

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

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Objective: The present study examined the moderating effect of adult 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). **Method:** 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. **Results:** Findings indicated that YBGBM who were more anxious in their adult attachment style and experienced being bullied or physically abused by a non-family member during childhood experienced 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 avoidant and bullied later in adolescence reported more depression symptoms in young adulthood than YBGBM who were less avoidant in their attachment style. **Discussion:** The findings suggest that it may be important to utilize an attachment perspective that is sensitive to age of traumatic experience when creating mental health and trauma interventions 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, Herrick, & Donenberg, 2007; Perdue, Hagan, Thiede, & Valleroy, 2003; Salomon et al., 2009). For instance, in a population of 4,295 gay men, Salomon et al. (2009) found that young gay men aged 15–25 years

were 1.55 times more likely to have depression symptoms 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, 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, 1998). 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)

This article was published Online First October 13, 2016.

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This research was supported by the U.S. Centers for Disease Control and Prevention (U01 PS000700—Minority HIV/AIDS Research Initiative; PI: Patrick A. Wilson) and The National Institutes of Mental Health (1 F31 MH087125-01; PI: Stephanie H. Cook). Views expressed in this article do not necessarily represent the views of the funding agencies.

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and bullying (Almeida et al., 2009; Hightow-Weidman et al., 2011) that can lead to depression in adulthood.

Further, researchers have shown that the association between childhood trauma and later mental health may be more pronounced among populations of ethnic/racial minority gay and bisexual men than nonethnic/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 and may also have heightened rates of mental health problems as compared with nonethnic/racial minority gay and bisexual men (Fields, Malebranche, & Feist-Price, 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 our 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 with an 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 and 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.

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 past experiences concerning the interaction with attachment figures (Mikulincer & Shaver, 2007). Working models allow for the automatic retrieval of information regarding relationship behaviors that can be used with future attachment figures (e.g., peers and intimate partners in adulthood). Hazan and Shaver (1987) extended this research by constructing a model of adult attachment that applied the concepts of the infant-caregiver model of attachment to intimate relationships in adulthood. Attachment researchers contend that there are 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 toward 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 (Feeney & Kirkpatrick, 1996; 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 heightened levels of anxiety concerning their partners' commitment to the relationship (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 symptomatology 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 a stressful event (Mikulincer et al., 1993). However, researchers have not examined the ways in which attachment insecurity 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 YBGBM. 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 YBGBM. 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 with individuals who experienced childhood trauma between the ages of 13–18. In terms of understanding adult attachment as a moderator, we hypothesized that: (a) 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 (b) 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 had a 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% of 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 multimethod 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 events, and gay pride celebrations. Third, advertisements of the study were placed in online venues, including “hookup” web sites, 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: (a) aged 18–35 years; (b) male gender; (c) Black, African American, Black Hispanic, Caribbean/West Indian, or mixed-race Black/African American race/ethnicity; (d) sexual activity (i.e., oral sex or anal intercourse) with another man in the past 2 months; (e) current residence in the New York City metropolitan area; and (f) 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 Columbia University Medical Center 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 one-time 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 1 hr 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 7-point Likert scale ranging from *not at all like me* (0) to *very 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 nonspecific 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 5-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 (Furukawa, Kessler, Slade, & Andrews, 2003; Kessler et al., 2002). Cronbach’s alpha for the K10 using the current sample was .92, indicating excellent internal consistency. 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, 2001): 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 five types of childhood trauma using five separate items: (a) Emotional neglect by a family member (i.e., left alone or not given love or attention); (b) Emotional abuse by a family member (i.e., belittled, teased, called names, or verbally threatened); (c) Physical abuse by a family member (i.e., being hit, tortured, wounded); (d) Physical abuse by a nonfamily member; and (e) Bullied (i.e., bullied as a child/adolescent). Participants either answered “yes” (1) or “no” (0). We collapsed the “immediate family member” and “extended family member” items to create one “family” item for each of the relevant trauma variables. 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 two-step linear regression procedure was conducted to determine whether the 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 our analysis, regression models were run with each of the trauma variables and the covariates. In the second step, the interaction term was entered into the Ordinary Least Squares (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

Table 1
Descriptive Statistics for Independent, Dependent and Control Variables ($n = 226$)

Variables	<i>M</i> (<i>SD</i>)/ <i>N</i> (%)	(Min, Max)
Adult attachment insecurity		
Attachment anxiety	3.68 (1.60)	(.57, 7.00)
Attachment avoidance	2.78 (1.62)	(.60, 7.00)
Depression symptoms	1.72 (.76)	(1, 5)
Trauma		
Emotional neglect ^a	67 (32)	—
Emotional abuse ^a	79 (37)	—
Physical abuse by family member ^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.

experienced at least one form of trauma before the age of 18. Thirty-one percent of men reported emotional neglect by a family member, about 37% of men reported emotional abuse by a family member, about 19% reported physical abuse by a family member, 31% reported physical abuse by a nonfamily 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, $r = .39, p < .001$, as well as, attachment anxiety and depression symptoms, $r = .48, p < .001$.

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, $t(207) = -3.26, p < .01$, 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's HSD test indicated that men who were bullied between the ages of 13 and 18 ($M = 2.18, SD = .89$) had significantly higher depression symptoms scores than men who

Table 2
Correlations for Trauma, Depression Symptoms, Attachment Anxiety, and Attachment Avoidance ($n = 226$)

Variable	1	2	3	4	5	6	7	8
Emotional neglect	—							
Emotional abuse	.55***	—						
Physical abuse: Family	.47***	.68***	—					
Physical abuse: Other	.40***	.36***	.47***	—				
Bullied	.27***	.31***	.22**	.20**	—			
Depression symptoms	.35***	.33***	.25**	.22**	.22**	—		
Attachment avoidance	.17 ^t	.12 ^t	.14*	.09	.16*	.39***	—	
Attachment anxiety	.20**	.20**	.07	.05	.12 ^t	.48***	.57***	—

^t $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

were bullied under the age of 13 ($M = 1.61$, $SD = .60$) $p < .001$. 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 symptoms 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 childhood traumatic experiences on depression symptoms. Overall, YBGBM who reported childhood traumatic experiences had higher rates of depression symptoms than YBGBM who did not report 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

Table 3
Regression Analyses for the Main Effects of Childhood Traumatic Experiences on Depression Symptoms

Predictor variables	n	Depression symptoms			
		b	SE	β	t
Model 1					
Emotional neglect	209	.42	.10	.35***	5.47
Model 2					
Emotional abuse	210	.54	.10	.17***	2.41
Model 3					
Physical abuse by a family member	212	.40	.11	.25***	3.63
Model 4					
Physical abuse by a non-family member	209	.40	.13	.21**	3.02
Model 5					
Bullied	212	.32	.11	.20**	2.98
Model 6					
Age of being bullied	127				
Under the age of 13		Ref.			
Between age 13–18		.57	.19	.29**	3.00
Both		.38	.19	.23*	2.39

Note. All regression models controlled for age, relationship status, and HIV status.

* $p < .05$. ** $p < .01$. *** $p < .001$.

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 ($\beta = .17$, $p < .001$). 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 family member experienced more depression symptoms than men who did not report physical abuse by a family member ($\beta = .25$, $p < .001$). 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 with being bullied under the age of 13, men who were bullied between 13 and 18 reported more depression symptoms ($\beta = .29$, $p < .01$). In comparison with 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 Association Between Childhood Trauma and Young Adult Depression

Across all measures, five of the interactions tested between the two attachment subscales and the trauma variables were statistically significant. The significant interactions are plotted in Figures 1, 2, 3, 4, and 5. 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

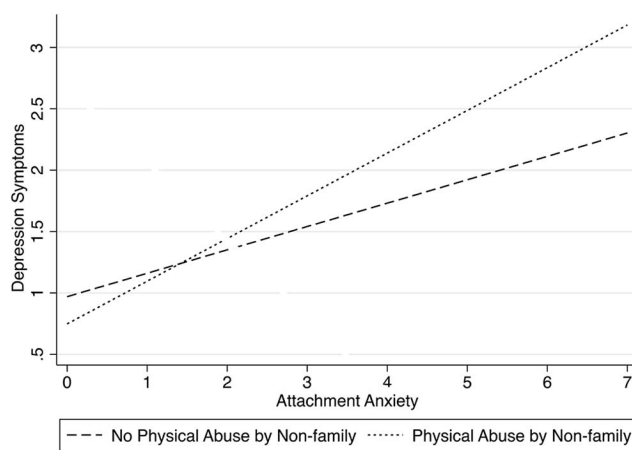


Figure 1. Interaction effects of physical abuse from a non-family member \times Attachment anxiety on depression symptoms.

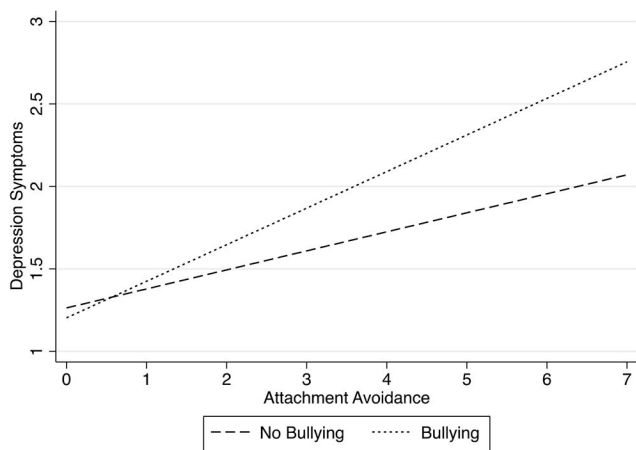


Figure 2. Interaction effects of childhood bullying \times attachment avoidance on depression symptoms.

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 years 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 ($m = .30,$

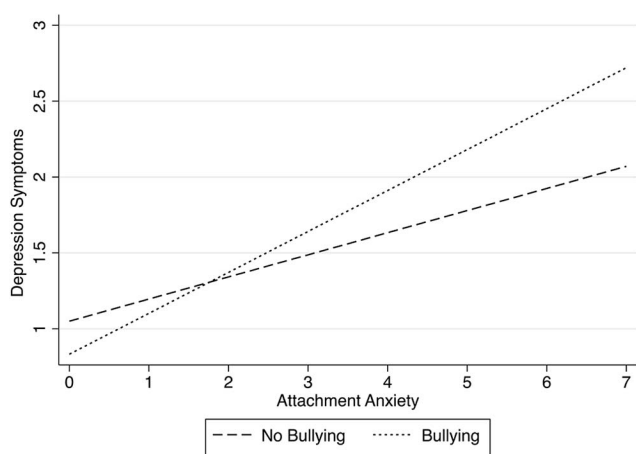


Figure 3. Interaction effects of childhood bullying \times attachment anxiety on depression symptoms.

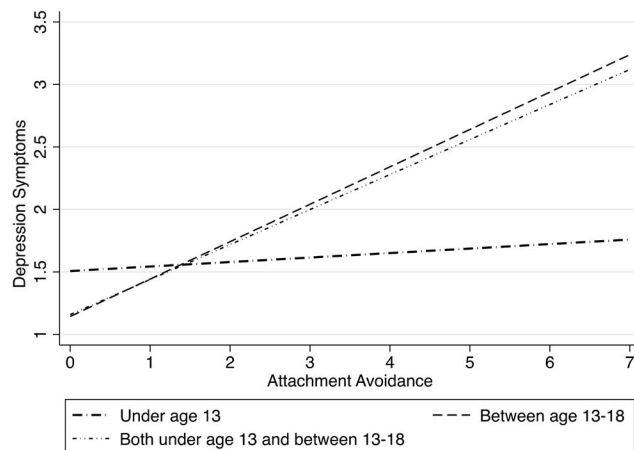


Figure 4. Interaction effects of age of childhood bullying \times attachment avoidance on depression symptoms.

$p < .001$) 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 years 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, emotional neglect, 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

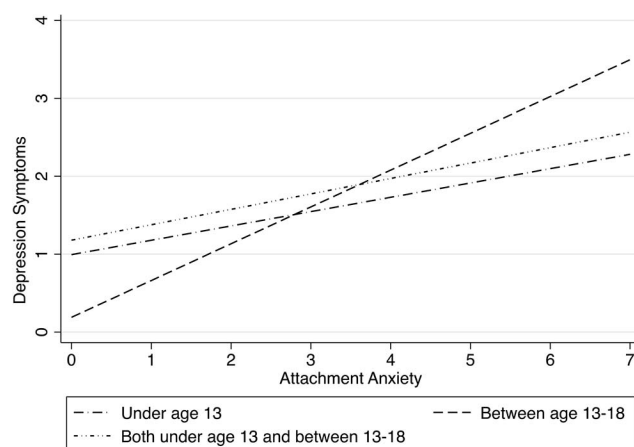


Figure 5. Interaction effects of age of childhood bullying \times attachment anxiety on depression symptoms.

Table 4
Regression Analyses for the Interaction Effects of Childhood Traumatic Experiences × Adult Attachment on Depression Symptoms

Predictor variables	<i>n</i>	Depression symptoms		
		<i>R</i> ²	β	<i>t</i>
Model 1				
Physical abuse by a non-family member	209	.29	-.11	-.76
Attachment anxiety			.40***	6.03
Physical abuse by a non-family member × Attachment anxiety			.30*	2.21
Model 2				
Bullied	212	.22	-.04	-.31
Attachment avoidance			.24*	2.36
Bullied × Attachment avoidance			.63 [†]	1.73
Model 3				
Bullied	212	.29	-.14	-.96
Attachment anxiety			.31**	3.46
Bullied × Attachment anxiety			.36*	2.17
Model 4				
Age of being bullied	127	.30	-.18	-.95
Attachment avoidance			-.21	-1.19
Age of Being Bullied × Attachment avoidance				
Under the age of 13			<i>Ref.</i>	
Between age 13–18			.52*	2.44
Both			.55**	2.68
Model 5				
Age of being bullied	127	.30	-.40 [†]	-1.64
Attachment anxiety			.11	.50
Age of being bullied × Attachment anxiety				
Under the age of 13			<i>Ref.</i>	
Between age 13–18			.65**	2.45
Both			.04	.15

Note. All regression models controlled for age, relationship status, and HIV status.

[†]*p* < .10. **p* < .05. ***p* < .01. ****p* < .001.

abuse are likely to exhibit adverse mental health outcomes in adulthood (Arias, 2004; Brown et al., 1999; Edwards et al., 2003; Gibb et al., 2007; Hyman et al., 2007; Kaplow et al., 2005; Lardinois et al., 2011; MacMillan et al., 2001; Putnam, 2003). Further, our findings are consistent with the literature that cites the high rates of childhood traumatic experiences and psychological distress found among sexual minority populations (Almeida et al., 2009; Corliss et al., 2002; D'Augelli, 2002; Haas et al., 2010; 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 promotes subsequent mental health problems (Cook & Calebs, 2016; Hightow-Weidman et al., 2011). However, much of the emerging research in the area 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 against 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). These discrepancies may be attributed 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 for YBGBM.

In line with our hypothesis we found that YBGBM who have a more anxious attachment style, compared with being more secure, may be at greater risk of developing depression 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 et al., 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 greater depression symptoms 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 & Calebs, 2016). 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, because 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, 2001; Dube et al., 2001). 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. Understanding the pathways by which attachment is related to trauma 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.

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 to 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.

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