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Adult Attachment as a Moderator of the Association Between Childhood l Traumatic Experiences and Depression Symptoms among Young Black Gay and Bisexual Men

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Abstract

The present study examines the moderating effects of attachment on the association between childhood traumatic experiences, (i.e., physical abuse, emotional abuse, emotional neglect, and being bullied), age of childhood traumatic experience, and young adult depression symptoms among young Black gay and bisexual men (YBGBM). Self-report measures of attachment, childhood traumatic experiences, and depression symptoms were collected from a community-based sample of YBGBM living in New York City (n = 228). Regression analyses were conducted to address the study goals. The results indicated that YBGBM who were more anxious in their adult attachment style and experienced being bullied or physically abuse by a non-family member during childhood had greater depression in young adulthood than YBGBM who were less anxious in their adult attachment style. In addition, we found that being bullied later in childhood was associated with greater depression symptoms than being bullied earlier. Lastly, we found that YBGBM who were more avoidance and bullied later in adolescence reported more depression in young adulthood than YBGBM who were less avoidant in their attachment style. The results suggest that it may be important to utilize an attachment perspective that is sensitivity to age of traumatic experience when creating mental health intervention for YBGBM.

Keywords

attachment; childhood abuse; childhood traumatic experiences; depression; young gay men

Evidence suggests that sexual minority youth experience elevated levels of depression (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009; King et al., 2008; Mustanski, Garofalo,

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Herrick, Donenberg, 2007; Perdue, Hagan, Thiede, & Valleroy, 2003; Salomon et al., 2009). For instance, in a population of 4,295 gay men, Salomon and colleagues (2009) found that young gay men aged 15-25 years were 1.55 times more likely to have depression symptomology than older gay men. In addition, many young adult sexual minority men grapple with stress related to transitioning from adolescence to adulthood (Halkitis et al., 2011; Halkitis et al., 2012) and issues surrounding the establishment of healthy interpersonal relationships with peers and intimate partners (Bauermeister, Ventuneac, Pingel, & Parsons, 2012; Reese-Weber & Marchand, 2002), while also tackling issues such as sexual orientation disclosure (D'Augelli, Hershberger, & Pilkington, 2010). In addition to these stressors, Young Black gay and bisexual men (YBGBM) face multiple challenges associated with being a racial/ethnic minority, including discrimination that can contribute to poor mental health (Chae et al., 2010).

Another key factor influencing young adult depression is childhood trauma. Childhood traumatic experiences (e.g., sexual abuse, physical abuse) are associated with elevated levels of depression in adulthood (Arias, 2004; Brown, Cohen, Johnson, & Smailes, 1999; Edwards, Holden, Felitti, & Anda, 2003; Gibb, Chelminski, & Zimmerman 2007; Hyman, Paliwal, & Sinha, 2007; Kaplow, Dodge, Amaya-Jackson, & Saxe, 2005; Lardinois, Lataster, Mengelers, Van Os, & Myin-Germeys, 2011; MacMillan et al., 2001; Putnam, 2003). Sexual minority youth, in particular young sexual minority men, are more likely than heterosexual youth to experience trauma in the form of sexual abuse (D’Augelli, 2002; Hightow-Weidman et al., 2011), physical abuse (Corliss, Cochran, & Mays, 2002; D’Augelli, 2002; Hightow-Weidman et al., 2011) and bullying (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009; Hightow-Weidman et al., 2011) that can lead to depression in adulthood.

Further, researchers have shown that the association between childhood traumatic stress and later mental health may be more pronounced among populations of ethnic/racial minority gay and bisexual men than non-ethnic/racial minority gay and bisexual men (Balsam, Lehavot, Beadnell, & Circo, 2010). More specifically, Young Black gay and bisexual men have heightened rates of childhood traumatic experiences (e.g., physical abuse, sexual abuse) and may also have heightened rates of mental health problems as compared to non-ethnic/racial minority gay and bisexual men (Fields, 2008; Hightow-Weidman et al., 2011; Millett et al., 2012). Due to the elevated rates of poor mental health and traumatic experiences among YBGBM, it is important to increase the understanding of the links between traumatic stress and negative mental health outcomes for this population.

Although researchers have found a link between childhood trauma and adult depression, there is less research that establishes a link between age of traumatic experience and later depression (Maercker, Michael, Fehm, Becker, & Margraf, 2004; Schoedl et al., 2010). Maercker et al. (2004) found that having a traumatic experience before the age of 12 was associated with a 5.18 odds ratio of depression in young adulthood, compared to and odds ratio of 1.10 for young adults who experienced depression after the age of 13. However, the association between age of onset of trauma in childhood and depression in young adulthood among ethnic/racial minority sexual minority young adults is unclear. Given the limited research in this area, we seek to understand how age of childhood trauma is associated with depression symptoms among YBGBM.

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In addition to understanding the direct associations between childhood traumatic experiences and adult depression symptoms, adult attachment may provide a context for understanding how the association between childhood traumatic experiences and later mental health is exacerbated or buffered. Briefly, Bowlby (1969) posited that, based on repeated interactions with a primary caregiver during infancy, individuals develop either secure or insecure attachment bonds. These repeated interactions form an individual's *working model,* which guides behaviors, emotions, and cognitions based on the perceived past cognitive encoding of stored memories concerning the interaction with attachment figures (Mikulincer & Shaver, 2007). Working models allow for the automatic retrieval of information regarding proximity seeking behaviors that can be used with future attachment figures (e.g., peers and intimate partners in adulthood). Hazan and Shaver (1987) extended this research and constructed a model of adult attachment that applied the basic concepts of the infant-caregiver model of attachment to intimate relationships in adulthood. Attachment researchers contended that there were generally two indices of attachment—anxiety and avoidance. People who are low on both of these indices of attachment are considered to have a secure attachment style (Brennan, Clark, & Shaver, 1998; Fraley & Shaver, 2000; Mikulincer & Shaver, 2007). Individuals who are more secure in their attachment style are able to create and sustain healthy emotional bonds with others. In intimate relationships, these individuals tend to be caring and trusting towards their primary partner. In stressful situations, individuals who are more secure tend to rely on intimate partners for support (Hazan & Shaver, 1987).

With regard to insecure attachment, individuals with an avoidant attachment style find it difficult to form deep social and emotional bonds with others. Researchers suggest that individuals who are more avoidant in their attachment style generally evade intimacy and are uncomfortable with interdependence (B. C. Feeney & Kirkpatrick, 1996; J. A. Feeney & Noller, 1991; Hazan & Shaver, 1987). In intimate relationships, these individuals are more likely to be withdrawn from their partner due to their fear of rejection (Shaver & Mikulincer, 2002). Research suggests that attachment anxiety, the other type of attachment insecurity, is also related to difficulties in forming emotional bonds with others. Individuals who are more anxious feel an overwhelming need to have an emotional connection with others. In intimate relationships, these individuals also experience heighten levels of anxiety concerning their partners commitment to the relationship (J. A. Feeney & Raphael, 1992; Hazan & Shaver, 1987).

Attachment security may protect against the negative effects of childhood trauma on young adult mental health, while attachment insecurity may increase these negative effects (Aspelmeier, Elliott, & Smith, 2007; Mikulincer, Florian, & Weller, 1993). For instance, researchers found that attachment security was moderately associated with lower rates of trauma symptomology among a college aged sample of survivors of childhood sexual abuse (Aspelmeier et al., 2007; Mikulincer et al., 1993). Other research has shown that attachment style can influence the ways in which individuals respond to acutely stressful events, with secure attachment being associated both with support-seeking as a coping strategy and fewer psychopathological symptoms following the stressful event (Mikulincer, Florian, & Weller, 1993). However, researchers have not examined the ways in which attachment insecurity

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may moderate the association between childhood trauma and later mental health among sexual minority populations.

The first aim of the present study was to understand if the occurrence of a traumatic experience, as well as the age of occurrence, influenced later depression symptoms among young Black gay and bisexual men. The second aim of this study was to evaluate if adult attachment insecurity moderated the occurrence, as well as the timing, of childhood traumatic experiences and young adult depression symptoms among young Black gay and bisexual men. Based on the extant research literature, we hypothesized that childhood traumatic experiences would predict young adult depression symptoms among YBGBM. In terms of age of trauma, we predicted that those who experienced childhood trauma before the age of 13 would have the most depression symptoms in comparison to individuals who experienced childhood trauma between the ages of 13-18. In terms of understanding adult attachment as a moderator, we hypothesized that: 1) individuals who reported being less avoidant in their adult attachment style and experienced childhood trauma would have fewer depression symptoms than individuals who were more avoidant in their attachment style; and 2) individuals who reported being less anxious in their adult attachment style and experienced childhood trauma would have fewer depression symptoms than individuals who were more anxious in their attachment style. We also predicted that YBGBM who were more higher avoidant or anxious adult attachment style and experienced trauma at an earlier age would have greater depression than YBGBM who were less avoidant or anxious in their adult attachment style.

Method

Participants

The sample consisted of $n = 228$ YBGBM. The average age of participants was 25 years, with a range of 17-35. Sixty-two percent of the sample identified as African American/Black. Nineteen percent of participants identified as Black Hispanic/Latino, 6% Afro-Caribbean/West Indian, and 13% mixed-race. Eight percent of participants had less than a high school degree, 69% had a high school degree or GED, 21% had completed some college, and 2% had completed college or graduate school. Thirty-seven percent of participants were employed while 39% of participants were unemployed. Seventy-three percent of participants reported being single or never married. In terms of HIV status, 74% the participants were HIV negative.

Procedures

Between 2010 and 2011, 340 potential participants were recruited and screened for eligibility for the *Brothers Connect Study* (BCS), a multi-method research project examining psychosocial and situational factors related to enhanced vulnerability to HIV and other poor health outcomes among YBGBM. Research participants were recruited using various data collection approaches. First, advertisements of the study were posted at community-based organizations, cafés, and bars with primarily gay clientele, as well as on university/college campuses. Second, face-to-face recruitment, in which potential participants were given business cards that discretely advertised the study, occurred at nightclubs, community

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events, and gay pride celebrations. Third, advertisements of the study were placed in online venues, including “hookup” websites, social media, and online outposts of print media. Last, study participants were given $10 Starbucks gift cards for referring a maximum of two potential participants who screened for eligibility. Thirty-three percent of interested participants were recruited using fliers, while 10% were recruited using face-to-face outreach, 21% using online advertisements, and 36% using participant referrals.

Interested participants called a local phone number to complete a brief telephone screening interview with a trained research assistant. During the brief interview, the following eligibility criteria were confirmed by self-report: (1) aged 18 – 30 years; (2) male gender; (3) Black, African-American, Black Hispanic, Caribbean/West Indian, or mixed-race Black/African-American race/ethnicity; (4) sexual activity (i.e., oral sex or anal intercourse) with another man in the past two months; (5) current residence in the New York City metropolitan area; and (6) regular, private access to a computer that is connected to the Internet. Age and residence eligibility were confirmed via inspection of government-issued identification (i.e., driver’s license or state ID). As part of the informed consent process, all participants were given information about the study as well as the opportunity to ask study-related questions. All participants were made aware that participation in the study was voluntary and could be discontinued at any time. The [BLINDED] Institutional Review Board granted approval for this research study.

Of the 340 individuals who expressed interest in BCS, 228 (67%) were screened eligible and enrolled in the study. These 228 participants were invited to come to one of two research offices in Manhattan (both conveniently located near public transportation) to complete a onetime computer-assisted survey. The survey assessed demographic, psychosocial, behavioral, and health information; it was also used to assess eligibility for additional components of BCS not discussed here, including an 8-week Internet-based sex diary. The survey took approximately one hour to complete; participants were compensated $30 for their time and provided with roundtrip subway/bus fare.

Measures

Demographic and health-related information—Demographic and health-related information were assessed using a 24-item measure consisting of fixed-choice and fill-in-the-blank questions. Participants were asked items assessing age, race/ethnicity, sexual orientation, education level, annual income, relationship status, employment status, and HIV status.

Adult attachment—A modified version of the Experience in Close Relationships Scale-Revised (ECR-R; Fraley, Waller, & Brennan, 2000) was used to measure the construct of attachment. The ECR-R is a 36-item self-report measure of adult attachment, consisting of two scales assessing attachment anxiety and attachment avoidance. During administration, respondents were instructed to evaluate statements pertaining to their thoughts and feelings when in a romantic relationship. Example items included “I'm afraid that I will lose my partner's love” and “I often worry that my partner will not want to stay with me.” Statements were rated on a seven-point Likert scale ranging from “Not At All Like Me” (0) to “Very

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Much Like Me" (7). In the current study, we used a modified version of the ECR-R that included 13 items from the original scale. In this modified version of the scale, five items were used to assess attachment avoidance and seven items were used to assess attachment anxiety. Cronbach's alpha for the attachment avoidance and anxiety scales was .82 and .83, respectively, indicating strong internal consistency for both scales.

Psychological distress—The Kessler Psychological Distress Scale (K10; Kessler et al., 2002) was used to measure non-specific psychological distress. The scale evaluates the cognitive, affective, and behavioral symptoms of psychological distress. Participants were asked to rate how often they have felt a certain way during the last seven days using a five-point scale. Response options ranged from "None of the time" to "All of the time." Example items included "Feel depressed" and "Feel that everything was an effort." The K10 has been widely used in studies of youth and adults and has been validated in studies using diverse samples (Kessler et al., 2002; Furukawa, Kessler, Slade, & Andrews, 2003). Cronbach's alpha for the K10 using the current sample was .92, indicating excellent internal consistency reliability. As suggested by the Clinical Research Unit for Anxiety and Depression (CRUFAD), in the School of Psychiatry at the University of New South Wales, the following cut-off scores for the K10 were utilized (Andrews & Slade, 2007): a score of 10-15 was associated with low or no psychological distress, 16-29 suggested medium psychological distress, and 30-50 reflected high psychological distress. The variable was about normally distributed. Mean K10 scores were used in the final analyses.

Trauma—A modified version of the Traumatic Events Checklist (TEC; (Nijenhuis, Van der Hart, & Kruger, 2002) was used to assess subjective experiences of childhood trauma. The TEC assesses 27 different subjective instances of childhood trauma by an immediate family member (e.g., mother or father), extended family member (e.g., aunt or uncle), and/or a non-family member (e.g., friend). We examined 4 types of interpersonal childhood trauma using 5 separate items: 1) "Were you emotionally neglected by your parents/caregivers (e.g., left alone or not given love or attention)?"; 2) "Were you physically abused by your parents/caregivers (e.g., being hit, tortured, wounded)?"; 3) "Were you emotionally abused by your parents/caregivers (e.g., belittled, teased, called names, or verbally threatened)?"; 4) "Were you physically abused by any other family members?"; and 5) "As a child/adolescent, were you ever bullied?" Participants either answered "yes" (1) or "no" (0). We modified the original scale to assess the age of onset of the traumatic event if the participant reported experiencing the event. If participants answered yes to the first question, they were then asked what age they experienced the event (i.e., 0 = under age 13, 1 = between ages 13 and 18, both under age 13 and between ages 13 and 18, or 8 = refuse to answer). Eight values (i.e., participants who selected refuse to answer) were recoded as missing data.

Data Analytic Plan

We performed descriptive statistics for all study variables, bivariate correlations were conducted between the trauma variables and depression symptoms variable, and the independent *t*-test procedure was used to determine whether depression symptoms differed significantly between individuals who experienced trauma versus those who did not. In addition, a 2-step linear regression procedure was conducted to determine whether the

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trauma variables had a direct effect on depression symptoms and whether adult attachment avoidance and anxiety moderated the effect of trauma on depression symptoms (Aiken & West, 1991). For instances where the trauma variable had a direct effect on depression symptoms, we explored if adult attachment avoidance and anxiety moderated the relation between age of trauma event and depression symptoms.

Prior to running these procedures, variables were assessed for normality. The continuous variables approximated a normal distribution. Due to the high correlation among trauma variables, separate models were run for each trauma experience. Thus, in the first step of the regression analyses, regression models were run with each of the interpersonal trauma variables and the covariates. In the second step, the interaction term was entered into the OLS regression models with the covariates. All statistical analyses were performed with STATA v13.

Results

Table 1 presents the descriptive statistics for the study variables. The mean attachment anxiety score was 3.68 ($SD = 1.60$) indicating moderate levels of attachment anxiety. The mean attachment avoidance score was 2.78 ($SD = 1.62$) indicating lower levels of attachment avoidance. The mean K10 score in the sample was 1.72 ($SD = .76$). Approximately, 52% of the sample ($n = 117$) had low psychological distress, 40% of the sample ($n = 92$) had medium levels, and about 7% of the sample ($n = 17$) had high levels of psychological distress. Eighty-nine percent of YBGBM experienced at least one form of trauma before the age of 18. Thirty-one percent of men reported emotional neglect by a parent or primary caregiver, about 37% of men reported emotional abuse by a close family member, about 19% reported physical abuse by a close family member, 31% reported physical abuse by a non-family member, and more than half (60%) reported being bullied.

Table 2 presents bivariate correlations between attachment avoidance, attachment anxiety, depression symptoms, and the most commonly reported traumatic experiences. All of the trauma variables were significantly correlated with one another. The highest correlations were between physical abuse by a family member and emotional abuse by a family member ($r = .68$, $p < .001$), emotional neglect by a family member and emotional abuse by a family member ($r = .55$, $p < .001$), and physical abuse by a family member and emotional neglect by a family member ($r = .47$, $p < .001$). The findings showed a strong positive linear relation between attachment avoidance and attachment anxiety ($r = .57$, $p < .001$). There was a strong positive linear relation between attachment avoidance and depression symptoms ($r = .40$, $p < .001$). There was a strong positive linear relation between attachment anxiety and the K10 ($r = .48$, $p < .001$).

The independent *t*-test showed a statistically significant mean difference between men who experienced emotional neglect and those who did not ($t(208) = -5.32$, $p < .001$), men who experienced emotional abuse and those who did not ($t(208) = -4.95$, $p < .001$), men who experienced physical abuse by a family member and those who did not ($t(210) = -3.70$, $p < .001$), men who experienced physical abuse by a non-family member and those who did not

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($t(207) = -3.26$, $p < .01$), and men who were bullied and those who were not ($t(210) = -3.22$, $p < .01$).

Of the 127 men who reported being bullied, there was a significant mean difference between age of bullying on depression symptoms, $F(2, 124) = 5.21$, $p < .001$. Post hoc comparisons using the Tukey HSD test indicated that men who were bullied between the ages of 13 and 18 ($M = 2.18$, $SD = .89$) had significantly higher depression scores than men who were bullied under the age of 13 only ($M = 1.61$, $SD = .60$) $p < .001$. In addition, men who reported being bullied both under the age of 13 and between the ages of 13 and 18 ($M = 1.97$, $SD = .87$) reported marginally higher depression than men who only reported being bullied under the age of 13 ($M = 1.61$, $SD = .60$) $p < .10$.

Main Effects of Childhood Traumatic Experiences on Depression Symptoms

Table 3 displays the OLS regression findings for the main effects of chilldh0od traumatic experiences on depression symptoms. Overall, YBGBM who reported chilldh0od traumatic experiences had higher rates of depression symptoms than YBGBM who did not report interpersonal childhood trauma. Model 1 explained 14% of the variance in depression symptoms ($R^2 = .14$, $F(4, 205) = 9.56$, $p < .001$) and reporting emotional neglect significantly predicted depression symptoms in comparison to reporting no emotional neglect ($\beta = .35$, $p < .001$). Model 2 explained 12% of the variance in depression symptoms ($R^2 = .12$, $F(4, 205) = 8.17$, $p < .001$) and men who reported emotional abuse had higher levels of depression symptoms ($\beta = .34$, $p < .001$). Model 3 explained 6% of the variance in depression symptoms ($R^2 = .06$, $F(4, 207) = 4.67$, $p < .01$) and men who reported physical abuse by a parent experienced more depression symptoms than men who did not report physical abuse by a parent ($\beta = .25$, $p < .001$). Model 4 accounted for 6% of the variance in depression symptoms ($R^2 = .06$, $F(4, 204) = 3.46$, $p < .05$) and men who reported being physically abused by a non-family member had higher depression symptoms than men who reported no physical abuse by a non-family member ($\beta = .21$, $p < .01$). Model 5 accounted for 7% of the variance in depression symptoms ($R^2 = .07$, $F(4, 207) = 4.17$, $p < .01$) and men who experienced being bullied in childhood reported higher levels of depression symptoms than men who reported not being bullied as a child ($\beta = .20$, $p < .01$).

In testing the hypothesis regarding the association between age of being bullied and depression, it was found that the age at which individuals were bullied as a child was a significant predictor of depression symptoms. Model 6 significantly accounted for the variance in depression symptoms ($R^2 = .09$, $F(5, 121) = 2.32$, $p < .05$). In comparison to being bullied under the age of 13, men who were bullied between 13 and 18 had reported more depression symptoms ($\beta = .29$, $p < .01$). In comparison to men who reported being bullied under the age of 13, men who were bullied both under the age of 13 and between the ages of 13 and 18 reported higher levels of depression symptoms ($\beta = .23$, $p < .05$).

Moderation Effects of Adult Attachment on the Relation Between Childhood Trauma and Young Adult Depression

Across all measures, 5 of the interactions tested between the 2 attachment subscales and the variables were statistically significant. The significant interactions are plotted in Figures 1-5.

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Table 4 displays the R^2 and β coefficients for each of the significant models. Attachment avoidance significantly moderated the relation between physical abuse by a non-family member and depression symptoms ($p < .05$). The simple slope for men who experienced no physical abuse by a non-family member ($m = .19$, $p < .001$) was less than for men who experienced physical abuse by a non-family member ($m = .35$, $p < .001$). Attachment avoidance marginally moderated the relation between childhood bullying and depression symptoms in young adulthood ($p < .10$). The simple slope for men who experienced no bullying in childhood ($m = .12$, $p < .05$) was less than for those who experienced childhood bullying ($m = .22$, $p < .001$). In addition, attachment anxiety moderated the relation between being bullied as a child and depression symptoms in young adulthood ($p < .05$). The simple slope for men who experienced no bullying in childhood ($m = .15$, $p < .01$) was less than for those who experienced childhood bullying ($m = .27$, $p < .001$).

Attachment avoidance moderated the relation between age of being bullied as a child and depression symptoms in young adulthood. The simple slope for men under 13 year of age was not significant ($m = .04$, $p = .60$). The simple slope for men who experienced bullying only between the ages of 13 and 18 ($m = .30$, $p < .001$) was greater than the simple slope for those who experienced bullying in both age periods ($m = .28$, $p < .001$). Attachment anxiety moderated the relation between age of being bullied and depression symptoms in young adulthood ($p < .001$). The simple slope for men under 13 year of age was the smallest ($m = .18$, $p = .01$), followed by men who experienced bullying both under the age of 13 and between the ages of 13 and 18 ($m = .20$, $p < .01$), and lastly, men who experienced bullying between the ages of 13 and 18 ($m = .47$, $p < .001$).

Discussion

Consistent with our hypothesis concerning the direct association between childhood trauma and depression symptoms, we found that those who experienced at least one childhood traumatic event (i.e., physical abuse, emotional abuse, and being bullied) had increased levels of depression symptoms in young adulthood. This finding is consistent with previous research in the area indicating that individuals who were victims of child abuse are likely to exhibit adverse mental health outcomes in adulthood (Arias, 2004; Brown, Cohen, Johnson, & Smailes, 1999; Edwards, Holden, Felitti, & Anda, 2003; Gibb, Chelminski, & Zimmerman 2007; Hyman, Paliwal, & Sinha, 2007; Kaplow, Dodge, Amaya-Jackson, & Saxe, 2005; Lardinois, Lataster, Mengelers, Van Os, & Myin-Germeys, 2011; MacMillan et al., 2001; Putnam, 2003; Saunders, 2003). Further, our findings are consistent with the literature on the high rates of childhood traumatic experiences and psychological distress found among sexual minority populations (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009; Corliss, Cochran, & Mays, 2002; D'Augelli, 2002; Haas et al., 2011; Hightow-Weidman et al., 2011; Lick, Durso, & Johnson, 2013; McLaughlin, Hatzenbuehler, Xuan, & Conron, 2012.

Bullying, in particular, and its association with young adult depression was an interesting finding. Much of the traumatic childhood experiences research does not note the importance of bullying as a traumatic event that indeed infers subsequent mental health problems (Cook, 2013; Hightow-Weidman et al., 2011). However, much of the emerging research in the area

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of bullying and mental health demonstrates the profound impact bullying has on mental health (Patrick, Bell, Huang, Lazarakis, & Edwards, 2013). This is especially true for sexual and racial/ethnic minority individuals who are discriminated in a variety of social situations starting at an early age. Our findings are consistent with other findings related to bullying among sexual minority men. In a study that also asked about experiences of bullying among racial/ethnic minority young MSM ($n = 351$), Hightow-Weidman et al. (2011) found that bullying stemming from sexual orientation and race was shown to be significantly associated with adverse mental health outcomes, including depression, risky behaviors, and suicide. Consistent with this research, our findings found a significant association between experiences of bullying in childhood and subsequent depression. Specifically, our findings suggest that abused YBGBM who have been bullied in childhood may have a higher risk of developing depression, likely as a consequence of the psychological effects of bullying.

Our age related hypothesis was not supported. Maercker et al. (2004) found that experiencing trauma earlier in life was more detrimental to mental health during adulthood than experiencing trauma later in adolescence. In contrast to these study findings, our findings suggest that experiencing being bullied later in adolescence (between the ages of 13-18) is associated with slightly more depression symptoms than being bullied earlier in childhood (before the age of 13). The discrepancies in our study findings in this area can be contributed to a myriad of factors including differences in the measurement of specific types of childhood trauma and/or differences in the specific sample populations. Future research should focus on understanding how age of traumatic event is associated with adult depression. This line of research could lead to important modification to existing trauma based interventions.

In line with our hypothesis we found that YBGBM who have a more anxious attachment style, compared to being more secure, may be at greater risk of developing depression symptoms due to early experiences with physical abuse and being bullied; however, in contrast to our hypothesis the same may not be true for YBGBM who are more avoidant in their attachment style. Our results are partially supported by other scholars who have found that adult attachment avoidance and anxiety are associated with the increased likelihood that YBGBM will report experiencing childhood trauma and poor mental health during young adulthood (Cook, Watkins, Calebs, & Wilson, 2016). More specifically, it may be that YBGBM develop maladaptive coping strategies in response to their childhood traumatic experiences that are associated with future poor mental health. This line of thought comes partially from the attachment research literature, which specifies the close association between adult attachment anxiety and maladaptive coping strategies (Cook, Watkins, Calebs, & Wilson, 2016). This is only one plausible explanation for our findings. In the future researchers should focus on identifying the particular mechanisms that may explain why adult attachment anxiety moderates the association between childhood trauma and young adult depression while attachment avoidance does not.

Our hypothesis regarding the moderating effect of adult attachment insecurity on the age of childhood traumatic experiences and depression symptoms was not supported. Young men who were more avoidant in their adult attachment style and experienced childhood bullying between the ages of 13-18 or both between the ages of 13-8 and before the age of 13 had

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greater depression than young men who were less avoidant in their attachment style. This finding suggests that being bullied later in childhood OR being bullied during multiple developmental stages is more detrimental to the mental health of YBGBM who are more avoidant in their attachment orientation. It could be the case that while some YBGBM are developing a more avoidant adult attachment style they are also developing distancing coping strategies to cope with being bullied, which in turn can lead to depression in young adulthood (Cook, 2013). This position is partially supported by researchers who study the development of adult attachment styles and contend that the process starts during early adolescence and becomes integral to youth development (Cook, Heinze, Miller, Zimmerman, 2016). Future research should examine the specific processes by which adult attachment insecurity and age of childhood traumatic experience intersect across multiple developmental stages to impact young adult depression among YBGBM.

Limitations

To our knowledge this is the first study to explore the pathways linking childhood traumatic experiences, depression symptoms, and attachment in YBGBM. However, this study has several limitations worth considering. First, due to the small sample size, cross-sectional nature of the study procedures, focus on one geographic location (i.e., New York City), and focus on a single racial category, the study findings cannot be generalized to all young gay and bisexual men in New York City or other settings. Second, since the data was self-reported, participants may have underreported the degree to which they experienced childhood trauma. Third, it is possible that participants incorrectly recalled childhood traumatic event. However, research has shown that individuals are more likely to recall highly stressful childhood events (Hillis, Anda, Felitti, & Marchbanks, 2011; Dube, et al. 2011). Therefore, we do not expect this limitation to drastically alter our findings.

Conclusion and Future Directions

Our study findings signal the importance of incorporating a framework of attachment into the creation or modification of current trauma and/or mental health intervention for YBGBM. Consistent with the research literature, this population of young men has heightened rates of trauma and psychological distress and is disproportionately affected by poverty, unemployment and incarceration (Millett et al., 2012). Thus, we must take a holistic approach in addressing this population's vulnerabilities while understanding young men's resilient strategies for managing their stress. One approach to implementing a more inclusive model is to start with an understanding of the distribution of YBGBM's childhood and young adult attachment style. As discussed above, attachment can be an important means of understanding what coping strategies YBGBM will employ to manage traumatic events and thus mitigate the negative effects of childhood traumatic events on later mental health problems. Thus, understanding the pathways by which attachment is related to stress from trauma & coping, and subsequent mental health would not only be one step in developing more comprehensive prevention interventions, but would also help address some of the limitations of current mental health and trauma interventions for YBGBM.

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This study also points to an urgent need for increasing mental health screening of YBGBM for histories of childhood traumatic experiences. In particular, mental health clinicians working with YBGBM may wish to conduct thorough assessments of attachment for their client's to explore any potential to better specify how administer mental health treatment. Moreover, clinicians should be sensitive to additional challenges faced by their client. To this end, the results from the present study could be used to support the work of mental health clinicians and public health researchers in the development of targeted interventions to address the disparities facing YBGBM.

Acknowledgment

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References

Aiken, LS., West, SG. Multiple regression: Testing and interpreting interactions. Sage Publications; Thousand Oaks, CA: 1991.

Almeida J, Johnson RM, Corliss HL, Molnar BE, Azrael D. Emotional distress among LGBT youth: The influence of perceived discrimination based on sexual orientation. Journal of Youth and Adolescence. 2009; 38(7):1001–1014. [PubMed: 19636742]

Andrews G, Slade T. Interpreting scores on the Kessler psychological distress scale (K10). Australian and New Zealand Journal of Public Health. 2007; 25:494–497.

Arias I. Report from the CDC: The legacy of child maltreatment: Long-term health consequences for women. Journal of Women's Health. 2004; 13(5):468–473.

Aspelmeier JE, Elliott AN, Smith CH. Childhood sexual abuse, attachment, and trauma symptoms in college females: The moderating role of attachment. Child Abuse & Neglect. 2007; 31:549–566. [PubMed: 17391758]

Balsam KF, Lehavot K, Beadnell B, Circo E. Childhood abuse and mental Health indicators among ethnically diverse lesbian, gay, and bisexual adults. Journal of Consulting and Clinical Psychology. 2010; 78(4):459–468. [PubMed: 20658803]

Bauermeister JA, Ventuneac A, Pingel E, Parsons JT. Spectrums of Love: Examining the Relationship between Romantic Motivations and Sexual Risk among Young Gay and Bisexual Men. Aids and Behavior. 2012:1–11. [PubMed: 21476006]

Bowlby, J. Attachment and loss: Vol. 1. Attachment. Basic Books; New York, NY: 1969.

Brennan, KA.Clark, CL., Shaver, PR., editors. Self-report measurement of adult romantic attachment: An integrative overview. Guilford Press; New York:

Brown J, Cohen P, Johnson JG, Smailes EM. Childhood abuse and neglect: Specificity and effects on adolescent and young adult depression and suicidality. Journal of the American Academy of Child and Adolescent Psychiatry. 1999; 38(12):1490–1496. [PubMed: 10596248]

Chae DH, Krieger N, Bennett GG, Lindsey JC, Stoddard AM, Barbeau EM. Implications of discrimination based on sexuality, gender, and race/ethnicity for psychological distress among working-class sexual minorities: the United for Health Study, 2003-2004. International Journal of Health Services. 2010; 40:589–608. [PubMed: 21058533]

Cochran SD, Mays VM. Depressive distress among homosexually active African-American men and women. American Journal of Psychiatry. 1994; 151:524–529. [PubMed: 8147449]

Cook, SH. Psychological Distress, Sexual Risk Behavior, and Attachment Insecurity among Young Adult Black Men who Have Sex with Men (YBMSM). COLUMBIA UNIVERSITY; 2013.

Cook SH, Heinze JE, Miller AL, Zimmerman MA. Transitions in Friendship Attachment During Adolescence are Associated With Developmental Trajectories of Depression Through Adulthood. Journal of Adolescent Health. 2016; 58(3):260–266. [PubMed: 26903426]

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Cook SH, Watkins DC, Calebs BJ, Wilson PA. Attachment orientation and sexual risk behaviour among young Black gay and bisexual men. Psychology & Sexuality. 2016

Corliss HL, Cochran SD, Mays VM. Reports of parental maltreatment during childhood in a United States population-based survey of homosexual, bisexual, and heterosexual adults. Child Abuse and Neglect. 2002; 26(11):1165–1178. [PubMed: 12398854]

D'Augelli AR. Mental health problems among lesbian, gay, and bisexual youths ages 14 to 21. Clinical Child Psychology and Psychiatry. 2002; 7(3):433–456.

D'Augelli AR, Hershberger SL, Pilkington NW. Lesbian, gay, and bisexual youth and their families: Disclosure of sexual orientation and its consequences. American Journal of Orthopsychiatry. 2010; 68:361–371.

Dube SR, Anda RF, Felitti VJ, Chapman D, Williamson DF, Giles WH. Childhood abuse, household dysfunction and the risk of attempted suicide throughout the life span: Findings from Adverse Childhood Experiences Study. JAMA. 2001; 286(24):3089–3096. [PubMed: 11754674]

Edwards VJ, Holden GW, Felitti VJ, Anda RF. Relationship between multiple forms of childhood maltreatment and adult mental health in community respondents: results from the adverse childhood experiences study. American Journal of Psychiatry. 2003; 160(8):1453–1460. [PubMed: 12900308]

Feeney BC, Kirkpatrick LA. Effects of adult attachment and presence of romantic partners on physiological responses to stress. Journal of Personality and Social Psychology. 1996; 70:255–270. [PubMed: 8636881]

Feeney JA, Noller P. Attachment style and verbal descriptions of romantic partners. Journal of Social and Personal Relationships. 1991; 8:187–215.

Feeney JA, Raphael B. Adults attachments and sexuality: Implications for understanding risk behviors for HIV-Infection. Australian and New Zealand Journal of Psychiatry. 1992; 26:399–407. [PubMed: 1417625]

Fields SD, Malebranche D, Feist-Price S. Childhood sexual abuse in black men who have sex with men: results from three qualitative studies. Cultural Diversity and Ethnic Minority Psychology. 2008; 14(4):385–390. [PubMed: 18954175]

Fraley RC, Shaver PR. Adult romantic attachment: Theoretical developments, emerging controversies, and unanswered questions. Review of General Psychology. 2000; 4:132–154.

Fraley RC, Waller NG, Brennan KA. An item response theory analysis of self-report measures of adult attachment. Journal of Personality and Social Psychology. 2000; 78(2):350. [PubMed: 10707340]

Furukawa TA, Kessler RC, Slade T, Andrews G. The performance of the K6 and K10 screening scales for psychological distress in the Australian National Survey of Mental Health and Well-Being. Psychological Medicine. 2003; 33(2):357–362. [PubMed: 12622315]

Gibb BE, Chelminski I, Zimmerman M. Childhood emotional, physical, and sexual abuse, and diagnoses of depressive and anxiety disorders in adult psychiatric outpatients. Depression and Anxiety. 2007; 24(4):256–263. [PubMed: 17041933]

Haas A, Eliason M, Mays V, Mathy R, Cochran S, D'Angelli A, Clayton P. Suicide and suicide risk in lesbian, gay, bisexual, and transgender populations: Review and recommendations. Journal of Homosexuality. 2011; 58:10–51. [PubMed: 21213174]

Halkitis PN, Brockwell S, Siconolfi DE, Moeller RW, Sussman RD, Mourgues PJ, Sweeney MM. Sexual behaviors of adolescent emerging and young adult men who have sex with men ages 13-29 in New York City. Journal of Acquired Immune Deficiency Syndromes. 2011; 56:285–291. [PubMed: 21317586]

Halkitis PN, Moeller RW, Siconolfi DE, Storholm ED, Solomon TM, Bub KL. Measurement Model Exploring a Syndemic in Emerging Adult Gay and Bisexual Men. Aids and Behavior. 2012:1–12. [PubMed: 21476006]

Hazan C, Shaver PR. Romantic love conceptualization as an attachment process. Journal of Personality and Social Psychology. 1987; 52(3):511–524. [PubMed: 3572722]

Hillis SD, Anda RF, Felitti VJ, Marchbanks PA. Adverse childhood experiences and sexual risk behaviors in women: a retrospective cohort study. Family Planning Perspectives. 2001; 33:206–211. [PubMed: 11589541]

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Hightow-Weidman LB, Phillips G, Jones KC, Outlaw AY, Fields SD, The YMSM of Color SPNS Initiative Study Group. Racial and sexual identity-related maltreatment among minority YMSM: Prevalence, perceptions, and the association with emotional distress. AIDS Patient Care and STDs. 2011; 25:S39–S45. [PubMed: 21688988]

Hyman SM, Paliwal P, Sinha R. Childhood maltreatment, perceived stress, and stress-related coping in recently abstinent cocaine dependent adults. Psychology of Addictive Behaviors. 2007; 21(2):233. [PubMed: 17563143]

Kaplow JB, Dodge KA, Amaya-Jackson L, Saxe GN. Pathways to PTSD, part II: Sexually abused children. American Journal of Psychiatry. 2005; 162(7):1305–1310. [PubMed: 15994713]

Kessler R, Andrews G, Colpe LJ, Hiripi E, Mroczek DK, Normand ST, Zaslavsky AM. Short screening scales to monitor population prevalences and trends in non-specific psychological distress. Psychological Medicine. 2002; 32(6):959–976. [PubMed: 12214795]

King M, Semlyen J, Tai SS, Killaspy H, Osborn D, Popelyuk D, Nazareth I. A systematic review of mental disorder, suicide, and deliberate self-harm in lesbian, gay and bisexual people. BMC Psychiatry. 2008; 8:70. [PubMed: 18706118]

Lardinois M, Lataster T, Mengelers R, Van Os J, Myin-Germeys I. Childhood trauma and increased stress sensitivity in psychosis. Acta Psychiatrica Scandinavica. 2011; 123(1):28–35. [PubMed: 20712824]

Lick DJ, Durso LE, Johnson KL. Minority stress and physical health among sexual minorities. Perspectives on Psychological Science. 2013; 8(5):521–548. [PubMed: 26173210]

MacMillan HL, Fleming JE, Streiner DL, Lin E, Boyle MH, Jamieson E, Beardslee WR. Childhood abuse and lifetime psychopathology in a community sample. The American Journal of Psychiatry. 2001; 158(11):1878–1883. [PubMed: 11691695]

Maercker A, Michael T, Fehm L, Becker ES, Margraf J. Age of traumatisation as a predictor of post-traumatic stress disorder or major depression in young women. The British Journal of Psychiatry. 2004; 184:482–487. [PubMed: 15172941]

McLaughlin KA, Hatzenbuehler ML, Xuan Z, Conron KJ. Disproportionate exposure to early-life adversity and sexual orientation disparities in psychiatric morbidity. Child Abuse and Neglect. 2012; 36:645–55. [PubMed: 22964371]

Mikulincer M, Florian V, Weller A. Attachment styles, coping strategies, and posttraumatic psychological distress: The impact of the Gulf War in Israel. Journal of Personality and Social Psychology. 1993; 64:817–826. [PubMed: 8505710]

Mikulincer, M., Shaver, PR. Adult attachment: Structure, dynamics, and change. Guilford Press; New York: 2007.

Millett GA, Peterson JL, Flores SA, Hart TA, Jeffries WL, Wilson PA, Fenton KA. Comparisons of disparities and risks of HIV infection in black and other men who have sex with men in Canada, UK, and USA: A meta-analysis. The Lancet. 2012

Mustanski B, Garofalo R, Herrick A, Donenberg G. Psychosocial health problems increase risk for HIV among urban young men who have sex with men: Preliminary evidence of a syndemic in need of attention. Annals of Behavioral Medicine. 2007; 34:37–45. [PubMed: 17688395]

Patrick DL, Bell JF, Huang JY, Lazarakis NC, Edwards TC. Bullying and quality of life in youths perceived as gay, lesbian, or bisexual in Washington State, 2010. American Journal of Public Health. 2013; 103:1255–1261. [PubMed: 23678925]

Nijenhuis ERS, Van der Hart O, Kruger K. The psychometric characteristics of the Traumatic Experiences Checklist (TEC): First findings among psychiatric outpatients. Clinical Psychology & Psychotherapy. 2002; 9:200–210.

Perdue T, Hagan H, Thiede H, Valleroy L. Depression and HIV risk behavior among Seattle-area injection drug users and young men who have sex with men. Aids Education and Prevention. 2003; 15:81–92. [PubMed: 12627745]

Putnam FW. Ten-year research update review: Child sexual abuse. Journal of the American Academy of Child and Adolescent Psychiatry. 2003; 42:269–278. [PubMed: 12595779]

Radcliffe J, Beidas R, Hawkins L, Doty N. Trauma and sexual risk among sexual minority African American HIV-positive young adults. Traumatology. 2011; 17:24–33.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Reese-Weber M, Marchand JF. Family and individual predictors of late adolescents' romantic relationships. Journal of Youth and Adolescence. 2002; 31:197–206.

Safren, SA., Pantalone, DW. Social anxiety and barriers to resilience among lesbian, gay and bisexual adolescents. In: Omoto, AM., Kurtzman, HS., editors. Sexual orientation and mental health: Examining identity and development in lesbian, gay and bisexual people. American Psychological Association; Washington, DC: 2006. p. 55-71.

Salomon EA, Mimiaga MJ, Husnik MJ, Welles SL, Manseau MW, Montenegro AB, Mayer KH. Depressive symptoms, utilization of mental health care, substance use and sexual risk among young men who have sex with men in EXPLORE: Implications for age-specific interventions. Aids and Behavior. 2009; 13:811–821. [PubMed: 18709453]

Schoedl AF, Costa MCP, Mari JJ, Mello MF, Tyrka AR, Carpenter LL, Price LH. The clinical correlates of reported childhood sexual abuse: an association between age at trauma onset and severity of depression and PTSD in adults. Journal of Child Sexual Abuse. 2010; 19:156–170. [PubMed: 20390785]

Shaver PR, Mikulincer M. Attachment-related psychodynamics. Attachment & Human Development. 2002; 4:133–161. [PubMed: 12467506]

VanDevanter N, Duncan A, Burrell-Piggott T, Bleakley A, Birnbaum J, Siegel K, Ramjohn D. The influence of substance use, social sexual environment, psychosocial factors, and partner characteristics on high-risk sexual behavior among young Black and Latino men who have sex with men living with HIV: A qualitative study. AIDS Patient Care and STDs. 2011; 25:113–121. [PubMed: 21235387]

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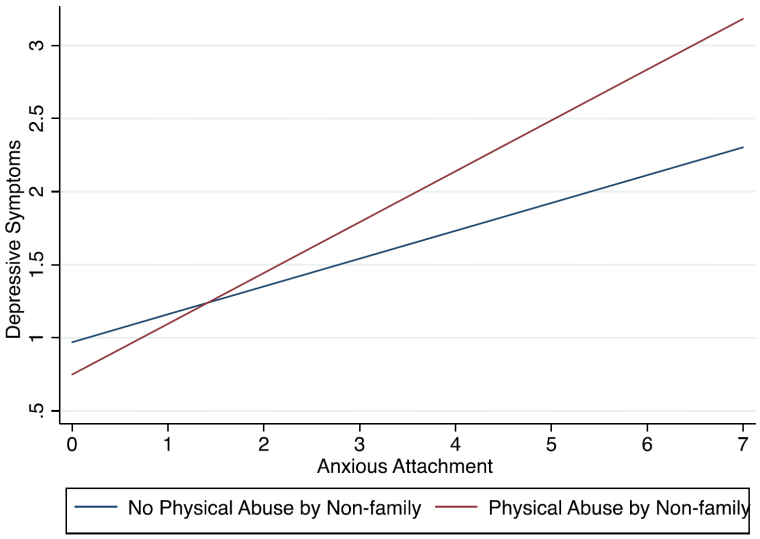

Figure 1.

Interaction Effects of Physical Abuse from a Non-family Member × Attachment Anxiety on Depression Symptoms

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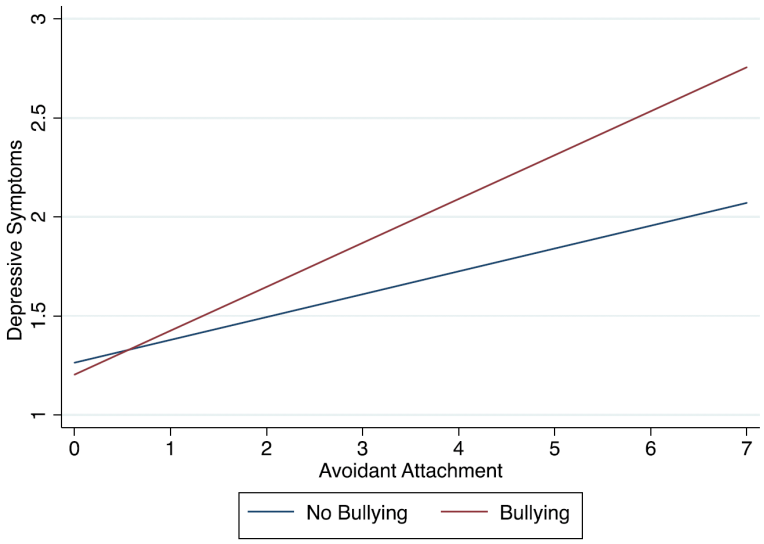

Figure 2.

Interaction Effects of Childhood Bullying × Attachment Avoidance on Depression Symptoms

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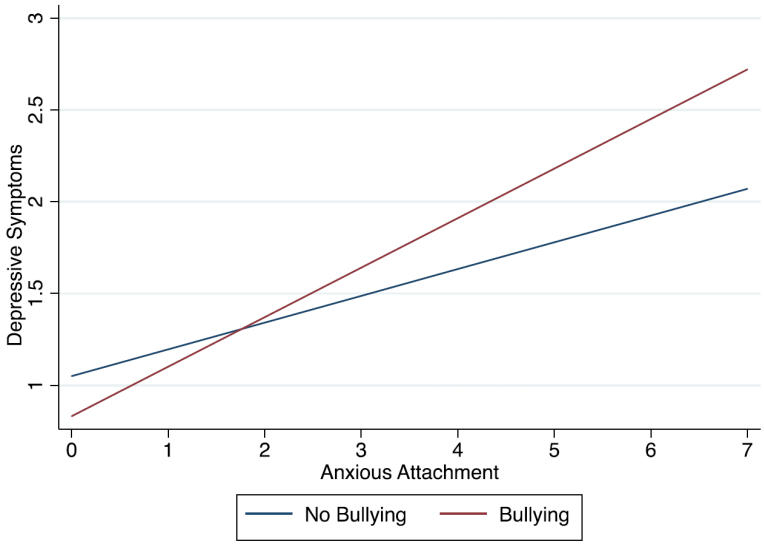

Figure 3.

Interaction Effects of Childhood Bullying × Attachment Anxiety on Depression Symptoms

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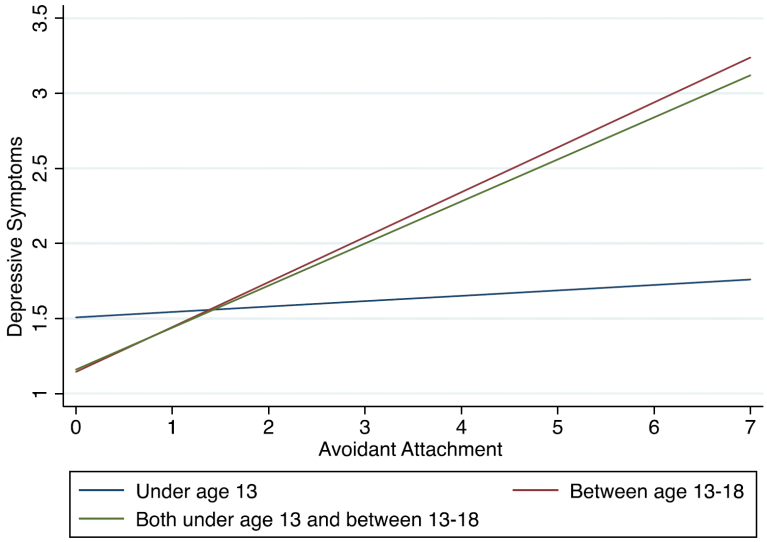

Figure 4.

Interaction Effects of Age of Childhood Bullying × Attachment Avoidance on Depression Symptoms

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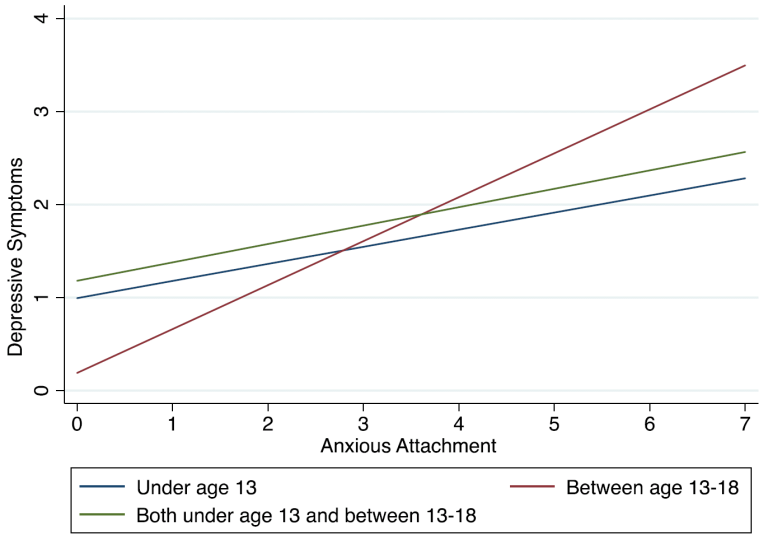

Figure 5.

Interaction Effects of Age of Childhood Bullying × Attachment Anxiety on Depression Symptoms

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Table 1

Descriptive Statistics for Independent, Dependent and Control Variables (n = 226)

Variables	*M* (*SD*) / *N* (%)	(Min, Max)
Adult Attachment Insecurity		
Attachment Anxiety	3.68 (1.60)	(0.57, 7.00)
Attachment Avoidance	2.78 (1.62)	(0.60, 7.00)
Depression Symptoms	1.72 (0.76)	(1, 5)
Interpersonal Trauma		
Emotional neglect[a]	67 (32)	-
Emotional abuse[a]	79 (37)	-
Physical abuse by parent[b]	66 (31)	-
Physical abuse by other[c]	40 (19)	-
Bullied[b]	129 (60)	-
HIV status		
Negative	167 (74)	-
Positive/unknown	59 (26)	-
Relationship status		
Single	59 (26)	-
In a relationship	167 (74)	-

[a]14 participants refused to answer or reported missing data.

[b]12 participants refused to answer or reported missing data.

[c]15 participants refused to answer or reported missing data.

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Table 2

Zero-order Correlations for Interpersonal Trauma Variables, Depression Symptoms, Attachment Anxiety, and Attachment Avoidance (n = 226)

Variable	1	2	3	4	5	6	7	8
Emotional Neglect	-							
Emotional Abuse	0.55***	-						
Physical Abuse - Fam.	0.47***	0.68***	-					
Physical Abuse - Other	0.40***	0.36***	0.47***	-				
Bullied	0.27***	0.31***	0.22**	0.20**	-			
Depression Symptoms	0.35***	0.33***	0.25**	0.22**	0.22**	-		
Attachment Avoidance	0.17^{t}	0.12^{t}	0.14*	0.09	0.16*	0.39***	-	
Attachment Anxiety	0.20**	0.20**	0.07	0.05	0.12^{t}	0.48***	0.57***	-

*** $p < .001$,

** $p < .01$,

* $p < .05$,

^{t} $p < .10$

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Table 3

Regression Analyses for the Main Effects of Childhood Traumatic Experiences on Depression Symptoms

			Depression Symptoms			
	Predictor Variables	***n***	***b***	**SE**	**β**	***t***
Model 1	Emotional Neglect	209	0.42	0.10	0.35***	5.47
Model 2	Emotional Abuse	210	0.54	0.10	0.17***	2.41
Model 3	Physical Abuse by Family	212	0.40	0.11	0.25***	3.63
Model 4	Physical Abuse by Other	209	0.40	0.13	0.21**	3.02
Model 5	Bullied	212	0.32	0.11	0.20**	2.98
Model 6	Age of Being Bullied	127				
	Under the age of 13		*Ref.*			
	Between age 13-18		0.57	0.19	0.29**	3.00
	Both		0.38	0.19	0.23*	2.39

NOTE all regression models controlled for Age, Relationship status, and HIV status.

*** $p < .001$,

** $p < .01$,

* $p < .05$

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Table 4

Regression Analyses for the Interaction Effects of Childhood Traumatic Experiences × Attachment on Depression Symptoms

				Depression Symptoms	
	Predictor Variables	***n***	R^2	**β**	***t***
Model 1	Physical Abuse by Other	209	.29	−0.11	−0.76
	Attachment Anxiety			0.40***	6.03
	Physical Abuse by Other × Attachment Anxiety			0.30*	2.21
Model 2	Bullied	212	.22	−0.04	−0.31
	Attachment Avoidance			0.24*	2.36
	Bullied × Attachment Avoidance			0.63t	1.73
Model 3	Bullied	212	.29	−0.14	−0.96
	Attachment Anxiety			0.31**	3.46
	Bullied × Attachment Anxiety			0.36*	2.17
Model 4	Age of being bullied	127	.30	−0.18	−0.95
	Attachment Avoidance			−0.21	−1.19
	Age of Being Bullied × Attachment Avoidance				
	Under the age of 13			*Ref.*	
	Between age 13-18			0.52*	2.44
	Both			0.55**	2.68
Model 5	Age of being bullied	127	.30	−0.40 t	−1.64
	Attachment Anxiety			0.11	0.50
	Age of Being Bullied × Attachment Anxiety				
	Under the age of 13			*Ref.*	
	Between age 13-18			0.65**	2.45
	Both			0.04	0.15

NOTE all regression models controlled for Age, Relationship status, and HIV status.

*** $p < .001$,

** $p < .01$,

* $p < .05$,

t $p < .10$