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Differentiating the Effects of Anxious and Avoidant Attachment on Depression & Resilience Following Trauma

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DIFFERENTIATING THE EFFECTS OF ANXIOUS AND AVOIDANT ATTACHMENT
ON DEPRESSION & RESILIENCE FOLLOWING TRAUMA

by

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Abstract

Insecure attachment negatively impacts mental health, but research is unclear regarding which attachment figure and what type of insecure attachment (i.e. anxious or avoidant) is most closely associated with psychopathology. The present study examined how anxious and avoidant attachment to a mother, father, best friend, and romantic partner was related to depression and resilience. Participants included 372 emerging adults, age 18-24 (M_{age}=19.64, SD=1.62), from a University in the Midsouth, who endorsed the loss of a loved one, sexual abuse, physical abuse, or an extreme illness or injury as their most traumatic life event. Hierarchical linear regression analyses revealed that both anxious and avoidant attachment to a best friend were associated with lower resilience, but only anxious attachment to a best friend was associated with more depressive symptoms. Results highlight the importance of cultivating healthy relationships in a university setting to foster secure peer attachments for emerging adults exposed to adversity.

Table of Contents

List of Tables

Introduction

Bowlby's Attachment theory (1973) postulates that children form attachment patterns based on their proximity and interactions with primary caregivers. Traumatic experiences may negatively affect attachment, threatening relationship security and altering personal expectations that may contribute to mental health difficulties (Lim, Hodges & Lilly, 2019). The current study aimed to explore associations between attachment and maladaptive (i.e., depression) and adaptive (i.e., resilience) outcomes among emerging adults who experienced specific traumatic events in their lifetime (e.g., bereavement, physical abuse, sexual assault, extreme illness/injury).

The Effects of Trauma on Emerging Adults

Trauma exposure during childhood is one of the key environmental factors associated with psychiatric disorders (Dunn, Nishimi, Powers & Bradley, 2017). Unfortunately, over 30% of children under the age of 18 in the United States report experiencing a traumatic event (U.S. Department of Health & Human Services, 2010) and these adverse experiences have been linked to heightened depression and other negative outcomes in adulthood (Kessler et al., 2010). Emerging adulthood (i.e., the developmental period between the ages of 18 and 25; Arnett, 2000) has also been identified as a period of heightened trauma exposure with 33% of emerging adults at risk for experiencing potentially traumatic events (Anders, Frazier, & Shallcross, 2012). This life stage often coincides with the transition to a university setting, where many individuals encounter colliding stressors, such as new academic demands, feelings of isolation, social pressure, and increased personal responsibility, all of which have been associated with psychopathology (Galatzer & Bonanno, 2013; Vaez & Laflamme, 2008). Research also indicates that the number of traumatic events experienced affects mental health, with more reports of trauma exposure linked to higher depressive symptoms and fewer traumas associated with

1

resilience (Banyard & Cantor, 2004). Further, the type of traumatic event experienced differentially relate to outcomes following trauma, as interpersonal versus non-interpersonal events elicit varying trauma responses (Wamser-Nanney, Howell, Schwartz, & Hasselle, 2018). Accounting for these trauma-related factors (e.g. frequency of trauma, type of trauma) is critical when examining the mental health of emerging adults exposed to adversity across their lifetime.

Trauma & Depression. The developmental period of emerging adulthood is riddled with change and uncertainty which may increase stress and compound trauma that has occurred from traumatic events in childhood (McLaughlin et al., 2010; Vaez & Laflamme, 2008). Rates of depression have steadily increased in this age group, with nearly 10% of emerging adults endorsing major depressive episodes (Mojtabi, Olfson, & Han, 2016). Trauma exposure nearly doubles the risk for major depressive disorder, significantly increasing the likelihood that emerging adults will receive this diagnosis (McLaughlin et al., 2010). Insecure attachment has also been identified as a risk factor for depression, yet few studies have explored how attachment styles are associated with depressive symptoms in this population.

Trauma & Resilience. Despite high rates of trauma exposure in both childhood and emerging adulthood, strong evidence suggests that many individuals demonstrate adaptive outcomes, such as resilience, following adversity (Bonanno, 2004; Ungar, 2008). Research shows that between 35-65% of trauma exposed individuals follow trajectories of resilience by experiencing no significant reductions in functioning post-adversity (Bonanno, 2004). The current study defines resilience as the personal qualities that allow individuals to successfully adapt in the midst of adversity (Connor & Davidson, 2003; Ungar 2008). Both resilience and depression in the aftermath of trauma have received significant empirical attention, however

research examining the relation between trauma and resilience within an attachment framework remains understudied.

Attachment Theory

Interactions with primary caregivers structure children's internal working models of attachment or their cognitive schemas through which they process their relationships with others (Bowlby, 1973). Secure attachments are developed through consistent, positive interactions with caregivers and may serve as buffers against the effects of trauma (Erozkan, 2016; Mikulincer, Shaver, & Pereg, 2003). In contrast, negative 'schemas' developed through inconsistent parenting, frightening encounters, and insufficient coping strategies lead to the formation of an insecure attachment (Fonagy, 2018). Insecure attachment manifests in two forms: anxious attachment and avoidant attachment. Anxious attachment styles are characterized by a strong fear of rejection or abandonment from loved ones and are associated with depression, anxiety and hostility (Dunn, Nishimi, Powers, & Bradley, 2017; Widom, Czaja, Kozakowski, & Chauhan, 2018). Avoidant attachment is exhibited by limited intimacy, reduced social engagement, and suppression - potentially increasing feelings of isolation and depression (Dunn et al., 2017). Individuals exposed to trauma who report insecure attachment styles rather than secure attachment formations are more likely to experience symptoms of PTSD, depression, and anxiety (Ogle, Rubin, & Siegler, 2015). Research has explored the effects of insecure attachment on post-trauma recovery suggesting that attachment anxiety is linked with posttraumatic stress symptoms (PTSS; Lim, Hodges, Lilly, 2018). However, less work on the effects of attachment on the outcomes of depression and resilience has been conducted.

Insecure Attachment

   Trauma Type. Current research supports a dynamic view of attachment, suggesting that attachment formation can change based on significant life experiences, such as exposure to traumatic events (Erozkan, 2016; Fonagy, 2018; Mikulincer et al., 2003). Exposure to certain types of trauma, coupled with insecure attachment patterns, may exacerbate negative mental health outcomes (Crusto et al., 2010). All types of maltreatment (i.e. physical abuse, sexual abuse, neglect) are associated with the development of an insecure attachment style, with nearly 80% of maltreated children forming insecure bonds with their caregivers (Crittenden & Ainsworth, 1989; Cicchetti & Barnett, 1991). Insecure attachment in relation to other adversities, such as the death of a loved one and personal trauma (i.e. illness or injury), are also linked to depressive symptoms (Schoenfelder, Sandler, Qolchik & Mackinnon, 2011). Unlike maltreatment, however, these types of trauma may not influence attachment formation directly, but when coupled with insecure attachment may relate to levels of depression and resilience over time (Schoenfelder et al., 2011; Meredith & Strong, 2018). Despite the evidence that many distinct traumatic experiences can affect attachment, few studies have explored how one's self-reported most traumatic event (MTE) relates to mental health. In one study, Sandberg and colleagues (2010) examined general reports of anxious and avoidant attachment as mediators of PTSD in females exposed to multiple types of adversity (e.g. maltreatment and intimate partner violence). Only interpersonal abuse and sexual abuse were significantly correlated with insecure attachment, and anxious attachment mediated the relation between maltreatment and PTSD (Sandberg, Suess & Heaton, 2010). In another study with Danish college students, researchers found insecure attachment styles were a risk factor for increased PTSD in individuals who experienced physical and sexual abuse compared to those who experienced other traumatic

events (O'Connor & Elklit, 2008). No studies were found that examined insecure attachment in relation to one's self-reported MTE and the outcomes of resilience or depression. However, prior evidence (Erozkan, 2016; Fonagy, 2018) suggests that individuals who endorse sexual or physical abuse as their MTE may demonstrate more problematic psychological outcomes given the impact of maltreatment on attachment development.

Depressive Symptoms. Despite the established finding that insecure attachment is negatively related to mental health, research has been much less clear regarding what type of insecure attachment (i.e. anxious or avoidant) contributes to increased depression levels among emerging adults exposed to trauma. One longitudinal study found that both anxious and avoidant attachment are predictive of depression in adolescents (Lee & Hankin, 2009), supporting previous findings indicating that anxious and avoidant attachment were associated with increased depressive symptoms in adults (Hankin, Kassel & Abela, 2005). Other studies report no relation between depression and insecure attachment (Williams & Riskind, 2004) and still others suggest that individuals with avoidant attachment styles experience minimal distress following trauma compared to those with anxious attachment styles (Galatzer, & Bonanno, 2013). Widom and colleagues (2018) explored the relation between insecure attachment development and exposure to physical abuse or neglect in childhood. Individuals who experienced physical abuse in childhood reported higher levels of anxious attachment than individuals not exposed to abuse, while neglected individuals reported higher levels of anxious and avoidant attachment. Both forms of insecure attachment predicted higher reports of depression and anxiety (Widom et al., 2018). The current study seeks to expand this work by examining anxious and avoidant attachment in relation to specific attachment figures and in the context of multiple lifetime adversities (i.e. sexual abuse, physical abuse, death of a loved one, and personal illness).

Resilience. The development of resilience is affected by already-present attachment relationships (Bender & Ingram, 2018). Nearly all empirical work on resilience and attachment has been conducted in the context of secure attachment, as evidence of positive functioning is associated with secure relationships. Very few studies have investigated resilience in relation to insecure attachment, thus little is known regarding what type of insecure attachment is linked with less resilient functioning. In one study of clinicians post-9/11, both anxious and avoidant attachment formations were associated with decreased resilience and increased distress (Tosone, McTighe, Bauwens, & Naturale, 2011). While these results suggest that attachment is associated with resilience, the generalizability of the findings is limited to the study's population, and attachment was not assessed in regards to a specific figure. In a recent longitudinal study on attachment and resilience in emerging adults, researchers found that lower levels of anxious attachment predicted greater resilience throughout all four years of college (Galatzer-Levy & Bonanno, 2013). However, lower levels of avoidant attachment were not indicative of a resilient trajectory. Other findings surrounding avoidant attachment have been mixed, with some reporting no significant correlation between avoidant attachment and resilience (Shibue & Kasai, 2014). These studies mirror conflicting reports of insecure attachment and depression, demonstrating the need for clarity in how anxious and avoidant attachment styles are uniquely linked to adaptive and maladaptive mental health outcomes.

Attachment Figures

The majority of the insecure attachment literature utilizes a general attachment measure or focuses on one or two attachment figures (i.e. mom, dad, best friend, romantic partner); rarely is attachment measured in relation to multiple important individuals. Previous literature highlights the within person variability between personal attachment patterns (Fraley et al., 2011;

Weller, Lu, & Choe, 2005). Specifically, a person who experienced frequent parental rejection but has a supportive friend or romantic partner may exhibit differential working models of attachment (Fraley et al., 2011). Emerging adults may uniquely experience greater degrees of variation between parental figures and peers or romantic partners as this developmental period represents new found independence (Swenson, Nordstrom, & Hiester, 2008). Assessing attachment styles to different attachment figures may help identify which relationships are most integral to mental health during this transitional stage.

Maternal Attachment. Seminal work on maternal-child relationships have concluded that insecure attachments are linked to decreased self-worth, unhealthy relationship development, increased depressive symptoms, and exacerbated stress during adolescence (Kenny & Sirin, 2006; Lee & Hankin, 2009). Thus, it is expected that insecure maternal attachment would be associated with higher levels of depression in emerging adults, but research has been much less clear as to how maternal anxious and avoidant attachment separately relate to depressive symptoms during the developmental stage of emerging adulthood (Kerstis, Åslund, & Sonnby, 2018). Higher levels of resilience have also been linked with general reports of secure attachment; however which attachment figure (i.e. mother, father, romantic partner, best friend) contributes most to resilience in emerging adults has not been explored (Simeon et al., 2007).

Paternal Attachment. Research concerning father-child attachment is decades behind investigations of mother-child attachment, with most work focusing on secure paternal attachment. Within the limited available literature, insecure paternal attachment is associated with heightened depressive symptoms (Kerstis et al., 2018) and has been identified as a risk factor for self-harm (Gratz, Conrad, & Roemer, 2002). Additionally, more children report an anxious or avoidant attachment to a father figure than to a mother figure and insecure paternal

attachment patterns are associated with more family risk (Cowan, Cowan, & Mehta, 2009; Kerstis et al., 2018). Few studies have investigated the relationbetween father-child attachment and depression in emerging adults and to our knowledge, no studies have explored father-child attachment and resilience in this population.

Best Friend Attachment. Interactions with caregivers significantly decrease in emerging adulthood, emphasizing the need for strong peer relationships. Research has shown that individuals can display differing attachment styles to distinctive adult figures; thus, insecure attachment to a parent does not necessarily predict insecure attachments to friends (Mikulincer et al., 2003; Swenson et al., 2008). Patterns of peer attachment are most commonly measured in relation to one's best friend (Miller & Hoicowitz, 2004). Relationships with a best friend are characterized by intimate interactions and shared experiences, and often become a primary attachment throughout adulthood (Swenson et al., 2008). Given the transitional period of emerging adulthood when parents or caregivers may no longer be the primary attachment figure, insecure attachment to a best friend may be a risk factor for depression (Lee & Hankin, 2009). Conversely, secure friendship attachments have been associated with positive psychological adjustment and may promote resilience (Wilkinson, 2010). Friendship attachment has been studied primarily in child and adolescent populations, with less focus on best friend attachment in emerging adult samples.

Romantic Partner Attachment. Insecure attachment in adulthood has been identified as a strong indicator of romantic relationship quality (Li & Chan, 2012; Mikulincer & Shaver, 2007). Unlike the previously discussed important life figures, research clearly demonstrates the negative contribution of anxious and avoidant attachment on romantic relationships. Specifically, anxious attachment styles trigger hyperactivation strategies in relation to a romantic partner

(Main, 1990) whereas avoidant attachment patterns stimulate deactivation strategies (Shaver & Mikulincer, 2002). In a recent meta-analysis on anxious and avoidant attachment on relationship quality, individuals who held avoidant attachment styles with their partner reported more dissatisfaction in the relationship, less partner connection, and lower levels of support (Li & Chan, 2012). Generally, more anxious attachment was associated with increased relational conflict (Li & Chan, 2012). In relation to depression, previous work on anxious and avoidant attachment in married couples suggests that both types of insecure attachment patterns are associated with heightened depressive symptoms (Heene, Buysse, & Van Oost, 2007). Findings regarding insecure attachment and resilience are limited, with most studies citing resilience as a product of secure attachment and suggest that attachment insecurity would reduce resilient functioning (Mikulincer & Shaver, 2012). More specifically, one study found that anxious attachment styles in romantic relationships have been linked to higher resilience (Drake, Sheffield, & Shingler, 2011). Insecure attachments to a significant other have been associated with relationship dysfunction, but substantive connections linking anxious and avoidant attachment with depression and resilience in a romantic context have yet to be established.

The Current Study

Emerging adulthood presents a period of increased stress and heightened risk for trauma exposure, and insecure attachment may exacerbate psychopathology associated with this stressful developmental stage. Clarity is lacking on how the type of insecure attachment (i.e. anxious versus avoidant) is associated with resilience and depression, especially in relation to one's self-reported, lifetime most traumatic event (MTE). The present study aims to examine the unique role of anxious and avoidant attachment to multiple attachment figures (e.g., mother, father, best friend, and romantic partner) with respect to resilience and depression, while

accounting for trauma-specific variables (i.e., age at the time of trauma, cumulative trauma exposure, and MTE) and other demographic factors including sex, income, and race (white/non-white). These demographic variables were selected given prior evidence that women are at greater risk for psychopathology than men (Olff, Langeland, Draijer, & Gersons, 2007), but levels of perceived resilience tend to hold across sexes (Morano, 2010). Additionally, race (Roberts et al., 2011) and income (Mhaka-Mutepfa et al., 2015) may affect mental health functioning, with white individuals displaying more depressive symptoms compared to other races and individuals with lower income levels experiencing more psychopathology (Meng, et al., 2017). Cumulative trauma was accounted for given that increased trauma exposure is associated with heightened depression and lower resilience (Banyard & Cantor, 2004). Further, age at the time of the MTE was included based on research suggesting that maltreatment in early childhood is significantly associated with increased psychopathology (Dunn, et al., 2017).

It is hypothesized that (1) emerging adults identifying as female, as white, or from lower income families will report higher depressive symptoms and lower levels of resilience, 2) when accounting for demographic variables, a younger age at time of trauma, more cumulative trauma exposure, and sexual or physical abuse cited as one's lifetime MTE will be linked to higher depressive symptoms and lower resilience, (3) when accounting for demographic and trauma-related variables, higher levels of anxious and avoidant attachment to all four attachment figures (i.e. mother, father, best friend, romantic partner) will be associated with higher levels of depression, and (4) lower levels of anxious and avoidant attachment to all four attachment figures will be associated with higher levels of resilience. Figure-specific hypotheses were not specified a priori given the lack of available literature regarding anxious and avoidant attachment to different attachment figures.

10

Method

Participants

Participants included 372 emerging adults attending a university in the US Midsouth. Participants ranged in age from 18 to 24 years old (M_{age}=19.64, SD=1.62) and were predominantly female (78.7%). The sample represented a variety of race/ethnicities, with 51.2% self-identifying as White, 33.1% as Black or African-American, 4.8% as Multiracial, 4.0% as Hispanic/Latinx, and 2.7% as other races. Participants reported on their family's average household income over the last year, with 26% reporting less than $30,000 a year, 30% reporting less than $60,000, 24% reporting an annual income of $90,000 or less, and 20% reporting their family made more than $90,000 last year.

Procedure

Following institutional review board (IRB) approval, participants self-selected to take part in this study through the University subject pool system. Participants were informed that their participation would last approximately one and a half hours and that they would receive course credit as compensation for their time and effort. To increase privacy, all aspects of the study were completed online from a computer of the participant's choosing. Prior to initiating the survey, participants were presented with an informed consent document detailing that their responses would be kept confidential and linked to a random identification number. Participants were also informed that they could skip questions or end participation early if they experienced discomfort. After providing demographic information, participants completed a series of questionnaires that assessed their traumatic life experiences, current psychopathology, as well as their current attachment styles to their mother or mother figure, father or father figure, best friend and romantic partner. Participants were also asked to report on positive aspects of their well-

being, such as resilience, following their self-identified MTE. At the conclusion of the survey, participants were provided with a list of mental health resources available in the community.

Measures

  Demographics. A demographics questionnaire was administered to each participant to ascertain basic background information, such as age, sex, race, and family income. For data analyses, race was dichotomized into white/non-white because white participants accounted for a majority of the sample.

  Childhood Traumatic Events Scale. Using the Childhood Traumatic Events Scale (CTES), participants reported on the occurrence of specific traumatic experiences in both childhood (younger than 17 years of age) and adulthood (age 18 and older) including the death of a loved one, parental divorce, sexual abuse, physical abuse, extreme illness/injury, and "other" events. Additional details of the traumatic events were assessed, such as the age at which the event occurred and how frequently the event happened (Pennebaker & Susam, 1988). Participants also selected which event was the most traumatic for them. Consistent with the Diagnostic and Statistical Manual of Mental Health Disorders-5 ed. (DSM-5), only participants who endorsed criterion A events as MTE were used in analyses, including the death of a loved one, sexual abuse, physical abuse, and extreme illness/injury (APA, 2013). These index traumas were dummy coded and categorized into groups, including death of a loved one (n=257), sexual abuse (n=46), physical abuse (n=29), or extreme illness/injury (n=31). Participants who selected parental divorce or another non-Criterion A adverse event as their MTE were not included in the study. Non-Criterion A adverse events were included when calculating the cumulative trauma score to account for all potentially traumatic events that occurred in one's lifetime.

  Depression. The Center for Epidemiologic Studies Depression Scale Revised (CESD-R)

is a 20-item self-report measure that evaluates six domains of depressive symptomology including: depressed mood, feelings of guilt or worthlessness, helplessness or hopelessness, psychomotor retardation, appetite change, and sleep disturbance (Radloff, 1977; Eaton et al., 2004). Sample items include, "I felt lonely", "I thought my life had been a failure", and "I did not feel like eating; my appetite was poor". The CESD-R utilizes a four-point Likert scale ranging from 1 (*rarely or none of the time/less than one day*) to 4 (*most or all of the time/ 5-7 days*). Items are summed, and total scores range from 20 to 80, with higher scores representing more depressive symptomatology. The CESD-R has demonstrated strong internal consistency, with alpha coefficients ranging from 0.92 to 0.93 as well as adequate construct and discriminant validity (Radloff, 1977; Van Dam & Earleywine, 2011). In the current sample, Cronbach's alpha was 0.78, which is considered adequate (Tabachnick & Fidell, 2013).

Resilience. The Connor-Davidson Resilience Scale (CD-RISC) is a 25-item self-report measure that examines one's ability to cope with stress and adversity (Connor & Davidson, 2003). Sample items include, "I am not easily discouraged by failure." and "I have at least one close and secure relationship that helps me when I am stressed." The CD-RISC utilizes a 5-point Likert scale ranging from 0 (*not true at all*) to 4 (*nearly true all of the time*). Items are summed to create totals scores ranging from 0 to 100, with higher scores indicating more resilience. The CD-RISC displays strong internal consistency ($\alpha = 0.93$), as well as adequate test-retest reliability ($r = 0.87$), construct validity, and convergent validity in previous studies (Connor & Davidson, 2003; González et al., 2015). Cronbach's alpha for the current sample was 0.95.

Experiences in Close Relationships- Relationship Structures Questionnaire. The relationship structures questionnaire (ECR-RS) is a 9-item measure that assesses negative attachment patterns within a variety of close relationships (i.e. mother, father, best friend,

romantic partner) (Fraley et al., 2006). In the current study, this measure was administered four times regarding four different attachment figures. Participants responded in relation to their mother or mother figure, father or father figure, best friend, and romantic partner. The ECR-RS is comprised of an anxious subscale (3 items) and an avoidant subscale (6 items) that connote problematic attachment patterns (Fraley et al., 2001). An anxious subscale item is "I'm afraid that this person may abandon me", whereas an avoidant subscale item is "I prefer not to show this person how I feel deep down." This measure uses a 5-point Likert scale with responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A total anxious attachment score and a total avoidant attachment score were created for each primary figure (mother, father, best friend, and romantic partner). Scores on the anxious attachment subscale ranged from 3 to 15, with higher scores indicating a more anxious attachment style. Cronbach's alphas for the anxiety subscale range from .83 to .87 across attachment-figures (Fraley et al., 2011). Avoidant attachment scores had a wider range (6 to 30) as this subscale was comprised of six items. Higher scores on this subscale represent more avoidant attachment. Internal consistency values for this subscale range from .81 to .92 (Fraley et al., 2011). The ECR-RS demonstrates adequate test-retest reliability ($r = 0.80$) and strong internal consistency ($\alpha > .85$) across both subscales (Fraley et al., 2011). In the current sample, internal consistency values were high on both subscales for all four attachment figures, with alpha values greater than or equal to 0.90.

Data Analytic Plan

To assess how one's MTE, maternal attachment, paternal attachment, and attachment to a best friend relate to depression and resilience, two identical hierarchical linear regression models were conducted (one with depression as the outcome and one with resilience as the outcome). All analyses were completed using IBM SPSS version 25.0. Prior to analyses, the data was screened

for outliers and evidence of non-normality. No outliers were identified but resilience scores showed a slight positive skew. Multicollinearity diagnostics for all predictor variables and outcomes were explored and no evidence of multicollinearity was found (VIF <2) (Tabachnick & Fidell, 2013). A missing data analysis revealed that Little's MCAR Test was significant (p=.005) given that some participants selected to skip an attachment survey if there was not a mother (n= 18), father (n=76) or best friend figure (n=2) present in their lives. After removing these missing cases, less than 5% of the data was designated missing and multiple imputation was used to compute the remaining missing values. SPSS reports regression results using a pooled dataset of all 20 imputations and model results are reported using the pooled values. Final model R^2 values were reported using an average of all 20 imputations and a range of the R^2 values is provided. For each outcome, the first model included demographic factors (i.e. sex, race, income). Trauma-related factors (i.e. cumulative number of traumas experienced, age at MTE, and MTE) were added in model 2 with sexual abuse, physical abuse, and extreme illness/injury as MTE run in comparison to those who experienced death of a loved one as their MTE. Anxious and avoidant attachment to the three attachment figures (mother, father, best friend) were added in the third (final) model. Model sequencing was chosen based on established standards for hierarchical multiple regression. Accordingly, general demographic variables were entered in the first model, trauma-related variables that have clear implications for mental health were added in the second model, and the final model included the insecure attachment variables to multiple figures that was the primary focus of the study.

Two additional hierarchical linear regression models were run that included romantic partner in the analyses. These models were run separately because less than half of the sample reported having a current romantic partner (N= 170). When anxious and avoidant attachment

variables were added into the regression models, the missing data remained at less than 5%, thus multiple imputation was used to compute missing values.

Results

Participants' age at the time of their MTE varied widely (M_{ageT} = 13.98, *SD*= 12.39). The loss of a loved one was the most frequently endorsed MTE (69%), followed by 15.2% of the sample selecting sexual abuse, 8.3% extreme illness or injury, and 7.7% physical abuse. Cumulative trauma was also high among study participants, with only 16.5% of the sample endorsing one lifetime traumatic event. Additional descriptive statistics are provided in Table 1 and intercorrelations among continuous study variables are presented in Table 2 and Table 3. In line with previous work on depression and resilience, these outcomes had a strong, negative correlation (-0.52) (Hu, Zhang, & Wang, 2015). Resilience had significant, small to moderate, negative correlations with anxious and avoidant attachment to each primary figure of interest. As expected, depression had positive, significant, small to moderate correlations with each form of insecure attachment.

Results of the hierarchical linear regression models are presented in Table 4 and Table 5. Regarding the adaptive outcome of resilience, the first model containing demographic variables was significant, ($F(3, 368)$ = 3.34, p = .02, R^2 = .02), with race (β = -5.88, p =.003) and income (β = 1.11, p =.03) associated with resilience, but this model only accounted for 2% of the variance. The second model, including trauma-related variables, was also significant ($F(8, 363)$ = 3.06, p = .002, R^2 = .04), with race (β = -6.17, p =.002), income (β = 1.08, p =.03), and age at MTE (β = 0.19, p =.01) related to resilience. Variance accounted for increased to 4%. When maternal, paternal, and best friend anxious and avoidant attachment were added to the final model, the model was significant ($F(14, 357)$ = 8.70, p < .01, R^2 = .26, range of R^2 is from 0.253

to 0.257), accounting for 26% of the variance in resilience. Race (β = -7.50, p < .001), age at

MTE (β = 0.14, p =.05), anxious attachment to best friend (β = -1.18, p<.001), and avoidant

attachment to best friend (β = -0.73, p < .001) were each associated with resilience in this final

model. Specifically, non-white individuals, participants who were older at the time of their MTE,

those with lower levels of anxious attachment to their best friend and lower levels of avoidant

attachment to their best friend demonstrated higher levels of resilience. Findings partially

support study hypotheses given that white participants and those with lower familial income, an

earlier age of trauma exposure, and increased anxious and avoidant attachment to a best friend

were linked to lower resilience. Unexpectedly, sex was not related to resilience, nor were

cumulative trauma or MTE. Further, neither insecure attachment style to mother or father was

associated with resilience.

Regarding depression, the model containing only demographics variables was not

significant ($F(3, 368)$ = 1.94, p = .12, R^2 = .02). The second model that included trauma-related

variables was significant ($F(8, 363)$ = 5.37, p < .001, R^2 = .11) with race (β = 2.60, p = .03),

sexual abuse (β = 4.40, p = .006), and physical abuse (β = 9.56, p < .001) associated with

depression. The variance accounted for increased to 11% when adding these trauma-related

variables to model 2. Anxious and avoidant attachment to all three figures was added in model 3.

This model was significant ($F(14, 357)$ = 9.29, p < .01, R^2 = .24, range of R^2 is from 0.235 to

0.238) and captured 24% of the variance in depression. Race (β = 2.97, p = .006), sexual abuse

(β = 3.70, p = .01), physical abuse (β = 8.51, p < .001), and anxious attachment to best friend (β

= 1.05, p < .001) were significantly associated with depression. Specifically, participants who

self-identified as White reported higher levels of depression, as did individuals who reported

sexual abuse or physical abuse as their MTE. Participants who indicated higher levels of anxious

attachment to their best friend were also more likely to report symptoms of depression. Study hypotheses for depression were partially supported with White participants, those who endorsed sexual or physical abuse as their MTE, and anxious attachment to best friend reporting higher depressive symptoms. Sex, income, age at MTE, and cumulative trauma exposure were not linked to depression. Further, parental attachment was unrelated to depression in this sample.

When anxious and avoidant attachment to a romantic partner were included in two additional regression models, the sample size was reduced by nearly 200 participants, resulting in a sample size of 170. For resilience, the first model containing only demographic variables was significant ($F(3, 167) = 3.22$, $p = .02$, $R^2 = .04$) with race ($\beta = -7.89$, $p = .005$) related to resilience. The second model including trauma-related variables was significant ($F(8, 152) = 1.80$, $p = .08$, $R^2 = .04$) with race ($\beta = -7.95$, $p = .053$) and family income ($\beta = 1.54$, $p = .04$) associated with resilience. When anxious and avoidant attachment to all four figures was added in model 3, the model was significant ($F(16, 154) = 3.55$, $p < .01$, $R^2 = .20$, range of R^2 is from 0.193 to 0.213). This model captured 20% of the variance in resilience but race ($\beta = -8.52$, $p = .001$) was the only variable significantly associated with this outcome. Regarding depression, the first model was not significant. Model two was significant ($F(8, 170) = 2.66$, $p = .01$, $R^2 = .07$) with physical abuse associated with higher depressive symptoms ($\beta = 8.93$, $p < .001$). Model three ($F(16, 170) = 4.43$, $p < .01$, $R^2 = .24$, range of R^2 is from 0.238 to 0.264) accounted for 24% of the variance in depression with physical abuse ($\beta = 6.04$, $p = .01$) and anxious attachment to a romantic partner ($\beta = 0.91$, $p = .002$) linked to greater levels of depression.

Discussion

The present study examined associations between insecure attachment patterns to multiple attachment figures (e.g., maternal, paternal, best friend, romantic partner) and the

outcomes of depression and resilience among emerging adults who experienced trauma. Exploring associations between depression and resilience among individuals with anxious and avoidant attachment styles significantly contributes to the current literature, which up to this point has focused predominately on posttraumatic stress and neglected other risk and resilience outcomes (O'Connor & Elklit, 2008; Ogle, Rubin, & Siegler, 2015). The existing research has also focused almost exclusively on parental attachment, with little attention to the importance of friends and romantic partners. Recent studies, however, suggest that significant attachments extend outside of the family system and affect close relationships, particularly during emerging adulthood (Fraley et al., 2011). Additionally, while past research highlights the negative effects of insecure attachment on psychopathology, it is inconsistent regarding which form of insecure attachment (i.e. anxious or avoidant) is linked to negative mental health outcomes (Widom et al., 2018). Finally, there is a dearth of literature exploring the relation between anxious and avoidant attachment and protective factors, such as resilience. The current study provides valuable insight into these multiple gaps in the literature.

Based on previous research, it was hypothesized that specific demographic variables including, race (white/non-white), sex, and annual family income would be associated with depression and resilience. In regards to depressive symptoms, results indicated that White participants reported higher depressive symptoms, which aligns with previous research and the current study hypothesis (Meng, et a., 2017). However, neither sex nor income were linked with depression. When considering previous research suggesting that females report higher levels of depression then males (Olff et al., 2007), it may be beneficial to account for recent changes in mental health awareness, particularly in U.S. University settings (Sontag-Padilla et al., 2018). Accordingly, as mental health becomes increasingly prioritized, the stigma associated with

psychopathology may decrease, perhaps reducing the disparity between the sexes when reporting

depressive symptoms. With regard to income, all participants were currently enrolled in a

University, which may indicate adequate levels of financial stability for nearly all participants

(M_{range}= \$45,000 to \$60,000). Thus, levels of depressive symptoms in relation to income may not

be as salient in this population since few participants were experiencing severely low income.

For resilience, the demographic findings suggest that non-white individuals and those

with higher familial income reported higher trait-resilience compared to their White peers and

those from lower income households. These findings are consistent with the literature (Keyes,

2009; Roberts et al., 2011). However, sex was not significantly linked to resilience. The sex

breakdown in this sample was predominantly female. The sex ratios did correspond to the

proportion of female to male students in humanities courses, but not to the student body as a

whole. Samples that proportionally represent both sexes in University settings may provide

greater clarity on the link between sex and resilience in emerging adulthood (Chao, 2010).

Results concerning the trauma-related hypotheses were also mixed. It was hypothesized

that individuals who experienced their MTE at a younger age, those who experienced more

cumulative trauma, and individuals who reported their MTE as sexual abuse or physical abuse

would report more depressive symptoms and less resilience. Consistent with these expectations,

individuals who cited sexual or physical abuse as their MTE reported higher depressive

symptoms than participants who experienced the death of a loved one. These findings provide

additional support to an already established body of literature that emphasizes the negative

effects of maltreatment on mental health (Erozkan, 2016; O'Connor & Elklit, 2008). However,

the age at the time of the MTE and one's cumulative trauma exposure were not associated with

depression. Research suggests that retrospective reporting of traumatic experiences may be

inaccurate, thus the exact age of trauma exposure could have been different than one could recall (Hardt & Rutter, 2004). Additionally, individuals may have experienced other traumas at earlier or later times that were distinct from the event cited as one's MTE. Reporting biases could also impact the cumulative trauma variable as self-report data is uncorroborated and may be inaccurate (Li et al., 2014). Taken together, issues related to retrospective reporting and the collection of specific (rather than general) trauma-related variables may explain these unexpected findings.

For resilience, findings indicate that the age at the time of the traumatic experience was significantly related to resilience such that trauma exposure in late adolescence was linked to higher resilience. Resilience levels held across trauma type and frequency of trauma exposure. In line with Bonanno's work (2004), many people who experience trauma follow similar trajectories of resilience over time (Galatzer-Levy & Bonanno, 2013). Thus, in the current sample, levels of trait-resilience varied similarly between individuals who endorsed the loss of a loved one as their MTE and those who endorsed sexual or physical abuse, or extreme illness or injury as their MTE. Surprisingly, the frequency of traumas experienced was not significantly associated with resilience. It may be that the use of retrospective recall to capture the number of traumas experienced over one's lifetime may contribute to this unexpected finding. However, of note, past research has suggested that recent life stressors tend to have a greater impact on reports of positive adaption outcomes compared to the total number of stressors, thus individuals who have experienced multiple traumas very recently may report lower resilience levels (Seery, Holman & Silver, 2010). In the current sample, perhaps individuals who reported a higher frequency of trauma in their life time and those who had a lower frequency of trauma but more

recent adverse experiences reported similar levels of resilience. Such a hypothesis warrants more exploration in future research.

When considering insecure attachment patterns in relation to mother, father and best friend, only best friend attachment emerged as significantly related to both depression and resilience. Specifically, both anxious and avoidant attachment to a best friend were negatively related to resilience, but only anxious-attachment was linked to higher depressive symptoms. Results highlight the integral role that friends and peers play in the life of an emerging adult (Miller & Hoicowitz, 2004; Swenson et al., 2008). During this developmental period, key childhood figures that represented authority and security (i.e., parents) transition into less central roles and friends begin to impact personal and social decisions. Best friends may be seen as the primary confidant for processing collegiate stressors while at the same time sharing in the new-found season of independence (Wilkinson, 2010). Additionally, friends play a more immediate role in the establishment of community outside of the home and provide feelings of acceptance that promote adaption. Thus, it is not surprising that in an emerging adult sample, the relationship with the most prominent life figure (i.e. best friend) is the most robust variable associated with mental health and well-being.

Previous literature strongly supports the importance of secure parental attachment in relation to positive outcomes in children and adults. We posit several explanations for the non-significant findings related to parental insecure attachment. First, newfound freedom from parents may decrease negative feelings or perceptions about the parent-child relationship, skewing reports of current attachment patterns that were previously insecure (Lee & Hankin, 2009). Second, emerging adulthood presents a transitory stage following adolescence when parent-child relationships may be particularly strained as individuals seek to gain independence

and prioritize privacy (Swenson, Nordstrom, & Hiester, 2008). Conversely, parents may be

transitioning to a more friend-like role in the life of their child and the impact of insecure

attachment on mental health may be reduced (Holt, Mattanah, & Long, 2018). Lastly, depressive

symptoms are high amongst this population for reasons that may exist outside of the parent-child

framework (i.e. new life stressors, feelings of isolation) and perhaps peer relationships serve a

larger role in amplifying or reducing these symptoms (Lee & Hankin, 2009). Additionally, it is

important to note that the current study did not account for differences in attachment patterns

between individuals with two parents and those from single-parent families, as only participants

who reported attachment styles to both parents were included in the analyses. It is possible that

children from homes with two parents may report higher or lower insecure attachment styles

compared to those from single parent families, but whether reports of anxious or avoidant

attachment differ across non-traditional households has not been determined. Further, the marital

status of the two parental figures was not ascertained. Perhaps having two residential parents in

the home during the time of exposure to one's most traumatic event would elicit differing

attachment styles that impact maladaptive and adaptive outcomes in emerging adults.

In relation to insecure attachment styles across all four primary figures (i.e. mother,

father, best friend, and romantic partner), only anxious attachment to a romantic partner was

significantly related to depression and neither anxious nor avoidant attachment to any life figure

was linked to resilience. In this subsample of participants, individuals with high anxious

attachment to their romantic partner reported higher depressive symptoms, which supports

previous literature that insecure attachment formation negatively affects adult relationships

(Mikulincer & Shaver, 2007). Specifically, higher levels of anxious attachment have been linked

to more relational conflict which may be associated with poor mental health (Li & Chan, 2012:

23

Heene, Buysse, & Van Oost, 2007); however avoidant attachment has also been identified as a risk factor of depression among romantic partners which was not supported in this study (Heene, Buysse, & Van Oost, 2007). In relation to resilience, insecure attachment was not significantly associated with this outcome. Perhaps in this sample, insecure attachment would have affected ecological resilience rather than an individual's trait-resilience. Given that insecure attachment was measured using both familial and non-familial figures, it may be that insecure attachment within these unique ecologies differentially affect social resources rather than personal resilience qualities (Ungar, 2008). It may be worthwhile to examine the contribution of each type of attachment figure (i.e. familial or non-familial) separately to understand if insecure attachment to multiple types of attachment figures differentially relates to resilience levels in emerging adults.

Clinical Implications

The current study presents several clinical implications that should be considered when working with a trauma-exposed population of emerging adults. Clinicians should ascertain information about relevant trauma-related factors that may affect social relationships and attachment patterns including the type of trauma experienced, the age of occurrence, and exposure to other adversities. Additionally, findings highlight the important role of establishing healthy and secure peer relationships to bolster resilience and reduce depression symptoms, which is particularly relevant for emerging adults in a University setting. Importantly, secure relationships are not just established through building social networks or making friends. Instead, secure friendships are formed through consistent and supportive interactions with others that provide feelings of stability, community, and comfort. Providers may consider using behavioral activation strategies to cultivate repeated social engagement with others that foster community and ultimately lead to secure peer attachments. Specifically, teaching interpersonal effectiveness

skills in the context of dialectic behavioral therapy, social skills training, or building upon the tools used to form a healthy therapeutic relationship may help increase positive social interactions.

Limitations

While this study has many strengths, including measuring attachment in relation to multiple figures, accounting for specific trauma experiences, and examining both risk and protective factors within an attachment framework, there are several limitations that should be considered when interpreting results. First, the data is cross-sectional which prohibits the interpretation of causal effects between insecure attachment and the outcomes of depression and resilience. Several of the measures in the study relied on retrospective recall which may bias the accuracy of reporting on certain variables such as the age at the time of the traumatic event and the frequency with which the events occurred (Hardt & Rutter, 2004). Additionally, the Childhood Traumatic Events Scale, while capturing broad types of traumatic life experiences, does so without corroboration from external sources and does not adequately capture the severity of each traumatic event (Li et al., 2014). Further, all measures were completed via self-report which may increase reporting biases (e.g., acquiescence bias, extreme responses, fatigue). Finally, the generalizability of the findings is limited due to the demographics of the sample. Specifically, most participants identified as female, as white, were all currently attending college and were able to report on attachment patterns to both parental figures.

Future Research Directions

Additional research evaluating whether anxious or avoidant attachment to other important figures (e.g., extended family) uniquely contributes to maladaptive and adaptive outcomes is critical as clarity regarding which type of insecure attachment is most detrimental to mental

health and prohibitive to positive functioning may help inform therapeutic interventions. Assessing attachment patterns and trauma exposure longitudinally may shed light on how attachment patterns change during the developmental period of emerging adulthood and affect adaptive and maladaptive outcomes. It will also be valuable to explore how best friend attachment develops across the lifespan using samples of participants at variable ages and developmental stages, as the importance of best friend attachment may uniquely relate to depression and resilience in an emerging adult sample as opposed to samples of other ages.

In relation to specific traumatic experiences, sexual and physical abuse in this sample were linked with higher depressive symptoms but levels of resilience were not affected by trauma type. Extending research in traumatized populations to examine resilience through the lens of anxious and avoidant attachment would significantly contribute to the literature as few studies have explored the mechanisms of attachment that affect this adaptive outcome. Building on this study and the work of Ogle and colleagues (2015) regarding the interaction of the developmental timing of trauma exposure and insecure attachment, future research should seek to evaluate the interaction between specific types of trauma exposure and anxious and avoidant attachment to better understand how unique trauma experiences and insecure attachment patterns contribute to risk and protective factors.

Further, more effort should be extended to assess trauma by using multiple informants to capture severity and frequency of adverse experiences. Additionally, it would be fruitful to assess how unique family structures, including single-parent homes, nuclear families, and same-sex parents, impact attachment patterns in emerging adults and how these patterns relate to depression and resilience. Finally, further research is needed among a sample of greater diversity within sex, race, and education level to replicate and generalize these findings.

Conclusions

The current study examined how anxious and avoidant attachment to several integral life figures was linked to depression and resilience in emerging adults exposed to trauma. Results indicate that insecure attachment to a best friend was significantly associated with higher depressive symptoms and lower resilience levels. Sexual abuse and physical abuse endorsed as one's MTE were also significantly related to depression, but levels of resilience remained stable across varying traumatic experiences. Findings suggest that secure peer attachments in university settings may be highly correlated with improved mental health outcomes.

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Appendix A

Table 1

Descriptive Statistics for Study Variables

Variable	Percentage	Minimum	Maximum	Mean	Standard Deviation
Sex (male/female)	(21.3/78.7)	-	-	-	-
Ethnicity (white/non-white)	(51.2/48.8)	-	-	-	-
Age at MTE (years)	-	2	24	13.98	12.38
Cumulative Trauma	-	1	113	7.30	12.65
CD-RISC	-	0	100	69.63	17.51
CESD-R	-	20	72	36.02	10.64
M: Anxious Attachment	-	3	15	4.62	2.93
M: Avoidant Attachment	-	6	30	13.05	6.42
F: Anxious Attachment	-	3	15	4.62	2.93
F: Avoidant Attachment	-	6	30	16.27	6.77
BF: Anxious Attachment	-	3	15	5.35	3.09
BF: Avoidant Attachment	-	6	26	10.63	4.58
RP: Anxious Attachment	-	3	15	5.78	3.51
RP: Avoidant Attachment	-	6	27	9.90	4.53

Note. N = 372, N =170 for RP variables. Age at MTE=participant's age at the time of their Most Traumatic Event; Cumulative trauma=the number of traumatic incidents that occurred in the participant's life; CD-RISC=Connor-Davidson Resilience Total Score; CESD-R=Center for Epidemiologic Studies Depression Scale Revised Total Score; M: Anxious Attachment=Mother Anxious Attachment Total Score, M: Avoidant Attachment=Mother Avoidant Attachment Total Score; F: Anxious Attachment=Father Anxious Attachment Total Score, F: Avoidant Attachment=Father Avoidant Attachment Total Score; BF: Anxious Attachment=Best Friend Anxious Attachment Total Score, BF: Avoidant Attachment=Best Friend Avoidant Attachment Total Score, RP: Anxious Attachment= Romantic Partner Anxious Attachment, RP: Avoidant Attachment = Romantic Partner.

Table 2

Intercorrelations of Continuous Study Variables (not including romantic partner)

Variable	1	2	3	4	5	6	7	8	9	10
1. CD-RISC	1	-	-	-	-	-	-	-	-	-
2. CESD-R	-.49**	1	-	-	-	-	-	-	-	-
3. M: Anxious Attachment	-.27**	.27**	1	-	-	-	-	-	-	-
4. M: Avoidant Attachment	-.24**	.22**	.55**	1	-	-	-	-	-	-
5. F: Anxious Attachment	-.19**	.19**	.44**	.22**	1	-	-	-	-	-
6. F: Avoidant Attachment	-.19**	.17**	.11*	.28**	.54**	1	-	-	-	-
7. BF: Anxious Attachment	-.38**	.40**	.36**	.18**	.31**	.17**	1	-	-	-
8. BF: Avoidant Attachment	-.34**	.24**	.25**	.21**	.28**	.17**	.57**	1	-	-
9. Cumulative Trauma	.04	.10	.12*	.26**	.17**	.15**	.02	-.09	1	-
10. Age at MTE	.15**	-.13*	-.12**	-.14**	-.08	-.11*	-.07	-.05	-.03	1

Note. $N = 372$; CD-RISC, Connor-Davidson Resilience Total Score; CESD-R, Center for Epidemiologic Studies Depression Scale Revised Total Score; M: Anxious Attachment, Mother Anxious Attachment Total Score; M: Avoidant Attachment, Mother Avoidant Attachment Total Score; F: Anxious Attachment, Father Anxious Attachment Total Score; F: Avoidant Attachment, Father Avoidant Attachment Total Score; BF: Anxious Attachment, Best Friend Anxious Attachment Total Score; BF: Avoidant Attachment, Best Friend Avoidant Attachment Total Score; Age at MTE, participant's age at the time of their Most Traumatic Event; Cumulative trauma: the number of self-reported traumatic incidents that have occurred in one's life; * $p < .05$. ** $p < .01$.

Table 3

Intercorrelations of Continuous Study Variables including Romantic Partner

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. CD-RISC	1	-	-	-	-	-	-	-	-	-	-	-
2. CESD-R	-.45**	1	-	-	-	-	-	-	-	-	-	-
3. M: Anxious Attachment	-.29**	.33**	1	-	-	-	-	-	-	-	-	-
4. M: Avoidant Attachment	-.31**	.29**	.56**	1	-	-	-	-	-	-	-	-
5. F: Anxious Attachment	-.27**	.34**	.41**	.23**	1	-	-	-	-	-	-	-
6. F: Avoidant Attachment	-.24**	.26**	.06	.31**	.55**	1	-	-	-	-	-	-
7. BF: Anxious Attachment	-.32**	.36**	.47**	.24**	.37**	.21**	1	-	-	-	-	-
8. BF: Avoidant Attachment	-.31**	.23**	.17**	.18**	.22**	.22**	.61**	1	-	-	-	-
9. RP: Anxious Attachment	-.31**	.45**	.38**	.21**	.36**	.26*	.52**	.22**	1	-	-	-
10. RP: Avoidant Attachment	-.27**	.23**	.17**	.16**	.18**	.17*	.23**	.37**	.49**	1	-	-
11. Cumulative Trauma	-.01	.17*	.14	.22**	.32**	.24**	.04	-.03	.15*	.02	1	
12. Age at MTE	.05	-.02*	-.02	-.07	-.05	-.08*	-.01	-.05	-.09	-.05	.07	1

Note. N = 170; CD-RISC, Connor-Davidson Resilience Total Score; CESD-R, Center for Epidemiologic Studies Depression Scale Revised Total Score; M: Anxious Attachment, Mother Anxious Attachment Total Score; M: Avoidant Attachment, Mother Avoidant Attachment Total Score; F: Anxious Attachment, Father Anxious Attachment Total Score; F: Avoidant Attachment, Father Avoidant Attachment Total Score; BF: Anxious Attachment, Best Friend Anxious Attachment Total Score; BF: Avoidant Attachment, Best Friend Avoidant Attachment Total Score; RP: Romantic Partner Anxious Attachment; RP: Romantic Partner Avoidant Attachment; Age at MTE, participant's age at the time of their Most Traumatic Event; Cumulative trauma: the number of self-reported traumatic incidents that have occurred in one's life; * $p < .05$. ** $p < .01$.

Table 4

Summary of Hierarchical Regression Analysis Examining Associations between Resilience and
Mother, Father, and Best Friend Attachment Figures

Variable	Resilience				
	ß	t	Adj. R^2	ΔR^2	F
Model 1			0.02	-	3.34**
Sex	0.43	0.19			
Race	-5.88	**-2.97****			
Yearly Family Income	1.11	**2.20****			
Model 2			0.04	0.02	3.06**
Sex	0.92	0.41			
Race	-6.17	**-3.13****			
Yearly Family Income	1.08	**2.13***			
Age at time of MTE	0.19	**2.51***			
Cumulative Trauma	0.09	1.22			
MTE: Physical Abuse	-4.53	-1.31			
MTE: Sexual Abuse	-4.18	-1.56			
MTE: Illness/Injury	0.13	0.04			
Model 3			0.23	0.19	8.70**
Sex	-0.11	-1.16			
Race	0.07	0.98			
Yearly Family Income	-0.14	-1.46			
Age at time of MTE	-0.25	-2.65**			
Cumulative Trauma	-0.07	-0.73			
MTE: Physical Abuse	0.26	2.71**			
MTE: Sexual Abuse	0.19	2.11*			
MTE: Illness/Injury	-0.08	-0.87			
M: Anxious Attachment	-.62	-1.58			
M: Avoidant Attachment	-.19	-1.15			
F: Anxious Attachment	0.1	0.31			
F: Avoidant Attachment	-.25	-1.62			
BF: Anxious Attachment	-1.18	**-3.50****			
BF: Avoidant Attachment	-.73	**-3.22****			

Note. (N=372). MTE, Most Traumatic Event; Cumulative trauma, the number of self-reported traumatic incidents that have occurred in one's life; M: Anxious Attachment, Mother Anxious Attachment Total Score; M: Avoidant Attachment, Mother Avoidant Attachment Total Score; F: Anxious Attachment, Father Anxious Attachment Total Score; F: Avoidant Attachment, Father Avoidant Attachment Total Score; BF: Anxious Attachment, Best Friend Anxious Attachment Total Score; BF: Avoidant Attachment, Best Friend Avoidant Attachment Total Score; β and t values are reported from the pooled dataset. R^2 and F statistics are reported from the original dataset before imputation; * $p < .05$, ** $p < .01$.

Table 5

Summary of Hierarchical Regression Analysis Examining Associations between Depression and Mother, Father, and Best Friend Attachment Figures

Variable	Depression				
	ß	t	Adj. R^2	ΔR^2	F
Model 1			0.01	-	1.94
Sex	0.92	0.67			
Race	2.59	**2.14****			
Yearly Family Income	-0.5	-1.63			
Model 2			0.09	0.08	5.37**
Sex	0.34	0.25			
Race	2.56	**2.22****			
Yearly Family Income	-0.39	-1.30			
Age at time of MTE	-0.06	-1.36			
Cumulative Trauma	0.04	0.84			
MTE: Physical Abuse	9.56	**4.64****			
MTE: Sexual Abuse	4.4	**2.76****			
MTE: Illness/Injury	1.59	0.78			
Model 3			0.24	0.15	9.30**
Sex	0.62	0.50			
Race	2.97	**2.72****			
Yearly Family Income	-0.26	-0.91			
Age at time of MTE	-0.03	-0.75			
Cumulative Trauma	0.03	0.64			
MTE: Physical Abuse	8.51	**4.39****			
MTE: Sexual Abuse	3.7	**2.49****			
MTE: Illness/Injury	0.44	0.24			
M: Anxious Attachment	0.43	1.84			
M: Avoidant Attachment	0.05	0.46			
F: Anxious Attachment	-0.12	-0.58			
F: Avoidant Attachment	0.08	0.79			
BF: Anxious Attachment	1.05	**5.18****			
BF: Avoidant Attachment	0.14	1.05			

Note. (N=372). MTE, Most Traumatic Event; Cumulative trauma, the number of self-reported traumatic incidents that have occurred in one's life; M: Anxious Attachment, Mother Anxious Attachment Total Score; M: Avoidant Attachment, Mother Avoidant Attachment Total Score; F: Anxious Attachment, Father Anxious Attachment Total Score; F: Avoidant Attachment, Father Avoidant Attachment Total Score; BF: Anxious Attachment, Best Friend Anxious Attachment Total Score; BF: Avoidant Attachment, Best Friend Avoidant Attachment Total Score; β and t values are reported from the pooled dataset. R^2 and F statistics are reported from the original dataset before imputation; * $p < .05$, ** $p < .01$.

Appendix F

Table 6

Summary of Hierarchical Regression Analysis Examining Associations between Resilience and Mother, Father, Best Friend, and Romantic Partner Attachment Figures

Variable	Resilience				
	ß	t	Adj. R^2	ΔR^2	F
Model 1			0.03	-	2.44**
Sex	0.48	0.14			
Race	-7.89	**-2.84****			
Yearly Family Income	1.67	**2.31***			
Model 2			0.02	-0.01	1.32**
Sex	2.12	0.61			
Race	-7.95	**-2.82****			
Yearly Family Income	1.54	**2.11***			
Age at time of MTE	0.10	0.31			
Cumulative Trauma	-0.03	-0.25			
MTE: Physical Abuse	-6.01	-1.49			
MTE: Sexual Abuse	-6.18	-1.59			
MTE: Illness/Injury	-0.24	-0.47			
Model 3			0.21	0.19	3.71**
Sex	0.55	0.17			
Race	-8.52	**-3.23****			
Yearly Family Income	0.90	1.24			
Age at time of MTE	-0.04	-0.14			
Cumulative Trauma	0.12	0.88			
MTE: Physical Abuse	-0.74	-0.18			
MTE: Sexual Abuse	-1.31	-0.36			
MTE: Illness/Injury	2.03	0.42			
M: Anxious Attachment	-0.16	-0.26			
M: Avoidant Attachment	-0.49	-1.94			
F: Anxious Attachment	-0.73	-1.48			
F: Avoidant Attachment	0.01	0.03			
BF: Anxious Attachment	-0.09	-0.13			
BF: Avoidant Attachment	-0.64	-1.61			
RP: Anxious Attachment	-0.53	-1.10			
RP: Avoidant Attachment	-0.41	-1.23			

Note. (N= 171). MTE, Most Traumatic Event; Cumulative trauma, the number of self-reported traumatic incidents that have occurred in one's life; M: Anxious Attachment, Mother Anxious Attachment Total Score; M: Avoidant Attachment, Mother Avoidant Attachment Total Score; F: Anxious Attachment, Father Anxious Attachment Total Score; F: Avoidant Attachment, Father Avoidant Attachment Total Score; BF: Anxious Attachment, Best Friend Anxious Attachment Anxious Attachment Total Score; BF: Avoidant Attachment, Best Friend Avoidant Attachment Total Score; RP: Anxious Attachment, Romantic Partner Anxious Attachment Total Score; RP: Avoidant Attachment, Romantic Partner Avoidant Attachment Total Score; β and t values are reported from the pooled dataset. R^2 and F statistics are reported from the original dataset before imputation; * p < .05, ** p < .01.

Appendix G

Table 7

Summary of Hierarchical Regression Analysis Examining Associations between Depression and Mother, Father, Best Friend, and Romantic Partner Attachment Figures

Variable	Depression				
	ß	t	Adj. R^2	ΔR^2	F
Model 1			-.01	-	0.93
Sex	2.39	1.12			
Race	0.98	0.55			
Yearly Family Income	-0.27	-0.05			
Model 2			0.07	0.08	1.53**
Sex	1.02	0.48			
Race	21.11	0.64			
Yearly Family Income	-0.16	-0.35			
Age at time of MTE	0.04	0.84			
Cumulative Trauma	0.11	1.50			
MTE: Physical Abuse	8.93	**3.61****			
MTE: Sexual Abuse	3.49	1.47			
MTE: Illness/Injury	0.94	0.30			
Model 3			0.24	0.17	4.52**
Sex	1.59	0.81			
Race	0.83	0.52			
Yearly Family Income	0.22	0.51			
Age at time of MTE	0.09	0.50			
Cumulative Trauma	0.03	0.38			
MTE: Physical Abuse	6.04	**2.46****			
MTE: Sexual Abuse	0.72	0.32			
MTE: Illness/Injury	-0.53	-0.18			
M: Anxious Attachment	0.21	0.57			
M: Avoidant Attachment	0.20	1.33			
F: Anxious Attachment	0.18	060			
F: Avoidant Attachment	0.02	0.14			
BF: Anxious Attachment	0.19	0.44			
BF: Avoidant Attachment	0.21	0.86			
RP: Anxious Attachment	0.91	**3.15****			
RP: Avoidant Attachment	0.02	0.08			

Note. (N= 171). MTE, Most Traumatic Event; Cumulative trauma, the number of self-reported traumatic incidents that have occurred in one's life; M: Anxious Attachment, Mother Anxious Attachment Total Score; M: Avoidant Attachment, Mother Avoidant Attachment Total Score; F: Anxious Attachment, Father Anxious Attachment Total Score; F: Avoidant Attachment, Father Avoidant Attachment Total Score; BF: Anxious Attachment, Best Friend Anxious Attachment Anxious Attachment Total Score; BF: Avoidant Attachment, Best Friend Avoidant Attachment Total Score; RP: Anxious Attachment, Romantic Partner Anxious Attachment Total Score; RP: Avoidant Attachment, Romantic Partner Avoidant Attachment Total Score; β and t values are reported from the pooled dataset. R^2 and F statistics are reported from the original dataset before imputation; * $p < .05$, ** $p < .01$.