ADULT ATTACHMENT AND POSTTRAUMATIC GROWTH IN
SEXUAL ASSAULT SURVIVORS

Stacy Roddy Gwynn, B.A.

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APPROVED:

Shelley Riggs, Major Professor
Tim Lane, Committee Member
Karen Cogan, Committee Member
Nicole Holmes, Committee Member
Linda Marshall, Chair of Department of Psychology
Sandra L. Terrell, Dean of the Robert B. Toulouse School of Graduate Studies

Posttraumatic growth, defined as positive psychological changes in the aftermath of adversity and suffering, is a relatively recent focus in psychological research. The addition of this concept to the literature has provided a new, more resiliency-based framework through which to view survivors of various forms of trauma. Despite estimates that over half of all sexual assaults are not reported to the authorities, current crime statistics indicate that 1 in 4 women are sexually assaulted in their lifetime (Campbell & Wasco, 2005). Given the large percentage of the population that is impacted by sexual assault, it is essential that professionals better understand the factors that influence the successful healing and growth that can occur post-trauma. The purpose of this study was to further expand the literature on posttraumatic growth in sexual assault survivors by considering this phenomenon through the lens of attachment theory. Specifically, this study tested a proposed model of the inter-relationships among subjective and objective perceptions of threat during the sexual assault, adult romantic attachment, and posttraumatic growth. It was hypothesized that adult romantic attachment and parent-child attachment would mediate the relationship between subjective, or perceived threat, defined as the victim’s perception of life threat, and objective threat, defined as the severity of the sexually aggressive act perpetrated on the victim, and posttraumatic growth. Finally, it was hypothesized that subjective threat appraisal would better predict posttraumatic growth than objective threat appraisal. Contrary to
hypotheses, results of the study indicated that adult romantic attachment and parent-child attachment did not mediate the relationship between subjective and objective threat appraisal and posttraumatic growth. Thus, both path analytic models were not viable. However, exploratory analysis indicated that both subjective and objective threat appraisal were directly related to posttraumatic growth, with subjective perceived threat appraisal accounting for more of the variance.
TABLE OF CONTENTS

LIST OF TABLES .............................................................................................................. v
LIST OF FIGURES ........................................................................................................... vi

Chapters

1. INTRODUCTION AND LITERATURE REVIEW ........................................ 1
   Attachment Theory .................................................................................................... 3
   Infant Attachment ...................................................................................................... 4
   Adult Attachment ...................................................................................................... 7
   Trauma ...................................................................................................................... 14
   Post-traumatic Symptoms ...................................................................................... 15
   Theories of Trauma .................................................................................................. 16
   Interpersonal Trauma .............................................................................................. 18
   Posttraumatic Growth ............................................................................................ 30
   Theories of Growth ................................................................................................ 31
   Positive Growth Outcomes ..................................................................................... 33
   Attachment, Sexual Assault, and Posttraumatic Growth ...................................... 35
   Conclusion and Hypotheses .................................................................................... 40

2. METHOD ................................................................................................................. 42
   Participants ............................................................................................................. 42
   Procedure ............................................................................................................... 44
   Measures ............................................................................................................... 44
   Background Information Questionnaire .............................................................. 44
   Adult Attachment Style ......................................................................................... 45
   Parent-Child Attachment Style .......................................................................... 46
   Sexual Assault ....................................................................................................... 47
   Posttraumatic Growth ........................................................................................... 48
Hypotheses and Data Analyses................................. 49

3. RESULTS ........................................................................................................ 52
    Preliminary Analyses ................................................................. 52
    Primary Analyses .................................................................... 55
      Hypothesis 1 ................................................................. 55
      Hypothesis 2 ................................................................. 56
    Post-hoc Exploratory Analyses ........................................ 57

4. DISCUSSION ..................................................................................................... 62
    Primary Analyses .................................................................... 62
    Exploratory Analyses ............................................................. 65
    Limitations .............................................................................. 67
    Further Research ..................................................................... 68
    Implications for Practice .......................................................... 69
    Conclusion .............................................................................. 71

Appendices

A. CONSENT FORM ................................................................. 72

B. BACKGROUND INFORMATION QUESTIONNAIRE .......... 76

REFERENCES ................................................................................................. 80
LIST OF TABLES

Page

1. Frequency Characteristics of the Sample ($N = 151$) ............................................. 43
2. Correlations for BGI, SES, PBI, ECR and PTGI Variables for Total Sample ($N = 151$) ....................................................................................................................... 53
3. Frequency and Mean Characteristics of Level of Sexual Assault Indicated on SES for Total Sample ($N = 151$) .............................................................................................................. 54
4. Regression Analyses for Objective Threat and Perceived Threat as Predictors of Posttraumatic Growth ........................................................................................... 59
5. Correlations for SES, PBI, ECR and PTGI Subscales for Total Sample ($N = 151$) ........................................................................................................................................ 61
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Proposed model of factors influencing PTG</td>
<td>41</td>
</tr>
<tr>
<td>2.</td>
<td>Proposed model of factors influencing PTG</td>
<td>50</td>
</tr>
<tr>
<td>3.</td>
<td>Alternate model of factors influencing PTG</td>
<td>51</td>
</tr>
<tr>
<td>4.</td>
<td>Fitted path model of factors influencing PTG</td>
<td>58</td>
</tr>
<tr>
<td>5.</td>
<td>Fitted alternate path model of factors influencing PTG</td>
<td>58</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION AND LITERATURE REVIEW

Researchers have examined the role of various factors in the prediction of posttraumatic growth among survivors of traumatic experiences, including bereavement, breast cancer and/or mastectomy, bone marrow transplant, heart attack, arthritis, spinal cord injury, multiple sclerosis, shipping disaster, tornado, plane crash, rape, childhood sexual abuse and incest, shooting, HIV, infertility, chemical dependency, military combat, and bombing (Linley & Joseph, 2004). The proposed study will concentrate on posttraumatic growth following sexual assault in late adolescence and adulthood. A model depicting the inter-relationships among subjective and objective threat appraisal, adult romantic attachment, and posttraumatic growth in sexual assault survivors is proposed. Specifically, the study seeks to determine whether adult romantic attachment and parent-child attachment mediate the relationship between threat appraisal regarding the sexual assault and posttraumatic growth in survivors.

Sexual assault is, unfortunately, a frequently occurring traumatic event in American society today and is associated with a variety of negative outcomes, such as posttraumatic stress disorder, an increase in risky sexual behavior, a decreased sense of safety with others, self-blame, and depression (Campbell, Sefl, & Ahrens, 2004). However, there is evidence that action-oriented coping such as cognitive restructuring and expressing emotions is strongly predictive of positive change while avoidance and
self-blame are associated with negative life changes post-assault (Frazier, Tashiro, Berman, Steger, & Long, 2004). These problem solving strategies have been linked to individual differences in attachment style, with securely attached individuals typically engaging in a more active style of coping, avoidantly attached individuals engaging in avoidant problem solving strategies, and anxiously attached individuals engaging in a combination of active and avoidant coping (Shaver & Mikulincer, 2002; Ognibene & Collins, 1998). Research also supports the idea that attachment influences an individual’s reaction to stressful life events, with a secure attachment predicting fewer posttraumatic stress disorder (PTSD) symptoms, an increased probability of posttraumatic growth, and increased resiliency in survivors (Stalker, Gebotys, & Harper, 2005; Solomon, Ginzburg, Mikulincer, Neria, & Ohry, 1998; Salo, Pnamaki, & Qouta 2004).

With this in mind, the following review will first provide a general overview of the literatures on attachment relationships, general trauma, sexual assault, and posttraumatic growth. Next, research integrating these areas will be reviewed, followed in Chapter 2 by a research proposal concerning these areas of study. Chapter 3 will then present results of the data analysis, with Chapter 4 providing a discussion regarding the results, possible limitations of the study, suggestions for future research on this topic, and implications of the study's findings. The proposed study is designed to examine whether adult romantic attachment and parent-child attachment mediate the relationship between perceived and objective threat regarding the sexual assault and posttraumatic growth. Also, the study seeks to determine whether perceived threat better predicts posttraumatic growth compared to objective threat. Results will shed light on protective factors related
to trauma and provide a model predicting positive growth outcomes. Moreover, knowledge of the factors that contribute to posttraumatic growth can aid clinicians in identifying target areas useful to address in the treatment of trauma.

Attachment Theory

Attachment theory is based on the premise that infants depend on their caregivers to provide for basic needs and consequently develop a set of behaviors designed to elicit and maintain proximity to their respective caregivers (Bowlby, 1980). Infant attachment behaviors, such as crying, smiling, and following, and the caregiver’s responses form the basis of the attachment relationship. Any perceived threat to this attachment relationship provokes anxiety in the infant and results in the infant further engaging in attachment behaviors in order to increase proximity to the caregiver. Bowlby identified seven defining features that characterize the attachment relationship:

1. Specificity: Attachment behavior is extended toward one or more figures in the child’s life with whom the child is close.

2. Duration: The attachment bond remains but may be supplemented or replaced during adolescence or adulthood.

3. Engagement of emotion: Intense emotion is elicited during the formation of, or threat to an attachment bond.

4. Ontogeny: The formation of an attachment relationship occurs during the first nine months of an infant’s life, usually with the principal mothering figure, and the relationship is easily activated throughout the first three years, but less readily activated thereafter.

5. Learning: A distinction between the familiar, from the strange, occurs during the part development of attachment independent of rewards and punishments which play a small in the relationship.
6. Organization: Activating conditions for the attachment relationship are strangeness, hunger, fatigue, and frightening situations or objects. Terminating conditions include the infant’s sight or sound of its mother and joyful interactions with the mother.

7. Social Function: Attachment serves a survival function whereby an infant desires proximity to an older, preferred adult who is capable of providing protection.

According to Ainsworth (1978), the presence of the mother serves as a secure base from which the child can explore his surroundings and to which he can return, if tired or threatened. This exploration gradually increases over the lifespan of an individual, occurring over longer periods of time and expanding to a larger base of people, which eventually incorporates the family of origin or a new base created by the individual.

_Infant Attachment_

Using a laboratory procedure called the “Strange Situation,” research conducted by Mary Ainsworth and her colleagues (Ainsworth, Blehar, Waters, & Wall, 1978) classified infant attachment into three different groups based on the observation of infant behavior when the child was separated then reunited with its mother. Infants who demonstrated expected attachment responses by crying when the mother left the room and warmly greeting her when she returned (e.g., by stretching out their arms to be picked up), were classified as securely attached. Infants who appeared anxious, agitated, and cried excessively after separation from the mother, then simultaneously sought contact but withdrew from the mother upon her return and were difficult to console were classified as anxious-ambivalent (or resistant). A second group of insecurely attached
children were classified as avoidant and seemed unaffected by the separation with mother, often rebuffing the mother upon her return. A secure attachment allows children to separate from parents in a healthy manner, and individuals with a secure attachment are less likely to experience resentment, anger, or feelings of dependence toward their parents (Leondari & Kiosseoglou, 2000). In contrast, insecurely attached children develop expectations that caregivers will be unreliable or rejecting (Muris, Meesters, & van den Berg, 2003). These children will expect that caregivers will be unavailable when needed, so they develop other, insecure strategies for coping with their distress and stressful situations. Ainsworth et al. asserted that avoidant behavior by the child ‘short-circuits’ the expression of anger toward the attachment figure, and this behavior also serves as a means of protection from re-experiencing future rebuffs, which the infant has come to expect when he/she attempts to seek proximity. Moreover, anxious-ambivalent behavior by the child exemplifies distrust in the attachment figure’s availability and accessibility, and the anxious behavior is designed to gain reassurance in the form of close bodily contact. Anxiously attached infants fear that they will not receive the reassurance they desire and consequently engage in exaggerated behaviors designed to increase the likelihood and intensity of response from the attachment figure.

Ainsworth et al. (1978) also found that distinct maternal behaviors were related to infant attachment classification. Mothers with secure infants were deemed more responsive to the crying and feeding signals of the infants, showed more affectionate behavior when interacting with their babies, and were more psychologically accessible. Mothers with children who were classified as avoidant were more likely to be
overwhelmed by anger and irritation, express aversion to close physical contact with their children, be rigid and compulsive in their interactions with their children, and show a relatively low level of positive emotional expression. Finally, mothers whose children were classified as anxiously attached were inconsistent in their interactions with their children, and demonstrated relatively little affectionate behavior.

Additional research by Main and Solomon (1986) focused on those infants who were considered unclassifiable under Ainsworth et al.’s (1978) original classification system for infant attachment behavior. Specifically, these infants experienced distress or fear in the presence of the parent and possessed no clear organized means of coping with this problem. Main and Solomon developed guidelines for the classification of this disorganized attachment behavior and stated that infants should be classified as disorganized when they exhibit: sequential or simultaneous contradictory behavior patterns; undirected, misdirected, incomplete, and interrupted movements or expressions; odd movements and postures characterized as asymmetrical and/or mistimed; freezing, stilling, and slowed movements and expressions; clear signs of fear toward the parent; and clear signs of disorganization and disorientation. For example, infants who move toward the parent by crawling or walking backward are displaying contradictory patterns of behavior by simultaneously combining approach and avoidance behaviors (Cassidy & Mohr, 2001).

Disorganized attachment is believed to stem from the infant’s perception of the parent as abusive or otherwise frightening (Cassidy & Mohr, 2001). According to Bowlby’s original conceptualization of attachment, the parent is the primary source of
safety and comfort for the child in a healthy attachment relationship. Thus, frightening behavior on the part of the attachment figure will activate the attachment system, prompting the infant to seek safety and comfort in the attachment figure. However, the infant will also be motivated to escape the attachment figure because the infant recognizes the attachment figure as the source of alarm and a cause for fear. This paradox initiates a simultaneous approach-avoidance tactic resulting in disorganized behavior showing no clear strategy for coping with situations that activate the attachment system (Cassidy & Mohr). Aside from directly abusive or threatening behavior by the attachment figure, research also indicates that a traumatized parent, who is in a constant state of fear and therefore exhibits frightened and/or frightening behavior, can also contribute to a disorganized attachment with an infant (DeOliveira, Bailey, & Moran, 2004).

**Adult Attachment**

Based on early interactions with caregivers, Feeney (1999) maintained that infants and adolescents develop expectations regarding availability and responsiveness from attachment figures. These expectations form working models of self and other, which guide perceptions and behaviors in adult relationships. Drawing on Bowlby’s (1980) idea of working models, Bartholomew (1990) characterized the attachment system as consisting of a model of self and a model of others, which are either positive or negative. The model of self and the model of other are separate dimensions and can vary independently from one another. The model of self can be dichotomized into either a positive view of the self as someone who is worthy of love and attention, or a negative
view of the self as someone who is unworthy. Likewise, the model of other is
dichotomized into either a positive view of others as being available and caring, or a
negative view of others as unreliable or rejecting. Additionally, the terms “anxiety” and
“avoidance” can be used to describe Bartholomew and Horowitz’s (1991) attachment
dimensions, with anxiety regarding abandonment being associated with a negative model
of the self and avoidance of emotional involvement being associated with a negative
model of others.

Bartholomew and Horowitz (1991) identified four attachment styles: secure,
preoccupied, dismissing-avoidant, and fearful-avoidant. Secure individuals have positive
views of self and others, are comfortable with intimacy and autonomy, and demonstrate
low levels of anxiety and avoidance. Research indicates that secure attachment allows for
the healthy separation from parental figures, which fosters adaptive psychological
functioning (Leondari & Kiosseoglou, 2000). Conversely, preoccupied individuals have a
negative model of self and a positive model of others, tend to be overly dependent on
others, and demonstrate high levels of anxiety and low levels of avoidance. Dismissing-
avoidant individuals have a positive model of self and a negative model of others, prize
self-reliance at the expense of intimacy, and demonstrate low levels of anxiety and high
levels of avoidance. Finally, fearful-avoidant individuals have negative models of both
self and others, and although they desire intimacy, they are often fearful of attachment
and doubt others, which usually results in high levels of anxiety as well as the avoidance
of intimate relationships.

Hazan and Shaver (1987, 1994) investigated attachment in adult relationships,
predominantly romantic partnerships, and asserted that individuals will seek partners who satisfy their needs for emotional security, care, and sexual gratification. According to Hazan and Shaver, individuals will select their partners based on the same criteria used to select their attachment figure during infancy, specifically familiarity and responsiveness. They hypothesized that sexual attraction prompts adults to seek proximity with a partner, and is the first step to attachment formation as the adult looks for cues that the potential partner is responsive. The patterns of behaviors in both the parent-child attachment relationship and the romantic attachment relationship are considered ‘behavioral homologies’ rooted in the same behavioral system, activated and deactivated by similar conditions, and serving the same goals (Fraley & Shaver, 2000). A couple in a sustained romantic relationship creates their own secure base relationship, and this new behavioral system may lead to modifications of the existing attachment working models or the development of a new relationship-specific attachment working model (Crowell et al., 2002). Nevertheless, the original formation of the parent-child attachment relationship plays an integral role in influencing behavior in adult attachment relationships. Research indicates that adult attachment representations are highly stable over time even through the transition to marriage (Crowell et al.).

Secure Attachment

Consistent with the idea that secure individuals possess positive self models (Bowlby, 1980; Bartholomew, 1990), research shows that securely attached adults report higher levels of self-esteem and lower levels of anxiety and loneliness (Leondari &
Kiosseoglou, 2000). For example, Cassidy, Ziv, Mehta, and Feeney (2003) found that secure adults had a significantly higher level of global self-worth, which mediated the relationship between adult attachment style and the likelihood of seeking positive feedback.

Securely attached individuals are believed to have learned that distress is manageable and obstacles can be overcome because control can be exerted over the course and outcome of external events (Shaver & Mikulincer, 2002). Additionally, secure individuals also understand that reaching out to others is an acceptable and effective means of coping with distress (Ognibene & Collins, 1998). According to Waters, Rodriguez, and Ridgeway (1998), securely attached individuals will engage in the ‘secure base script’, which is comprised of three main affect-regulatory tendencies: acknowledgement and display of distress, engagement in instrumental problem solving, and support-seeking. The secure base script encompasses the idea that displays of distress will elicit positive responses from others, particularly attachment figures.

Secure attachment has also been linked to emotional regulation. Research with non-clinical adult samples has shown that compared to individuals who are anxiously attached, securely attached individuals have access to unpleasant memories without feeling overwhelmed by them (Mikulincer & Orbach, 1995). Indeed, secure attachment is related to more ‘reality-attuned,’ affect-regulation strategies, which are characterized by confidence in the ability to deal with distress, allowing individuals to remain open to new, sometimes threatening information and then devise successful strategies for realistically dealing with environmental demands (Green & Campbell, 2000; Shaver &
Experiences with attachment figures as approving and supportive allows securely attached individuals to revise erroneous beliefs without fear of rejection or criticism, providing the cognitive flexibility to incorporate new information into the cognitive schema of self and other.

Insecure Attachment

Insecurely attached individuals demonstrate either hyperactivation or deactivation strategies in their defensive processes (Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993). Because they view themselves as unworthy and others as more capable, individuals classified as having a preoccupied attachment demonstrate hyperactivation of the attachment system, which is characterized by continued attempts to reduce distance from attachment figures, high levels of negative emotions and thoughts, and a failure to detach from psychological pain (Kobak et al.). Research has shown that non-clinical adults with high levels of attachment anxiety focus on their own distress, ruminate on their negative thoughts, and adopt coping strategies that are emotion-focused, which tend to exacerbate rather than diminish their distress (Mikulincer & Florian, 1995). Hyperactivation strategies may engender difficulty in controlling the automatic spread of activation from one memory that arouses negative emotions to other, different memories that arouse negative emotions. This type of “domino effect” arousing negative emotions suggests “undifferentiated, chaotic emotional architecture” (Shaver & Mikulincer, 2002, p. 142). Preoccupied individuals tend to seek social support and to use strategies such as
the use of alcohol or drugs to decrease arousal and personal distress, but they tend to use confrontive coping in social situations (Ognibene & Collins, 1998).

In contrast, individuals classified as having a dismissing-avoidant attachment tend to deactivate the attachment system because they view others as unreliable and are determined to be self-reliant (Bowlby, 1980; Bartholomew, 1990). Deactivation is characterized by attempts to maximize the distance from attachment figures, to avoid dependence, to strive for self-reliance and control, to suppress distressing thoughts, and to repress painful memories (Mikulincer & Florian, 1995). Adults with high levels of attachment avoidance tend to distance themselves cognitively and/or behaviorally from distressing events. For example, in their study of 120 college students, Mikulincer and Orbach (1995) found that avoidant participants tend to recall emotions that are somewhat psychologically shallow, and their reliance on deactivation strategies inhibits accessibility to negative memories.

Lastly, fearful-avoidant attachment is characterized by negative models of both self and other, and consequently by the use of both hyperactivation and deactivation strategies. Following Bartholomew (1990), Simpson and Rholes (2002) proposed that fearful-avoidance is an instance of dismissive-avoidance where the usual deactivating strategies for coping with distress have “collapsed” or are no longer useful. As a result, hyperactivating and deactivating strategies are often used in a haphazard, chaotic manner during times of stress, which results in behavior that may be contradictory and reflect an approach/avoidance paradox. Because infants with disorganized attachment classification exhibit similar approach and avoidance behaviors, Simpson and Rholes suggested that
another way to conceptualize fearful-avoidant attachment is as a form of disorganized attachment. The disorganized perspective views fearful and dismissive-avoidance as separate concepts, and assume they have differing etiologies. For example, fearful-avoidance is related to past experiences of unresolved fear, rather than the rejection of the child’s attachment behavior, as is the case with dismissive-avoidance. Additionally, contrary to the collapsed-defenses theory, the disorganized perspective posits that fearful-avoidance is stable across time.

Bowlby (1980) postulated that internal working models of attachment contribute to mental health and illness, and growing empirical evidence supports this hypothesis. For example, Muris, Meesters, and van den Berg (2003) found that psychopathological symptoms in adolescence were associated with insecure attachment and the appraisal of parents as currently demonstrating lower levels of emotional warmth as well as high levels of rejection and overprotection. The manifestation of psychopathology is largely determined by the strategies children develop to either minimize or maximize the expression of their attachment needs (Muris, Meesters, & van den Berg, 2003).

According to Muris and his colleagues (Muris, Meesters, Merckelbach, & Hulsenbeck, 2000), use of minimizing strategies will often lead the individual to develop externalizing disorders as they deny their distress and develop a defensive, hostile stance toward their caregivers. Conversely, the use of maximizing strategies will often lead to internalizing disorders as individuals focus on their own feelings of distress and demonstrate an excessive need for love and support from their attachment figures.
Trauma

Traumatic events typically involve threats to one’s life or body integrity or a close encounter with violence and death, which commonly lead to reactions to of “intense fear, helplessness, loss of control, and threat of annihilation” (Herman, 1992). Indeed, a traumatic event confronts individuals with extreme stress and requires coping with a new, unexpected, and unfamiliar situation (American Psychiatric Association [APA], 2000). As a result of “shattered” assumptions regarding the world and themselves, individuals who have experienced a traumatic event tend to perceive their world as less safe, have lower self-worth, and see less meaning in the world when compared to individuals who have not experienced trauma (Janoff-Bulman, 1979).

People make meaning of events in their lives by creating a narrative that expresses the identity of the narrator and also shapes and influences the transformations of that identity (Tuval-Mashiach et al., 2004). Healthy individuals are believed to possess a coherent, meaningful, and dynamic narrative of themselves; they are able to produce coherent stories containing a more positive view of the self, which is associated with lower levels of posttraumatic stress disorder symptoms in traumatized individuals (Tuval-Mashiach et al., 2004). However, individuals who have experienced trauma and are at risk for psychological and emotional difficulties possess narratives that are unavailable, flawed, or partial. Wigren (1994) proposed that disruption of the traumatized individual’s narrative occurs at two levels: a specific disruption of the narrative of the traumatic event, and a more global disruption of the individual’s whole life story.
Post-traumatic Symptoms

Posttraumatic stress disorder (PTSD) and acute stress disorder are often diagnosed after individuals are exposed to a traumatic event. In the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), the diagnosis of Acute Stress Disorder requires that individuals experience intense fear, helplessness, or horror in response to the traumatic stressor (APA, 2000). This disturbance must last for a minimum of 2 days and can only be diagnosed up to 1 month after the event. Additionally, a diagnosis of acute stress disorder requires the presence of at least three dissociative symptoms as well as one symptom each of reexperiencing, avoidance, arousal, and impairment in social, occupational, or other areas of functioning.

Research indicates that Acute Stress Disorder is highly predictive of PTSD, and the number of symptoms immediately following the traumatic event generally predicts the likelihood of developing PTSD (Brewin, Andrews, Rose, & Kirk, 1999). According to the DSM-IV-TR, diagnostic criteria for PTSD include either (a) the exposure to an event that involves “actual or threatened death or serious injury, or other threat to one’s physical integrity” or (b) witnessing an event that is threatening or learning about an event that involves an “unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate” (APA, 2000, p. 467). Symptoms that must all be present for at least one month and cause significant impairment include symptoms of: intense fear, helplessness, or horror; persistent reexperiencing of the trauma; repeated avoidance of trauma related stimuli; and increased arousal.
Theories of Trauma

PTSD generally involves a continual state of arousal because cortisol secretion is not sufficient enough to halt the alarm response generated by the traumatic event; thus, the limbic system continues to command the hypothalamus to activate the autonomic nervous system (Rothschild, 2000). Typically, this arousal readies the individual for a flight or fight response; however, when there is no escape from the traumatic event or resistance is futile, traumatic reactions can occur (Herman, 1992). The result of this traumatic reaction is that the exaggerated state of arousal continues long after the actual threat has ceased, and the traumatic event can actually dissolve the formally integrated systems of psychological arousal, emotion, cognition, and emotion. Thus, the traumatized individual can experience intense emotion without a clear memory as to why, or the individual can possess clear memories of the event without experiencing any emotion related to these memories (Herman).

According to the information-processing theory of posttraumatic stress, PTSD occurs as a result of the individual’s inability to adequately process trauma-related information (Amir, Stafford, Freshman, & Foa, 1998). Specifically, individuals with PTSD possess disorganized and fragmented memories of the trauma, and consequently effective treatment often involves emotional processing which allows for the articulation, organization, and integration of these memories. Another hallmark symptom of PTSD is the presence of intrusive re-experiencing of the event which typically consists of visual images, sounds, smells, tastes, or bodily sensations that are relatively brief in nature (Hackmann, Ehlers, Speckens, & Clark, 2004). These intrusions are often perceived by
the individual as occurring in the present, causing disorientation in time and context, which predicts the chronicity of PTSD symptoms in victims of violent crime (Ehlers & Clark, 2000). These intrusive memories are likely to occur when the individual is in an aroused psychological state or when the individual is reminded of the traumatic event (MacIntosh & Whiffen, 2005). Moreover, research indicates that intrusive memories are typically not of the moments that the victim identifies as the “worst”; rather, the memories tend to represent stimuli that preceded the onset of the event (Hackmann et al., 2004). Thus, these intrusive memories have functional significance in that they may help prepare a traumatized person for future trauma by allowing them to act rapidly to avoid the experience. In an effort to cope with intrusive memories, many survivors of traumatic experiences will develop avoidance coping strategies, whereby they will avoid people, places, or things that remind them of the trauma; “forget” or repress certain aspects of the trauma; and/or become emotionally numb, constricted, and unresponsive to their environment (Yehuda, 2002).

Contributing to the fragmentation of memories are dissociative states during and after the traumatic event, which interfere with the cognitive processing of the trauma (Halligan, Michael, Clark, & Ehlers, 2003). Indeed, there is evidence that dissociation, over and above other factors, is the strongest predictive factor for the development and chronicity of PTSD (van der Kolk et al., 1996). In the Adult Attachment Interview (George, Kaplan, & Main, 1985), evidence of dissociation related to trauma can be seen in adults as a lack of continuity in discourse, thought or behavior of which the person is generally unaware; lapses in reasoning or discourse; and incoherent, disorganized
narratives of traumatic experiences. These symptoms of dissociation support the idea that the individual’s traumatic memories have not been “resolved,” thus representing an unintegrated autobiographical memory of self. Indeed, classification as Unresolved on the Adult Attachment Interview can be conceptualized as a direct expression of the activation of unintegrated representations associated with the traumatic event and the resulting emotions, cognitions, and memories of the event (Fearon & Mansell, 2001). Van der Kolk et al. also found that somatization, a variety of problems associated with affect regulation, and aggression against the self and others are often present in adults with PTSD. Thus, these symptoms should also be considered when evaluating and treating individuals who have experienced a traumatic event.

*Interpersonal Trauma*

The theoretical literature makes a distinction between impersonal and interpersonal trauma (Herman, 1992; Ickovics et al., 2006). Impersonal trauma is any traumatic event that occurs naturally in the context of daily living, such as natural disasters, accidents such as car wrecks, and medical diagnoses such as cancer or HIV (Ickovics et al.). Conversely, other traumatic events are interpersonal in nature, with one individual intentionally or unintentionally harming another; examples of interpersonal trauma include relationship violence, family violence sexual assault/abuse, rape, and physical abuse and neglect of children (Allen, 2001; Orcutt, Pickett, & Pope, 2005).
Interpersonal Trauma in Children

Interpersonal, or relational, trauma experienced in childhood is thought to disrupt the development of schematic representations of self and the world, which is thought to be a necessary process in normal development of the attachment system (Reviere & Bakeman, 2001). According to attachment theory, schemas representing self and other are formed, at least in part, through encoding and retention of autobiographical memories. However, traumatized children must devote a significant amount of attention to physical and/or emotional survival, and this narrowing of attention results in distorted memories. Reviere and Bakeman hypothesize that because the autobiographical memories of traumatized children are so distorted, they do not develop coherent, well-developed schemas. In order to cope with the threat that interpersonal trauma poses to self and other schemas, children will often engage in a variety of coping strategies in order to preserve previous assumptions about themselves and the world. For example, interpersonal trauma often threatens the child’s assumptions about a safe world, which may engender a tendency to leave the traumatic material unassimilated (Janoff-Bulman, 1979). According to Janoff-Bulman, this results in disrupted memory and basic schema formation, leading to significant distortions in the view of self. Because self and other schemas are still forming, children may be especially vulnerable to the impact of interpersonal trauma (Horowitz, 1991).

Unintegrated traumatic memories and impaired self-development may contribute to dissociation, which is considered to be a result of a “deficit of the integrative functions of memory, consciousness, and identity,” (Liotti, 2004, p. 473). In Ainsworth et al.’s
(1979) Strange Situation paradigm, some disorganized children demonstrate dissociative states when approaching the parent, stopping suddenly and becoming immobile (Main & Morgan, 1996). Oftentimes, these children are unresponsive to the parent’s call and will remain in this state for thirty seconds or more.

Attachment theory is also believed to explain the ability to encode, store, and retrieve traumatic memories (Alexander, Quas, & Goodman, 2002). When a child experiences a threatening or anxiety provoking stressor, the attachment system is activated, and the child’s expectations about the responsiveness of others will influence coping strategies. For example, children with a secure attachment possess internal working models of a trustworthy caregiver, and they will cope by directing help-seeking behavior toward the caregiver. This outwardly directed attention combined with the fact that securely attached children are likely to be soothed by the attachment figure, allows the child to better focus on and accurately encode, the event that they are experiencing (Alexander, Quas, & Goodman). Conversely, children with an insecure attachment style will expect that their caregivers will be unresponsive or inconsistently responsive; thus, insecurely attached children focus their attention internally, on their own self protection or internal emotional regulation. This internal focus prevents them from accurately encoding external events, and this lack of accurate encoding of stressful and/or traumatic life events can prevent the child from developing an integrated autobiographical memory of self. Additionally, this inaccurate coding prevents the individual from integrating the information about the traumatic event with the internal working model of self and other (Fearon & Mansell, 2001).
Storage of traumatic memories can also be influenced by a child’s attachment strategy, which influences how children cope with thoughts about past experiences. When recalling stressful life events, securely attached children will rely on their internal working model of others as responsive and supportive in order to feel safe. This feeling of safety will, in turn, allow the child to think coherently about the event. Conversely, avoidantly attached children will tend to evade thoughts related to previous stressful events as a means of regulating their emotions, and this avoidance behavior causes these children to be less able to form coherent narratives regarding emotional events than securely attached children (Bretherton & Mulholland, 1999). Ambivalently attached children will be unable to regulate emotions that arise as a result of recalling negative life events, and will therefore employ a ruminative strategy. Lastly, children with a disorganized attachment style will be more likely than other children to dissociate during and when thinking about previous stressful life events, often leading to gaps in memory, and these children will possess the least coherent memory regarding life events (Alexander, Quas, & Goodman, 2002).

Interpersonal Trauma among Adults

According to attachment theory, threat to the individual will prompt the activation of the attachment system throughout the life cycle (Bowlby, 1980). In a study of 220 Israeli college students, Mikulincer, Gillath, and Shaver (2002) demonstrated that threat contexts automatically activated cognitive representations of attachment figures, and this activation occurred regardless of whether the threat was relevant to interpersonal
relationships or the frustration of the adult’s attachment needs. Due to negative internal working models of self and/or other, adults with an insecure attachment style will interpret events in a more negative light because they will experience an automatic inner evaluation that their wish for comfort will either be unanswered or will produce additional painful interactions with attachment figures (Liotti, 2004). Consequently, an insecure attachment style increases an individual’s vulnerability to trauma-related emotional disorder (Liotti). Conversely, non-clinical adults with a secure attachment will view an event in a more positive way, reflecting higher self-worth and self-reliance (Collins, 1996). Additional research on 106 non-clinical adults indicates that when the contextual activation of attachment figures has a positive affective connotation, as is the case with securely attached individuals, a “spill over” of positive affect occurs that buffers the negative effects of threatening experiences (Mikulincer, Hirschberger, Nachmias, & Gillath, 2001).

Insecure attachment and PTSD both entail a lack of trust in others, an anxious apprehension that interferes with the ability to form and maintain satisfying interpersonal relationships, and an underlying difficulty with affect regulation (Stewart, 1996). Indeed, to forgive others is a key difficulty for many survivors (Smith & Kelly, 2001). However, evidence suggests that attachment security may promote more positive adaptation. For example, compared to former prisoners of war (POW) with insecure attachment, those with a secure attachment style exhibited the best long-term adjustment (Solomon, Ginzburg, Mikulincer, Neria, & Ohry, 1998). Dieperink, Leskela, Thuras, and Enghal (2001) also found that former POWs with a secure attachment style exhibited fewer
PTSD symptoms than those POWs with insecure attachment, and concluded that a secure attachment was a protective factor when coping with the traumatic event. This buffering effect occurs when a positive view of self and others allows the adult to use both internal and external supports, which then engenders a higher degree of tolerance for traumatic events. These findings also suggest that secure attachment style serves as a source of stress-regulation whereby survivors are able to consciously and unconsciously activate memories with significant others, evoking a sense of security and warmth that may strengthen the individual by enhancing a sense of meaningfulness during the period of trauma. Indeed, research indicates that positive inner representations of self, others, and the world are related to a more active style of coping among trauma survivors, and this association is thought to be due to the fact that these individuals appraise the event as less threatening and believe they are more in control of that threat (Goldenberg & Matheson, 2005).

In contrast, a negative self model of attachment among trauma survivors is predictive of posttraumatic stress symptoms, possibly because individuals with a negative view of self typically rely on emotion rather than cognition to guide behaviors (Muller, Sicoli, & Liemieux, 2000). When trauma interferes with the ability to regulate affect, PTSD becomes more likely. In their study examining 140 Israeli undergraduate students who resided in a dangerous area during the Gulf War, Mikulincer, Florian, and Weller (1993) found that relative to securely attached students, ambivalently attached participants showed higher levels of anxiety, depression, hostility, and somatization, while avoidantly attached participants demonstrated higher levels of hostility and
somatization. The researchers also found that ambivalent participants reported more intrusive thoughts regarding the traumatic experience, while avoidant participants reported more avoidance tendencies in coping with the trauma. In addition, individuals with negative core assumptions about themselves will tend to engage in more characterological self-blame, which in turn, is associated with higher levels of distress and increased posttraumatic stress symptomology (Janoff-Bulman, 1979).

Research has indicated that adult romantic attachment style is correlated with outcome in the treatment of adult trauma survivors. In their study examining treatment outcomes of women with a history of child abuse who were diagnosed with PTSD, Stalker, Gebotys, and Harper (2005) found that high levels of insecure adult romantic attachment predicted poorer outcomes. Specifically, feared loss of the attachment figure, which represents the basis of an insecure anxious attachment style, was the dimension most highly correlated with a poor outcome. Stalker et al. speculated that if an adult does not feel confident that the attachment figure will be able to provide a secure and safe base, the person is likely to remain in a heightened state of anxiety and anticipatory grief, which will then interfere with the ability to attend to psychoeducation designed to teach new skills to reduce PTSD symptoms.

Sexual Assault

The legal definition of rape used in state statutes is “the nonconsensual oral, anal, or vaginal penetration, obtained by force, threat of bodily harm, or when the victim is incapable of giving consent” (Koss, 1993). Although the definition of sexual assault
varies widely, broadly defined it is unwanted sexual touching of any type (i.e., fondling, grabbing, kissing, oral sex, sexual intercourse) that occurred without the individual’s consent (Fairbrother & Rachman, 2006). The common denominator of the definitions of rape and sexual assault is that consent was not given by the victim. Consent is often considered to be lacking when the victim reported saying “no” or asked the perpetrator to stop in some other manner, expressed by means of behavior that the perpetrator should stop, was too intoxicated to be fully cognizant of what was happening, or was threatened with physical harm for failing to comply with the sexual act (Fairbrother & Rachman).

Research indicates that 1 in 4 women have experienced rape or an attempted rape in their lifetime, and 84% of these women knew their attacker (Campbell & Wasco, 2005). These statistics are even more staggering when considering estimates that only 36% of rapes, 34% of attempted rapes, and 26% of sexual assaults were reported to legal authorities (Smith, 2005). According to the Bureau of Justice findings from 1992-2000, females were the victims in 94% of all completed rapes, 91% of all attempted rapes, and 89% of all completed and attempted sexual assaults (Smith).

The decision to disclose to either the legal system or family members is often difficult for survivors of sexual assault. Victims are significantly more likely to disclose to close friends and family rather than their doctors or the legal system, and they are more likely to disclose when the assault was more stereotypical in nature (e.g., assault by a stranger, completed rapes with physical threats and victim fighting) (Ullman, 1999). This difference could be due to the fact that women who disclose to family and friends are more likely to receive a positive, supportive response than when they report the assault to
the authorities (Ullman). Indeed, research indicates that recovery from sexual assault is significantly influenced, either positively or negatively, by the reactions of significant others of the female victim (Symes, 2005).

Certainly, sexual assault does not occur in social isolation, and the response by society in general and specifically community agencies such as hospitals, mental health clinics, police, and prosecutors can impact the survivor’s well-being by generating a “secondary victimization” (Campbell, Wasco, Ahrens, Sefl, & Barnes, 2001). Secondary victimization occurs when individuals are denied help by community organizations or when they receive help that leads them to experience blame and doubt, which is more likely to occur when women were acquainted with their attacker and/or belong to an ethnic minority culture (Campbell et al., 2001). Negative social reactions can include blaming of the victim, treating the victim differently, wanting revenge, distraction, egocentric reactions, ignoring or minimizing the survivor’s experience, instructing the survivor to remain silent and not report the crime, and/or siding with the perpetrator (Smith, 2005).

Additionally, the literature suggests that some sexual assault survivors engage in increased, riskier sexual behaviors post-assault, whereas other survivors report a decrease in sexual activity (Campbell, Sefl, & Ahrens, 2004). Key correlates for risky sexual activity reported in the literature are sexual assault by a known perpetrator (e.g., acquaintance, friend, or significant other) and the victim’s consumption of alcohol (Campbell et al., 2004; Koss, 2000). This may be due to the tendency of victims who know their attacker and/or consume alcohol prior to the attack to experience self-blame,
social-blame, and doubt, which can adversely impact the survivor’s subsequent decision making (Campbell et al.). Research also indicates that women with a history of sexual assault are at a significantly higher risk of revictimization in the form of subsequent sexual assaults (Breitenbecher, 2001). In her review of the sexual assault revictimization literature, Breitenbecher found that certain situational variables such as alcohol and/or drug use, low socioeconomic status, single marital status, and low educational attainment are related to an increased vulnerability to revictimization in the context of past sexual assault. The review also noted that disturbed interpersonal relationships, characterized by interpersonal dependency, traumatic bonding, dysfunctional interpersonal schemas, and the compulsion to repeat the trauma are related to revictimization. Additional factors explaining revictimization include negative cognitive attributions, self-blame, and poor coping skills, although these factors have received less empirical support (Breitenbecher).

Sexual assault victims continue to experience deleterious psychological effects for months, and often years after the event, and common experiences for the victims include posttraumatic stress, depression, and anxiety (Campbell, Sefl, & Ahrens, 2004). Additionally, sexual assault survivors are likely to experience greater physical distress (i.e., chronic pain, sexual dysfunction, etc.) and will tend to utilize medical services at a higher rate than women who have not been sexually assaulted (Hensley, 2002). Typically, victims display a high level of distress within the first week, with the severity of distress peaking by approximately three weeks after the assault, and this level of distress continues at a high level for the next month until victims begin demonstrating improvement by two to three months (Koss, 1993).
Posttraumatic stress disorder (PTSD) is evidenced at a higher rate in victims of sexual assault than among other civilian traumas, though the explanation for the persistence of PTSD varies (Koss, Figueredo, & Prince, 2002). Ehlers and Clark (2000) asserted that adults with PTSD process the sexual assault in a manner that fosters a sense of serious current threat. The victim may perceive the threat as external, believing that the outside world is not safe, or conversely as internal, believing that her own judgment is not to be trusted. These threats prompt the victim to engage in maladaptive coping strategies, which actually exacerbate the PTSD symptoms. For example, Ehlers and Clark reported that victims will attempt to suppress negative, intrusive thoughts related to the trauma, but the intentional efforts to suppress the trauma can create a rebound effect where the frequency and intensity of the intrusive thoughts will actually increase. Research supports this theory by demonstrating that individuals who experience mental defeat, characterized by a loss of psychological autonomy, and interpret their emotional responses during trauma as being unstable or out of control, will experience chronic PTSD (Dunmore, Clark, & Ehlers, 2001). The persistance of PTSD symptoms in survivors of sexual assault may also be explained by trauma memories that are often poorly elaborated and poorly integrated into the existing autobiographical memory of the victim (Foa, Riggs, & Gershuny, 1995).

Emotional processing models of PTSD examine how traumatic events are integrated into existing cognitive organization and how victims attempt to answer the question, “Why me?” (Koss & Figueredo, 2004). Cognitive appraisal and subsequent attributional processes following traumatic experiences are important because they
provide the individual with a sense of meaning, control, and predictability that allow an understanding of the negative event “within some kind of orderly and just framework” (MacLeod, 1999). There is evidence that characterological and behavioral self-blame significantly predict the initial psychological distress of sexual assault victims (Koss & Figueredo, 2004). Characterological self-blame is defined as self-attributions of responsibility, while behavioral self-blame is defined as self-attributions of causality (MacLeod). Whereas characterological self-blame is typically associated with poorer adjustment because it addresses aspects of an individual’s personality that may be immutable to change and thus out of the person’s control, behavioral self-blame is associated with better adjustment because it allows the individual to assert control over the behavior and ensure that it does not reoccur (Janoff-Bulman, 1979). However, recent research by Frazier (2003) indicates that behavioral self-blame does not necessarily equate to decreased distress reactions in sexual assault victims. Frazier posited that behavioral self-blame causes victims to focus on the past and what they could have done differently which increases distress; rather, it is more beneficial for individuals to focus on present control of their situation, specifically control over their recovery process.

Furthermore, coping strategies employed by sexual assault survivors significantly influence post-assault distress. Research indicates that avoidance coping strategies such as social withdrawal and substance abuse are associated with a higher level of negative psychological symptoms than approach coping strategies which are associated with either negligible or positively related to psychological symptomology (Ullman, 1999). Also, cognitive processing during the trauma such as dissociation, data-driven processing, and
lack of self-referent processing is associated with an increase in trauma memory disorganization (Halligan, Michael, Clark, & Ehlers, 2003). Disorganized trauma memories are significantly associated with PTSD symptoms, and the degree of disorganization is predictive of the severity of PTSD symptoms (Halligan et. al.).

Additionally, Koss and Figueredo (2004) found that maladaptive beliefs among non-clinical adults, which organize and give meaning to traumatic experiences, may mediate the relationship between self-blame and distress. Indeed, incongruity between lived experience and personal beliefs about people and the world in general, creates distress and prompts attempts to resolve this conflict. Accordingly, optimal recovery occurs when individuals stop assigning blame and work to stabilize their beliefs about themselves and others that promote healthy functioning (Koss, Figueredo, & Prince, 2002). In contrast, sexual assault victims who possess negative appraisals of the assault with respect to themselves, their world, and their future are significantly more likely to develop PTSD (Fairbrother & Rachman, 2006).

Posttraumatic Growth

A recent focus in the trauma literature has been the possibility of positive psychological changes in the aftermath of adversity and suffering. The terms posttraumatic growth, stress-related growth, perceived benefits, thriving, and flourishing are used interchangeably in the literature, and this construct is rooted in positive psychology (Joseph & Linley, 2005). Positive psychology focuses on building positive qualities and “nourishing what is best” within the individual rather than focusing
exclusively on healing pathology (Seligman & Csikszentmihalyi, 2000). A review of the posttraumatic growth literature showed that positive growth outcomes have been studied in relation to a number of traumatic events, including physical illness, tornado, plane crash, rape, childhood sexual abuse, shooting, and military combat (Linley & Joseph, 2004).

Theories of Growth

Joseph and Linley (2005) have developed an organismic valuing theory of growth through adversity, which asserts that individuals are active, growth-oriented beings naturally inclined to incorporate their experiences into a unified, complete sense of self and to integrate themselves into the larger social context. The organismic valuing theory is based upon the idea that individuals possesses an innate tendency to know their own best direction in the pursuit of well-being and fulfillment, and this tendency is referred to as the organismic valuing process. The organismic valuing theory of growth through adversity is composed of four theoretical principles. First, individuals possess a completion tendency. When individuals are confronted with a traumatic event, the individual’s assumptions about the world are shattered, and the individual must integrate this new trauma-related information with previous assumptions. Often times, this process of integration leads to intrusive and avoidant states characteristic of PTSD. Second, once a baseline is reached between intrusion and avoidance, the individual begins to cognitively assimilate the traumatic memory or revises existing schemas to accommodate the new information. Third, the individual begins to search for meaning in the adverse
event, not merely comprehensibility but the significance of the event. Finally, accommodation of the new traumatic memories may not make individuals happier; rather, there can be much distress through this process. Growth may make people more sad, but they may also become wiser and have closer relationships, greater self-acceptance, and a deeper level of spirituality.

Tedeschi and Calhoun (2004) presented another predominate theory of posttraumatic growth, which is based on the premise that individuals possess more than just the ability to resist being damaged by highly adverse events; rather, individuals can actually go beyond pre-trauma levels of functioning. The process of posttraumatic growth begins with challenging certain individual schemas regarding causes and reasons for events, which provide a general sense of meaning and purpose of life. Growth stems from the struggle that the individual experiences when attempting to reconcile the new trauma experiences with the old schemas. There is a cognitive restructuring component as well as an affective component to this process, so these lessons are not simply intellectual reflections. Additional processes involved in the growth process involve successfully managing distress emotions, support and disclosure. Tedeschi and Calhoun’s model considers five dimensions of growth in the aftermath of trauma: greater appreciation of life and changed sense of priorities; warmer, more intimate relationships with others; a greater sense of personal strength; recognition of new possibilities for directions for one’s life; and spiritual development.

Because posttraumatic growth requires a certain level of cognitive reconstruction as an individual accommodates new traumatic experiences with previous schemas,
growth has been shown to vary with age (Cryder, Kilmer, Tedeschi, & Calhoun, 2006). Cryder et al. found that at younger ages (6-14 years), growth was more highly correlated with competency beliefs while adolescent growth was more highly correlated with social support. The greater reliance of older individuals on social networks for support during periods of trauma may be because these networks have had a greater opportunity to develop. One explanation for the relatively weak evidence for positive growth among children and young adolescents is that they feel less independent and therefore may perceive less control over their situation (Milam, Ritt-Olson, & Unger, 2004).

**Positive Growth Outcomes**

Individuals who experience growth after adversity typically view their traumatic experience as a learning opportunity and generally report three predominant changes in their lives: (a) enhancement of relationships through increased valuing and altruism toward others; (b) changed view of self through an enhanced sense of personal resiliency, wisdom, and strength; and (c) changed life philosophy whereby individuals have an increased appreciation for life (Joseph & Linley, 2005). It is important to note that individuals demonstrating growth after experiencing trauma are not denying the negative aspects of the trauma; rather, they are able to find meaning and benefit to the traumatic experience despite these negative aspects (Siegel & Schrimshaw, 2000).

Several factors have been found to be related to posttraumatic growth outcomes. For example, increased event-related rumination in an effort to understand, resolve, and make sense of the adverse event shortly after it has occurred has been shown to increase
the likelihood that growth will occur (Calhoun, Cann, Teceschi, & MacMillan, 2000). However, when this rumination is characterized as intrusive or negative, and continues unabated for extended periods of time, low levels of growth and high levels of distress are likely. Also, Armeli, Gunthert, and Cohen (2001) found that growth is most likely to occur when individuals experience a very stressful event, have high levels of pre-event personal and social resources, and use adaptive coping strategies. This finding emphasizes that not everyone who experiences an adverse event will subsequently experience growth; rather, growth is also dependent upon the pre-event coping and support resources the individual possesses. In their study regarding posttraumatic growth in female patients with early-stage breast cancer, Sears, Stanton, and Danoff-Burg (2003) found that the intensity of the stress initially experienced and an increased time period to process the stressor significantly predicted growth.

It should be emphasized that it is the individual’s subjective experience of trauma-related distress rather than objective injury severity that is significantly related to posttraumatic growth (Updegraff & Marshall, 2005). For instance, the ability to find meaning in the context of adversity is related to increased growth (Park & Folkman, 1997). Park and Folkman conceptualize meaning as consisting of two components: global meaning and situational meaning. Global meaning refers to people’s assumptions, beliefs, and expectations about the world, whereas situational meaning refers to the integration of a person’s global beliefs and goals and the circumstances of the person-environment interaction. The reconciliation between pre-trauma global meaning and the post-trauma situational meaning is referred to as the meaning making process, and this process is
important in effectively coping with disaster.

The ability to find benefit through adversity has been related to a variety of outcome variables. For example, PTSD and heart attacks three years after a natural disaster were significantly less common among adults who at 4-6 weeks post-disaster demonstrated a significant level of perceived benefit, which was found to moderate the effect of severity of exposure on mental health change (McMillen, Fisher, & Smith, 1997). In general, growth through adversity is also related to a broadening of life perspectives, the development of new coping skills, reorientation and rededication of one’s life to reconsidered priorities, and the further cultivation of personal and social resources (Ai & Park, 2005). Additionally, these changes can be more profound, or they can be smaller but still highly important to the individual such as an increased intimacy with loved ones, handling stress in better ways, increased self care, appreciation of everyday aspects of life, and a willingness to try new things (Ai & Park).

Attachment, Sexual Assault, and Posttraumatic Growth

Following a trauma such as sexual assault, an individual is confronted with extreme stress that requires coping with a new, unexpected, and unfamiliar situation. Attachment style can influence such relevant factors as the individual’s view of self and others, coping strategies, and cognitive flexibility in incorporating traumatic memories. Research suggests that a secure attachment style enables the individual to more successfully integrate the traumatic memories into pre-existing schemas. Indeed, it is this successful integration that allows for posttraumatic growth in survivors of trauma.
Although very little research has investigated attachment processes and posttraumatic growth, the literature does provide some clues to the nature of this relationship.

Research has consistently shown that adults who deal with traumatic life stressors by utilizing approach coping strategies exhibit greater psychological adjustment, and are often able to go beyond pre-trauma levels of functioning when compared to adults who engage in avoidance coping strategies (Bellizzi & Blank, 2006). For example, in their study examining stress-related growth in adults diagnosed with HIV/AIDS, Siegel, Schrimshaw, and Pretter (2005) found that individuals with higher levels of emotional social support evidenced more growth. Other research indicates that positive change among sexual assault survivors is related to a helpful social support network, the utilization of more approach-oriented coping strategies, and reliance on religious faith (Frazier, Tashiro, Berman, Steger, & Long, 2004). Among these variables, Frazier et al. found that approach-oriented coping characterized by cognitive restructuring and expressing emotions was most strongly predictive of positive change, whereas avoidant coping strategies and self-blame were associated with negative life changes post-assault.

Attachment style has been shown to influence individual coping styles. For example, securely attached individuals learn that distress is manageable and that they can exert control over their environment to influence the course and outcome of events (Shaver & Mikulincer, 2002). Secure individuals are also more likely to see approach-oriented coping strategies, such as reaching out to others for support, as acceptable and effective means of coping with distress (Ognibene & Collins, 1998). Conversely, individuals with an insecure anxious attachment tend to rely on emotion-focused coping
strategies that exacerbate their distress and cause them to ruminate on their negative thoughts and focus on their psychological pain (Mikulincer & Florian, 1995). Insecure avoidant individuals often engage in avoidant coping strategies designed to repress painful memories and suppress distressing thoughts, and often attempt to maximize distance between themselves and attachment figures, preferring to avoid dependence and remain more self-reliant (Mikuliner & Florian).

Moreover, these coping strategies have been shown to highly influence an individual’s ability to grow in the aftermath of a traumatic event. Both Joseph and Linley’s (2005) organismic valuing theory of growth through adversity and Tedeschi and Calhoun’s theory of posttraumatic growth, require that the individual engage in approach oriented coping strategies to actively integrate the new traumatic memories and revise existing schemas of self, other, and the world. Indeed, those individuals with greater competency beliefs in their ability to cope with difficult life events, a trait associated with secure attachment, are more likely to evidence posttraumatic growth (Cryder, Kilmer, Tedeschi, & Calhoun, 2006). Salo, Pnamaki, and Qouta (2004) found that in addition to more severe PTSD symptoms than those with a positive view of self and others, POWs who had negative self and other models of attachment (i.e., fearful attachment) demonstrated a significant difficulty finding meaning in their traumatic experience. Conversely, POWs with a positive view of self and others reported that their traumatic experience taught them important values of life, enhanced their friendships, and provided greater insight and spirituality. Additionally, research supports a positive association between stress-related growth and the individual’s comfort depending on others (Park &
This finding holds significant implications for adults with an insecure-avoidant attachment style as their predominant method of avoidant coping is associated with poorer psychological adjustment as compared to their securely attached counterparts, who tend to utilize more approach coping strategies. Further, individuals who are more willing to seek out relationships that provide the opportunity to express fears and distress, a characteristic consistent with a secure attachment style, are more likely to effectively process the traumatic event and thereby find meaning in it.

The literature also suggests that other individual characteristics and process effect positive growth outcomes. Smith and Kelly (2001) found that recovery from rape involves three interrelated and interdependent themes: reaching out, reframing the rape, and redefining the self. Specifically, reframing the rape enables the survivor to make sense of the traumatic event and requires the recognition of the positive aspects of recovering from the trauma and the development of a new perspective on life. Finally, redefining the self involves an internal understanding of the event allowing the survivor to experience self-love, forgive herself and the rapist, and find inner peace. The authors emphasized that the survivor not only regains what she lost as a result of her sexual assault, but she also gains the ability for increased personal growth.

The process of restructuring and redefining the self may prove easier for those adults with a secure attachment as they tend to use more ‘reality-attuned’ affect-regulation strategies (Shaver & Mikulincer, 2000). This strategy is characterized by confidence in the ability to deal with distress and the ability to remain open to new, sometimes threatening information. This allows the securely attached adult to then devise
successful strategies for realistically coping with the traumatic event and resulting
distress (Green & Campbell, 2000). Experiences with attachment figures as approving
and supportive allow securely attached individuals to revise previous assumptions
regarding the world without fear of rejection or criticism, providing the cognitive
flexibility to incorporate new information into the cognitive schema of self and other and
to make meaning of the traumatic event. Securely attached adults will therefore be more
likely to find global meaning, as well as situational meaning, which integrates global
beliefs and goals and the circumstances of the person-environment interaction. The
reconciliation between pre-trauma global meaning and the post-trauma situational
meaning allows the securely attached individual to engage in the meaning making
process.

Contrary to securely attached adults, adults who score high on the avoidance
dimension of attachment tend to distance themselves cognitively and/or behaviorally
from distressing events and traumatic memories (Mikulincer & Florian, 1995). The
avoidantly attached adult’s attempts to suppress distressing thoughts and repress painful
memories, prevents the formation of a coherent autobiographical narrative of self and
stifles the meaning making process. Furthermore, adults who score high on the
attachment anxiety ruminate on their negative thoughts, and although rumination can
prove helpful in allowing the individual to integrate pre-trauma beliefs with post-trauma
situational meaning, when this rumination is characterized as intrusive or negative, and
continues unabated for extended periods of time, low levels of growth and high levels of
distress are likely (Calhoun, Cann, Teceschi, & MacMillan, 2000). Thus, individuals with
an anxious attachment are less likely to demonstrate posttraumatic growth, and they are more likely to experience an increase in posttraumatic distress due to their excessive rumination.

Conclusion and Hypotheses

Posttraumatic growth is a burgeoning area of study that significantly adds to our current knowledge about how individuals adapt to traumatic life events. However, there are currently very few studies examining the effect of attachment style on the relationship between trauma and posttraumatic growth. Moreover, there are even fewer studies examining these relationships among individuals who have experienced sexual assault. This study sought to increase the understanding of how women can not only cope with the sexual assault, but actually grow from this experience, with the hope of providing practitioners with information valuable to the successful treatment of trauma survivors.

Arnett (2000) has labeled the developmental period from the late teens through the twenties as “emerging adulthood,” and he characterizes this period as a time when individuals explore a multitude of life directions in love, work, and world-views. Emerging adulthood is seen as the most volitional time in life where individuals are free to explore life’s possibilities, and this period of time, with its emphasis on change and exploration, could prove conducive to the cognitive reconstruction required for posttraumatic growth. Consequently, the current study used an undergraduate college and community sample comprised of females ages 18-25 to examine the following hypotheses.
Based on the literature reviewed, a hypothesized model depicting the relationships between objective threat (i.e., the severity of the sexually aggressive act perpetrated on the victim) and perceived threat (i.e., victim’s perception of life threat) of sexual assault, adult romantic attachment, parent-child attachment and posttraumatic growth was developed (see Figure 1). Specifically, it was hypothesized that adult romantic attachment and parent-child attachment would mediate the relationship between perceived and objective levels of threat of sexual assault and posttraumatic growth. Finally, it was believed that perceived threat would serve as a better predictor of posttraumatic growth than objective threat.

*Figure 1. Proposed model of factors influencing PTG.*
Participants consisted of approximately 151 females between the ages of 18-25 who experienced some degree of sexual assault ranging from forced touching and/or kissing to forced sexual intercourse. These participants were recruited from undergraduate psychology courses at the University of North Texas and throughout the community and received either course credit in their classes or entry into a drawing for a $100 gift card as compensation for their participation.

Age of participants ranged from 18 to 25 years of age, with a mean age of 21.13 years ($SD = 2.39$). Table 1 provides frequency data for other sample characteristics. For example, the median family income for participants was $40,000-$55,000. The ethnic distribution of the sample was predominantly White or European American (68.9%) with the majority of participants reporting no current romantic partner (49.7%) and a heterosexual orientation (89.4%). Approximately half the participants had a history of psychological services ($n = 78$), and of those individuals who sought psychotherapy, the majority of participants engaged in individual treatment ($n = 71$) rather than couples ($n = 1$), family ($n = 5$), or group ($n = 4$) therapies.
Table 1

*Frequency Characteristics of the Sample (N = 151)*

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<td>68.9%</td>
</tr>
<tr>
<td>Hispanic/Latino/ Mexican American</td>
<td>12</td>
<td>7.9%</td>
</tr>
<tr>
<td>Native American</td>
<td>1</td>
<td>0.7%</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>4.6%</td>
</tr>
<tr>
<td><strong>Relationship Status</strong></td>
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</tr>
<tr>
<td>Single</td>
<td>74</td>
<td>49.0%</td>
</tr>
<tr>
<td>Single, Committed</td>
<td>37</td>
<td>24.5%</td>
</tr>
<tr>
<td>Single, Cohabitating</td>
<td>25</td>
<td>16.6%</td>
</tr>
<tr>
<td>Single, Divorced</td>
<td>1</td>
<td>0.7%</td>
</tr>
<tr>
<td>Married</td>
<td>14</td>
<td>9.3%</td>
</tr>
<tr>
<td><strong>Sexual Orientation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bisexual</td>
<td>13</td>
<td>8.6%</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>135</td>
<td>89.4%</td>
</tr>
<tr>
<td>Gay/Lesbian</td>
<td>3</td>
<td>2.0%</td>
</tr>
<tr>
<td><strong>History of Psychological Services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>78</td>
<td>51.7%</td>
</tr>
<tr>
<td>No</td>
<td>73</td>
<td>48.3%</td>
</tr>
</tbody>
</table>
Procedure

Participants who wished to receive class credit completed the instruments online through the University of North Texas SONA system while community participants completed the instruments by directly entering the study website. The participants were provided with the researcher’s contact information online and a statement explaining the purpose of the study, as well as the risks and privileges of confidentiality. Participants were allowed to contact the researcher if at any point they had questions or concerns. Prior to the administration of the instruments, participants indicated their willingness to participate in the study by electronically submitting their informed consent. The approximate completion time for all instruments was 45 minutes. All participants (N = 306) completed the instruments regardless of sexual assault history; however, only data from those participants indicating a history of sexual assault (N = 151) were analyzed in this study. A history of sexual assault was indicated if the participant endorsed any items in the affirmative on the Sexual Experiences Survey. Upon completion of the instruments, participants viewed a webpage containing a list of local resources that were available if the participants found the subject matter distressing or if they wished to seek services in order to better cope with the sexual assault.

Measures

*Background Information Questionnaire*

The Background Information Questionnaire was designed to ascertain information on age, ethnicity, gender, family income, and sexual orientation, and relationship status.
Information was also gathered regarding the participant’s history of psychological treatment, what type of treatment was received, time since last treatment session, and the nature of the issues addressed within therapy.

**Adult Attachment Style**

The Experiences in Close Relationships scale (ECR; Brennan, Clark, & Shaver, 1998) is a 36-item measure of adult romantic attachment. The measure consists of two scales composed of 18-items each, avoidance and anxiety, which are thought to be underlying dimensions of attachment. Avoidance represents the internal working model of other characterized by an uneasiness with closeness or reluctance to be intimate with others. The anxiety scale represents the internal model of self characterized by anxiety and vigilance regarding rejection and abandonment by others. Participants are asked to rate statements about how they generally experience relationships on a 7-point Likert scale with 1 indicating that they disagree strongly with the statement and 7 indicating that they strongly agree. The scales are then summed, with a higher score on the subscales indicating a high degree of attachment anxiety and/or avoidance. An example of an item depicting an attachment style high in avoidance is “I find it difficult to allow myself to depend on romantic partners.” An item depicting an attachment style high in anxiety is “I often worry that my romantic partner doesn’t really love me.” Additionally, low levels of both avoidance and anxiety indicate a secure romantic attachment style. Internal consistency was reported by the researchers as .94 for the avoidance scale and .91 for the
anxiety scale. For the current sample, internal consistencies for the anxiety and avoidance scales were both .94.

**Parent-Child Attachment Style**

The Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979) is a 25-item measure designed to assess perceived parenting before the age of 16. Respondents rate the relevance of each statement on a four-point Likert scale ranging from “very like” to “very unlike” and complete the instrument once for mothers and once for fathers, thus generating scales measuring parental care and overprotection for each parent. Care is defined by “affection, emotional warmth, empathy and closeness while overprotection is defined by “control, overprotection, intrusion, excessive contact, infantilization and prevention of independent behavior” (Parker et al., 1979). Examples of statements indicating a parent-child bond high in care ask the participant to rate whether his/her mother or father “was affectionate to me” and “spoke to me with a warm and friendly voice.” Examples of statements indicating a parent-child bond high in overprotection ask the participant to rate whether his/her mother or father “tried to control everything I did” and “tended to baby me”. The PBI serves as a broad measure of optimal and dysfunctional parent-child attachment, with a high score on the care scale and low score on the overprotection scale representing a secure parent-child attachment style. In the current sample, the coefficient alphas were .94 for parental care for mothers and .95 for fathers and .89 and .86 for maternal and paternal overprotection, respectively.
Sexual Assault

The Sexual Experiences Survey (SES; Koss & Gidycz, 1985) is a 10-item scale designed to measure degree of sexual victimization and aggression. This measure has been utilized as a continuous index of severity of sexual assault (Koss, Figueredo, Bell, Tharan, & Tromp, 1996) and will be used in this manner in the current study to assess objective threat. Participants are asked to answer yes/no to items that portray female victimization experienced after the age of 14 and vary from extreme forms of sexual victimization and aggression to milder forms. An item assessing extreme sexual victimization is: “Have you had sexual intercourse when you didn’t want to because a man threatened you or used some degree of physical force- twisting your arm, holding you down, etc. to make you?” An example of milder sexual victimization is: “Have you given in to sex play (fondling, kissing, or petting, but not intercourse) when you didn’t want to because you were overwhelmed by a man’s continual arguments and pressure?” There are five levels of victimization: nonvictimized, sexual contact, sexual coercion, attempted rape, and rape (Koss, Gidycz, & Wisniewski, 1987). When individuals report multiple forms of sexual victimization, the most severe form will be assigned (Koss, Gidycz, & Wisniewski, 1987). Individuals who positively endorse Items 8, 9, or 10 and any lower numbers meet the “rape” criteria, which is consistent with the legal definition of rape. Positive endorsement of Items 6 or 7 indicates “sexual coercion,” and positive endorsement of Items 4 or 5 and any lower numbers meets the “attempted rape” criteria, which is consistent with the legal definition of gross sexual imposition and attempted rape. Endorsement of Items 1, 2, or 3 indicates experiences of unwanted “sexual contact.”
Internal consistency for the items was .74 for females, and test-retest reliability assessed by mean item agreement was 93% over a week period. Developers of the SES attribute the acceptable yet relatively low internal consistency of the measure to the nature of the items depicting sexual victimization and aggression. Indeed, Koss and Gidycz hypothesize that the items are not indicative of a series of interlocking, escalating events where more mild acts of sexual assault and aggression capitulate into more severe acts. Consistent with the developers' findings, the internal consistency for the items in the current study was low at .45.

Following previous research (Dunmore, Clark, & Ehlers, 2001; Koss, Figueredo, Bell, Tharan, & Tromp, 1996), subjective or perceived threat will be measured by adding two questions to the end of the SES. Specifically, participants will be asked to assess the subjective severity of the sexual assault by rating their perceived threat to life and perceived threat of serious injury on a scale 9-point Likert scale with 1 indicating “No Threat” and 5 indicating “Extreme Threat.” In the current sample, the coefficient alpha for the perceived threat items was .89.

**Posttraumatic Growth**

The Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) is a 21-item measure that assesses posttraumatic growth in 5 domains: relating to others (“A sense of closeness with others”); new possibilities (“I developed new interests”); personal strength (“A feeling of self-reliance”); spiritual change (“I have a stronger religious faith”); and appreciation of life (“My priorities about what is important in life”). A total
score of posttraumatic growth can be obtained by obtaining the average of all subscale scores. Items are positively worded, and participants are asked to rate each item on a scale from 0-5, with 0 indicating that the participant did not experience the change as a result of their crisis and 5 indicating that they experienced this change to a “very great degree” as a result of their crisis. Internal consistencies range from .90 for the full scale and .67-.85 for the separate subscales (Tedeschi & Calhoun). Test-retest reliability after a two month delay was .71 for the full PTGI (Cohen, Cimbolic, Arneli, & Hettler, 1998). In the current study, internal consistency for the full scale was .96, and .84-.90 for the separate subscales.

Hypotheses and Data Analyses

On the basis of the literature reviewed, an initial model was hypothesized (see Figure 2). Based on research suggesting that attachment influences individual coping styles and reactions to stressful life events (Frazier, Tashiro, & Berman, 2004; Ginzburg, Mikulincer, Neria, & Ohry, 1998; Solomon, Salo, Pnamaki, & Qouta 2004; Stalker, Gebotys, & Harper, 2005), it was hypothesized that secure romantic attachment style, as measured by low scores on the avoidance scale and anxiety scales of the ECR, and secure parent-child attachment, as measured by high scores on the care scale and low scores on the overprotection, would be associated with greater posttraumatic growth. Indeed, it was expected that adult romantic attachment and parent-child attachment would mediate the relationship between sexual assault and posttraumatic growth.
Because research indicates that the individual’s subjective experience of trauma-related distress, rather than objective injury severity, is significantly related to posttraumatic growth (Updegraff & Marshall, 2005), it was hypothesized that perceived threat would explain more of the variance in the proposed model than the objective measure of threat. Thus, an alternate model hypothesized for this study is presented in Figure 3. Specifically, this model proposed that the removal of objective threat from the original model, would actually strengthen the path coefficients, and therefore, the overall goodness of fit of the model.

Figure 2. Proposed model of factors influencing PTG.
Path analysis was used to test the proposed models and corresponding hypotheses. Using path analysis, a regression was run on each variable in the model as a dependent on other variables that the model indicates were causes in order to obtain path coefficient weights for each causal path (Kline, 2005). Next, the path-estimated covariance matrix was compared to the observed covariance matrix to assess the goodness-of-fit of the proposed path models. A goodness-of-fit statistic was then calculated in order to determine the model that best fit the overall data, or the model that accounted for the most variance (Kline).

![Diagram of factors influencing PTG]

*Figure 3. Alternate model of factors influencing PTG.*
CHAPTER 3
RESULTS

This study sought to test a proposed model of the inter-relationships among subjective and objective perceptions of threat during the sexual assault, adult romantic attachment, parent-child attachment, and posttraumatic growth. It was hypothesized that adult romantic attachment and parent-child attachment would mediate the relationship between subjective and objective threat appraisal and posttraumatic growth. Finally, it was hypothesized that perceived threat would better predict posttraumatic growth than objective threat.

Preliminary analyses were run with respect to age, ethnic background, level of income, sexual orientation, relationship status, history of psychological services received, and period of time since the sexual assault. The primary analyses examined the role of adult romantic attachment and parent-child attachment and their mediating effects in the relationship between object and perceived threat and posttraumatic growth, path analysis was used to test the overall model. Finally, exploratory analyses were conducted to examine the direct influence of objective threat and perceived threat appraisal on posttraumatic growth. Multiple regression analysis was used to determine if perceived threat accounted for more of the variance of posttraumatic growth than objective threat.

Preliminary Analyses

Descriptive analyses were conducted to report the demographic characteristics of
Table 2

Correlations for BGI, SES, PBI, ECR and PTGI Variables for Total Sample (N = 151)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td>1.00</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Objective Threat</td>
<td>-0.07</td>
<td>1.00</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Perceived Threat</td>
<td>-0.15</td>
<td>0.41**</td>
<td>1.00</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Maternal Care</td>
<td>0.02</td>
<td>0.19*</td>
<td>-0.08</td>
<td>1.00</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Paternal Care</td>
<td>0.02</td>
<td>0.00</td>
<td>-0.02</td>
<td>0.20*</td>
<td>1.00</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Maternal Overprotection</td>
<td>-0.17*</td>
<td>0.08</td>
<td>0.12</td>
<td>-0.46**</td>
<td>-0.15</td>
<td>1.00</td>
<td>–</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>7. Paternal Overprotection</td>
<td>-0.17</td>
<td>0.10</td>
<td>0.15</td>
<td>-0.20*</td>
<td>-0.34**</td>
<td>0.42**</td>
<td>1.00</td>
<td>–</td>
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<tr>
<td>8. Anxious Attachment</td>
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<td>0.20*</td>
<td>-0.06</td>
<td>-0.34**</td>
<td>-0.37**</td>
<td>0.22**</td>
<td>0.36**</td>
<td>1.00</td>
<td>–</td>
<td></td>
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<tr>
<td>9. Avoidant Attachment</td>
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<td>0.13</td>
<td>0.15</td>
<td>-0.37**</td>
<td>-0.13</td>
<td>0.16*</td>
<td>0.24**</td>
<td>0.29**</td>
<td>1.00</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>10. Posttraumatic Growth</td>
<td>-0.15</td>
<td>0.23**</td>
<td>0.45**</td>
<td>-0.02</td>
<td>-0.05</td>
<td>0.05</td>
<td>0.15</td>
<td>-0.03</td>
<td>0.07</td>
<td>1.00</td>
<td>–</td>
</tr>
<tr>
<td>11. Time since Sexual Assault</td>
<td>0.31**</td>
<td>0.06</td>
<td>0.07</td>
<td>-0.08</td>
<td>-0.05</td>
<td>0.08</td>
<td>-0.05</td>
<td>0.02</td>
<td>-0.10</td>
<td>-0.08</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Mean 21.13 5.81 6.74 27.72 21.77 15.21 14.40 73.00 51.59 63.00 30.74

SD 2.39 2.87 4.81 8.63 10.29 8.14 7.47 23.44 21.44 23.33 25.32

*p < .05, **p < .01, ***p < .001
the sample (e.g., age, ethnic background, level of income, sexual orientation, relationship status, history of psychological services received, and period of time since sexual assault). Descriptive statistics, as displayed in Table 1, included frequency information for the participants on these demographic characteristics. Preliminary analyses showed that relationship status was significantly associated with age (F(4,146) = 16.20, p < .001) and posttraumatic growth (F(4,146) = 3.83, p < .01), with married or committed women tending to be older and demonstrating less posttraumatic growth. A history of psychological services was significantly associated with low maternal care (F(1,149) = 5.07, p < .05), low paternal care (F(1,149) = 4.27, p < .05), high adult romantic avoidance (F(1,149) = 4.46, p < .05) and high posttraumatic growth (F(1,149) = 4.87, p < .05).

Table 2 displays correlations between all continuous variables composing the BGI, SES, PBI, ECR, and PTGI measures. Additional preliminary analyses were conducted in order to examine the frequency, means, and standard deviations for the BGI, SES, PBI, ECR, and PTGI variables of each level of sexual assault victimization along the four possible dimensions of severity: rape, sexual coercion, attempted rape, and unwanted sexual contact (see Table 3).

Table 3

<table>
<thead>
<tr>
<th>Variables</th>
<th>Freq</th>
<th>%</th>
<th>M</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rape</td>
<td>52</td>
<td>34.5</td>
<td>8.87</td>
<td>.89</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Sexual Coercion</td>
<td>44</td>
<td>29.1</td>
<td>6.16</td>
<td>.37</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Attempted Rape</td>
<td>23</td>
<td>15.2</td>
<td>4.43</td>
<td>.51</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Unwanted Sexual Contact</td>
<td>32</td>
<td>21.2</td>
<td>1.34</td>
<td>.70</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>
Primary Analyses

Hypothesis 1

Path analysis was used to test the proposed model to determine if the maternal and paternal parent-child attachment variables, as well as the adult romantic attachment variables mediated the relationship between objective and perceived threat of sexual assault and posttraumatic growth. First, a regression was run on each variable in the model as a dependent on other predictor variables in the model in order to obtain path coefficient weights for each causal path (Kline, 2005). Next, the path-estimated covariance matrix was compared to the observed covariance matrix to assess the goodness-of-fit of the proposed path models. Goodness-of-fit statistics were then calculated in order to determine if the proposed model fit the overall data. The chi-square statistic is the most common method of determining goodness-of-fit, and it is a test of perfect fit in which the null hypothesis is that the model fits the overall data perfectly (Diamantopoulos & Siguaw, 2000). Thus, the goal is not to reject the null hypothesis, and this is done by achieving a non-significant result for the chi-square statistic. Another statistic to consider is the root mean square area of approximation (RMSEA), a non-centrality parameter that takes into account model complexity by considering degrees of freedom (Diamantopoulos & Siguaw). Values of .05 or less for the RMSEA statistic are considered an indicator of good fit while .05 to .08 are considered a reasonable fit, .08 to .10 a mediocre fit, and a value greater than .10, a poor fit (MacCallum, Browne, & Sugawara, 1996). Finally, the goodness-of-fit index (GFI) and the comparative fit index (CFI) examine how closely the model reproduces the observed covariance matrix, and
values greater than .90 are considered indicative of a good fit (Diamantopoulos & Siguaw).

In the current study, the fit indices for the proposed path diagram indicated that the model did not fit the data, $\chi^2 (17, N = 151) = 229.26, p = .001$, RMSEA = .29, GFI = .75, CFI = .33. Therefore, the first hypothesis was not supported. This finding is due to the generally nonsignificant relationships between the predictor variables and the mediating variables as well as the nonsignificant relationships between the mediating variables and the dependent variables. Indeed, according to Baron and Kenny (1986), four conditions must be present in order to obtain a mediating effect. First, the predictor must be significantly related to the mediator, and the predictor must also be significantly related to the dependent variable. Third, the mediator must be significantly related to the dependent variable, and finally, the relationship between the predictor and the dependent variable should be less after controlling for the mediator. Figure 4 displays the path estimates for each relationship between variables, demonstrating the relatively low associations between variables in the proposed model.

**Hypothesis 2**

The second hypothesis proposed that the removal of objective threat from the original model would strengthen the path coefficients, and therefore, the overall goodness of fit of the model. The same procedure performed for the previous model was repeated for the analysis of the alternate model with the exception of the removal of objective threat. Fit indices for the proposed alternate path diagram indicated that the model did not
fit the data, $\chi^2 (15, N = 151) = 202.27, p < .001$, RMSEA = .29, GFI = .77, CFI = .37. Although the path estimates between perceived threat and the mediating variables did increase, the path estimates between the mediating variables and posttraumatic growth were still low, rendering the overall model a bad fit (see Figure 5). Thus, the second hypothesis was not supported. Again, this finding is due to the generally nonsignificant relationships between the predictor variables and the mediating variables as well as the nonsignificant relationships between the mediating variables and the dependent variables.

**Post-hoc Exploratory Analyses**

To further explore the direct relationships between objective and perceived threat and posttraumatic growth, exploratory regressions were run. A multiple regression analysis was conducted to determine whether objective threat and/or perceived threat directly predicted posttraumatic growth, with objective threat and perceived threat entered simultaneously into the regression equation. Results indicated that the regression model for objective threat and perceived threat did significantly predict posttraumatic growth, $F(2,148) = 19.05, p < .001$. Upon further inspection of the beta coefficients, only perceived threat significantly predicted posttraumatic growth, not objective threat (see Table 5). This result is consistent with the literature and the second hypothesis of this study asserting that perceived threat would better predict posttraumatic growth than objective threat.
Figure 4. Fitted path model of factors influencing PTG.

Figure 5. Fitted alternate path model of factors influencing PTG.
Table 4

Regression Analyses for Objective Threat and Perceived Threat as Predictors of Posttraumatic Growth

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective Threat</td>
<td>.42</td>
<td>.65</td>
<td>.05</td>
</tr>
<tr>
<td>Perceived Threat</td>
<td>2.08</td>
<td>.39</td>
<td>.43***</td>
</tr>
</tbody>
</table>

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

Additional analyses were conducted to determine whether the parent-child and adult romantic attachment variables moderated the relationships between objective and perceived threat and posttraumatic growth. Following Baron and Kenny’s (1986) recommended procedure for testing moderation, a multiple regression was used to test the post-hoc moderation hypotheses. A multiple regression was repeated six times in order to analyze the moderating factors for objective threat: two regressions for both of the maternal parent-child attachment subscales (care and overprotection; two regressions for each of the paternal parent-child attachment subscales; and two regressions for each of the adult romantic attachment subscales (avoidance and anxiety). The same procedure was repeated for the parent-child and adult romantic attachment subscales as moderating factors for perceived threat. Due to the fact that the interaction term was computed by multiplying the predictor variable by the moderator, the main effects of the predictor and moderator were highly correlated with the interaction term (Holmbeck, 1997). In order to prevent this multicollinearity between the predictors and interaction terms, the predictor variables and the moderator variables were ‘centered’ (Aiken & West, 1991). Variables
were centered by subtracting the sample mean from all individuals’ scores on the variable which produced a revised sample mean of zero. Centering the variables had no impact on the level of significance of the interaction terms or the simple slopes of any plotted regression (Holmbeck, 1997). Consistent with the recommended procedure for testing moderation (Holmbeck), the predictor variable, moderator, and the interaction term were entered simultaneously for each multiple regression. Moderation is confirmed when the interaction term significantly predicts the outcome variable. However, results indicated that the parent-child and adult romantic attachment variables had no moderating effect on the relationships between objective and perceived threat and posttraumatic growth.

Finally, exploratory analyses were conducted in order to determine whether the five subscales of the Posttraumatic Growth Inventory (PTGI) were more significantly associated with objective threat, perceived threat, and the parent-child and adult romantic attachment variables than the total measure of posttraumatic growth. Results indicated that the inclusion of the five subscales of PTGI did not significantly impact the proposed model. All five subscales were significantly correlated with perceived threat, and all but the spiritual change subscale were significantly correlated with objective threat (see Tables 6 and 7). These results are consistent with the significant correlations between the total posttraumatic growth scale score and perceived and objective threat. Furthermore, paternal overprotection was significantly correlated with the new possibilities (.22) and personal strength (.16) subscales.
Table 5

*Correlations for SES, PBI, ECR and PTGI Subscales for Total Sample (N = 151)*

<table>
<thead>
<tr>
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<th>1</th>
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<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Objective Threat</td>
<td>1.00</td>
<td></td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2. Perceived Threat</td>
<td>.41**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3. Maternal Care</td>
<td>.19*</td>
<td>-.08</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4. Paternal Care</td>
<td>.00</td>
<td>-.02</td>
<td>.20*</td>
<td>1.00</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>5. Maternal Overprotection</td>
<td>.08</td>
<td>.12</td>
<td>-.46**</td>
<td>-.15</td>
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<td>6. Paternal Overprotection</td>
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<td>.15</td>
<td>-.20*</td>
<td>-.34**</td>
<td>.42**</td>
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<td>.20*</td>
<td>-.06</td>
<td>-.34**</td>
<td>-.37**</td>
<td>.22**</td>
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<td>8. Avoidant Attachment</td>
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<td>-.13</td>
<td>.16*</td>
<td>.24**</td>
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<td>9. Relating to Others</td>
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<td>.39**</td>
<td>.08</td>
<td>.00</td>
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<td>.08</td>
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<td>10. New Possibilities</td>
<td>.24**</td>
<td>.39**</td>
<td>-.16</td>
<td>-.12</td>
<td>.13</td>
<td>.22**</td>
<td>.10</td>
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<td>11. Personal Strength</td>
<td>.27**</td>
<td>.38**</td>
<td>-.06</td>
<td>-.04</td>
<td>.04</td>
<td>.16*</td>
<td>-.02</td>
<td>.11</td>
<td>.70**</td>
<td>.79**</td>
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<td>.34**</td>
<td>.11</td>
<td>-.00</td>
<td>-.04</td>
<td>.14</td>
<td>-.11</td>
<td>.04</td>
<td>.65**</td>
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<td>13. Appreciation of Life</td>
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<td>.47**</td>
<td>-.07</td>
<td>-.03</td>
<td>.07</td>
<td>.08</td>
<td>-.03</td>
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<td>6.74</td>
<td>27.72</td>
<td>21.77</td>
<td>15.21</td>
<td>14.40</td>
<td>73.00</td>
<td>51.59</td>
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<td>13.40</td>
<td>5.70</td>
<td>10.09</td>
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<td>4.81</td>
<td>8.63</td>
<td>10.29</td>
<td>8.14</td>
<td>7.47</td>
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<td>8.37</td>
<td>6.22</td>
<td>4.85</td>
<td>3.03</td>
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*p < .05, **p < .01, ***p < .001
CHAPTER 4
DISCUSSION

The primary purpose of this study was to explore the roles of adult romantic attachment and parent-child attachment and their mediating effects in relation to posttraumatic growth in survivors of sexual assault. The findings of this study did not support the proposed models as neither adult romantic attachment nor parent-child attachment variables served as mediators. However, exploratory analyses indicated that objective threat appraisal and perceived threat appraisal were significantly related to posttraumatic growth, with perceived threat appraisal serving as a better predictor for posttraumatic growth. The following discussion will first address findings related to the primary hypotheses, followed by a discussion of the additional findings from the exploratory analyses.

Primary Analyses

Contrary to the first hypothesis, neither adult romantic attachment nor parent-child attachment mediated the relationships between objective and perceived threat appraisal and posttraumatic growth in survivors of sexual assault. This finding was unexpected in light of evidence that secure adult romantic attachment and secure parent-child attachment is related to more effective approach-oriented coping strategies, increased cognitive flexibility, and an increased ability to reconcile pre-trauma global meaning with post-trauma situational meaning so as to enhance the meaning making
process (Green & Campbell, 2000; Shaver & Mikulincer, 2000). The fact that the attachment variables were not significantly related to posttraumatic growth may be explained by factors that were not considered in the present study. For example, it may be that the nonsignificant relationship between the attachment variables and posttraumatic growth was due to ceiling effects related to attachment and the way posttraumatic growth was measured in this study. The PTGI asks participants to rate the degree to which certain changes have occurred in their lives as a result of their trauma. Thus, if prior to trauma, a secure adult had positive relationships with others, a positive outlook for the future, a sense of personal strength, a strong sense of spirituality, and an appreciation of life (all domains measured by the PTGI), a sexual assault would almost certainly cause them distress and would likely negatively impact their lives along these five domains. The participant's secure attachment style would theoretically allow her to cope more effectively with the trauma, and would allow for an improvement along the five measured dimensions of posttraumatic growth. However, if relative improvement along the five domains of posttraumatic growth after the sexual assault is not greater than the absolute improvement along those domains from the time before the sexual assault to the date of testing, no significant relationship will exist between the attachment variables and posttraumatic growth. Stated more simply, if a securely attached participant already scores high on the dimensions measured by the PTGI before the sexual assault, it will be difficult for them to evidence overall growth in these domains if growth is measured by examining change in pre-trauma levels of functioning. They simply may already score so highly on these dimensions that there is relatively less room for growth. Therefore, it
would be informative if future studies measure the domains related to posttraumatic growth (relating to others; new possibilities; personal strength; spirituality; and appreciation of life) by asking participants to complete the PTGI instrument as it related to their life before the sexual assault, immediately after the sexual assault, and currently. Measured in this way, a more complete picture of the growth process can be obtained, and future research can shed new light on how attachment style impacts the participant’s ability to grow despite the negative impact experienced along the five dimensions of PTG after the sexual assault.

Another possible explanation for the generally nonsignificant relationships between objective and perceived threat appraisal, the attachment variables, and posttraumatic growth is that the attachment variables in this study were conceptualized as a type of relational coping style. Attachment style has been shown to be related to an individual’s coping style, with securely attached individuals utilizing more approach-oriented coping strategies and insecurely attached individuals using less adaptive coping styles (Ognibene & Collins, 1998; Mikulincer & Florian 1995). Future research may find significant results for the model if a direct measure of coping style is used in conjunction with the adult romantic attachment and parent-child attachment measures in order to ensure that the attachment measures are indeed tapping the relevant construct.

Finally, the second hypothesis that the removal of objective threat appraisal from the original model would strengthen the overall model, was not fully supported. This was largely due to the fact that the original model was not deemed to be a good fit for the overall population data due to the largely nonsignificant relationships between the
mediating variables and the dependent variable and predictor variables. Thus, while the path estimates did increase somewhat between the predictor and the mediating attachment variables, the overall model did not reach the point of significance.

Exploratory Analyses

Post-hoc exploratory analysis revealed that objective and perceived threat appraisal were significantly correlated with posttraumatic growth, with perceived threat serving as a better predictor when both variables were simultaneously regressed on posttraumatic growth. This finding was consistent with research that indicates it is the individual’s subjective experience of trauma-related distress rather than objective injury severity that is significantly related to posttraumatic growth (Updegraff & Marshall, 2005). This finding is important in that it emphasizes the need to assess for the perceived level of threat to life and perceived threat of serious injury in survivors of traumatic events rather than simply focusing on the objective severity of the event. Indeed, though it may be tempting to compare trauma severity based on the facts of the event (e.g. whether physical force or a deadly weapon was used in the sexual assault) the more important and influential factor is how the survivor appraised the threat.

Additional post-hoc analyses also indicated that paternal overprotection was significantly correlated with the new possibilities and personal strength subscales of the PTGI. This finding suggests that control and discouragement of independent behavior within the father-daughter relationship is associated with an increase in the recognition of new possibilities and personal strength and reliance post-sexual assault. The significance
of paternal vs. maternal attachment is consistent with previous research with survivors of sexual trauma, suggesting that paternal attachment more directly influences psychological well-being, overall well-being, and spiritual well-being than maternal attachment, even if the quality of the paternal attachment is not perceived as positively as the maternal attachment (Orbuch et al., 2005). Nevertheless, this finding seems counterintuitive given that parental overprotection has been consistently linked with negative psychological outcomes (Muris, Meesters, and van den Berg, 2003), and would be expected theoretically to be less conducive to posttraumatic growth. The relevance of father overprotection may be specific to the nature of the trauma in this sample, particularly if the perpetrator of the sexual assault was male. First, due to a slight age overlap in the PBI & SES, the possibility that the sexual assault (age > 14) preceded paternal overprotective behavior (age >16) cannot be ruled out. However, it is also possible that an overprotective father takes on a different meaning in the aftermath of a sexual assault. Sexual assault threatens physical and emotional integrity, and thus is expected to activate the attachment system, which is designed to provide protection and nurturance. Consequently, after this kind of trauma, overprotective behavior by fathers may be more appreciated, rather than resented, and thus contribute to an overall sense of safety. Alternatively, Orbuch, Parry, Chesler, Fritz, and Repetto (2005) argue that a father may engage in different intrafamilial behavior as a result of the trauma experienced by his child. Thus, a father who was overprotective when the participant was young, may become more supportive and nurturing as a result of his reacting and adjusting to his daughter’s sexual trauma.
Limitations

The findings presented in this study should be interpreted in light of several limitations. First, the sample was predominantly Caucasian, which renders the generalizability of these research findings to other minority groups inadvisable, and a replication study should be conducted so as to extend findings to a more ethnically diverse and male population. Additionally, all constructs were measured via self-report. In addition to the problem of common method variance (Harold & Glick, 1998), participants’ responses may have been biased due to the need to manage a positive impression, lack of self-awareness, and/or misperceptions about themselves or their behaviors. Also, the constructs of parental attachment, sexual assault, and perceived threat required the participant to respond retrospectively. Consequently, the participants’ responses may have been influenced by recent events, poor memory, or a need to maintain a positive image regarding both the parent-child relationship and the current adult romantic attachment style. A longitudinal approach would reduce the likelihood that participant recall of the parent-child relationship as well as objective and subjective appraisals of threat would be distorted.

The time period of 18-25 years of age, referred to as emerging adulthood, is seen as the most volitional time in life where individuals are free to explore life’s possibilities (Arnett, 2000). This period of time, with its emphasis on change and exploration, could prove conducive to the cognitive reconstruction required for posttraumatic growth. However, it may have also served to limit the study as emerging adults are exploring various roles and world views often for the sake and experience of exploration, rather
than in an attempt to define enduring role commitments and beliefs (Arnett). Therefore, the participants in this study are likely still in the process of exploring and redefining themselves, their relationships, and their beliefs, and consequently may not have reached their full potential in the area of posttraumatic growth. Future research should include a diverse age range so as to allow the researchers to examine how age and developmental stage of the participant influences the development of posttraumatic growth. In addition, extending the study to encompass an older population would have the added benefit of demonstrating how length of time after the sexual assault and posttraumatic growth are related. Although the present study did examine how many months had passes since the sexual assault, this time frame was limited due to the relatively young age range of the participants. Thus, an older population would provide a longer window of opportunity for participants to have grown from their traumatic experience.

Further Research

The current study is limited to posttraumatic growth related to sexual assault. It would be interesting to include various other forms of traumatic experiences to examine how the relationships among objective and perceived threat appraisal, attachment variables, and posttraumatic growth differ from sexual assault. Impersonal trauma is any traumatic event that occurs naturally in the context of daily living, such as natural disasters, accidents such as car wrecks, and medical diagnoses such as cancer or HIV (Ickovics et al., 2006). Conversely, other traumatic events are interpersonal in nature, with one individual intentionally or unintentionally harming another; examples of
Interpersonal trauma include relationship violence, family violence sexual assault/abuse, rape, and physical abuse and neglect of children (Allen, 2001; Orcutt, Pickett, & Pope, 2005). It would also be interesting to compare impersonal and interpersonal traumatic experiences to determine if the impersonal or personal nature of the traumatic experience influences the probability of posttraumatic growth occurring, considering that many of the domains of posttraumatic growth are interpersonal in nature.

Implications for Practice

Results of the current study indicating that objective and perceived threat appraisal are significantly correlated with posttraumatic growth, with perceived threat serving as a better predictor of posttraumatic growth, provide important information for mental health professionals working with survivors of sexual assault. Specifically, the finding demonstrates the importance of mental health professionals assessing their clients’ perceived threat of the traumatic event rather than simply assessing the objective severity. In an attempt to gather information and gain a better understanding of the traumatic event, subjective threat appraisal could be overlooked, but results of the study indicate that this information is actually more helpful to know. These findings may be helpful to survivors of sexual assault as well. Indeed, knowing that objective threat is less important than perceived threat appraisal could be validating for those survivors who experienced milder forms of sexual assault.

Furthermore, this finding provides hope for mental health professionals and sexual assault survivors alike as it demonstrates that posttraumatic growth is possible.
Truly, despite the negative impact traumatic events can have on the lives of survivors, this population can live on to go beyond pre-trauma levels of functioning. Survivors may develop a better ability to relate to others, experience new possibilities in their lives, develop an increased sense of personal strength, experience spiritual change, and develop a greater appreciation of life. This knowledge is greatly empowering for survivors of trauma who may be initially experiencing the negative effects of trauma such as PTSD, depressed mood, helplessness, hopelessness, etc. Furthermore, this finding imparts a positive framework to mental health professionals that their clients can grow from their traumatic experiences, thereby decreasing any helplessness or hopelessness the professional may experience as a result of working with a population that has experienced and been negatively impacted by great horror.

Finally, the result indicating that paternal overprotection was significantly correlated with the new possibilities and personal strength subscales of the PTGI suggests that paternal attachment may prove more influential than maternal attachment in the posttraumatic growth of sexual assault survivors. In addition to exploration in individual or group therapy, it may be beneficial to the client to encourage both parents, particularly the father, to be involved in treatment and support for the survivor. Indeed, this finding supports a more comprehensive conceptualization and treatment of the trauma survivor by stressing the importance of considering the role of paternal attachment relationship in the overall well-being of the individual.
Conclusion

Contrary to the hypothesized models, results of the study indicated neither adult romantic attachment nor parent-child attachment mediated the relationships between objective and perceived threat appraisal and posttraumatic growth in survivors of sexual assault. Thus the second model hypothesizing that the removal of objective threat from the original model would strengthen the overall model, was also not supported as the lack of a mediating relationship between the variables continued to render the model insignificant. However, findings from post-hoc exploratory analysis indicated that objective and perceived threat were significantly correlated with posttraumatic growth, with perceived threat appraisal serving as a better predictor of posttraumatic growth. This finding highlights the importance of assessing survivors’ perceived threat appraisal of the traumatic event as this appraisal better predicts posttraumatic growth than objective threat severity. The finding also demonstrates the possibility for growth in the aftermath of trauma and provides hope for survivors of trauma that not only can they return to pre-trauma levels of functioning, but their lives after trauma can be enhanced to a degree beyond their lives prior to their traumatic experience. Truly, the concept of posttraumatic growth and the results of this study can provide hope to survivors of sexual assault, and they can provide a more positive framework through which mental health professionals can view their clients who report a history of trauma.
APPENDIX A

CONSENT FORM
Title of Study: Adult Attachment and Posttraumatic Growth in Sexual Assault Survivors  
Principal Investigator: Stacy K. Roddy, Doctoral student, Department of Psychology,  
512-297-8140, skr0033@unt.edu  
Research Supervisor: Shelley A. Riggs, Ph.D., Assistant Professor, Department of Psychology, riggs@unt.edu  

Before agreeing to participate in this study, it is important that you read and understand the following description of the procedures, benefits, potential risks, and discomforts of the study. It also describes your right to withdraw from the study at any time. It is important for you to understand that no guarantees or assurances can be made as to the results of the study.

Purpose of the study and how long it will last:  
The purpose of the study is to examine the relationship between adult relational styles and posttraumatic growth in survivors of sexual assault. Completion of the research instruments will take approximately 30-45 minutes.

Description of the study including procedures to be used:  
Recruitment for this study is taking place via announcements in class, posting of flyers throughout the community, on-line postings in chat groups and through the University of North Texas SONA system. Instruments are completed online. The researcher’s contact information is provided above and you may contact the researcher if at any point you have questions or concerns. The consent form explains the purpose of the study, as well as the risks and privileges of confidentiality. Prior to the administration of the instruments, you will indicate willingness to participate in the study by electronically submitting your informed consent. Please print a copy of this consent form for your own records.

Description of procedures/elements that may result in discomfort or distress:  
There are minimal procedures/elements that may result in discomfort or distress in this study. Distress may occur due to the personal and intimate nature of the sexual assault questionnaire. A list of counseling services will be provided to you upon completion of the study in order to address any discomfort you may experience as a result of your participation in this study.

Description of the procedures/elements that are associated with foreseeable risks:  
As stated previously, only minimal risk of psychological discomfort related to questions about traumatic events is associated with participation in this study. You should contact the Principal Investigator if there is a problem, and she will do her best to help you locate
appropriate resources. The University of North Texas does not provide medical services or financial assistance for problems that might occur as a result of taking part in this research.

Benefits to the subjects or others:
By participating in this study, you may indirectly benefit by advancing the research in attachment process and posttraumatic growth for survivors of sexual assault. Once researchers have better understood the role attachment plays in posttraumatic growth for sexual assault survivors, they can assist counselors in working with survivors of sexual assault.

Compensation:
For participants drawn from the UNT Research pool or classroom announcements, you may be eligible for 2 points toward research requirements in some undergraduate Psychology courses. Consult with your instructor to determine your eligibility. Community participants, students not enrolled in classes where extra credit is awarded, or students wishing to forego extra credit in order to be entered into the drawing as compensation can email the researcher at the completion of the study, supplying your name and phone number. Your name will then be entered into a drawing for a $100 gift card at the completion of the study. The winner will be contacted at that time.

Confidentiality of research records:
Your identity and all of your information will be kept anonymous to the extent that is allowed by law. A number of steps will be taken to minimize the risk of loss of confidentiality. The questionnaires will include no identifying information. A code, rather than your name will be used, and only the researchers will have access to the data. The email sent to the researcher upon completion of the study will be separate from your survey responses, and your name cannot be linked to your responses. The data collected will not be shared with any individuals or agencies and will only be used for research or educational purposes. It is anticipated that the results will be published in a doctoral dissertation and a psychological journal; however, no identifying information will be included in any publication of the data collected in this study. Although steps have been taken to protect the security of your information, you acknowledge that the Internet is never a completely secure medium. Thus, neither the privacy of your information, your communications, nor visits to the web site can be absolutely guaranteed. Once again, however, your name will not be connected in any way with the responses you submit.

Questions about the study:
You may contact the researcher, Stacy Roddy a doctoral student in the Department of Psychology, if at any point you have questions or concerns related to this study. She can be reached by telephone at (512) 297-8140 or by email at skr0033@unt.edu. Additionally, the faculty sponsor of this research project, Shelley A. Riggs, Ph.D., Assistant Professor in the Department of Psychology, can be reached by email at riggs@unt.edu.
Review for protection of participants:
This research project has been reviewed and approved by the UNT Institutional Review Board (940-565-3940). Contact the UNT IRB with any questions regarding your rights as a research subject.

RESEARCH SUBJECT’S RIGHTS: You have read or have had read to you all of the above. By clicking the “I Accept” button below, you are confirming that you are at least 18 years of age and are agreeing that you understand your rights as a research subject, and you voluntarily consent to participate in this study. You understand also what the study is about and how and why it is being conducted. If you agree to participate in this study, please print a copy of this form for yourself and click the “I Accept” button below. If you choose not to participate, please click the “Reset” button and close your browser.

I Accept
APPENDIX B

BACKGROUND INFORMATION QUESTIONNAIRE
Background Information Questionnaire

Directions: Please click the appropriate button for the following questions.

1. Age:
   - a. 18
   - b. 19
   - c. 20
   - d. 21
   - e. 22
   - f. 23
   - g. 24
   - h. 25

2. Gender:
   - a. Male
   - b. Female

3. What is your ethnic background?
   - a. Asian/Pacific
   - b. Native American
   - c. African American
   - d. Mexican American/Hispanic
   - e. Caucasian
   - f. Other

4. What is your family income level?
   - a. Less than $25,000
   - b. $25,000-$40,000
   - c. $40,000-$55,000
   - d. $55,000-$70,000
   - e. $70,000-$85,000
   - f. $85,000-$100,000
   - g. Over $100,000

5. What is your relationship status?
   - a. Single
   - b. Single, committed relationship 6+ months
   - c. Single, cohabitating
   - d. Single, divorced
   - e. Married

6. What is your sexual orientation?
   - a. Bisexual
b. Heterosexual
  c. Gay/Lesbian

7. Have you ever sought psychological counseling before?
   a. Yes
   b. No

If yes: How many times have you sought counseling?
   a. Once
   b. Twice
   c. Three times
   d. Four times
   e. Five or more times

Are you currently receiving counseling?
   a. Yes
   b. No

Age(s) at time of first counseling:
   a. 0-5 years old
   b. 6-10 years old
   c. 11-15 years old
   d. 16-20 years old
   e. 21-25 years old

Age at time of most recent counseling:
   a. 0-5 years old
   b. 6-10 years old
   c. 11-15 years old
   d. 16-20 years old
   e. 21-25 years old

Approximately how long ago in months was your last counseling session?
   a. 1-6 months
   b. 7-12 months
   c. 13-18 months
   d. 19-24 months
   e. More than 24 months
Issues addressed in counseling (please click the button that applies to you, more than one box may apply):

- a. Anxiety symptoms
- b. Depression
- c. Grief
- d. Relationship issues
- e. Excessive alcohol/drug use
- f. Problems with anger
- g. Spiritual concerns
- h. Post-traumatic issues
- i. Family problems
- j. Unhealthy eating
- k. Financial difficulties
- l. Physical health problems
- m. Sleep problems
- n. Sexual dysfunction
- o. Personal growth
- p. Low self-esteem
- q. Other: Please specify in the box below:

Types of counseling received (more than one may apply):

- individual
- couples
- family
- group
REFERENCES


