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Racial Differences in the Consequences of Childhood Maltreatment for Adolescent and Young Adult Depression, Heavy Drinking, and Violence

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Abstract

Purpose—This study examined racial differences in the consequences of childhood maltreatment for depression, heavy drinking, and violence during adolescence and young adulthood among Black and White young men.

Methods—Data came from the Pittsburgh Youth Study, a prospective longitudinal study of urban males ($N = 971$, 56% Black). Childhood maltreatment was defined as substantiated physical or sexual abuse, physical neglect, emotional maltreatment, or moral/legal/educational maltreatment with the first referral before age 12. Self reports of depressive symptoms and heavy drinking (consuming 6+ drinks on a single occasion) and official, parent, and self reports of violent offending were assessed between ages 12–17 (adolescence) and at age 24/25 (young adulthood). Regression analyses were conducted to examine childhood maltreatment and race, as well as maltreatment-by-race interactions, as predictors of the three outcomes.

Results—Prevalence of childhood maltreatment was higher for Black than White boys; however, there were no racial differences in timing, type, severity, and chronicity of maltreatment. When SES and cohort were controlled, childhood maltreatment significantly predicted depressive symptoms and violence in adolescence but none of the outcomes in young adulthood. Race was a significant predictor of heavy drinking and violence during adolescence and of all three outcomes in young adulthood. No significant race-by-maltreatment interaction effects were found.

Conclusions—Childhood maltreatment has similar negative consequences for Black and White male youth during adolescence. Extending intervention efforts through adolescence is important to alleviate these problems among victims.

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There are no conflicts of interest.

Implications and Contribution

There are negative consequences of childhood maltreatment for depression and violence among adolescent males, and these consequences are similar for Black and White young men. The results highlight the importance of providing early interventions for victims of childhood maltreatment to eliminate their health-risk behaviors.

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Keywords

Childhood maltreatment; Child abuse; Race; Depression; Heavy drinking; Violence

Childhood maltreatment is a significant social problem in the U.S., and official reports, based on child protective services (CPS) data, indicate that as many as 702,000 children were victimized in 2009 for an overall rate of 9.3 victims per 1000 children [1]. Young children were most at risk with over 75% of victims being under the age of 11. While neglect was by far the most common type of maltreatment, accounting for 78.3% of all cases in 2009, physical abuse (17.8%), sexual abuse (9.5%), and psychological maltreatment (7.6%) were not uncommon. Data from the 2005–2006 national incidence study (NIS-4) indicated higher rates of maltreatment with 17.1 children per 1000 experiencing “harm standard” maltreatment and 39.5 children per 1000 experiencing “endangered standard” maltreatment [2] (note 1). Thus, rates of maltreatment vary depending on source and definition.

Childhood maltreatment is particularly problematic because of potential long-term, health-risk outcomes associated with it in adolescence and young adulthood [3–4], including depression [5–6], heavy drinking [7–8], and violence [9–11]. For example, young adults who have experienced physical abuse or multiple types of abuse before age 11 are more likely to be diagnosed with a current and lifetime major depressive disorder, compared to their peers who have not experienced maltreatment [6]. Moreover, all types of maltreatment by the 6th grade have been shown to significantly predict adolescent binge drinking [7]. Similarly, a study of at-risk youth in Chicago found that those with substantiated cases of physical neglect/abuse before age 12 were significantly more likely than those without to have official records of violent offenses in both adolescence and young adulthood [11].

Rates of childhood maltreatment vary by race [1–2], although findings have been mixed. CPS data indicate that the victimization rate is approximately twice as high for Black (15.1 per 1000) than White (7.8 per 1000) children [1]. Similarly, according to the NIS-4, both harm standard (24.0 vs. 12.6 per 1000) and endangered standard (49.6 vs. 28.6 per 1000) maltreatment were approximately twice as high for Black, compared to White, children, respectively [2]. Racial differences may be confounded by poverty. According to the NIS-4, there were small or no racial differences in maltreatment risk among children living in low socioeconomic households [12]. Thus, higher rates of childhood maltreatment among Blacks may be the result of aggregated risk factors related to poverty (e.g., mental illness, living in high-crime communities) [13–14]. Some evidence also indicates that the prevalence of specific types of abuse may differ for Black and White youth [2, 12]. Black, compared to White, children are more likely to be physically abused or neglected, but there are no racial differences in sexual and emotional abuse [12]. Little research, however, has focused on race differences in severity or chronicity of maltreatment.

There are also racial differences in potential outcomes of maltreatment including mental health, substance use, and violence. For example, Blacks have a relatively lower prevalence of mood disorders compared to Whites [15], as well as lower prevalence and quantity of alcohol use [16]. In contrast, Black adolescents are more likely to engage in serious violence than their White peers [17–18]. Social and cultural differences between Whites and Blacks may explain some of these differences [19–20]. For example, Afrocentrism (i.e., heightened

¹The harm standard definition classifies a child as maltreated only if “she or he has experienced demonstrable harm as the result of maltreatment” [2, p. 3–2]. The endangerment definition includes children who were classified according to harm standard as well as “children who were not harmed yet by maltreatment but who experienced abuse or neglect that placed them in danger of being harmed.” [2, p. 3–14]

awareness of Black culture and pride) within Black communities may serve as a protective factor against mental health problems and drinking [19–20]. In contrast, White adolescents may drink more due to social and cultural norms that increase alcohol availability and encourage use [20]. Likewise, the higher rates of violence perpetration among Blacks than Whites may be due to frustration and anger related to segregation and discrimination [21]. Moreover, Blacks are more likely to live in high-crime communities [22], which may be more accepting of violence [23]. Thus, ignoring racial differences in these problem behaviors may lead to an under- or overestimation of the actual consequences of childhood maltreatment. Further, despite these differences and the general consensus that childhood maltreatment differs by race, there has been little consideration of racial differences in the consequences of childhood maltreatment.

Findings from the few studies that have examined racial differences in childhood maltreatment outcomes have been mixed. For example, studies have found that Black victims, compared to Black non-victims, were more likely to have behavioral problems (e.g., gang membership, trouble with police) during adolescence [24], engage in violence [3] during adolescence and young adulthood, and report higher rates of violent arrest in adulthood [10] but these studies found no differences for White victims and non-victims. In contrast, race did not significantly moderate the relationship between adolescent physical abuse and adult offending in a nationally-representative sample [25]. Similarly, a study of the consequences of childhood maltreatment for later internalizing and externalizing behaviors did not show any moderated race effects [26].

Although some studies have provided evidence suggesting racial differences in the consequences of childhood maltreatment, these studies have been limited in three major ways. First, most previous studies used a measure of childhood maltreatment that relied on retrospective reports by caregivers (e.g., [3, 24]) or youth (e.g., [25]), which could be limited by recall bias or under- or over-reporting [27]. Second, most prior studies (e.g., [3, 24, 25]) have limited maltreatment measurement to one type (e.g., physical abuse), which may underestimate the extent of maltreatment and the results may not generalize to other types of maltreatment. Third, most previous studies have examined limited types of outcomes [3, 25] or developmental periods [24] rather than examining multiple outcomes over extended periods.

The purpose of this study was to extend our understanding of within- and between-race differences in the outcomes of childhood maltreatment for multiple domains (i.e., depression, heavy drinking, and violence) in adolescence (ages 12–17) and to determine if these differences persist into young adulthood (age 24/25). Unlike many prior studies using retrospective self-report data, we used official records of maltreatment. By using more extensive longitudinal data, we were able to examine the relationship between childhood maltreatment and consequences during both adolescence and young adulthood. This study tested three hypotheses: 1) There would be differences in timing, type, severity, and chronicity of maltreatment for Black and Whites victims; 2) Maltreated youth would report greater depression, heavy drinking, and violence than non-maltreated youth in both adolescence and young adulthood; and 3) Maltreatment would be differentially related to heavy drinking, depression, and violence for Blacks and Whites. Note, that although we used longitudinal data, given unobserved or unmeasured confounders, we cannot infer a causal effect of childhood maltreatment on the outcomes.

Methods

Participants

Participants were male youth from two cohorts of the Pittsburgh Youth Study (PYS), a prospective longitudinal study of an urban sample, which was approved by the University of Pittsburgh Institutional Review Board. In 1987–88, random samples of first (the youngest cohort) and seventh (the oldest cohort) grade boys from the Pittsburgh, PA, public schools were screened for antisocial behavior using multi-informant reports (parent, teacher, child). Boys who ranked in the top 30% were selected as well as a relatively equal number of boys from the remainder, which resulted in 506 boys in the oldest and 503 in the youngest cohort. Caretakers gave written consent and boys gave oral assent through age 17. After that, youth gave written consent. The boys were followed for 14 years until the youngest cohort was approximately age 19/20 and the oldest approximately age 24/25. Retention averaged over 90%. The youngest cohort was re-interviewed at approximate age 24/25, with an 84.5% follow-up rate. The sample is 55% Black, with the remainder almost all White (less than 4% is Hispanic, Asian, other or mixed). Approximately 36% of the boys' families received public assistance or food stamps at the time the boys entered the study, and 44% of boys lived with a single parent (for details, see [28]).

For this study, we included only Black ($n = 556$) and White ($n = 415$) youth. We limited the analyses to only those youth for whom the first referral occurred before age 12, and thus 17 boys who were maltreated after age 11 were eliminated from the analysis (note 2). We also eliminated 84 boys who were referred to Child and Youth Services (CYS) but whose referrals were not substantiated as maltreatment (note 3). Between ages 12 and 25, 26 boys died (note 4). These boys were included in the descriptive statistics for childhood maltreatment from birth through age 11, which is based on 189 maltreated cases. For the consequences of childhood maltreatment analyses, the boys who eventually died by age 25 were eliminated leaving a final sample of 849 boys (180 victims vs. 669 non-victims).

Measures

Childhood maltreatment—Childhood maltreatment data were obtained from CYS records in Allegheny County, PA in 1993–1994 when the average age of the youngest cohort was 13 and oldest cohort was 18. The Maltreatment Classification System [29] was used to code the data according to timing, subtype, severity, and chronicity (coding agreement > 97%) [9].

For the current study, *developmental periods (timing)* were coded as infant (0–2 years old), preschool and kindergarten (3–5 years old), early elementary school (6–8 years old), and middle elementary school (9–11 years old). *Type of maltreatment* was categorized as: physical abuse, sexual abuse, physical neglect (i.e., failure to provide and lack of supervision), emotional maltreatment, and moral/legal/educational maltreatment (i.e.,

²Within the total oldest cohort, there were no racial differences ($\chi^2 = .63$, $df = 1$, $p = .43$) in rates of victimization past age 11 (Black, 3.6% vs. White, 2.4%).

³Rates of unsubstantiated cases were higher for Blacks (10.4%) than Whites (6.3%) ($\chi^2 = 5.22$, $df = 1$, $p < .05$). Using survivals by age 25, we conducted sensitivity tests to examine whether the outcomes of the unsubstantiated cases ($n = 80$) looked like those of non-victims ($n = 669$) or those of the substantiated victims ($n = 180$). In the comparisons between non-victims and the unsubstantiated cases, we only found one significant difference. Non-victims (33.8%) were more likely to be heavy drinkers at age 24/25 than unsubstantiated cases (18.8%), which was possibly due to the racial difference in drinking. In the comparisons between substantiated victims and the unsubstantiated cases, we found that substantiated victims, compared to unsubstantiated cases, committed violent offenses for more years in adolescence (1.2 vs. .8) and were more likely to drink heavily (37.2% vs. 18.8%) and report higher levels of depression (3.8 vs. 2.4) at age 24/25. Thus, unsubstantiated cases were probably more like non-victims than victims, which suggests that leaving them out of the analysis probably had no effect on the outcomes.

⁴Incidents of premature death, between age 12 and age 25, were greater for Black (4%) than White youth (1%). Rates of premature death were greater for substantiated victims (5%) than non-victims (2%).

exposure to illegal activities that may foster antisocial behavior). *Chronicity of maltreatment* ranged from one to seven incidents and was recoded as: once, twice, and three or more occurrences. Children were identified as *victims* (=1) if any type of maltreatment was substantiated and they were first referred to CYS before age 12.

Depressive symptoms—At each age, the boys reported symptoms of depression on the Recent Moods and Feelings Questionnaire [30]. The measure consisted of 13 items associated with major depression in children and adolescents according to DSM-III-R criteria [31]. *Depressive symptoms* during adolescence was the mean score from ages 12 to 17 ($M = 2.47$, $SD = 2.20$; average $\alpha = .84$), and the score at age 24/25 was used as the young adulthood measure ($M = 3.14$, $SD = 4.57$; $\alpha = .89$).

Heavy drinking—At each age, boys reported their typical quantity of drinks per occasion (6-point scale ranging from 0 to 6 or more drinks) separately for beer, wine, and hard liquor, and the maximum quantity was used. *Heavy drinking* was dichotomized and coded 1 if the boy typically drank 6 or more drinks per occasion of any alcoholic beverage regardless of the number of times he drank during the year. Between ages 12 and 17, we counted the number of years of heavy drinking ($M = 0.81$, $SD = 1.23$), ranging from 0 to 6. At age 24/25 we used a dichotomous measure of any heavy drinking coded 1 (34%) or 0 for none.

Violence—Violence was based on official convictions and self and parent reports of violent offending, including robbery or using strongarm methods, attacking to hurt or kill, forced sex, or gang fighting. Violent offending was coded 1 at each age in which the boy, his caretaker, or police records indicated that he had engaged in violence. In adolescence, *violence* was the number of years that the youth committed any violent offense from ages 12 to 17, ranging from 0 to 6 ($M = 0.82$, $SD = 1.25$). At age 24/25 it was coded 1 for any violent offense in the last year (5%) and 0 for none.

Socio-demographic factors—*Race/ethnicity* was based on participants' self-report (0 = White, 45%; 1 = Black). We controlled for *cohort* (youngest cohort = 0, 51%; oldest = 1) and *parental socioeconomic status (SES)*, which was based on the Hollingshead's Index of Social Status from primary caretaker data at the first follow-up assessment [32]. The SES scores ranged from 6 to 66 ($M = 35.6$, $SD = 13.7$).

Statistical Analysis

First we assessed bivariate associations between Black and White victims on timing, type, severity, and chronicity of maltreatment using *t*-tests for continuous variables and chi-square tests for categorical variables. Next, percentages and means of outcome variables between victims and non-victims, and Blacks and Whites were compared. Then, a series of sequential regression models (negative binomial, logistic, and ordinary least squares regression depending on the outcome, as described below) were tested to examine the main (Step 1) and interaction (Step 2) effects of childhood maltreatment and race on the outcomes.

Missing data for heavy drinking and depressive symptoms was 2% at ages 12–17 and 15% at age 24/25. We conducted multiple imputation (50 data sets) by chained equations under the missing-at-random (MAR) assumption [34] using STATA 11.0 [33] (note 5).

⁵The imputation data set included participants' self-reported alcohol use and depression data from ages 12 to 20 and at age 24/25, self/parent- and official-reported violent offending from ages 12 to 25, race, cohort, parental SES, age at death, and risk status at screening. After generating 50 imputed data sets, we combined empirical results across all imputed samples, accounting for the variation within and between imputed data sets.

Results

Racial Differences in Forms of Maltreatment

We found significantly ($\chi^2 = 7.0$, $df = 1$, $p < 0.01$) higher rates of childhood maltreatment among Blacks (25.0%) than Whites (17.5%). However, there were no significant differences between Black and White victims in terms of maltreatment timing, type, severity, or chronicity (see Table 1). Therefore, in the rest of the analyses we did not control for these maltreatment characteristics.

Bivariate Analyses

Table 2 shows the means and percentages for the outcomes for Black and White maltreated and non-maltreated boys. When we combined Black and White victims and compared them to Black and White non-victims, we found significant maltreatment differences for depression and violence but not for heavy drinking. In both adolescence and young adulthood, victims, compared to non-victims, reported higher mean depression levels and committed more violent offenses. Similarly, when combining White victims and non-victims and comparing them to Black victims and non-victims, in both developmental periods Whites were more likely to be heavy drinkers, whereas Blacks were more likely to commit serious violence (note 6). Blacks reported higher levels of depression than Whites during young adulthood, although there was no significant difference in adolescence.

Multivariate Analyses

We tested a sequential regression model separately for each outcome controlling for family SES and cohort. In the first step we entered victimization status, race, and the controls (see Table 3). In the second step, we entered the interaction between race and victimization status to the main effects model. With the controls in the model, maltreatment was a significant predictor of depressive symptoms and violence but not heavy drinking in adolescence. Maltreatment was not significantly related to any outcome at age 24/25. Race was significantly associated with heavy drinking and violence during adolescence and all outcomes during young adulthood, with Whites reporting more heavy drinking and Blacks reporting higher depression and perpetrating more violence. Lower family SES predicted more violence. During adolescence, boys in the oldest cohort reported significantly more heavy drinking, violence, and depressive symptoms; during young adulthood the youngest cohort reported more symptoms of depression (note 7). There were no significant race-by-maltreatment interactions, suggesting that maltreatment played a similar role in adolescent depressive symptoms and violence for both Blacks and Whites.

Discussion

This study sought to extend our understanding of racial differences in childhood maltreatment and its health risks during adolescence and young adulthood. The results presented here with an urban sample of males generally support the national data [1–2], indicating that Blacks have higher prevalence of substantiated maltreatment, compared to Whites. Among those who had been maltreated, we found no racial differences in timing, type, severity, and chronicity. These findings are contrary to prior studies, which have found racial differences in types of childhood maltreatment [2, 12]. These other studies examined

⁶When Loeber and colleagues [27] controlled for risk and protective factors (e.g., academic achievement, relationship with peers), they found no significant race differences for violent offending in this sample.

⁷When the youngest cohort was interviewed at approximately age 24/25, the survey method was changed from face-to-face to self-administered measures. This change may account for higher depression scores among the youngest cohort in young adulthood.

racial differences among males and females combined in 2005, whereas we examined differences in maltreatment through 1993 in a community sample of all males.

Childhood maltreatment was a significant predictor of depression and serious violence in adolescence for both Blacks and Whites. These results are consistent with previous literature [3, 5, 9]. In contrast, there was no effect of childhood maltreatment on heavy drinking, a finding also consistent with some prior studies of males [8].

Whereas we found significant associations of victimization with depression and violence in young adulthood in the bivariate analysis, this association did not remain significant once race, cohort, and SES were controlled. Perhaps the low prevalence of serious violence during young adulthood (5%) resulted in a lack of statistical power in the model. Further, maltreated, compared to nonmaltreated, youth had a greater risk of premature death (note 4), mostly due to violent causes and these youth were eliminated from the analyses. Maltreated individuals are also at a greater risk of arrest [3, 10], which might limit their serious violent offending in adulthood. Thus, higher rates of premature death and arrest among victims, compared to non-victims, might have accounted for non-ignorable dropout and also could have affected the outcomes, especially violent offending in young adulthood. Overall, our results suggest that the consequence of childhood maltreatment might be more influential in adolescence than young adulthood.

Although we found race differences in the outcomes, we found no race-by-maltreatment interaction effects. Therefore, after adjusting for race and SES differences in depression, heavy drinking, and violence, the consequences of maltreatment appear to be similar for Blacks and Whites. We had anticipated that there would be differences due to the fact that the socio-cultural environment and accompanying normative behaviors differ significantly for Blacks and Whites. Therefore, maltreated youth could either intensify racially normative problematic behaviors or alternatively could adopt problem behaviors that are not normative in their environment. Although we saw race differences in health-risk behaviors, both races experienced similar negative consequences of maltreatment. The fact that we found no differences in the types and severity of abuse between Black and White victims may account partially for this finding. The lack of significant interactions may also be due to limited statistical power given the relatively small numbers of maltreated youth. In addition, our findings might differ from prior studies [3, 10, 24] because of differences in sample characteristics (gender, cohort, geographic area), source of outcome measures (self reports vs. official records), and source of maltreatment data (caregivers' or self reports vs. official records).

This study had several limitations. The sample was comprised of at-risk, Black and White males from one city; thus, we cannot generalize the findings to females, other race/ethnicities, or youth living in different environments. Moreover, while we used official records as well as self and parent reports of violent behavior and a well validated scale of depression, we relied only on self reports for heavy drinking. However, reliability and validity of self-reported substance use has been established in many studies (e.g., [35]). Also, we included only substantiated cases of maltreatment, which could under-estimate the extent of maltreatment and may be racially biased [36] (see note 3).

While we excluded any individuals in the oldest cohort who had records of adolescent maltreatment but no childhood maltreatment, we did not have maltreatment data on the youngest cohort after age 13. Thus, we were unable to verify if individuals in the youngest cohort, who were included in the non-victim group, actually experienced maltreatment during adolescence. The number of cases in the oldest cohort who initially experienced childhood maltreatment after age 13 was 11.0% among all substantiated cases. Yet, this

percentage was probably lower for the youngest cohort because they grew up at a time when the public was more aware of their responsibilities to report maltreatment [9] as demonstrated by the higher rates of childhood maltreatment by age 11 in youngest (23.6%) versus oldest (15.4%) cohort. Note, however, that within the oldest cohort, there were no racial differences in victimization past age 11 (note 2). In addition, previous research [37] found that maltreatment during adolescence, compared to childhood only, had a stronger effect on substance use and violent offending. Thus, we might have underestimated the negative consequences of childhood maltreatment. Finally, unobserved confounding factors, which were not controlled in this study, could have contributed to these outcomes.

Despite these limitations, the study had notable strengths. It relied on official, substantiated reports of childhood maltreatment. Moreover, we were able to examine long-term outcomes using prospective longitudinal data in two distinct developmental periods separately for Blacks and Whites. Overall, the findings from this study suggest that, while the prevalence of childhood maltreatment differs between Black and White boys, the nature of maltreatment does not. In addition, the negative consequences of maltreatment on depression, heavy drinking, and violence are similar across race, at least during adolescence and young adulthood. These results highlight the importance of providing early interventions for victims of childhood maltreatment to eliminate their health-risk behaviors during adolescence. Such interventions may help to reduce long-term negative consequences, such as increased rates of morbidity and mortality [38], for victims of childhood maltreatment.

Nevertheless, recent research indicates that existing child services are not necessarily designed to meet the needs of minority youth and that there are racial disparities in service availability and utilization [39]. Thus, broader support by community agencies and voluntary organizations are needed to reduce these disparities. In addition, social programs should target children who are at risk for long-term health problems due to early exposure to distressed family environments. Finally, social policies should focus on alleviating the structural conditions (e.g., poverty, single parenting) that contribute to childhood maltreatment.

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Table 1

Racial Differences in Childhood Maltreatment Classification for Victims (N = 189)

		White (n = 67)		Black (n = 122)		Total (n = 189)		Chi-square statistics or t-tests ^c
		%/ Mean (sd)		%/ Mean (sd)		%/ Mean (sd)		
Developmental Period of 1 st Referral	Infancy/toddler (0–2 years old)	33%		25%		28%		$\chi^2_{(3, N=189)} = 2.38$
	Preschool (3–4 years old)	18%		14%		15%		
	Early elementary school (5–8 years old)	33%		39%		37%		
	Late elementary school (9–11 years old)	16%		22%		20%		
	Physical abuse	45%		35%		39%		$\chi^2_{(1, N=189)} = 1.66$
Type ^a	Sexual abuse	5%		6%		5%		$\chi^2_{(1, N=189)} = .14$
	Physical neglect	66%		69%		68%		$\chi^2_{(1, N=189)} = .20$
	Emotional maltreatment	30%		42%		38%		$\chi^2_{(1, N=189)} = .63$
	Moral/legal/educational maltreatment	15%		16%		15%		$\chi^2_{(1, N=189)} = .01$
	Physical abuse	2.10 (1.24)		2.09 (1.11)		2.10 (1.16)		$t_{(71)} = .03$
Severity ^b	Sexual abuse	3.00 (1.73)		2.86 (1.35)		2.90 (1.37)		$t_{(8)} = .14$
	Physical neglect	2.59 (1.28)		2.43 (1.31)		2.48 (1.30)		$t_{(126)} = .67$
	Emotional maltreatment	2.95 (1.61)		3.24 (1.57)		3.15 (1.57)		$t_{(69)} = -.68$
	Moral/Legal/Educational maltreatment	2.20 (1.14)		1.95 (1.08)		2.03 (1.09)		$t_{(27)} = .59$
	1=one to 4=four or five types	1.60 (0.85)		1.67 (0.82)		1.65 (0.83)		$t_{(189)} = -.59$
Multiplicity of type	One incident	57%		58%		58%		$\chi^2_{(2, N=189)} = .56$
	Two incidents	25%		28%		27%		
	Three or more incidents	18%		14%		15%		
Chronicity								

^aType does not add to 100% due to some victims experiencing more than one type of maltreatment.^bMaximum severity of each type of maltreatment ranges from 1=least severe to 5=extremely severe.^cNone of the tests were significant at $p < .05$.

Means and Probabilities for Adolescent and Young Adult Heavy Drinking, Depression and Violence as a Function of Victimization and Race (N = 849)^a

Table 2

	Non-Victim (n=669)				Victim (n=180)		Chi-square statistics or t-tests	
	White (n = 312) %/Mean (sd)	Black (n = 357) %/Mean (sd)	White (n = 67) %/Mean (sd)	Black (n = 113) %/Mean (sd)	Non-victim vs. Victim ^d	White vs. Black ^e		
Ages 12–17	Depression ^b	2.38 (2.10)	2.39 (2.10)	2.95 (2.96)	2.74 (2.22)	$t_{(847)} = -2.34^*$	$t_{(847)} = 0.06$	
	Heavy Drinking ^c	1.19 (1.41)	0.45 (0.83)	1.53 (1.61)	0.55 (0.89)	$t_{(847)} = -1.27$	$t_{(847)} = 9.75^{***}$	
	Violence ^c	0.47 (0.97)	0.92 (1.32)	1.01 (1.24)	1.36 (1.42)	$t_{(847)} = -5.02^{***}$	$t_{(847)} = -5.43^{***}$	
At age 24/25	Depression ^b	2.55 (4.14)	3.31 (4.61)	3.12 (4.29)	4.26 (5.40)	$t_{(849)} = -2.29^*$	$t_{(847)} = -2.83^{**}$	
	Heavy Drinking	44.3%	23.5%	51.6%	30.5%	$\chi^2_{(1, N=849)} = 1.72$	$\chi^2_{(1, N=849)} = 39.22^{***}$	
	Violence	1.3%	6.2%	4.5%	11.5%	$\chi^2_{(1, N=849)} = 7.55^{**}$	$\chi^2_{(1, N=849)} = 13.99^{***}$	

^aBoys (n=26) who died between age 12 and age 25 were eliminated.

^bDepressive symptoms ranges from 0 to 26.

^cNumber of years of heavy drinking and violence ranges from 0 to 6.

^dFor these analyses we combined White and Black non-victims and compared them to combined White and Black victims.

^eFor these analyses we combined White non-victims and victims and compared them to combined Black non-victims and victims.

*
 $p < .05$

**
 $p < .01$

 $p < .001$

Regression Results for Race and Victimization Main and Interaction Effects Models for Adolescent and Young Adult Heavy Drinking, Depression, and Violence (N = 849)

Table 3

		Depressive Symptoms ^a		Number of Years of Heavy Drinking ^b		Number of Years of Violence ^b	
		Coefficient	SE	Coefficient	SE	Coefficient	SE
Ages 12 – 17	Victim	.54**	.20	.26	.14	.49***	.12
Step 1	Black	-.02	.16	-1.03***	.12	.53***	.11
	SES	.002	.006	-.003	.004	-.016***	.004
	Oldest cohort	.76***	.16	.38**	.11	.50***	.11
Ages 12 – 17	Victim by Black	-.03	.10	.02	.07	-.03	.06
Step 2 ^d							
		Depressive Symptoms ^a		Probability of Heavy Drinking ^c		Probability of Violence ^c	
		Coefficient	SE	OR	95% CI	OR	95% CI
Age 24/25	Victim	.69	.40	1.35	(.92 – 1.98)	1.81	(.92 – 3.56)
Step 1	Black	.87**	.33	.37***	(.27 – .51)	3.53**	(1.53 – 8.13)
	SES	.01	.01	.99	(.98 – 1.00)	.97*	(.95 – .995)
	Oldest cohort	-1.44***	.32	1.34	(.98 – 1.84)	.78	(.41 – 1.49)
Age 24/25	Victim by Black	.03	.20	1.04	(.86 – 1.26)	.90	(.59 – 1.39)
Step 2 ^d							

OR = odds ratio.

CI = confidence interval.

^aOrdinary least squares regression.

^bNegative binomial regression.

^cLogistic regression.

^dStep 2 includes all the variables in step 1 plus the interaction term.

* $p < .05$

100' > p ***
10' < p ***
**