couple functioning and PTSD in returning OIF soldiers: Preliminary findings from the Readiness and Resilience in National Guard Soldiers Project. In S. MacDermid Wadsworth & D. Riggs (Eds.), *Risk and resilience in U.S. military families* (pp. 47–68). New York: Springer.
- Etkin, A., & Wager, T. D. (2007). Functional neuroimaging of anxiety: A meta-analysis of emotional processing in PTSD, social anxiety disorder, and specific phobia. *The American Journal of Psychiatry, 164*(10), 1476-1488.
- Feeney, J. A., & Noller, P. (1990). Attachment style as a predictor of adult romantic relationships. *Journal of Personality and Social Psychology, 58*(2), 281-291.
- Feinauer, L. L., Callahan, E., & Hilton, H. (1996). Positive intimate relationships decrease depression in sexually abused women. *The American Journal of Family Therapy, 24*(2), 99–106.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine, 14*(4), 245-258.
- Figley, C. R., & Kiser, L. J. (2013). *Helping traumatized families* (2nd ed.). New York, NY: Routledge.
- Ford, J. D., Stockton, P., Kaltman, S., & Green, B. L. (2006). Disorders of extreme stress (DESNOS) symptoms are associated with type and severity of interpersonal trauma

- exposure in a sample of healthy young women. *Journal of Interpersonal Violence*, 21, 1399–1416.
- Fraley, R. C. (2002) Attachment stability from infancy to adulthood: Meta-analysis and dynamic modeling of developmental mechanisms. *Personality and Social Psychology Review*, 6, 123-151.
- Fraley, R. C., & Davis, K. E. (1997). Attachment formation and transfer in young adults' close friendships and romantic relationships. *Personal Relationships*, 4, 131–144.
- Fraley, R. C, & Shaver, P. R. (2000). Adult romantic attachment: Theoretical developments, emerging controversies, and unanswered questions. *Review of General Psychology*, 4(2), 132–154.
- Frazier, P. A., Byer, A. L., Fischer, A. R., Wright, D. M., & DeBord, K. A. (1996). Adult attachment style and partner choice: Correlational and experimental findings. *Personal Relationships*, 3(2), 117-136.
- Freyd, J. (1994). Betrayal trauma: Traumatic amnesia as an adaptive response to childhood abuse. *Ethics & Behavior*, 4(4), 307-329.
- Freyd, J. J. (1996). *Betrayal trauma: The logic of forgetting childhood abuse*. Harvard University Press, Cambridge, MA.
- Freyd, J. J. (2011, March 10). *Scoring the BBTS*. Retrieved from <https://dynamic.uoregon.edu/jjf/bbts/categories.html>
- Freyd, J. J., DePrince, A. P., & Zurbriggen, E. L. (2001). Self-reported memory for abuse depends upon victim-perpetrator relationship. *Journal of Trauma & Dissociation*, 2, 5–17.
- Freyd, J. J., Klest, B., & Allard, C. B. (2005). Betrayal trauma: Relationship to physical health, psychological distress, and a written disclosure intervention. *Journal of Trauma & Dissociation*, 6(3), 83–104.
- Friedrich, W. N. (2002). *Psychological assessment of sexually abused children and their families*. Sage.
- Friesen, M., Woodward, L., Horwood, L., & Fergusson, D. (2010). Childhood exposure to sexual abuse and partnership outcomes at age 30. *Psychological Medicine*, 40(4), 679–688.
- Garner, P. W., & Spears, F. M. (2000). Emotion regulation in low-income preschoolers. *Social Development*, 9, 246–264.

- Givertz, M., Woszidlo, A., Segrin, C., & Knutson, K. (2013). Direct and indirect effects of attachment orientation on relationship quality and loneliness in married couples. *Journal of Social and Personal Relationships, 30*(8), 1096–1120.
- Glenn, N. D., & Weaver, C. N. (1981). The contribution of marital happiness to global happiness. *Journal of Marriage and the Family, 43*, 161–168.
- Godbout, N., Sabourin, S., & Lussier, Y. (2009). Child sexual abuse and adult romantic adjustment: Comparison of single- and multiple-indicator measures. *Journal of Interpersonal Violence, 24*(4), 693–705.
- Goff, B. S. N., Crow, J. R., Reisbig, A. M. J., & Hamilton, S. (2009). The impact of soldiers' deployment to Iraq and Afghanistan: Secondary traumatic stress in female partners. *Journal of Couple & Relationship Therapy, 8*, 291–305.
- Goff, B. S. N., Reisbig, A. M. J., Bole, A., Scheer, T., Hayes, E., Archuleta, K. L., Blalock Henry, S., Hoheisel, C. B., Nye, B., Osby, J., Sanders-Hahs, E., Schwerdtfeger, K. L., Smith, D. B. (2006). The effects of trauma on intimate relationships: A qualitative study with clinical couples. *American Journal of Orthopsychiatry, 76*, 451–460.
- Goff, B. S. N., & Smith, D. B. (2005). Systemic traumatic stress: The couple adaptation to traumatic stress model. *Journal of Marital and Family Therapy, 31*, 145–157.
- Goldberg, L. R., & Freyd, J. J. (2006). Self-reports of potentially traumatic experiences in an adult community sample: Gender differences and test-retest stabilities of the items in a brief betrayal-trauma survey. *Journal of Trauma & Dissociation, 7*, 39–63.
- Goldsmith, R. E., Chesney, S. A., Heath, N. M., & Barlow, M. R. (2013). Emotion regulation difficulties mediate associations between betrayal trauma and symptoms of posttraumatic stress, depression, and anxiety. *Journal of Traumatic Stress, 26*, 376–384.
- Goldsmith, R., Freyd, J. J., & DePrince, A. P. (2012). Betrayal trauma: Associations with psychological and physical symptoms in young adults. *Journal of Interpersonal Violence, 27*, 547–567.
- Gottman, J. M. (1993). The roles of conflict engagement, escalation, and avoidance in marital interaction: A longitudinal view of five types of couples. *Journal of Consulting and Clinical Psychology, 61*, 6–15.
- Gottman, J. (1994). *What predicts divorce? The relationship between marital processes and marital outcomes*. Hillsdale, NJ: Erlbaum.
- Gottman, J. M., Coan, J., Carrere, S., & Swanson, C. (1998). Predicting marital happiness and stability from newlywed interactions. *Journal of Marriage and Family, 60*, 5–22.

- Gottman, J. M., & Notarius, C. I. (2000). Decade review: Observing marital interaction. *Journal of Marriage and Family*, *62*, 927–947.
- Gove, W. R., Hughes, M., & Style, C. R. (1983). Does marriage have positive effects on the psychological well-being of the individual? *Journal of Health and Social Behavior*, *24*, 122–131.
- Gratz, K. L. & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment*, *26*, 41-54.
- Gross, J. J. (1998). Antecedent- and response-focused emotion regulation: Divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology*, *74*, 224–237.
- Gross, J. J., & Levenson, R. W. (1993). Emotional suppression: Physiology, self-report, and expressive behavior. *Journal of Personality and Social Psychology*, *64*, 970–986.
- Gross, J. J., & Levenson, R.W. (1997). Hiding feelings: The acute effects of inhibiting negative and positive emotion. *Journal of Abnormal Psychology*, *106*, 95–103.
- Gross, J. J., & Munoz, R. F. (1995). Emotion regulation and mental health. *Clinical Psychology: Science and Practice*, *2*, 151–164.
- Gross, J. J., Richards, J. M., & John, O. P. (2003). Emotion regulation in everyday life: Sex, ethnicity, and social context. Manuscript in preparation.
- Hadden, B. W., Smith, C. V., & Webster, G. D. (2014). Relationship duration moderates associations between attachment and relationship quality meta-analytic support for the temporal adult romantic attachment model. *Personality and Social Psychology Review*, *18*, 42–58.
- Hagemann, T., Levenson, R. W., & Gross, J. (2006). Expressive suppression during an acoustic startle. *Psychophysiology*, *43*, 104–112.
- Harway, M., & Faulk, E. (2005). Treating couples with sexual abuse issues. In M. Harway (Ed.), *Handbook of couples therapy* (pp. 272–288). Hoboken, NJ: John Wiley & Sons.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). The ACT model of psychopathology and human suffering. In *Acceptance and commitment therapy: An experiential approach to behavior change* (pp. 49–80). New York: Guilford Press.
- Hayes, S. C., Wilson, K. G., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology*, *64*, 1152–1168.

- Hazan C., & Shaver, P.R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52(3), 511–524.
- Hazan, C., & Shaver, P.R. (1990). Love and work: An attachment theoretical perspective. *Journal of Personality and Social Psychology*, 59, 270–280.
- Hazan, C., & Shaver, P. R. (1994). Attachment as an organizational framework for research on close relationships. *Psychological Inquiry*, 5(1), 1-22.
- Hazan, C., & Zeifman, D. (1994). Sex and the psychological tether. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships: Vol. 5. Attachment processes in adulthood* (pp. 151–178). London, UK: Jessica Kingsley.
- Hecker, L. (2007). Trauma and couple therapy. *Journal of Couple & Relationship Therapy: Innovations in Clinical and Educational Interventions*, 6, 83–93.
- Henderson, A. J. Z., Bartholomew, K., & Dutton, D. G. (1997). He loves me; he loves me not: Attachment and separation resolution of abused women. *Journal of Family Violence*, 12, 169–191.
- Herman, J. L. (1992). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress*, 5, 377-391.
- Herman, J. L. (2011). Posttraumatic stress disorder as a shame disorder. In: Dearing, R.L., Tangney, J.P. (Eds.), *Shame in the therapy hour washington*. American Psychological Association, DC, pp. 261–275.
- Hocking, E. C., Simons, R. M., & Surette, R. J. (2016). Attachment style as a mediator between childhood maltreatment and the experience of betrayal trauma as an adult. *Child Abuse & Neglect*, 52, 94-101.
- Holt-Lunstad, J., Birmingham, W., & Jones, B. Q. (2008). Is there something unique about marriage? The relative impact of marital status, relationship quality, and network social support on ambulatory blood pressure and mental health. *Annals of Behavioral Medicine*, 35, 239–244.
- Huang, Y. L., Chen, S. H., Su, Y. J., & Kung, Y. W. (2017). Attachment Dimensions and Post-traumatic Symptoms Following Interpersonal Traumas versus Impersonal Traumas in Young Adults in Taiwan. *Stress and Health*, 33(3), 233-243.
- Hulette, A. C., Freyd, J. J., Pears, K. C., Kim, H. K., Fisher, P. A., & Becker-Blease, K. A. (2008). Dissociation and posttraumatic symptoms in maltreated preschool children. *Journal of Child & Adolescent Trauma*, 1(2), 93–108.

- Hyland, K. Z., Tsujimoto, R. N., & Hamilton, M. (1993). A new comparison group for research on child sexual abuse. *Child Abuse & Neglect*, 17(3), 367-370.
- Impett, E. A., Kogan, A., English, T., John, O., Oveis, C., Gordon, A. M., & Keltner, D. (2012). Suppression sours sacrifice: Emotional and relational costs of suppressing emotions in romantic relationships. *Personality and Social Psychology Bulletin*, 38(6), 707-720.
- Jackson, D. C., Malmstadt, J. R., Larson, C. L., & Davidson, R. J. (2000). Suppression and enhancement of emotional responses to unpleasant pictures. *Psychophysiology*, 37, 515-522.
- Johnson, M. P. (1999). Personal, moral, and structural commitment to relationships. In J.M. Adams & W.H. Jones (1999), *Handbook of interpersonal commitment and relationship stability* (pp. 73-87). New York: Plenum.
- Johnson, M. P., Caughlin, J. P., & Huston, T. L. (1999). The tripartite nature of marital commitment: Personal, moral, and structural reasons for staying married. *Journal of Marriage and the Family*, 61, 160-177.
- Johnson, S. M. (2002). *Emotionally focused couple therapy with trauma survivors: Strengthening attachment bonds*. New York, NY: Guilford Press.
- Johnson, S. M. (2004). *The practice of emotionally focused couple therapy: Creating connection* (2nd ed.). New York, NY: Brunner-Routledge/Taylor & Francis.
- Johnson, S. M., Hunsley, J., Greenberg, L. S., & Schindler, D. (1999). Emotionally focused couples therapy: Status and challenges. *Clinical Psychology: Science & Practice*, 6, 67-79.
- Johnson, S. M., Makinen, J. A., & Millikin, J. W. (2001). Attachment injuries in couple relationships: A new perspective on impasses in couples therapy. *Journal of Marital and Family Therapy*, 27(2), 145-155.
- Johnson, S. M., & Williams-Keeler, L. (1998). Creating healing relationships for couples dealing with trauma: The use of emotionally focused marital therapy. *Journal of Marital and Family Therapy*, 24, 25-40.
- Kaehler, L. A., & Freyd, J. J. (2009). Borderline personality characteristics: A betrayal trauma approach. *Psychological Trauma: Theory, Research, Practice, and Policy*, 1(4), 261-268.
- Kelley, H. H. (1979). *Personal relationships: Their structures and processes*. Hillsdale, NJ: Erlbaum.
- Kelley, L. P., Weathers, F. W., Mason, E. A., & Pruneau, G. M. (2012). Association of life threat and betrayal with posttraumatic stress disorder symptom severity. *Journal of Traumatic Stress*, 25, 408-415.

- Kessler, R. C., Sonnega, A., & Bromet, E. (1995). Posttraumatic stress disorder in the national comorbidity survey. *Archives of General Psychiatry*, *52*, 1048–1060.
- Kirkpatrick, L. A., & Davis, K. E. (1994). Attachment style, gender, and relationship stability: a longitudinal analysis. *Journal of Personality and Social Psychology*, *66*, 502–512.
- Kliem, S., Kröger, C., & Kosfelder, J. (2010). Dialectical behavior therapy for borderline personality disorder: a meta-analysis using mixed-effects modeling. *Journal of Consulting and Clinical Psychology*, *78*(6), 936-951.
- Klein, S. R., Renshaw, K. D., & Curby, T. W. (2016). Emotion regulation and perceptions of hostile and constructive criticism in romantic relationships. *Behavior Therapy*, *47*(2), 143-154.
- Knapp, A. E., Knapp, D. J., Brown, C. C., & Larson, J. H. (2017). Conflict resolution styles as mediators of female child sexual abuse experience and heterosexual couple relationship satisfaction and stability in adulthood. *Journal of Child Sexual Abuse: Research, Treatment, & Program Innovations for Victims, Survivors, & Offenders*, *26*(1), 58-77.
- Knobloch, L. K., & Carpenter-Theune, K. (2004). Topic avoidance in developing romantic relationships: Associations with intimacy and relational uncertainty. *Communication Research*, *31*(2), 173-205.
- Kobak, R. R., & Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. *Child Development*, *59*, 135–146.
- Kolves, K., Ide, N., & De Leo, D. (2012). Fluctuations of suicidality in the aftermath of a marital separation: 6-Month follow-up observations. *Journal of Affective Disorders*, *142*, 256–263.
- Kopp, C. B. (1989). Regulation of distress and negative emotions: A developmental view. *Developmental Psychology*, *25*, 343–354.
- Lamb, M. E., Gaensbauer, T. J., Malkin, C. M., & Schultz, L. A. (1985). The effects of child maltreatment on security of infant-adult attachment. *Infant Behavior & Development*, *8*, 35–45.
- Larsen, R. J. (2000). Toward a science of mood regulation. *Psychological Inquiry*, *11*, 129–141.
- Larson, J. H., & Lamont, C. (2005). The relationship of childhood sexual abuse to the marital attitudes and readiness for marriage of single young adult women. *Journal of Family Issues*, *26*(4), 415–430.

- Lassri, D., Luyten, P., Fonagy, P., & Shahar, G. (2018). Undetected scars? self-criticism, attachment, and romantic relationships among otherwise well-functioning childhood sexual abuse survivors. *Psychological Trauma: Theory, Research, Practice, and Policy*, *10*(1), 121-129.
- Latty-Mann, H., & Davis, K. E. (1996). Attachment theory and partner choice: Preference and actuality. *Journal of Social and Personal Relationships*, *13*(1), 5-23.
- Lazarus, R. S., & Alfert, E. (1964). Short-circuiting of threat by experimentally altering cognitive appraisal. *Journal of Abnormal and Social Psychology*, *69*, 195–205.
- Levenson, R. W., & Gottman, J. M. (1983). Marital interaction: Physiological linkage and affective exchange. *Journal of Personality and Social Psychology*, *45*, 587–597.
- Lewis, R. W., Fugl-Meyer, K. S., Corona, G., Hayes, R. D., Laumann, E. O., Moreira, E. D., et al. (2010). Definition epidemiology risk factors for sexual dysfunction. *Journal of Sexual Medicine*, *7*, 1598–1607.
- Linehan, M. M. (1993a). *Cognitive-behavioral treatment of borderline personality disorder*. New York: The Guilford Press.
- Linehan, M. M. (1993b). Dialectical behavior therapy for treatment of borderline personality disorder: implications for the treatment of substance abuse. *NIDA Research Monograph*, *137*, 201-201.
- Linehan, M. M. (2018). *Cognitive-behavioral treatment of borderline personality disorder*. Guilford Publications.
- Logan, J., Hall, J., & Karch, D. (2011). Suicide categories by patterns of known risk factors: A latent class analysis. *Archives of General Psychiatry*, *68*, 935–941.
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, *39*, 99-128.
- Main, M. (1979) The “ultimate” causation of some infant attachment phenomena. *Behavioral and Brain Sciences*, *2*, 640-643.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. *Monographs of the Society for Research in Child Development*, *50*(1-2), 66-104.
- Marganska, A., Gallagher, M., & Miranda, R. (2013). Adult attachment, emotion dysregulation, and symptoms of depression and generalized anxiety disorder. *American Journal of Orthopsychiatry*, *83*(1), 131-141.

- Markey, C., Markey, P., & Gray, H. (2007). Romantic relationships and health: An examination of individuals' perceptions of their romantic partners' influences on their health. *Sex Roles, 57*, 435–445.
- Marroquín, B., & Nolen-Hoeksema, S. (2015). Emotion regulation and depressive symptoms: Close relationships as social context and influence. *Journal of Personality and Social Psychology, 109*(5), 836-855.
- Masland, S. R., & Hooley, J. M. (2015). Perceived criticism: A research update for clinical practitioners. *Clinical Psychology: Science and Practice, 22*, 211–222.
- Matsakis, A. (2004). Trauma and its impact on families. In D. Catherall (Ed.), *Handbook of stress, trauma, and the family* (pp. 15–32). New York, NY: Brunner-Routledge.
- Mennin, D. S., Heimberg, R. G., Turk, C. L., & Fresco, D. M. (2002). Applying an emotion regulation framework to integrative approaches to generalized anxiety disorder. *Clinical Psychology: Science and Practice, 9*, 85–90.
- Mikulincer, M., Florian, V., Cowan, P. A., & Cowan, C. P. (2002). Attachment security in couple relationships: a systemic model and its implications for family dynamics. *Family Process, 41*, 405–434.
- Mikulincer, M., & Shaver, P. R. (2003). The attachment behavioral system in adulthood: Activation, psychodynamic, and interpersonal processes. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 35, pp. 53–152). San Diego, CA: Academic Press.
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York: The Guilford Press.
- Mikulincer, M., Shaver, P. R., & Horesh, N. (2006). Attachment bases of emotion regulation and posttraumatic adjustment. In D. K. Snyder, J. A. Simpson, & J. N. Hughes (Eds.), *Emotion Regulation in Families: Pathways to Dysfunction and Health* (pp. 77–99). Washington, DC: American Psychological Association.
- Mikulincer, M., Shaver, P. R., & Solomon, Z. (2015). An attachment perspective on traumatic and posttraumatic reactions. In M. P. Safir, H. S. Wallach, & S. Rizzo (Eds.), *Future Directions in Post-traumatic Stress Disorder: Prevention, Diagnosis, and Treatment* (pp. 79–96). New York, NY: Springer.
- Minzenberg, M. J., Poole, J. H., & Vinogradov, S. (2006). Adult social attachment disturbance is related to childhood maltreatment and current symptoms in borderline personality disorder. *Journal of Nervous and Mental Disease, 194*, 341–348.
- Mohl, A. (2010). Sexual abuse of the child: A treatment model for the incestuous family. *The Journal of Psychohistory, 38*(2), 168–181.

- Monson, C. M., & Snyder, D. K. (2012). Couple-based interventions for military and veteran families: Evidence and rationale. In D. K. Snyder & C. M. Monson (Eds.), *Couple-based interventions for military and veteran families: A practitioner's guide* (pp. 3–12). New York: Guilford Press.
- Muller, R. T., Sicoli, L. A., & Lemieux, K. E. (2000). Relationship between attachment style and posttraumatic stress symptomatology among adults who report the experience of childhood abuse. *Journal of Traumatic Stress, 13*, 321–332.
- Navarra, R. J., & Gottman, J. M. (2011). Gottman method couple therapy: From theory to practice. In D. K. Carson & M. Casado-Kehoe (Eds.), *Case studies in couples therapy: Theory-based approaches* (pp. 331–343). New York, NY: Routledge/Taylor & Francis.
- Nelson, B. S., & Wampler, K. S. (2000). Systemic effects of trauma in clinic couples: An exploratory study of secondary trauma resulting from childhood abuse. *Journal of Marital and Family Therapy, 26*(2), 171–184.
- Nelson Goff, B. S., Crow, J. R., Reisbig, A. M. J., & Hamilton, S. (2007). The impact of individual trauma symptoms of deployed soldiers on relationship satisfaction. *Journal of Family Psychology, 21*(3), 344–353.
- Nelson Goff, B. S., Irwin, L., Cox, M., Devine, S., Summers, K., & Schmitz, A. (2014). A qualitative study of single-trauma and dual-trauma military couples. *Psychological Trauma: Theory, Research, Practice, and Policy, 6*, 216–223.
- Nelson Goff, B. S., & Smith, D. (2005). Systemic traumatic stress: The Couple Adaptation to Traumatic Stress Model. *Journal of Marital and Family Therapy, 31*, 145–157.
- Nelson, B. S., Wangsgaard, S., Yorgason, J., Kessler, M. H., & Carter-Vassol, E. (2002). Single- and dual-trauma couples: Clinical observations of relational characteristics and dynamics. *American Journal of Orthopsychiatry, 72*, 58–69.
- Neria, Y., Bromet, E. J., & Sievers, S. (2002). Trauma exposure and posttraumatic stress disorder in psychosis: Findings from a first admission cohort. *Journal of Counseling and Clinical Psychology, 70*, 246–251.
- Norona, J. C., Scharf, M., Welsh, D. P., & Shulman, S. (2018). Predicting post-breakup distress and growth in emerging adulthood: The roles of relationship satisfaction and emotion regulation. *Journal of Adolescence, 63*, 191–193.
- Norris, F. H., Foster, J. D., & Weisshaar, D. L. (2002). The epidemiology of gender differences in PTSD across developmental, societal, and research contexts. In R. Kimerling, P. C. Ouimette, & J. Wolfe (Eds.), *Gender and PTSD* (pp. 3–42). New York, NY: Guilford Press.

- Norris, F. H., & Perilla, J. (1996). Reliability, validity and cross-language stability of the Revised Civilian Mississippi Scale for PTSD. *Journal of Traumatic Stress, 9*, 285-298.
- Notarius, C. I., & Levenson, R. W. (1979). Expressive tendencies and physiological response to stress. *Journal of Personality and Social Psychology, 37*, 1204–1210.
- Paivio, S. C., & Greenberg, L. S. (1998). Experiential theory of emotion applied to anxiety and depression. In W. F. Flack Jr. & J. D. Laird (Eds.), *Emotions in psychopathology: Theory and research* (pp. 229–242). New York: Oxford University Press.
- Paley, B., Cox, M. J., Burchinal, M. R., & Payne, C. C. (1999). Attachment and marital functioning: Comparison of spouses with continuous-secure, earned-secure, dismissing, and preoccupied attachment stances. *Journal of Family Psychology, 13*(4), 580-597.
- Pearce, J., Simpson, J., Berry, K., Bucci, S., Moskowitz, A., & Varese, F. (2017). Attachment and dissociation as mediators of the link between childhood trauma and psychotic experiences. *Clinical Psychology & Psychotherapy, 24*(6), 1304-1312.
- Pearson, J. L., Cohn, D. A., Cowan, P. A., & Cowan, C. P. (1994). Earned-and continuous-security in adult attachment: Relation to depressive symptomatology and parenting style. *Development and Psychopathology, 6*(2), 359-373.
- Pietromonaco, P. R., & Barrett, L. F. (1997). Working models of attachment and daily social interactions. *Journal of Personality and Social Psychology, 73*(6), 1409-1423.
- Platt, M., & Freyd, J. J. (2012). Trauma and negative underlying assumptions in feelings of shame: An exploratory study. *Psychological Trauma: Theory, Research, Practice, and Policy, 4*, 370–378.
- Platt, M. G., & Freyd, J. J. (2015). Betray my trust, shame on me: Shame, dissociation, fear, and betrayal trauma. *Psychological Trauma: Theory, Research, Practice, and Policy, 7*(4), 398.
- Platt, M. G., Luoma, J. B., & Freyd, J. J. (2017). Shame and dissociation in survivors of high and low betrayal trauma. *Journal of Aggression, Maltreatment and Trauma, 26*(1), 34-49.
- Pollak, S. D. (2008). Mechanisms linking early experience and the emergence of emotions: Illustrations from the study of maltreated children. *Current Directions in Psychological Science, 17*(6), 370-375.
- Pollak, S. D., Vardi, S., Putzer Bechner, A. M., & Curtin, J. J. (2005). Physically abused children's regulation of attention in response to hostility. *Child Development, 76*(5), 968-977.
- Putnam, F. W. (1997). *Dissociation in children and adolescents: A developmental perspective*. Guilford Press, New York.

- Rellini, A. H. (2008). Review of the empirical evidence for a theoretical model to understand the sexual problems of women with a history of CSA. *Journal of Sexual Medicine*, 5, 31–46.
- Rellini, A. H., & Meston, C. M. (2007). Sexual function and satisfaction in adults based on the definition of child sexual abuse. *Journal of Sexual Medicine*, 4, 1312–1321.
- Rellini, A. H., Vujanovic, A. A., Gilbert, M., & Zvolensky, M. J. (2012). Childhood maltreatment and difficulties in emotion regulation: Associations with sexual and relationship satisfaction among young adult women. *Journal of Sex Research*, 49(5), 434–442.
- Rellini, A. H., Vujanovic, A. A., & Zvolensky, M. J. (2010). Emotional dysregulation: Concurrent relation to sexual problems among trauma-exposed adult cigarette smokers. *Journal of Sex & Marital Therapy*, 36, 137–153.
- Rempel, J. K., Holmes, J. G., & Zanna, M. P. (1985). Trust in close relationships. *Journal of Personality and Social Psychology*, 49, 95–112.
- Renshaw, K. D., Allen, E. S., Carter, S. P., Markman, H. J., & Stanley, S. M. (2014). Partners' attributions for service members' symptoms of combat-related posttraumatic stress disorder. *Behavior Therapy*, 45(2), 187–198.
- Renshaw, K. D., Blais, R. K., & Caska, C. M. (2010). Distinctions between hostile and non-hostile forms of perceived criticism from others. *Behavior Therapy*, 41, 364–374.
- Renshaw, K. D., Rodrigues, C. S., & Jones, D. H. (2008). Psychological symptoms and marital satisfaction in spouses of Operation Iraqi Freedom veterans: Relationships with spouses' perceptions of veterans' experiences and symptoms. *Journal of Family Psychology*, 22(4), 586–594.
- Richards, J. M., Butler, E. A., & Gross, J. J. (2003). Emotion regulation in romantic relationships: The cognitive consequences of concealing feelings. *Journal of Social and Personal Relationships*, 20(5), 599–620.
- Richards, J. M., & Gross, J. J. (1999). Composure at any cost? The cognitive consequences of emotion suppression. *Personality and Social Psychology Bulletin*, 25, 1033–1044.
- Richards, J. M., & Gross, J. J. (2000). Emotion regulation and memory: The cognitive costs of keeping one's cool. *Journal of Personality and Social Psychology*, 79, 410–424.
- Rick, J. L., Falconier, M. K., & Wittenborn, A. K. (2017). Emotion regulation dimensions and relationship satisfaction in clinical couples. *Personal Relationships*, 24(4), 790–803.

- Ritschel, L. A., Tone, E. B., Schoemann, A. M., & Lim, N. E. (2015). Psychometric properties of the difficulties in emotion regulation scale across demographic groups. *Psychological Assessment, 27*(3), 944-954.
- Rosenstein, D. S., & Horowitz, H. A. (1996). Adolescent attachment and psychopathology. *Journal of Consulting and Clinical Psychology, 64*, 244-253.
- Rubin, Z. (1970). Measurement of romantic love. *Journal of Personality and Social Psychology, 16*, 265-273.
- Ruhlmann, L. M., Gallus, K. L., & Durtschi, J. A. (2017). Exploring relationship satisfaction and attachment behaviors in single- and dual-trauma couples: A pilot study. *Traumatology, 24*(1), 27-36.
- Ruhlmann, L. M., Gallus, K. L., & Durtschi, J. A. (2018). Exploring relationship satisfaction and attachment behaviors in single- and dual-trauma couples: A pilot study. *Traumatology, 24*(1), 27-35.
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships, 5*, 357-392.
- Sable, P. (2008). What is adult attachment? *Clinical Social Work Journal, 36*, 21-30.
- Sadikaj, G., Moskowitz, D. S., & Zuroff, D. C. (2015). Felt security in daily interactions as a mediator of the effect of attachment on relationship satisfaction. *European Journal of Personality, 29*(2), 187-200.
- Saunders, R., Jacobvitz, D., Zaccagnino, M., Beverung, L. M., & Hazen, N. (2011). Pathways to earned-security: The role of alternative support figures. *Attachment & Human Development, 13*(4), 403-420.
- Sayers, S. L., Farrow, V. A., Ross, J., & Oslin, D. W. (2009). Family problems among recently returned military veterans referred for a mental health examination. *Journal of Clinical Psychiatry, 10*, e1-e8.
- Schumm, J. A., Briggs-Phillips, M., & Hobfoll, S. E. (2006). Cumulative interpersonal traumas and social support as risk and resiliency factors in predicting PTSD and depression among inner-city women. *Journal of Traumatic Stress, 19*(6), 825-836.
- Shapiro, D. L., & Levendosky, A. A. (1999). Adolescent survivors of childhood sexual abuse: The mediating role of attachment style and coping in psychological and interpersonal functioning. *Child Abuse & Neglect, 23*(11), 1175-1191.
- Shaver, P. R., & Mikulincer, M. (2005). Attachment theory and research: Resurrection of the psychodynamic approach to personality. *Journal of Research in Personality, 39*, 22-45.

- Shaver, P. R., & Mikulincer, M. (2008). Adult attachment and cognitive and affective reactions to positive and negative events. *Social and Personality Psychology Compass*, 2, 1844 – 1865.
- Shi, L. (2003). The association between adult attachment styles and conflict resolution in romantic relationships. *The American Journal of Family Therapy*, 31(3), 143-157.
- Shrout, P. E., & Bolger, N. (2002). Meditation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7, 422-445.
- Sillars, A. L., Weisberg, J., Burggraf, C. S., & Zietlow, P. H. (1990). Communication and understanding revisited: Married couples' understanding and recall of conversations. *Communication Research*, 17, 500–522.
- Simpson, J. A. (1990). Influence of attachment styles on romantic relationships. *Journal of Personality and Social Psychology*, 59, 971–980.
- Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family*, 38, 15-28.
- Stack, S. (1990). New micro-level data on the impact of divorce on suicide, 1959–1980: A test of two theories. *Journal of Marriage and Family*, 52, 119–127.
- Stewart, S. H., Zvolensky, M. J., & Eifert, G. H. (2002). The relations of anxiety sensitivity, experiential avoidance, and alexithymic coping to young adults' motivations for drinking. *Behavior Modification*, 26, 274–296.
- Sund, A. M., & Wichstrøm, L. (2002). Insecure attachment as a risk factor for future depressive symptoms in early adolescence. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41(12), 1478-1485.
- Taft, C. T., Watkins, L. E., Stafford, J., Street, A. E., & Monson, C. M. (2011). Posttraumatic stress disorder and intimate relationship problems: a meta-analysis. *Journal of Consulting and Clinical Psychology*, 79, 22–33.
- Talbot, J. A., Talbot, N. L., & Tu, X. (2004). Shame-proneness as a diathesis for dissociation in women with histories of childhood sexual abuse. *Journal of Traumatic Stress*, 17, 445–448.
- Tang, S. S. S., & Freyd, J. J. (2012). Betrayal trauma and gender differences in posttraumatic stress. *Psychological Trauma: Theory, Research, Practice, and Policy*, 4(5), 469-478.
- Thompson, R. A. (1994). Emotion regulation: A theme in search of definition. *Monographs of the Society for Research in Child Development*, 59(2-3), 25-52.

- Thompson, R. A., & Calkins, S. D. (1996). The double-edged sword: Emotional regulation for children at risk. *Development and Psychopathology*, 8, 163–182.
- Tice, D. M., & Bratslavsky, E. (2000). Giving in to feel good: The place of emotion regulation in the context of general self-control. *Psychological Inquiry*, 11, 149–159.
- Till, B., Tran, U. S., & Niederkrotenthaler, T. (2016). Relationship satisfaction and risk factors for suicide. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*.
- Tolin, D. F., & Foa, E. B. (2006). Sex differences in trauma and posttraumatic stress disorder: A quantitative review of 25 years of research. *Psychological Bulletin*, 132, 959–992.
- Tottenham, N., Hare, T. A., Quinn, B. T., McCarry, T. W., Nurse, M., Gilhooly, T., Milner, A., Galvan, A., Davidson, M. C., Eigsti, I. M., Thomas, K. M., Freed, P., Booma, E. S., Gunnar, M., Altemus, M., Aronson, J., & Casey, B. J. (2010). Prolonged institutional rearing is associated with atypically large amygdala volume and difficulties in emotion regulation. *Developmental Science*, 13(1), 46-61.
- Turan, B., & Vicary, A. M. (2010). Who recognizes and chooses behaviors that are best for a relationship? the separate roles of knowledge, attachment, and motivation. *Personality and Social Psychology Bulletin*, 36(1), 119-131.
- Tuval-Mashiach, R., Hanson, J., & Shulman, S. (2014). Turning points in the romantic history of emerging adults. *Journal of Youth Studies*, 18(4), 434–450.
- Umemura, T., Lacinová, L., Macek, P., & Kunnen, E. S. (2017). Longitudinal changes in emerging adults' attachment preferences for their mother, father, friends, and romantic partner: Focusing on the start and end of romantic relationships. *International Journal of Behavioral Development*, 41(1), 136-142.
- Vaillancourt-Morel, M. P., Rellini, A. H., Godbout, N., Sabourin, S., & Bergeron, S. (2018). Intimacy mediates the relation between maltreatment in childhood and sexual and relationship satisfaction in adulthood: a dyadic longitudinal analysis. *Archives of Sexual Behavior*, 48(3), 803-814.
- van der Kolk, B. A. (2005). Developmental trauma disorder: A new, rational diagnosis for children with complex trauma histories. *Psychiatric Annals*, 35(5), 401-408.
- van der Kolk, B. A. (2007). The body keeps the score: Approaches to the psychobiology of posttraumatic stress disorder. In B. van der Kolk, A. McFarlane, & L. Weisaeth (Eds.), *Traumatic stress* (pp. 214–241). New York, NY: Guilford Press.
- van der Kolk, B. (2014). *The body keeps the score: Brain, mind, and body in the healing of trauma*. New York, NY: Viking.

- van der Kolk, B. A., Roth, S., Pelcovitz, D., Sunday, S., & Spinazzola, J. (2005). Disorders of extreme stress: The empirical foundation of a complex adaptation to trauma. *Journal of Traumatic Stress, 18*, 389–399.
- Vater, A., & Schröder-Abé, M. (2015). Explaining the link between personality and relationship satisfaction: Emotion regulation and interpersonal behaviour in conflict discussions. *European Journal of Personality, 29*(2), 201-215.
- Velotti, P., D'Aguanno, M., de Campora, G., Di Francescantonio, S., Garofalo, C., Giromini, L., Petrocchi, C., Terrasi, M., & Zavattini, G. C. (2016). Gender moderates the relationship between attachment insecurities and emotion dysregulation. *South African Journal of Psychology, 46*(2), 191-202.
- Vicary, A. M., & Fraley, R. C. (2007). Choose your own adventure: Attachment dynamics in a simulated relationship. *Personality and Social Psychology Bulletin, 33*(9), 1279-1291.
- Viddal, K. R., Berg-Nielsen, T., Belsky, J., & Wichstrøm, L. (2017). Change in attachment predicts change in emotion regulation particularly among 5-HTTLPR short-allele homozygotes. *Developmental Psychology, 53*(7), 1316-1329.
- Walker, E. C., Sheffield, R., Larson, J. H., & Holman, T. B. (2011). Contempt and defensiveness in couple relationships related to childhood sexual abuse histories for self and partner. *Journal of Marital and Family Therapy, 37*(1), 37–50.
- Weiss, R. L., & Heyman, R. E. (1990). Marital distress. In A. S. Bellack, M. Hersen, & A. E. Kazdin (Eds.), *International handbook of behavior modification and therapy* (2nd ed., pp. 475–501). New York, NY: Plenum.
- Whiffen, V. E., & Gotlib, I. H. (1989). Stress and coping in maritally distressed and nondistressed couples. *Journal of Social and Personal Relationships, 6*, 327–344.
- Whiffen, V. E., & MacIntosh, H. B. (2005). Mediators of the link between childhood sexual abuse and emotional distress: A critical review. *Trauma, Violence, & Abuse, 6*(1), 24-39.
- Whisman, M. A. (2006). Childhood trauma and marital outcomes in adulthood. *Personal Relationships, 13*(4), 375-386.
- Williams, J., & MacKinnon, D. P. (2008). Resampling and distribution of the product methods for testing indirect effects in complex models. *Structural Equation Modeling, 15*, 23-51.
- Woodin, E. M. (2011). A two-dimensional approach to relationship conflict: Meta-analytic findings. *Journal of Family Psychology, 25*(3), 325–335.
- Wyder, M., Ward, P., & De Leo, D. (2009). Separation as a suicide risk factor. *Journal of Affective Disorder, 116*, 208–213.

- Yen, S., Shea, M. T., Battle, C. L., Johnson, D. M., Zlotnick, C., Dolan-Sewell, R., Skodol, A. E., Grilo, C. M., Gunderson, J. G., Sanislow, C. A., Zanarini, M. C., Bender, D. S., Bame-Rettew, J., & McGlashan, T. H. (2002). Traumatic exposure and posttraumatic stress disorder in borderline, schizotypal, avoidant and obsessive-compulsive personality disorders: Findings from the collaborative longitudinal personality disorders study. *Journal of Nervous and Mental Disease, 190*(8), 510-518.
- Zanarini, M. C., Frankenburg, F. R., Hennen, J., Reich, D. B., & Silk, K. R. (2006). Prediction of the 10-year course of borderline personality disorder. *The American Journal of Psychiatry, 163*(5), 827-832.
- Zeman, J. & Garber, J. (1996). Display rules for anger, sadness, and pain: It depends on who is watching. *Child Development, 67*, 957-973.

APPENDIX A. IRB APPROVAL

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
2420 Lincoln Way, Suite 202
Ames, Iowa 50014
515 294-4566

Date: 09/12/2018

To: Amanda Buduris Loreto Prieto

From: Office for Responsible Research

Title: **Are You Satisfied with Your Romantic Relationship?**

IRB ID: 18-360

Submission Type: Initial Submission **Review Type:** Expedited

Approval Date: 09/12/2018 **Date for Continuing Review:** 09/11/2020

The project referenced above has received approval from the Institutional Review Board (IRB) at Iowa State University according to the dates shown above. Please refer to the IRB ID number shown above in all correspondence regarding this study.

To ensure compliance with federal regulations (45 CFR 46 & 21 CFR 56), please be sure to:

- **Use only the approved study materials** in your research, including the **recruitment materials and informed consent documents that have the IRB approval stamp**.
- **[Retain signed informed consent documents](#) for 3 years after the close of the study**, when documented consent is required.
- **Obtain IRB approval prior to implementing any changes** to the study.
- **Inform the IRB if the Principal Investigator and/or Supervising Investigator end their role or involvement with the project** with sufficient time to allow an alternate PI/Supervising Investigator to assume oversight responsibility. Projects must have an [eligible PI](#) to remain open.
- **Immediately inform the IRB of (1) all serious and/or unexpected [adverse experiences](#) involving risks to subjects or others; and (2) any other [unanticipated problems involving risks](#) to subjects or others.**
- **Stop all human subjects research activity if IRB approval lapses**, unless continuation is necessary to prevent harm to research participants. Human subjects research activity can resume once IRB approval is re-established.
- **Submit an application for Continuing Review** at least three to four weeks prior to the **date for continuing review** as noted above to provide sufficient time for the IRB to review and approve continuation of the study. We will send a courtesy reminder as this date approaches.

IRB 03/2018

APPENDIX B. INFORMED CONSENT

Title of Study: Are You Satisfied with Your Romantic Relationship?

Investigators: Amanda Buduris, MS; Loreto Prieto, PhD

This is a research study. Please take your time in deciding if you would like to participate.

Introduction

The purpose of this study is to better understand the individual differences in thoughts and feelings people have when they are in romantic relationships, based on past relationships and traumatic experiences they may have experienced. This study will ask questions about adverse events you may have experienced, including natural disasters or physical or sexual abuse.

Description of Procedures

Participants will voluntarily sign up to participate in this study via the SONA website. If you decide to participate in this study, you will be granted access to a link to an online survey via the SONA website. *Your responses to the survey will be fully confidential*, no identifying information will be collected, and all data will be reported in group form.

You will be asked to complete a series of items related to traumatic experiences you may have experienced across your life, how you handle your emotions, as well as items assessing your general thoughts, feelings, and behaviors in your current and previous romantic relationships. Once you reach the end of the survey, you will be redirected to a new URL, where you can apply for your SONA credit.

Risks

We do not anticipate participation in this study will cause you any discomfort whatsoever, but there is a minimal risk associated with the topics being presented; certain individuals who are currently experiencing relationship or psychological distress, who have a history of psychological or mental health difficulties, or who have experienced a significant life difficulty or traumatic event may feel some discomfort when completing the survey. If you feel any discomfort when answering any items in the study, you may skip those items. As well, at any point, you may end your participation in the study. Also, listed below are resources that you can contact if you feel discomfort during or after participating in this study.

- Thielen Student Health Center (ISU: 515-294-5801)
- Student Counseling Services (ISU: 515-294-5056)
- Central Iowa Psychological Services (Ames: 515-233-1122, Des Moines: 515-222-1999)

Benefits

There will be no direct benefits to you; however, through this study we hope to learn information that could help mental health professionals better understand those who experience difficulties in their romantic relationships. You have other methods of obtaining the required research credit in your course; consult your course syllabus for this information.

Costs and Compensation

You will be awarded one SONA research credit for your participation in this study. The estimated amount of time required to complete this study is 30-45 minutes. ***In order to receive your SONA research credit, you must make a 'good faith' effort to complete the majority of the items and all research materials. Responding to no items at all, to very few items, or responding in a way that does not allow for the use of your data in this research project, will not be considered as a 'good faith' effort and no SONA research credits will be issued for your participation. Please be aware that you will not be able to save your responses and return to the survey at another time - therefore complete all research materials in one sitting.***

Participant Rights

Your participation in this study is completely voluntary. If you would like to refuse to participate or end your participation, you may do so, at any time, without any penalty or negative consequences whatsoever. However, you do have the right to not answer any specific questions on the survey that you do not wish to answer (simply skip the questions by using the forward arrow buttons at the bottom of each page on the Qualtrics survey).

Confidentiality

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies, auditing departments of Iowa State University, and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken: 1) no joining of your electronic consent form (or any identifiers) will be made to the record of data you enter online, and 2) all materials will be stored in a locked file cabinet in a locked lab, or on encrypted and password protected computers. If the results of this study are published, your identity will remain confidential and data will only be described in group form. Information collected about you as part of this study ***will not*** be used or distributed for future research studies. Data will be used only by the current research team for the project described in this document.

Questions or Problems

You are encouraged to ask questions at any time during this study.

- For further information about the study contact Amanda Buduris at abuduris@iastate.edu (515.294.1450) or Dr. Loreto Prieto at lprieto@iastate.edu (515.294.2455).
- If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, (515) 294-3115, Office for Responsible Research, Iowa State University, Ames, Iowa 50011.

I. PARTICIPANT SIGNATURE

By checking the “Yes, I agree to participate” box, I am confirming that I have thoroughly read the informed consent form and understand it, that I am at least 18 years of age, and that I voluntarily agree to participate in this study. We advise, if you participate, that you print this consent form for your records or otherwise retain contact information for the investigators. You also agree to the fact that any copy you make of the consent document becomes solely your responsibility to protect and safeguard to retain your anonymity and record of participation in this study.

By checking the “No, I do not agree to participate” box, you will immediately end your participation in this study.

Yes, I agree to participate.

No, I do not agree to participate.

APPENDIX C. DEMOGRAPHICS & RELATIONSHIP HISTORY QUESTIONNAIRE

Instructions: Please answer the following demographic and history questions.

1) Gender Female____ Male____ Transgender____ Other (please identify) _____

2) Age _____

3) Sexual orientation: Bisexual____ Gay____ Heterosexual____ Lesbian____
Other (please identify) _____ Questioning_____

4) Race/Ethnicity

____ American Indian or Alaskan Native

____ Asian American

____ African American (Black)

____ Hawaiian or Other Pacific Islander

____ Hispanic or Latinx American

____ European American (White)

____ International Student

____ Bi/Multi-racial/Other

____ Middle Eastern

5) Current relationship status Single (never married)____ Married____ Widowed____

I am currently in a romantic relationship Yes No

If currently in a relationship, for how many months have you been with your current partner?

6) Your age at your first romantic relationship _____

7) Number of romantic relationships you have had to date (including current one) _____

8) Right now, what do you see as the future of your current romantic relationship?

____ Staying in it

____ Don't know

____ Leaving the relationship

12) How "emotionally close" do you feel toward your current romantic partner?

1 Not close at all 2 A little close 3 Somewhat close 4 Quite Close 5 Extremely Close

13) How "emotionally close" do you think your current romantic partner feels toward you?

1 Not close at all 2 A little close 3 Somewhat close 4 Quite Close 5 Extremely Close

APPENDIX D. BRIEF BETRAYAL TRAUMA SURVEY

Instructions: Your responses to these items will be kept in complete confidence and privacy; do not include your name anywhere on these research materials. If you feel uncomfortable answering any questions in this section, just skip them, and go on to the next item.

For *each* item below, please indicate *whether and how many times* you have experienced the events below.

0
Never

1
Once

2
Two+ times

1. Been in a major earthquake, fire, flood, hurricane, or tornado that resulted in significant loss of personal property, serious injury to yourself or a significant other, the death of a significant other, or the fear of your own death.
2. Been in a major automobile, boat, motorcycle, plane, train, or industrial accident that resulted in similar consequences.
3. Witnessed someone with whom you were very close (such as a parent, brother or sister, caretaker, or intimate partner) committing suicide, being killed, or being injured by another person so severely as to result in marks, bruises, burns, blood, or broken bones. This might include a close friend in combat.
4. Witnessed someone with whom you were not so close undergoing a similar kind of traumatic event.
5. Witnessed someone with whom you were very close deliberately attack another family member so severely as to result in marks, bruises, blood, broken bones, or broken teeth.
6. You were deliberately attacked that severely by someone with whom you were very close.
7. You were deliberately attacked that severely by someone with whom you were not close.
8. You were made to have some form of sexual contact, such as touching or penetration, by someone with whom you were very close (such as a parent or lover).
9. You were made to have such sexual contact by someone with whom you were not close.
10. You were emotionally or psychologically mistreated over a significant period of time by someone with whom you were very close (such as a parent or lover).
11. Experienced the death of one of your own children.
12. Experienced a seriously traumatic event not already covered in any of these questions.

APPENDIX E. EXPERIENCES IN CLOSE RELATIONSHIP – SHORT FORM

Instructions: Please use the scale below for the following items. Please respond to the items as you have usually found yourself thinking, feeling, and behaving **in past and current romantic relationships**. Be as honest and straightforward as you can in answering these questions.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

1. It helps to turn to my romantic partner in times of need.
2. I need a lot of reassurance that I am loved by my partner.
3. I want to get close to my partner, but I keep pulling back.
4. I find that my partner doesn't want to get as close as I would like.
5. I turn to my partner for many things, including comfort and reassurance.
6. My desire to be very close sometimes scares partners away.
7. I try to avoid getting too close to my partner.
8. I do not often worry about being abandoned.
9. I usually discuss my problems and concerns with my partner.
10. I get frustrated if romantic partners are not available when I need them.
11. I am nervous when partners get too close to me.
12. I worry that romantic partners won't care about me as much as I care about them.

APPENDIX F. DIFFICULTIES IN EMOTION REGULATION SCALE

Instructions: Please indicate how often the following statements apply to you by selecting the appropriate number from the scale below.

1	2	3	4	5
Almost never (0-10% of the time)	Sometimes (11-35% of the time)	About half the time (36-65% of the time)	Most of the time (66-90% of the time)	Almost always (90-100% of the time)

1. I am clear about my feelings.
2. I pay attention to how I feel.
3. I experience my emotions as overwhelming and out of control.
4. I have no idea how I am feeling.
5. I have difficulty making sense of out my feelings.
6. I am attentive to my feelings.
7. I know exactly how I am feeling.
8. I care about what I am feeling.
9. I am confused about how I feel.
10. When I'm upset, I acknowledge my emotions.
11. When I'm upset, I become angry with myself for feeling that way.
12. When I'm upset, I become embarrassed for feeling that way.
13. When I'm upset, I have difficulty getting work done.
14. When I'm upset, I become out of control.
15. When I'm upset, I believe that I will remain that way for a long time.
16. When I'm upset, I believe that I will end up feeling very depressed.
17. When I'm upset, I believe that my feelings are valid and important.
18. When I'm upset, I have difficulty focusing on other things.
19. When I'm upset, I feel out of control.
20. When I'm upset, I can still get things done.
21. When I'm upset, I feel ashamed at myself for feeling that way.
22. When I'm upset, I know that I can find a way to eventually feel better.
23. When I'm upset, I feel like I am weak.
24. When I'm upset, I feel like I can remain in control of my behaviors.
25. When I'm upset, I feel guilty for feeling that way.
26. When I'm upset, I have difficulty concentrating.
27. When I'm upset, I have difficulty controlling my behaviors.
28. When I'm upset, I believe there is nothing I can do to make myself feel better.
29. When I'm upset, I become irritated at myself for feeling that way.
30. When I'm upset, I start to feel very bad about myself.
31. When I'm upset, I believe that wallowing in it is all I can do.
32. When I'm upset, I lose control over my behavior.
33. When I'm upset, I have difficulty thinking about anything else.
34. When I'm upset, I take time to figure out what I'm really feeling.
35. When I'm upset, it takes me a long time to feel better.
36. When I'm upset, my emotions feel overwhelming.

APPENDIX G. INVESTMENT MODEL SCALE – SATISFACTION LEVEL SUBSCALE

Satisfaction Level Facet and Global Items

1. Please indicate the degree to which you agree with each of the following statements regarding your current relationship (circle an answer for each item).

1	2	3	4
Don't Agree At All	Agree Slightly	Agree Moderately	Agree Completely

- (a) My partner fulfills my needs for intimacy (sharing personal thoughts, secrets, etc.)
 (b) My partner fulfills my needs for companionship (doing things together, enjoying each other's company, etc.)
 (c) My partner fulfills my sexual needs (holding hands, kissing, etc.)
 (d) My partner fulfills my needs for security (feeling trusting, comfortable in a stable relationship, etc.)
 (e) My partner fulfills my needs for emotional involvement (feeling emotionally attached, feeling good when another feels good, etc.)

Please circle a number.

1	2	3	4	5	6	7	8
Do Not Agree At All			Agree Somewhat				Agree Completely

2. I feel satisfied with our relationship.
 3. My relationship is much better than others' relationships.
 4. My relationship is close to ideal.
 5. Our relationship makes me very happy.
 6. Our relationship does a good job of fulfilling my needs for intimacy, companionship, etc.

APPENDIX H. POST HOC ANALYSES

RESULTS

As referenced in my original discussion of limitations to my study, the method I chose for statistical analysis of the BBTS measure allowed for a lack of independence among participant responses across low-, medium-, and high-betrayal trauma endorsements. This reality muddied a clear comparison of the serial mediation effects of attachment styles and facets of emotion dysregulation on relationship satisfaction across trauma levels. For this reason, I ran post-hoc analyses using statistical controls to enhance the independence of betrayal trauma levels, in an effort to better identify the unique effects of each level of betrayal trauma on the other variables of interest.

Procedurally, this post-hoc analysis was run by statistically controlling for the variance of the other two levels of betrayal trauma, from the specific level of betrayal trauma under examination. For example, for the serial mediation test on high-betrayal trauma, I covaried out the influence of low- and medium-betrayal trauma scores from the independent variable of high-betrayal trauma, as well as the serial mediators of attachment style and emotion dysregulation, and the dependent variable of relationship satisfaction. This allowed for only the (non-error based) variance associated directly with high-betrayal trauma to be present in the mediation equation during analysis. I used this same procedure for the other analyses conducted on low- and medium-betrayal trauma as independent variables.

I again used the Hayes PROCESS module (2015, version 2.15) for SPSS (2017, version 25.0) for all serial mediation analyses. In my *original* analyses, I found the significant serial mediation pathways shown in Table 1. For clarity of presentation, any serial mediation tests failing to show significant serial mediation were not tabled.

In each of the post-hoc analyses, I again entered low-, medium-, or high-betrayal trauma frequency scores as the independent variable, attachment style (anxious or avoidant) as the first serial mediator, each DERS separate subscale score as the second serial mediator, with IMS relationship satisfaction scores as the outcome variable. Table 2 reflects the significant serial mediation pathways found in the post-hoc analysis. For clarity of presentation, any serial mediation tests failing to show significant serial mediation were not tabled.

Table 15
Original Significant Serial Mediation Pathways

	<i>Effect</i>	<i>Boot SE</i>	<i>LLCI</i>	<i>ULCI</i>
MBT: Anxious & AWARENESS	-.0034	.0022	-.0100	-.0007
MBT: Anxious & CLARITY	-.0105	.0044	-.0225	-.0042
MBT: Avoidant & CLARITY	-.0050	.0034	-.0142	-.0005
HBT: Anxious & AWARENESS	-.0056	.0031	-.0150	-.0014
HBT: Anxious & CLARITY	-.0156	.0055	-.0307	-.0077
HBT: Avoidant & CLARITY	-.0075	.0043	-.0187	-.0011

Table 16
Post-Hoc Significant Serial Mediation Pathways

	<i>Effect</i>	<i>Boot SE</i>	<i>LLCI</i>	<i>ULCI</i>
HBT: Anxious & AWARENESS	-.0052	.0030	-.0142	-.0014
HBT: Anxious & CLARITY	-.0135	.0051	-.0276	-.0059
HBT: Avoidant & STRATEGIES	-.0017	.0014	-.0062	-.0001
HBT: Avoidant & CLARITY	-.0071	.0041	-.0191	-.0014

Note. MBT = medium-betrayal trauma; HBT = high-betrayal trauma; AWARENESS = lack of emotional awareness; CLARITY = lack of emotional clarity; STRATEGIES = limited access to emotion regulation strategies.

DISCUSSION (ADDENDUM)

My post-hoc analysis focused on the concern regarding how to best optimize and create independent observations for the levels of betrayal trauma categorized by the BBTS measure. Of import, without covarying out the effects of one level of betrayal trauma on other levels during analyses, a lack of independence between the betrayal trauma levels existed (e.g., participants could have potentially contributed responses to all three levels of betrayal trauma). Therefore, initially examined effects may not have been accurate. When testing serial mediation in each fully independent level of betrayal trauma, with the effects of other levels of betrayal trauma controlled for, clearer and more accurate findings were obtained.

As compared to the original six significant serial mediation pathways found, my post-hoc findings highlight only four significant pathways; specifically, in post-hoc analyses, the previously significant mediational pathways involving medium-betrayal trauma ceased to exist. This finding suggests these medium-betrayal serial mediation pathways (Anxious-AWARENESS, Anxious-CLARITY, Avoidant-CLARITY), were likely initially misidentified as significant due to their shared variance with the other levels of betrayal trauma (especially high-betrayal traumas) on participant endorsements concerning medium-betrayal traumas.

Specifically, I found that for only those experiencing high-betrayal traumas and anxious attachment tendencies, a lack of emotional awareness or a lack of emotional clarity significantly serially mediated the direct relation between high-betrayal traumas and levels of satisfaction in romantic relationships. As well, again, only for those experiencing high-betrayal traumas and avoidant attachment tendencies, a lack of access to emotion regulation strategies or a lack of emotional clarity significantly serially mediated the direct relation between high-betrayal traumas and levels of satisfaction in romantic relationships.

Although there is evidence that the intra- and interpersonal impacts of medium- and high-betrayal trauma have been found to be similar in nature (cf. Kaehler & Freyd, 2009), it may be possible these effects are less similar when examining outcomes such as relationship satisfaction. Perhaps this is due to the theoretical and lived difference between *witnessing* interpersonal traumas or experiencing interpersonal traumas with non-close others versus *personally experiencing* interpersonal traumas with close, trusted others. As posited by Freyd (1994, 1996), traumas are highest in betrayal when the survivors care for, rely on, or trust the perpetrator(s); as such, dynamics in romantic relationships are likely more impacted by experiences of high- rather than medium-betrayal traumas. Although experiences of medium-betrayal traumas can impact survivors' concepts of healthy relationships and their roles in them, as well as the degree to which they face difficulty in regulating their emotions within the context of a romantic relationship, the results from my post-hoc analysis suggest these medium-betrayal experiences do not statistically significantly work through an insecure attachment style and emotion dysregulation, to produce reduced relationship satisfaction.

Next, although the same mediating pathways for high-betrayal trauma (i.e., Anxious-AWARENESS, Anxious-CLARITY, Avoidant-CLARITY) were found to be significant in both my original and post-hoc analyses, an additional pathway through avoidant attachment scores and lack of access to emotion regulation strategies was also found to show a significant serial mediation effect in post-hoc analyses. I had originally hypothesized this pathway would be significant given the theoretical and empirical evidence regarding the association between avoidant attachment and withholding the expression of emotions as a means to cope with them (Ainsworth et al., 1978; Ainsworth & Bell, 1970; Main, 1979). When originally examined, without controlling for other levels of betrayal trauma, it is possible this new pathway (Avoidant-

STRATEGIES) was non-significant due to shared variance with low- and medium-betrayal trauma endorsements, which did not show insecure attachment and emotion dysregulation as serial mediators. Overall, my original and post-hoc analyses confirm that a history of high-betrayal trauma experience has the most significant impact on intra- and interpersonal outcomes, and also show insecure attachment and emotion dysregulation as more proximal, causative agents in resultant lowered satisfaction in romantic relationships.

Future Research

As multiple versions of the BBTS, and the multiple methods of categorizing responses to the measure, exist and have been used in previous research (e.g., Freyd, 2011), investigators should carefully consider the best method of separating and analyzing levels of betrayal trauma experiences so as to most accurately determine findings, particularly when interpreting found differences among the three levels of betrayal trauma. Specifically, given the findings from my post-hoc analyses, it is critical for investigators to ensure independence of groups for the purpose of comparing effects across each betrayal trauma level. This is of particular importance when grouping methods are used that sort participants into the high-betrayal trauma category, when they simultaneously report experiences categorized as medium- and low-betrayal trauma.

Implications for Practice

Experiences of interpersonal trauma can lead to the development of insecure attachments and emotion dysregulation (Mikulincer, Shaver, & Horesh, 2006; Mikulincer, Shaver, & Solomon, 2015; van der Kolk, 2014). Those who have experienced such traumas, particularly high-betrayal traumas, and who also experience subsequent intra- and interpersonal difficulties, do have an opportunity for therapeutic growth by seeking professional assistance with identifying and managing their emotions, including learning to trust and share these emotions

with others. The post-hoc results for my study indicated significant serial mediation pathways for endorsement of high-betrayal trauma experiences through anxious attachment, lack of emotional awareness, and lack of emotional clarity, as well as through avoidant attachment, lack of emotional clarity, and lack of access to emotion regulation strategies. When clients with a history of high-betrayal trauma experiences present for counseling, it is imperative that clinicians assess for both insecure attachment styles and emotion regulation concerns when conceptualizing difficulties in romantic relationships. This will allow clinicians to have a more complex view of the potential impact and sequelae of high-betrayal trauma events, as well as enable clinicians to form more effective and efficient treatment plans that focus on increasing healthy attachment styles and better emotion regulation and coping strategies.

Specific therapy approaches, such as Emotionally Focused Couples Therapy (EFCT; Johnson, 2004) and Dialectical Behavioral Therapy (DBT; Chapman, 2006; Linehan, 1993a, 1993b, 2018) can be helpful frameworks for assisting individuals in learning how to name, cope with, and share their emotions, subsequently creating the potential to decrease insecure attachment styles and increasing productive emotional coping (e.g., Paley, Cox, Burchinal, & Payne, 1999; Pearson, Cohn, Cowan, & Pape Cowan, 1994; Saunders, Jacobvitz, Zaccagnino, Beverung, & Hazen, 2011). In the context of increasing levels of relationship satisfaction as a therapeutic goal, fostering healthier attachment styles, and better emotional awareness and strategies for coping, can help individual clients and couples to more productively work through their relationship concerns (Burgess Moser et al., 2016), employ better communication skills during relationship conflicts (Dalgleish et al., 2015), and decrease the use of defensive or unproductive methods of relationship navigation and communication that experiences with betrayal trauma may have brought them to favor.