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## Racial/Ethnic Differences in Trauma Exposure and Mental Health Disorders in Adolescents

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### Abstract

**Objectives**—Research has cited increased prevalence of mood disorders, anxiety disorders, and exposure to interpersonal violence for Hispanics and non-Hispanic Black adolescents, as well as ethnic differences in externalizing behavior (e.g., substance use, delinquency). The current study combined these areas by examining racial/ethnic differences in mental health correlates of trauma exposure.

**Methods**—Interviews were conducted to assess polyvictimization, posttraumatic stress disorder (PTSD), major depressive disorder (MDD), substance use, and delinquency in a nationally representative sample of adolescents (N=3,614; 15.4 % non-Hispanic Black; 11.3% Hispanic; 64.9% non-Hispanic White).

**Results**—Hispanic and non-Hispanic Black adolescents endorsed greater polyvictimization than non-Hispanic Whites; however, differences in MDD and PTSD were only significant when assessed with symptom counts. Non-Hispanic Black adolescents reported the least drug use. Non-Hispanic Black and Hispanic adolescents endorsed more delinquency than non-Hispanic White adolescents. Polyvictimization only accounted for ethnic disparities in delinquency.

**Conclusions**—Trauma-related disparities may differ across internalizing and externalizing concerns. Subsequent research should continue to examine other factors that may contribute to racial/ethnic differences in trauma-sequelae.

### Keywords

ethnic differences; trauma exposure; trauma reactions; adolescence; depression

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Comparisons of trauma exposure suggest non-Hispanic Black and Hispanic adolescents experience more interpersonal violence (e.g., physical abuse) than non-Hispanic White<sup>1</sup> youth (Crouch et al., 2000; Vaughn et al., 2008). As such, racial/ethnic<sup>2</sup> minorities may be at

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<sup>1</sup>We use the terms non-Hispanic Black, non-Hispanic White, and Hispanic to be consistent with labeling used by the NSA, NSA-R and the US Census Bureau. Although definitions of race and ethnicity vary, the US Census refers to White and Black/African

increased risk for mental health outcomes associated with exposure to a traumatic event (actual or threatened death, serious injury, or sexual violation; American Psychiatric Association, 2013). Nevertheless, most epidemiological investigations of ethnic/racial differences in mental health outcomes do not account for the potential role of trauma.

## Trauma Exposure and Mental Health Outcomes

Posttraumatic stress disorder (PTSD) and major depressive disorder (MDD) represent the most common mental health sequelae of violent and also non-assaultive traumatic events (Cisler et al., 2012; Kilpatrick et al., 2003; Roussos et al., 2005). Further, the sum of different types of traumatic events experienced by youth over their lifetime, also called polyvictimization, positively predicts MDD and PTSD diagnoses across samples comprised of primarily non-Hispanic White, non-Hispanic Black, and Hispanic youth (Finkelhor, Ormrod, & Turner, 2007; Finkelhor et al., 2011; Huang et al., 2012; Turner, Finkelhor, & Ormrod, 2010). Polyvictimization predicts PTSD and MDD above and beyond individual types of traumatic events and even predicts better than sums within categories of traumatic events (e.g., multiple experiences with community violence; Finkelhor et al., 2007). Non-Hispanic Black and Hispanic youth experience greater degrees of polyvictimization relative to non-Hispanic White youth (Finkelhor et al., 2011); however, evidence regarding racial/ethnic disparities in depression and PTSD is mixed, with some results suggesting small differences (Roberts, Gilman, Breslau, Breslau, & Koenen, 2011) and others finding no differences (Breslau, Wilcox, Storr, Lucia, & Anthony, 2004) across racial/ethnic groups. Taken together, the effects of polyvictimization may differ across ethnic groups; however, this has yet to be examined directly. Further, when small differences are found between racial/ethnic groups, polyvictimization may account for the differences in depression and PTSD.

In addition to internalizing mental health concerns (e.g., PTSD and MDD), trauma exposure may also result in higher rates of delinquency (e.g., Ford, Elhai, Connor, & Frueh, 2010) and substance use (e.g., Begle et al., 2011). Non-Hispanic Black and Hispanic youth report higher rates of delinquent behavior relative to non-Hispanic White youth (e.g., Vaughn et al., 2008); however, non-Hispanic Black youth report lower rates of substance use relative to non-Hispanic White youth (Ewing et al., 2011; Keyes et al., 2015; Vaughn et al., 2008; Windle, 1990). Given lower rates of substance use among non-Hispanic Black youth, trauma exposure may not predict substance use as strongly among non-Hispanic Black youth compared with non-Hispanic White youth. While trauma may play significant, albeit varied, roles in explaining racial/ethnic differences in trauma sequelae, these different roles have yet to be examined simultaneously.

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American as racial categories, and refers to Hispanic as an ethnicity. According to the US Census Bureau, the term Hispanic refers to anyone “of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish cultural or origin regardless of race”, the term “White refers to a person having origins in any of the original peoples of Europe, the Middle East, or North Africa”, and the term Black “refers to a person having origins in any of the Black racial groups of Africa” (U.S. Census Bureau, 2010). As such, while we understand that various terms exist to describe different racial, ethnic, and cultural groups, in the current manuscript, non-Hispanic Black refers to someone who is Black and not of Hispanic origin, non-Hispanic White similarly refers to someone who is White and not of Hispanic origin, and Hispanic refers to someone of Hispanic origin and who may be of any race.

<sup>2</sup>When discussing differences between non-Hispanic Black, non-Hispanic White, and Hispanic groups, we use the term racial/ethnic differences to reflect that the descriptors of each group refer to race and ethnicity per the US Census Bureau (2010).

## Present Study

The present study examines the relation between polyvictimization and racial/ethnic differences in mental health outcomes in a nationally representative sample of adolescents. Given previous evidence that racial/ethnic disparities in depression and PTSD may be small (e.g., Roberts et al., 2011), these differences were measured in two ways: (1) by examining lifetime rates of each condition and (2) examining symptom sums of each. It was hypothesized that non-Hispanic Black and Hispanic adolescents would endorse more symptoms of internalizing disorders (PTSD and MDD) than non-Hispanic White youth and that polyvictimization would account for these disparities. Further, it was hypothesized that relative to each other, non-Hispanic Black adolescents would endorse more delinquency behaviors and non-Hispanic White adolescents would endorse more substance use. It was predicted that trauma would account for racial/ethnic differences in delinquency and that trauma would correlate more strongly among non-Hispanic White youth than among non-Hispanic Black youth.

## Method

### Participants and Procedure

The National Survey of Adolescents-Replication (NSA-R) is a national household probability study of 3,614 youth aged 12–17 years. Telephone interviews were conducted using structured, computer-assisted interviews and random-digit dialing. All study procedures were conducted in English. Verbal consent from a legal guardian was obtained before interviewing adolescents; all youth participants gave verbal assent. Trained research assistants compiled data, checked accuracy, and corrected any data-entry errors. This study was approved and monitored by the Institutional Review Board of the Medical University of South Carolina. Cisler et al. (2012) describe complete survey methodology. Only those who identified as non-Hispanic White ( $n = 2,346$ ; 64.9%), non-Hispanic Black ( $n = 557$ ; 15.4%), and Hispanic ( $n = 409$ ; 11.3%) were included in data analyses. Additional descriptive information is presented in Table 1.

### Measures

**Demographic characteristics**—Demographic variables, including child age, sex, ethnicity, and family income (Table 1), were assessed using standard questions from the U.S. Census Bureau (1988).

**Polyvictimization and lifetime trauma exposure**—The NSA-R utilized a highly structured interview to assess exposure to potentially traumatic events. The interview assessed 40 distinct events using behaviorally-specific terminology (e.g., “Has anyone, including family members, dating partners, or friends, ever attacked you with a gun, knife, or some other weapon, regardless of when it happened or whether it was reported to the police?”). Similar behaviorally-specific terminology has been demonstrated to improve reporting of traumatic event exposure (e.g., Koss, 1993). Kilpatrick et al. (2003) describe the item development and rationale in detail. The interview has demonstrated good internal validity in this sample ( $\alpha = .83$ ). Events were categorized as physical assault, sexual assault,

physical abuse, sexual abuse, witnessing domestic violence, or witnessing community violence. A separate category of non-assaultive traumatic events (e.g., unexpectedly losing a loved one) was also formed. Categories were broken down to form 13 distinct subcategories. Participants were coded as having experienced each category of traumatic events if they endorsed any item within that category during their lifetime. Similar to other research examining polyvictimization (e.g., Finkelhor et al., 2007), the number of trauma types endorsed by youth was then summed to form a measure of polyvictimization (see Table 1 for details). For a more detailed description of events within each category, see Cisler et al., 2012.

**Assessment of mental health outcomes**—MDD, PTSD, and substance use were assessed using the NSA Depression, PTSD and Substance Use Modules, which are structured, diagnostic interviews of DSM-IV-TR Major Depressive Episode, PTSD, and Substance Abuse criteria that use developmentally-tailored prompts (American Psychiatric Association, 2000). Within the Substance Use module, youth were assessed regarding lifetime use of a variety of substances (e.g., marijuana, alcohol, amphetamines). Psychometric data support the internal consistency (Kilpatrick et al., 2003) and convergent validity (Boscarino et al., 2004) of the NSA Modules. Lifetime delinquency was assessed with a modified version of the National Youth Survey delinquency scale (Elliott, Huizinga, & Ageton, 1985). Serious delinquent behavior included physical assault, selling drugs, burglary, motor vehicle theft, robbery, attacking someone with a weapon, attacking someone with intent to seriously hurt or killed, being arrested, or being sent to jail/juvenile detention. Descriptive information regarding each outcome variable is presented in Table 1.

## Data Analysis

Prior to conducting analyses, data were weighted on the basis of geographic stratum, age, race, and gender in order to correct for demographic discrepancies between the NSA-R and U.S. population proportions.

Analyses were conducted in multiple steps. First, four multiple logistic regression analyses (one for each dichotomous outcome variable) and two poisson regression analyses (one for each symptom count outcome) were regression analysis was conducted conducted. In all analyses, dummy-coded Hispanic and non-Hispanic Black variables were predictors. Gender and income were also included as control covariates. In order to examine potential racial/ethnic disparities in polyvictimization (the proposed mediator), a multiple linear. After examining baseline racial/ethnic differences, polyvictimization was added as a predictor to any logistic regression models with significant racial/ethnic differences. As a final step in testing mediation, tests of indirect effects were completed. For dichotomous outcomes, analyses utilized bootstrapped standard errors. For count outcomes, similar to a Sobel test, the mean of the indirect effect was tested to examine whether it was significantly different from zero. Finally, to examine the moderating effect of race/ethnicity, two race-by-trauma interaction variables (one for each racial/ethnic group) were added as predictors to the logistic and poisson regression analyses examined in the third step. SPSS version 21.0 was used for all logistic and linear regression analyses. Mplus version 7.0 was used for poisson regression analyses. To meet assumptions of normality of the linear regression analysis, a

natural log transformation of the polyvictimization variable was completed for use in all data hypotheses. Descriptive information is displayed in original units. All other analytic assumptions were met.

## Results

### Step 1: Disparities in PTSD, MDD, Delinquency and Substance Use

In the first step of logistic regression analyses, racial/ethnic groups did not significantly differ across MDD or PTSD diagnoses ( $p$ -values  $> .10$ ). Non-Hispanic Blacks reported lower substance use than non-Hispanic Whites (OR = 0.65,  $p = .003$ ). No differences between Hispanic and non-Hispanic White youth were found in substance use ( $p = .867$ ). Significantly more non-Hispanic Black (OR = 2.20,  $p < .001$ ) and Hispanic youth (OR = 1.55,  $p = .04$ ) endorsed engaging in delinquent behavior compared to non-Hispanic White youth (See Table 2).

In poisson regression analyses, Hispanic youth reported significantly more depression and PTSD symptoms than non-Hispanic White youth ( $p$ -values  $< .05$ ). Non-Hispanic Black youth reported marginally significantly more PTSD symptoms ( $p = .050$ ) than non-Hispanic White youth and no differences in depression symptoms ( $p = .188$ ).

### Step 2: Disparities in Polyvictimization

After controlling for income and gender, non-Hispanic Black ( $M_{diff} = 0.59 = .05$ ,  $p = .006$ ) and Hispanic ( $M_{diff} = 0.90$ ,  $p = .007$ ) youth reported more polyvictimization than non-Hispanic White youth. Racial/ethnic differences in trauma exposure are presented in Table 1.

### Step 3: Polyvictimization as a Predictor of Mental Health Outcomes

Results from step 3 are presented in Table 2. Polyvictimization positively predicted depression symptoms ( $b = .87$ ,  $SE = .04$ ,  $p < .001$ ), lifetime delinquency ( $\beta = .50$ ,  $p < .001$ ) and substance use ( $\beta = .47$ ,  $p < .001$ ). After controlling for polyvictimization, racial/ethnic differences in substance use and delinquency remained significant and in the same direction; however, racial/ethnic differences in PTSD and depression symptoms were no longer significant ( $p$ -values  $> .10$ ).

Following this, the indirect effects examining polyvictimization as a mediator of racial/ethnic differences in delinquency and PTSD were examined. Polyvictimization was examined as a mediator of the difference between non-Hispanic White and Hispanic youth. Polyvictimization significantly accounted for racial/ethnic differences in delinquency among non-Hispanic Black (coefficient = .03,  $SE < .01$ ,  $p < .001$ ) and Hispanic youth (coefficient = .02,  $SE < .01$ ,  $p = .003$ ). Similarly, polyvictimization accounted for a significant portion of the differences in PTSD symptoms among non-Hispanic Black youth (coefficient = .12,  $SE = .04$ ,  $p < .001$ ) and Hispanic youth (coefficient = .12,  $SE = .04$ ,  $p = .002$ ). Polyvictimization also accounted for a significant portion of the difference in depression symptoms comparing non-Hispanic white and Hispanic youth (coefficient = .12,  $SE = .04$ ,  $p = .002$ ).

#### Step 4: Race/Ethnicity as a moderator

The interaction between Hispanic ethnicity and polyvictimization was significant ( $p = .018$ ); polyvictimization was less predictive of delinquent behavior of Hispanic youth than for non-Hispanic White youth. No other interactions were significant (see Table 2).

### Discussion

Support for study hypotheses was mixed. Consistent with previous findings, non-Hispanic Black and Hispanic adolescents reported higher degrees of polyvictimization than non-Hispanic White adolescents. Additionally, polyvictimization positively predicted all outcomes examined in the current study: MDD diagnosis, depression symptom sums, PTSD diagnosis, PTSD symptom sums, lifetime delinquency and lifetime substance use. Despite racial/ethnic differences in polyvictimization and significant relations between polyvictimization and mental health outcomes, no differences in MDD and PTSD *diagnoses* were found between non-Hispanic whites and non-Hispanic blacks. Racial/ethnic differences in *symptom levels* of PTSD and depression were mixed. While comparisons across both symptom levels between non-Hispanic White youth and Hispanic youth were significant, differences between non-Hispanic Black and White youth were only marginally significant in PTSD symptoms and not significant in depression symptoms. Additionally, these effects appeared small. No racial/ethnic groups differed by more than one fifth of a standard deviation in PTSD or depression symptoms. Taken together, these results suggest that while non-Hispanic Black and Hispanic youth experience greater victimization than non-Hispanic white youth, differences in internalizing mental health outcomes are small and may only be detectable at subsyndromal levels or with more powerful measurement methods.

Significant differences were found for substance use and delinquency in the predicted directions. Specifically, higher percentages of non-Hispanic Black youth and Hispanic youth reported engaging in delinquent behavior relative to non-Hispanic White youth. Further, non-Hispanic Black youth reported less substance use than non-Hispanic White youth. Polyvictimization accounted for a significant portion of racial/ethnic differences in delinquency and for the difference between non-Hispanic white youth and Hispanic youth in depression symptoms and PTSD symptoms. The potential mediating effects of polyvictimization, however, were small and would require a similarly large sample size in order to detect a significant indirect effect, assuming similar effect sizes. Finally, the effect of polyvictimization on delinquency was weaker among Hispanic youth.

While the lack of significant findings across PTSD and MDD diagnoses did not fit with hypothesized relations, results fit with previous research that finds small (Roberts, Gilman, Breslau, Breslau, & Koenen, 2011) or no differences (Breslau, Wilcox, Storr, Lucia, & Anthony, 2004) across racial/ethnic groups. The lack of significant differences in MDD and PTSD diagnoses may point to protective factors among non-Hispanic Black and Hispanic youth that buffer against internalizing disorder development following exposure to violence (e.g., familismo or family cohesion; e.g., Kennedy & Ceballo, 2013). Moreover, the pattern of racial/ethnic differences found in this study may result from differences in types of traumatic events experienced. Non-Hispanic Black and Hispanic youth experienced greater exposure to violence and evidenced greater degrees of delinquency, which is heavily



comprised of violent behavior, relative to non-Hispanic White youth. Racial/ethnic differences in exposure to violence may result in differences in trauma-congruent symptoms (i.e., delinquency) but not trauma-discordant symptoms (e.g., MDD). Indeed, prior work suggests that exposure to community violence significantly predicts future delinquency and, unlike for MDD and PTSD, family cohesion may not serve as a protective factor against effects of violence exposure on delinquency (e.g., Chen, Voisin, & Jacobsen, 2016). Neighborhood conditions may also contribute to differences in violence exposure and perpetration. Non-Hispanic Blacks and Hispanics who experience poverty are more likely to live in areas of *highly concentrated* poverty and these neighborhood conditions, in turn, account for much of the racial/ethnic differences in violence perpetration and exposure (Sampson, Morenoff, & Raudenbush, 2005). Additional research is needed to further explore protective factors and specific pathways by which racial/ethnic differences emerge.

Similar to prior work (e.g., Ewing et al., 2011), non-Hispanic Black youth reported lower substance abuse than whites, despite reporting higher levels of polyvictimization and delinquency, two known risk factors for substance use. Results did not support the hypothesis that polyvictimization would predict substance use more strongly among Non-Hispanic whites relative to non-Hispanic Blacks. This suggests that other factors beyond trauma exposure may account for racial/ethnic differences in substance use. In fact, Brown et al., (2004) found that variables predicting substance use for non-Hispanic White youth (e.g., sensation seeking, peer pressure to use) were not predictors for non-Hispanic Black youth. Thus, trauma exposure may exert comparable effects across both groups while other factors substantially effect one group more than another.

Although polyvictimization accounted for some differences between non-Hispanic White and Hispanic youth's reports of delinquent behavior, polyvictimization predicted delinquency less strongly in Hispanic youth than non-Hispanic White youth. Evidence of differential effects of polyvictimization across ethnic groups highlights the need for subsequent studies to not only replicate results, but also evaluate factors (e.g., familismo) that protect Hispanic youth from effects of polyvictimization on delinquency for use as intervention targets. Furthermore, racial/ethnic differences in the development of precursors to delinquency may also explain differential ethnic effects between trauma and delinquency. Emotion dysregulation --another common sequela of trauma exposure (e.g., Connor et al., 2003)--results in callous and unemotional traits more frequently for non-Hispanic White youth than for ethnic minority youth (Kimonis et al., 2006). In turn, differences in callous and unemotional behaviors may help explain the stronger relationship between trauma exposure and delinquency noted in our findings.

Of note, changes made to the diagnostic criteria for PTSD in DSM-5 include externalizing behaviors (i.e., reckless or destructive behavior to one self). The strength of the externalizing behavior findings in this study may reflect the recent changes to the DSM-5 diagnostic criteria of PTSD to better capture the associated externalizing behaviors with trauma exposure. Subsequent studies assessing ethnic differences using DSM-5 criteria of PTSD may produce different conclusions.

Despite the study's strengths, there were limitations that must be considered. The current study relied on structured adolescent self-report interviews; other informant data or objective measures (e.g., discipline records) could strengthen results. The current study is also cross-sectional and cannot fully establish the temporal sequence of traumatic events and mental health outcomes. Nevertheless, other longitudinal data suggest trauma exposure leads to increased PTSD and MDD symptoms as well as substance use and delinquency problems (e.g., Vermeiren et al. 2003). To move forward, temporal precedence of the traumatic events should be collected when examining trauma exposure as a potential mediator of racial/ethnic disparities in delinquency. The use of polyvictimization as the primary measure of trauma exposure may also limit results. While polyvictimization strongly predicted both delinquency and substance use, it does not capture the chronic nature (e.g., repeatedly experienced child abuse) or severity of many types of traumatic events. Future investigations should use culturally-enhanced assessment to examine potential cultural variations in the manifestation of reactions to trauma. Additionally, interviews were only conducted in English, thus excluding substantial subpopulations of Hispanic parents and youth (e.g. immigrant) and limiting the generalizability of findings among Hispanic populations. Finally, income was the only indicator of socioeconomic status (SES) included in the study and was significantly related to most outcomes of interest (polyvictimization, PTSD, and MDD). Future work should more closely examine the relations between income, other SES variables and trauma-related outcomes to more fully understand the potential disparate impact of SES among many ethnic/racial minority groups.

This study was the first to examine polyvictimization exposure as a potential mechanism for racial/ethnic differences in delinquency in a nationally representative sample. Given the criticality of understanding mental health disparities, examining influential factors potentially driving these disparities merits continued attention.

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**Table 1**

Sample Descriptive Information

	Overall Sample		Non-Hispanic White		Non-Hispanic Black <sup>1</sup>		Hispanic <sup>1</sup>	
	<i>M</i> or <i>frequency</i>	<i>(SD or percent)</i>	<i>M</i> or <i>frequency</i>	<i>(SD or percent)</i>	<i>M</i> or <i>frequency</i>	<i>(SD or percent)</i>	<i>M</i> or <i>frequency</i>	<i>(SD or percent)</i>
Age	14.67	(1.66)	14.70	(1.63)	14.62	(1.63)	14.60	(1.65)
Gender								
Female	1,664	(50.2%)	1,166	(49.7%)	289	(51.8%)	209	(51.1%)
Income <sup>2</sup>								
Under 20k	418	(12.6%)	177	(7.5%)	168	(30.2%)	73	(17.8%)
20k-50k	963	(29.1%)	616	(26.3%)	198	(35.0%)	152	(37.2%)
Over 50k	1,698	(51.3%)	1,392	(59.3%)	150	(26.9%)	156	(38.1%)
Trauma type <sup>3</sup>								
Loss	648	(19.6%)	359	(15.3%)	181	(32.5%) <sup>†</sup>	108	(26.4%) <sup>†</sup>
Non-assaultive	1,453	(43.9%)	1,013	(43.2%)	251	(45.1%)	189	(46.2%)
Sex. As.	261	(7.9%)	172	(7.3%)	55	(9.9%)	34	(8.3%)
Phys. Ab.	414	(12.5%)	263	(11.2%)	83	(14.9%)	68	(16.6%) <sup>*</sup>
Phys. As.	506	(15.3%)	333	(14.2%)	105	(18.9%)	68	(16.6%)
Wit. Viol. <sup>4</sup>	1,290	(38.9%)	823	(35.1%)	286	(51.3%) <sup>†</sup>	181	(44.3%) <sup>*</sup>
Wit. DV <sup>5</sup>	300	(9.1%)	177	(7.5%)	69	(12.4%)	54	(13.2%) <sup>*</sup>
Any	2,308	(69.7%)	1,554	(66.2%)	452	(81.1%)	302	(73.8%)
Polyvictimization <sup>6</sup>	2.27	(2.69)	2.11	(2.61)	2.70	(3.01) <sup>‡</sup>	3.01	(2.70) <sup>†</sup>
Depression diagnosis	476	(14.4%)	326	(13.9%)	78	(14.0%)	72	(17.6%)
Depression symptoms	1.26	(2.29)	1.17	(2.20)	1.39	(2.44)	1.58	(2.49)
PTSD diagnosis	274	(8.3%)	193	(8.2%)	42	(7.5%)	39	(9.5%)
PTSD symptoms	1.64	(2.92)	1.55	(2.86)	1.81	(3.10)	1.90	(2.98)
Lifetime substance use	612	(18.5%)	449	(19.1%)	77	(13.8%)	86	(21.0%)
Delinquent behavior	722	(21.8%)	414	(17.6%)	194	(34.8%)	114	(27.9%)

Note.

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- <sup>1</sup>For all significance tests, Non-Hispanic White youth were the comparison group.
- <sup>2</sup>Income was significantly different among all ethnic groups, with Non-Hispanic African American families reporting lower income than Hispanic families, and Non-Hispanic White families, while Hispanic families reported lower income than Non-Hispanic White families.
- <sup>3</sup>All trauma comparisons were made utilizing logistic regression with gender and income as covariates.
- <sup>4</sup>Wit. Viol = Witnessing violence in the community.
- <sup>5</sup>Wit. DV = Witnessing domestic violence.
- <sup>6</sup>Descriptive statistics for cumulative trauma are presented untransformed. Significance testing was completed with a natural log transformation of cumulative trauma in order to meet assumptions of analyses.
- \* Significantly different from non-Hispanic White youth with  $p < .05$
- \* Significantly different from non-Hispanic White youth with  $p < .01$
- † Significantly different from non-Hispanic White youth with  $p < .001$

**Table 2**

Logistic and Poisson Regression Results for Trauma-Related Variables

Model 1 <sup>1</sup>	Delinquency			Substance use			Depression Diagnosis			Depression Symptoms			PTSD Diagnosis			PTSD Symptoms		
	OR	95% CI	SE	OR	95% CI	SE	OR	95% CI	SE	OR	95% CI	SE	OR	95% CI	SE	OR	95% CI	SE
Income	0.97	0.93,1.02	1.00	0.95,1.05	1.06	0.90,1.24	<.01	0.04	1.18	0.93,1.38	.08 <sup>‡</sup>	.04	1.18	0.93,1.38	.08 <sup>‡</sup>	1.18	0.93,1.38	.08 <sup>‡</sup>
Gender	0.40 <sup>*</sup>	0.33,0.49	1.17	0.95,1.46	3.11 <sup>‡</sup>	2.45,3.93	.46 <sup>‡</sup>	.04	2.37 <sup>‡</sup>	1.77,3.17	.40 <sup>‡</sup>	.04	2.37 <sup>‡</sup>	1.77,3.17	.40 <sup>‡</sup>	2.37 <sup>‡</sup>	1.77,3.17	.40 <sup>‡</sup>
Hispanic	1.55	1.15,2.09	0.90	0.64,1.27	1.07	0.77,1.48	.06	.04	0.97	0.64,1.46	.04	.04	0.97	0.64,1.46	.04	0.97	0.64,1.46	.04
Black	2.20	1.68,2.86	0.52 <sup>‡</sup>	0.38,0.73	0.92	0.67,1.25	.01	.04	0.84	0.56,1.26	.04	.04	0.84	0.56,1.26	.04	0.84	0.56,1.26	.04
Polyvictim <sup>2</sup>	3.83 <sup>‡</sup>	3.26,4.50	3.52 <sup>‡</sup>	3.00,4.12	1.35 <sup>‡</sup>	1.30,1.40	.90 <sup>‡</sup>	.02	1.35 <sup>‡</sup>	1.23,1.41	.93 <sup>‡</sup>	.02	1.35 <sup>‡</sup>	1.23,1.41	.93 <sup>‡</sup>	1.35 <sup>‡</sup>	1.23,1.41	.93 <sup>‡</sup>
Model 2, <sup>3</sup>																		
Hispanic*Polyvictim	0.59 <sup>*</sup>	0.38,0.91	0.79	0.50,1.25	0.99	0.89,1.09	-.04	.06	0.99	0.89,1.10	-.05	.12	0.99	0.89,1.10	-.05	0.99	0.89,1.10	-.05
Black*Polyvictim	0.79	0.53,1.18	0.79	0.47,1.33	0.95	0.86,1.05	.03	.07	0.94	0.83,1.05	-.03	.12	0.94	0.83,1.05	-.03	0.94	0.83,1.05	-.03

Note. Black = Non-Hispanic Black; SE = standard error; OR = odds ratio; CI = confidence interval

<sup>\*</sup>  $p < .05$ ,

<sup>‡</sup>  $p < .01$ ,

<sup>‡</sup>  $p < .001$

<sup>1</sup> All analyses conducted with Non-Hispanic White youth, and female youth as referent groups.

<sup>2</sup> In order to meet assumptions of linear regression, a natural log transformation of cumulative trauma was conducted and used in all analyses of hypotheses.

<sup>3</sup> Substance was no longer significantly different among Non-Hispanic African American youth when the interaction terms were entered. All other significant results remained significant