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RESEARCH ARTICLE

Racial, ethnic, and neighborhood income disparities in childhood posttraumatic stress and grief: Exploring indirect effects through trauma exposure and bereavement

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Abstract

Previous findings suggest that experiences with systems of oppression that disproportionately affect individuals based on race and neighborhood residency (e.g., systemic racism, neighborhood income disadvantage [NID]) can be associated with higher odds of developing psychological problems following traumatic events. Although race/ethnicity and NID residency are often associated, they are separate concepts that play unique roles in mental health outcomes among youth. Residents of Black, Latinx, and income-disadvantaged communities also have an increased risk of exposure to polyvictimization and the loss of multiple loved ones. Studies have not carefully delineated the potential relations between race/ethnicity and NID residency, polyvictimization, accumulated losses, and trauma and grief outcomes in youth. We examined mediation models to investigate whether polyvictimization, the loss of multiple loved ones, and exposure to violent death were potential mechanisms through which race/ethnicity and NID would predict trauma and grief outcomes in youth. Participants ($N = 429$) included Black (19.9%), Latinx (36.0%), and White (27.3%) children and adolescents who were assessed through a routine baseline assessment at a trauma and grief outpatient clinic. Black youth reported significantly elevated posttraumatic stress and maladaptive grief symptoms through higher polyvictimization and violent death exposure relative to White youth, βs = .06–.12, ps <.001. Latinx identity and NID were positively and directly associated with specific domains of maladaptive grief reactions, βs = .10–.17, ps < .001. If replicated longitudinally, these findings suggest that polyvictimization and violent death exposure may be mechanisms through which Black youth develop more severe traumatic stress and grief reactions.

Childhood trauma exposure has become an increasingly significant global public health issue influenced by individual, relational, communal, and societal factors (Magruder et al., 2017). In the United States, race and ethnicity have been documented as correlates of trauma exposure, with findings from previous studies suggesting Black and Latinx youth are at increased risk of experiencing higher rates of traumatic event exposure as well as the death of multiple loved ones compared with their White counterparts (Sampson et al., 2005; Umberson,

2017). This increased exposure puts these youth at risk for developing mental health problems, such as posttraumatic stress symptoms (PTSS) and maladaptive grief reactions (Andrews et al., 2019). However, recent research has begun shifting the narrative from viewing ethnoracial identity as a causal factor of mental health distress to instead conceptualizing ethnoracial identity as a proxy for experiences within broader systems of oppression, such as systemic racism and classism, that leave youth of color more susceptible to trauma exposure and subsequent mental health symptoms than White youth (Baker et al., 2005).

Another documented systemic experience that shapes youths' development is residency in communities affected by neighborhood income disadvantage (NID). Although NID is often linked to race/ethnicity as an associated stressful life condition, it is a distinct system of oppression that can also lead to higher levels of trauma exposure and PTSS due to its association with poorer environmental conditions, higher crime rates, and increased income-related barriers to obtaining mental health services (Knapp et al., 2006). Although previous research has documented racial and income disparities in trauma exposure and symptoms (Zimmerman & Messner, 2013), few studies have addressed whether experiences with these distinct systems of oppression (i.e., racism and NID) are each uniquely associated with childhood mental health outcomes after accounting for one another. Few studies have examined potential mediating mechanisms that may help to explain relations among race/ethnicity, NID, and mental health issues in response to trauma and loss. We propose that higher levels of traumatic stress and grief reactions among Black, Latinx, and NID youth may be due, at least in part, to three factors that are more common among these groups: (a) polyvictimization (i.e., multiple forms of traumatic victimization), (b) experiencing the deaths of multiple loved ones, and (c) exposure to violent death. We suggest that this systemic inequality creates a heavier allostatic load and exerts a cumulative impact, resulting in higher levels of posttraumatic stress and maladaptive grief in these oppressed groups.

The current study sought to examine child race—a proxy for experiences of racial marginalization—and NID as correlates of PTSS and maladaptive grief reactions among a sample of clinic-referred children and adolescents and examine potential mediating mechanisms that may help explain these associations. We examined trauma and grief outcomes in youth through an intersectional socioecological framework. Conducting research that utilizes an intersectional conceptual framework can allow researchers to uniquely assess the unique contributions of these various systems of oppression to the mental health of Black, Latinx, and NID–residing youth (Coley & Nichols, 2016). For the current study, we utilized data commonly available in clinical settings, including race/ethnicity and zip code, to demonstrate how these data can be leveraged to help the field move beyond a single axis of experience to understand mental health disparities. We acknowledge that identifying sociodemographic differences in mental health outcomes offers only a cursory view of culture and context. Our analyses did not include direct measures of lived experiences with oppression, and, thus, we cannot fully apply intersectionality. Nonetheless, understanding how race/ethnicity and NID may be associated with posttraumatic stress and maladaptive grief symptoms, either directly or indirectly, has critical implications for more effective risk screening, assessment, and, if replicated in longitudinal studies, preventive interventions.

Posttraumatic stress disorder (PTSD) is a mental health condition that may occur in individuals who have experienced, learned about, or witnessed a traumatic event or multiple traumatic events, such as natural disasters, serious accidents, sexual violence, community violence, or serious injury or death, among others. Individuals with PTSD may have intense or disturbing thoughts and feelings related to their experience that persist long after a traumatic event has ended. The symptom criteria for PTSD in the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM*-5; American Psychiatric Association [APA], 2013) include reexperiencing (i.e., spontaneous memories of an event), avoidance (i.e., avoiding distressing reminders of an event), negative alterations of cognition and mood (i.e., distorted sense of blame of self or others), and hyperarousal (i.e., hypervigilance) that persist for longer than 1 month.

Recent research findings examining racial disparities in posttraumatic stress symptoms (PTSS) have been mixed. Some studies have found no racial differences in PTSS, which may be partially due to nonrepresentative samples or nondisclosure of PTSS in racial/ethnic minority participants as a result of cultural stigma or distrust of health care systems that stems from historical persecution (e.g., Hatch & Dohrenwend, 2007). Alternatively, the lack of racial disparities may be due to differences in coping strategies, such as meaning-making; *familismo*, a cultural value involving dedication, commitment, and loyalty to family; family cohesion; and social support, which can buffer against the harmful effects of trauma exposure among minority individuals (Kennedy & Ceballo, 2013). Other studies have found higher rates of PTSS among residents of Black and Latinx communities compared with White communities (Flores et al., 2010; Smith & Patton, 2016). Findings from a systematic review of PTSS rates in ethnoracial minorities (Pole et al., 2008) suggests that various sociocultural stressors, including racial/ethnic discrimination and stigmatization of mental health, and a lack of access to resources

following trauma exposure may contribute to higher levels of PTSS in Black and Latinx communities.

Studies of PTSS in Black youth have indicated that Black youth are exposed to an average of two traumatic events across childhood and adolescence, and exposure to community violence and physical abuse have been associated with more severe PTSS (Hunt et al., 2011). In a sample of violence-exposed Black youth, Smith and Patton (2016) found that approximately 70% of participants met the *DSM-5* criteria for at least 2 PTSS domains, particularly hypervigilance and avoidance, which participants described as being "on point," an intentional constant state of heightened awareness to which they had become accustomed. Gaylord-Harden et al. (2008) suggested that avoidance and hypervigilance may be protective against emotional pain for Black youth by providing temporary relief through an increased sense of safety under certain conditions, such as when living in dangerous environments.

Some researchers have found that Latinx youth with chronic exposure to community violence are more likely to report clinically significant PTSS, specifically avoidance and hyperarousal (Gudiño, 2013). Cultural values within Latinx communities, such as emphasizing deference, obedience, respect, and humility, may contribute to higher levels of avoidance symptoms (Gudiño, 2013). Culture-specific, self-labeled syndromes, such as *ataques de nervios*, defined by extreme affect dysregulation, panic, and dissociative symptoms following acute stressors (APA, 2000), are found to be more prevalent in Latinx communities in which residents report high levels of childhood trauma exposure and acculturation are pervasive compared to members of Latinx communities without widespread childhood trauma exposure (Schechter et al., 2000).

An additional significant factor that may influence youths' exposure to trauma is the context of their neighborhood conditions. Neighborhood structural income disadvantage (i.e., NID) encompasses an array of community-level stressors, including high poverty, unemployment, and crime rates; a lack of safety; and below-standard housing. NID is often chronic and can have a range of negative implications for a given community (Santiago et al., 2011). NID may be positively associated with PTSS due to its connection to lower levels of social capital and trust, preventing community members from receiving mental health support (Paarlberg et al., 2018). Youth from lower-income neighborhoods may be less likely than their higher-income peers to have PTSS appropriately identified or diagnosed, potentially due to a lack of access to quality health services (Carbone et al., 2019) or implicit bias on the part of clinicians. Specifically, due to provider bias, symptoms of anger, impulsive behavior, or attention problems, which may be common trauma reactions for youth from these communities, can be misdiagnosed as conduct or attention deficit disorders instead of being identified as PTSS (Brosky & Lally, 2004). Previous findings have indicated that Black and Latinx youth are more likely than White youth to reside in disadvantaged areas characterized by poverty, crime, violence, and welfare dependency due to societal inequalities (De Coster et al., 2006). Some researchers assert that residence in high-poverty neighborhoods adds to a multitude of stressors—particularly racial discrimination—that minority youth already experience and contribute to increased mental health distress (Bellair & McNulty, 2005). However, the specific role NID plays, after accounting for race/ethnicity, has not been examined in relation to PTSS among diverse youth populations.

Some studies suggest that sociodemographic disparities in traumatic stress reactions may stem from demographic differences in the risk of polyvictimization. Polyvictimization, in general, is a stronger predictor of PTSS in youth than individual types of traumatic events and the frequency (i.e., number of occurrences) of each traumatic event (Finkelhor et al., 2007). Black and Latinx youth report higher degrees of polyvictimization than White youth, which has been found to partially account for racial disparities in PTSS (Andrews et al., 2019). Youths living within disadvantaged neighborhoods are also at a greater risk of being exposed to multiple traumatic events than those with sufficient socioeconomic resources (Evans & English 2002). These elevated rates of trauma exposure are concerning given that researchers have documented significant adverse health consequences, including PTSD and externalizing behavior, in youth exposed to multiple violent events (Buka et al., 2001). However, to our knowledge, studies have not examined whether polyvictimization accounts for income disparities in youth PTSS.

Bereavement is one of the most common (Pynoos et al., 2014) and most distressing (Kaplow et al., 2010) potentially traumatic experiences reported by both youth and adults (Breslau et al., 2004). Bereavement during adolescence has been shown to contribute to poor outcomes, including decreased global functioning and more significant psychological distress (Kaplow et al., 2010, 2012). The prevalence of maladaptive grief reactions among bereaved youth ranges from 10% in population-based epidemiological studies (Melhem et al., 2011) to 18% in clinic-referred youth (Kaplow et al., 2018), representing a significant public health concern. Multidimensional grief theory (MGT) posits that grief is a multidimensional construct, with grief reactions falling across three broad domains: separation distress, existential/identity distress, and circumstance-related distress (Kaplow et al., 2013; Layne et al., 2017). Separation distress is typically characterized by sadness or despair over the permanent separation of the bereaved and the deceased and involves yearning or longing to be

reunited with the deceased. Existential/identity distress consists of disruptions to one's sense of self, negative perceptions of one's future or plans, or feeling lost or stuck without the deceased in their life. Circumstance-related distress focuses on the nature of the death. It often involves a preoccupation with unsettling details of the death, blame of oneself or others for the death, and, in some cases, revenge fantasies. Circumstance-related distress reactions are theorized to occur most frequently following deaths marked by potentially traumatic or extremely distressing circumstances (Kaplow et al., 2013).

Previous research has suggested that culture and community context can uniquely influence individuals' experiences with bereavement and grief. However, there is limited research on the associations between systems of oppression and grief outcomes in bereaved youth. Given the interconnectedness within Black and Latinx communities (Kuperminc et al., 2004), a community member's death could significantly impact the grief reactions of Black and Latinx youth, particularly their feelings of existential/identity distress. Previous findings have shown that death within a close-knit community is more detrimental to a bereaved person's sense of self compared with death in less-connected communities (Shear, 2012). Although there is limited research examining the links between NID and maladaptive grief outcomes in childhood, families residing amongst NID may be more likely to have their finances depleted following a death, and financial difficulties have been associated with more prolonged grief reactions in bereaved individuals (Keene & Prokos, 2008). Research is needed to investigate how race/ethnicity and NID residency may be uniquely associated with maladaptive grief outcomes in youth.

Findings from previous studies have demonstrated racial disparities in the circumstances surrounding bereavement, including the number of losses and frequency of exposure to violent deaths. In the United States, Black individuals are more likely than their White counterparts to experience the death of two or more family members during childhood, which could perpetuate mental health disparities of Black youth (Umberson, 2017). The life expectancy of residents in Latinx communities is modestly higher than the reported expectancy in non-Latinx White communities and significantly higher compared with non-Latinx Black communities in the United States, suggesting that residents of Latinx communities experience the death of family members at rates comparable to those in White communities despite poorer socioeconomic conditions (Murphy et al., 2015). However, researchers have yet to investigate how this paradox may be associated with maladaptive grief reactions among bereaved Latinx youth, who may also be more likely to experience various unique stressors, such as acculturation stress or transnational grieving (i.e., the loss of loved ones in their country of origin) following a loss, compared to non-Latinx White and Black youth (Bravo, 2017; Lipscomb & Salinas, 2020). Individuals in Black communities and, to a lesser extent, Latinx communities are also more likely to be exposed to violent crime, particularly homicide, than those in White communities (Ulmer et al., 2012). Researchers suggest this disparity is likely the result of community disparities in poverty and unemployment as well as the legacy of racism and discrimination, which can lead to social disorganization. In the context of NID, previous research has shown that youth living in disadvantaged neighborhoods are more likely to be exposed to violent and premature deaths of community members (Murray et al., 2006). However, researchers have yet to examine racial and neighborhood income disparities in the context of childhood bereavement or the potential mediating death-related factors (e.g., violent death) that may help to explain higher levels of grief-related distress among youth of color or NID residing youth.

The first aim of the current study was to examine the unique predictive utility of both race/ethnicity and NID in relation to PTSS and maladaptive grief reactions. Based on previous literature (Smith & Patton, 2016; Zimmerman & Messner, 2013), we hypothesized that Black and Latinx youth and youth living in communities with higher degrees of NID would report higher levels of PTSS and maladaptive grief reactions relative to their more privileged counterparts. Second, we aimed to test whether trauma (i.e., polyvictimization) and bereavement-related contextual factors (i.e., the loss of multiple loved ones, violent death) varied as a function of race/ethnicity and NID in the present sample. We anticipated youth of color and those living in higher-NID communities would report higher levels of polyvictimization, report the loss of a higher number of loved ones, and be more likely to have experienced the death of a loved one due to violence relative to their White and more advantaged counterparts. Third, we aimed to test the potential indirect effects of race/ethnicity and NID on trauma reactions through polyvictimization and grief reactions via bereavement-related contextual factors. We hypothesized higher levels of polyvictimization among Black and Latinx youth and youth from higher-NID communities would account for associations between race/ethnicity, NID, and PTSS (see Figure 1, Panel A). We also hypothesized that Black and Latinx youth and youth living among higher NID would be more likely than their counterparts to experience the loss of multiple loved ones and death of a loved one by homicide, which would account for higher ratings of maladaptive reactions among these groups (see Figure 1, Panel B). Given that studies have found gender (Tolin & Foa, 2006) and age differences (Herringa, 2017) regarding the prevalence and reporting of

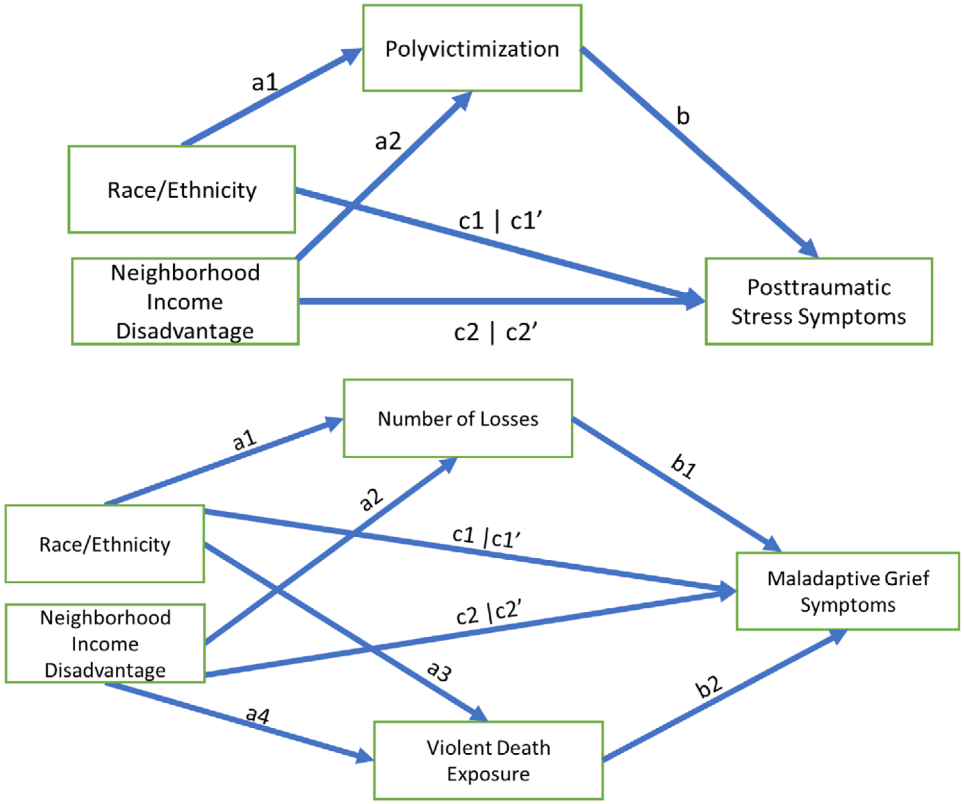

FIGURE 1 Conceptual models examining indirect effects of race/ethnicity and neighborhood income disadvantage (NID) on mental health outcomes

Note. Depiction of (A) polyvictimization as a potential indirect effect on the association between race/ethnicity, NID, and posttraumatic stress symptoms (PTSS) and (B) number of losses and exposure to violent death as potential indirect effects on the associations between race/ethnicity, NID, and maladaptive grief symptoms.

mental health symptoms, we accounted for youth gender and age in all analyses.

METHOD

Participants

The study sample consisted of 516 children and adolescents residing within the United States who were between 6 and 18 years of age (M = 12.20 years, SD = 2.98), with all youth presenting at an outpatient clinic specializing in the assessment and treatment of children exposed to trauma and/or bereavement. Based on youth self-report data, the sample was 55.4% female and primarily Latinx/Hispanic (40.3%), followed by White/Caucasian (33.5%), and Black/African American (24.8%), with few youths identifying as Native American (1.9%), Asian American or Pacific Islander (1.7%), or other (7.8%). Due to the small number of participants (i.e., less than 10%) who identified as Native American, Asian American, Pacific Islander, or other, the only categories used in the analyses were Black, Latinx, and White, resulting in a final analytic sample of 429 participants.

Procedure

Participants in our analytic sample were eligible for inclusion if they were youth aged 6–18 years who had endorsed either trauma exposure or bereavement experiences. If an individual met these criteria, they were informed of the research study, their guardians provided written consent, and the youth completed a standardized psychological assessment battery that included the measurement of trauma-related symptoms and grief-related symptoms. Participants were compensated for their time. All procedures were approved by the Institutional Review Board of Baylor College of Medicine.

Measures

Posttraumatic stress symptoms

The UCLA Posttraumatic Stress Disorder Reaction Index for *DSM-5* for Children and Adolescents (RI-5; Pynoos & Steinberg, 2013; Kaplow et al., 2020) was used to assess participants' PTSS reactions. The RI-5 has demonstrated

strong evidence of validity, developmental appropriateness, and clinical utility in clinic-referred youth (Kaplow et al., 2020). The measure includes a four-cluster criteria structure, following the *DSM-5* symptom clusters, including intrusion (Cluster B), avoidance (Cluster C), negative alterations in cognitions and mood (Cluster D), and alterations in arousal and reactivity (Cluster E). The RI-5 consists of 27 items that are used to assess the four PTSD criteria (23 items) and the PTSD dissociative subtype (four items). Respondents rate symptoms on a 5-point Likert scale ranging from 0 (*never happens*) to 4 (*happens most of the time*). All items were summed to create a total severity score. In the present sample, Cronbach's alpha for the total score was .94. The cluster-specific subscales demonstrated adequate reliability, with alpha values of .84 (k = 5 items) for Criterion B, .65 (k = 2 items) for Criterion C, .88 (k = 13 items) for Criterion D, and .71 (k = 7 items) for Criterion E.

Maladaptive grief reactions

The Persistent Complex Bereavement Disorder Checklist (PCBD; Kaplow et al., 2018), a 39-item measure designed to assess the *DSM-5* PCBD diagnostic criteria, was used to evaluate maladaptive grief symptoms. Items are rated on a 5-point scale ranging from 0 (*not at all*) to 4 (*all the time*). The PCBD Checklist has shown strong evidence of convergent, discriminant, and discriminant-groups validity; developmental appropriateness; and clinical utility in clinic-referred bereaved youth (Kaplow et al., 2018). To permit a more nuanced examination of the links between race/ethnicity and children's maladaptive grief reactions, and consistent with the PCBD Checklist authors' scoring recommendations (Kaplow et al., 2018), the PCBD was scored to align with MGT by averaging items (possible range: 0–4) within each of the three grief domains, including Separation Distress (k = 15 items), Existential/Identity Distress (k = 7), and Circumstance-Related Distress (k = 10 items). In the present sample, Cronbach's alpha values were .92, .86, and .83, respectively, for these three domains.

Neighborhood income disadvantage

For the present study, we created an NID variable using youth- and caregiver-reported zip codes and available U.S Census data from 2017. Zipcode-level Census data, including the percentages of (a) residents whose income fell below the federal poverty line, (b) unemployed residents, (c) residents without health insurance coverage, and (d) residents receiving public financial assistance, were extrapolated for all zip codes present in our data (https://data.census.gov/cedsci/). These four census variables were standardized and then averaged to create a single composite variable, with higher scores representing residency in an area with higher rates of income disadvantage. Previous studies have cited these variables as reliable for measuring objective information on NID (Santiago et al., 2011). We implemented a multi-indicative scoring method to account for the multidimensional nature of NID and the combination of socioeconomic factors most likely to put individuals at risk for trauma and bereavement experiences (Roosa et al., 2003).

Polyvictimization

The trauma history profile section of UCLA-RI-5 (Pynoos & Steinberg, 2013) was used to assess exposure to 19 different traumatic events (e.g., sexual abuse, bereavement, bullying). Participants responded to each item with "yes" (1) or "no" (0) to indicate whether they had experienced each trauma type. A sum score of the 19 items was calculated, with higher scores representing higher degrees of polyvictimization or a higher level of trauma exposure.

Bereavement-related covariates

The PCBD (Kaplow et al., 2018) was used to assess the circumstances of the reported deaths of participants' loved ones. Youth indicate whether their loved one died by accidental death (e.g., car accident; 15.9%), sudden natural death or short-term illness (e.g., heart attack; 23.4%), anticipated death by long-term illness (32.0%), homicide (18.5%), or suicide (10.2%). Given our primary interest in understanding the role of exposure to violent death, the cause of death was coded into a binary variable, with death by homicide, coded as 1, versus all other causes of death, coded as 0. Youth also reported whether they had experienced the death of a loved one across a range of different relationships to the deceased person (e.g., father, mother, grandparent, sibling, close friend, aunt, uncle). Each item that assessed a relationship to a deceased person, coded as 1 for "yes" and 0 for "no," was summed to create an indicator of the number of losses a participant had experienced.

Demographic covariates

Participants' gender (male, female, or other [i.e., nonbinary]) and age were reported by the participant's caregiver using the demographic information sheet completed at intake.

TABLE 1 Descriptive statistics and group differences in neighborhood income disadvantage (NID), trauma exposure, and bereavement

	Black		Latinx		White		Full sample			
Variable	***M***	***SD***	***M***	***SD***	***M***	**SD**	***M***	***SD***	**Statistical test**	***p***
NID	15.8_a	7.3	14.7_a	6.5	10.57_b	6.52	13.68	7.06	$F(427, 2) = 23.26$	< .001
Polyvictimization	4.5_a	2.4	$4.0_{a,b}$	2.7	3.53_b	2.00	3.98	2.44	$F(435, 2) = 4.73$	.009
Loss of multiple loved ones	1.8_a	1.0	1.2_b	1.0	1.44_b	1.10	1.43	1.05	$F(435, 2) = 9.69$	< .001
	n	%	*n*	%	*n*	%	*n*	%		.007
Cause of loved one's death									$\chi^2(N = 361) = 24.14$	
Long-term illness	27	27.0	41	27.9	37	32.5	105			
Short-term illness	19	19.0	36	24.5	22	19.3	77			
Accident	12	12.0	20	13.6	22	19.3	54			
Murder	29_a	29.0	20_b	13.6	8_b	7.0	57			
Suicide	4	4.0	13	8.8	10	8.8	27			
Other	9	9.0	17	11.6	15	13.2	41			

Note: Subscripts indicate significant differences between groups.

Data analysis

Race/ethnicity (i.e., Black, Latinx, White) and NID were examined as exogenous predictors of PTSS and maladaptive grief reactions while controlling for youth age and gender in a series of mediation models. Analyses with White youth as the reference group are reported in the Results section. However, the reference group was rotated to examine Black versus Latinx differences, and these comparisons are also reported when significant. Polyvictimization was entered into the PTSS model as a potential mediator, and the number of losses a participant experienced as well as the cause of death (i.e., homicide vs. all others) were entered as potential mediators in the grief outcome models. Bootstrapping with 5,000 resamples and 95% confidence intervals was used; indirect effects were considered statistically significant if the confidence interval did not include zero. Each domain of PTSS (i.e., RI-5 total score, Criterion B, Criterion C, Criterion D, and Criterion E) and maladaptive grief reactions (i.e., PCBD Separation, Existential/Identity, Circumstance-Related) were examined as endogenous (i.e., outcome) variables in separate models. Low levels of missing data (i.e., less than 5%) were estimated using multiple imputation. Analyses were run in R (Version 3.4) using the *lavaan* package (R Core Team, 2020).

RESULTS

Preliminary analyses

Descriptive statistics for key study variables for each racial/ethnic group and the full sample are reported in Table 1, and bivariate correlations are reported in the Supplementary Materials. Significant mean differences stratified by race indicated that Black and Latinx youth experienced greater NID than White youth. Black youth reported higher degrees of polyvictimization than White youth and more losses relative to Latinx and White youth. Black youth were more likely than Latinx and White youth to report having lost a loved one by homicide.

Main analysis

PTSS

The model results for PTSS are reported in Table 2. Consistent with our hypotheses regarding Path *a* in our conceptual model (Figure 1), identifying as Black was significantly associated with higher levels of polyvictimization, $\beta = .14$, 95% CI [.22, 1.45], p = .008. However, Latinx identity and NID were not significantly associated with polyvictimization. We found support for Path *b* such that higher degrees of polyvictimization were significantly associated with higher PTSS scores, $\beta = .45$, 95% CI [2.59, 3.76], p < .001. There were no significant direct effects of race on total PTSS after accounting for polyvictimization (Path *c*). Finally, a significant indirect effect (Path *c*') indicated that identifying as Black as opposed to White was associated with higher PTSS scores via higher levels of polyvictimization, indirect effect: $\beta = .06$, 95% CI [.70, 4.78], p = .010. The R^2 values were .258 for total PTSS and .058 for polyvictimization, and the model fit was acceptable, $\chi^2(7, N = 439) = 22.54$, $p = .002$, comparative fit index (CFI) = .95, root mean square error of approximation (RMSEA) = .071, 90% CI [.040, .105].

Similar patterns emerged across each criterion domain of PTSS, which are reported in the Supplementary

TABLE 2 Direct and indirect effects of race/ethnicity and neighborhood income disadvantage (NID) on posttraumatic stress symptoms (PTSS)

Variable	Path	*B*	*SE*	*β*	95% CI
Polyvictimization on					
Black	a1	0.83	0.31	0.14	[0.22, 1.45]
Latinx	a2	0.38	0.27	0.07	[−0.14, 0.91]
NID	a3	0.00	0.02	−0.01	[−0.04, 0.03]
Age		0.17	0.04	0.21	[0.10, 0.25]
Gender		0.03	0.23	0.01	[−0.42, 0.48]
Total PTSS on					
Polyvictimization	b	3.18	0.30	0.45	[2.60, 3.76]
Black	c1	3.79	2.05	0.09	[−0.18, 7.75]
Latinx	c2	0.88	1.81	0.02	[−2.77, 4.34]
NID	c3	0.22	0.11	0.09	[0.01, 0.44]
Age		0.18	0.26	0.03	[−0.34, 0.67]
Gender		5.39	1.49	0.15	[2.45, 8.28]
Indirect effects via polyvictimization					
Black	c1'	2.65	1.02	0.06	[0.72, 4.80]
Latinx	c2'	1.19	0.87	0.03	[−0.44, 3.01]
NID	c3'	−0.01	0.06	0.00	[−0.12, 0.11]

Note: White was the reference group for race. Gender was coded as 1 = female, 0 = male.

Materials. Significant indirect effects indicated that identifying as Black was associated with higher scores for Criterion B, C, D, and E, via higher rates of polyvictimization. The direct effects of race on Criterion B and Criterion E were no longer significant after accounting for polyvictimization, whereas the effects of race on Criterion C and Criterion D were only partially mediated. When the reference group for race was rotated, results showed that Black youth had higher levels of PTSS Criterion C symptoms relative to Latinx youth, $\beta = 0.13$, 95% CI [0.21, 1.32]. $p < .010$, and this difference was not explained by polyvictimization, indirect effect: $\beta = .03$, CI [−.04, .43].

Maladaptive grief reactions

All models that examined maladaptive grief reactions included youth age, gender, years since loved one's death, and polyvictimization as covariates; multiple losses and exposure to violent death were examined as mediators (see Table 3 for Path *b* and Path results). Model fit indices were consistent across grief models and showed acceptable fit, $\chi^2(22, N = 361) = 49.32$, $p < .001$, CFI = .90, RMSEA = .059, 90% CI [.037, .081].

Separation distress

In support of our hypotheses regarding Path *a*3 in the grief model (Figure 1, Panel B), the results indicated that Black youth were more likely than White youth to report having experienced loss by homicide, $\beta = .28$, 95% CI [0.13, .34], $p < .001$. Contrary to our hypotheses, Latinx youth had fewer losses compared with White youth, Path *a*1: $\beta = -.16$, 95% CI [−0.51, −0.06], $p = .020$. Loss by homicide, but not multiple losses, was significantly associated with elevated separation distress (Path *b*2; see Table 3). After accounting for mediators and covariates, there was a significant direct effect of identifying as Black or Latinx on separation distress (Path *c*1). There was also a significant indirect effect wherein identifying as Black was associated with a higher degree of separation distress via the increased likelihood of having experienced death by homicide. NID was not associated with separation distress. For each outcome, the R^2 values were .194 for separation distress, .064 for loss by homicide, and .043 for number of losses.

Existential/identity distress

Number of losses and death by homicide were not significantly associated with existential/identity distress (Paths *b*1 and *b*2). Significant direct effects indicated Black and Latinx youth reported significantly higher levels of existential/identity distress relative to White youth even after accounting for covariates and mediators (Path *c*1). There were no significant indirect effects, and NID was not associated with existential/identity distress. For existential/identity distress, R^2 was .107.

TABLE 3 Direct and indirect effects of race/ethnicity and neighborhood income disadvantage (NID) on maladaptive grief reactions

		Separation distress				Existential identity distress				Circumstance-related distress			
Variable	**Path**	***B***	***SE***	***β***	**95% CI**	***B***	***SE***	***β***	**95% CI**	***B***	***SE***	***β***	**95% CI**
Grief outcomes on													
Number of losses	b1	0.09	0.05	0.08	[−0.01, 0.19]	0.09	0.08	0.06	[−0.02, 0.21]	0.03	0.05	0.03	[−0.06, 0.13]
Violent death exposure	b2	0.43	0.13	0.16	[0.17, 0.68]	0.28	0.10	0.16	[−0.02, 0.59]	0.51	0.13	0.20	[0.26, 0.76]
Black	c1	0.55	0.14	0.24	[0.27, 0.83]	0.32	0.14	0.15	[0.03, 0.64]	0.26	0.13	0.13	[0.00, 0.51]
Latinx	c1	0.34	0.12	0.17	[0.11, 0.57]	0.34	0.16	0.12	[0.10, 0.59]	0.31	0.11	0.17	[0.09, 0.52]
NID	c2	0.01	0.01	0.10	[0.00, 0.03]	0.01	0.09	0.01	[0.00, 0.03]	0.01	0.01	0.11	[0.00, 0.03]
Age		−0.04	0.02	−0.12	[−0.07, 0.00]	−0.02	−0.06	0.02	[−0.06, 0.02]	−0.04	0.01	−0.14	[−0.07, −0.01]
Gender		0.18	0.09	0.09	[−0.01, 0.36]	0.16	0.08	0.10	[−0.04, 0.36]	0.10	0.09	0.06	[−0.07, 0.27]
Years since death		−0.06	0.02	−0.15	[−0.10, −0.02]	−0.06	−0.13	0.02	[−0.10, −0.01]	−0.04	0.02	−0.11	[−0.08, 0.00]
Polyvictimization		0.08	0.02	0.18	[0.03, 0.12]	0.07	0.16	0.03	[0.01, 0.12]	0.08	0.02	0.21	[0.04, 0.12]
Indirect effects via number of losses													
Black	c1′	0.00	0.01	0.00	[−0.04, 0.02]	0.00	0.00	0.01	[−0.04, 0.02]	0.00	0.01	0.00	[−0.02, 0.01]
Latinx	c1′	−0.03	0.02	−0.01	[−0.08, 0.00]	−0.03	−0.01	0.02	[−0.08, 0.00]	−0.01	0.02	−0.01	[−0.05, 0.01]
NID	c2′	0.00	0.00	0.00	[0.00, 0.00]	0.00	0.00	0.00	[0.00, 0.00]	0.00	0.00	0.00	[0.00, 0.00]
Indirect effects via violent death exposure													
Black	c3′	0.10	0.04	0.04	[0.04, 0.20]	0.07	0.03	0.04	[0.00, 0.16]	0.12	0.04	0.06	[0.05, 0.22]
Latinx	c3′	0.03	0.02	0.02	[0.00, 0.09]	0.02	0.01	0.02	[0.00, 0.08]	0.04	0.02	0.02	[0.01, 0.10]
NID	c4′	0.00	0.00	−0.01	[0.00, 0.00]	0.00	0.00	0.00	[0.00, 0.00]	0.00	0.00	−0.01	[0.00, 0.00]

Note: White was the reference group for race. Gender was coded as 1 = female, 0 = male. Parameters corresponding to *a* paths were consistent across grief models; significant *a* paths are reported in the text. Each grief outcome was examined in a separate mediation model.

Circumstance-related distress

The results indicated that loss by homicide, but not number of losses, was significantly associated with higher levels of circumstance-related distress (Path *b*2). Significant direct effects showed that Latinx youth and youth living among higher-level NID reported significantly higher circumstance-related distress than their counterparts (i.e., Paths *c*1 and *c*2, respectively). Identifying as Black was associated with a higher likelihood of exposure to death by homicide, which was then associated with higher circumstance-related distress. For circumstance-related distress, the R^2 value was .172.

DISCUSSION

The primary purpose of the present study was to examine variance in trauma and grief outcomes by race/ethnicity and NID in a sociodemographically diverse sample of clinic-referred youth. The secondary purpose was to delineate relational effects between race/ethnicity and residency amongst NID and trauma and grief outcomes in youth while exploring the potential indirect effects through polyvictimization and loss of multiple loved ones as well as type of death. The findings suggest important ways in which race/ethnicity and NID relate to trauma and grief reactions in youth.

Consistent with previous studies (Andrews et al., 2019) and our hypotheses, we found that identifying as Black was indirectly associated with more severe PTSS via higher levels of polyvictimization, even after accounting for NID, child age, and gender. Notably, these indirect effects emerged across each domain of PTSS, and after accounting for polyvictimization in the models, race was no longer directly associated with overall PTSS, Criterion B, or Criterion E severity. This is consistent with the literature showing that experiencing multiple traumatic events (i.e., assault, witnessing violence) is associated with poorer mental health outcomes than experiencing one traumatic event (Finkelhor et al., 2007). These results also support previous work suggesting that Black youth may be more likely to reside in high-stress environments where polyvictimization is more prevalent (Rosenbloom & Way, 2004). Black identity was not directly associated with higher PTSS; however, Black youth may be at risk for experiencing multiple traumatic events, and these traumatic experiences may perpetuate racial disparities in PTSS. This should encourage future researchers to consider the types of experiences that may put certain youth at risk for more severe mental health problems rather than focusing on race as a causal factor of PTSS.

Contrary to the literature examining the relation between identifying as Latinx and PTSS (Smith & Patton, 2016), Latinx youth did not report significantly elevated PTSS compared to White youth, and they endorsed significantly lower levels of avoidance compared to Black youth. It is important to note that previous literature regarding PTSS within Latinx communities has primarily been conducted with adults. Literature suggesting Latinx youth may be at an increased risk of trauma exposure, but not necessarily elevated levels of PTSS, is particularly relevant and requires further exploration (Gudiño, 2013). Some findings have suggested that Latinx communities may manifest distress symptoms in physical rather than psychological forms compared with other ethnocultural groups (Marshall et al., 2009). Future work would benefit from investigating a wider range of posttraumatic symptoms, including somatic complaints, and experiences among Latinx youth.

Consistent with our hypotheses, Black and Latinx youth reported significantly higher levels of maladaptive grief symptoms than White youth. Specifically, significant direct effects indicated that relative to White youth, Latinx youth reported higher maladaptive grief reactions across all three domains, and Black youth reported higher separation distress and existential/identity distress even after accounting for bereavement-related experiences and NID. Research on grief reactions among Black and Latinx youth is limited. These findings suggest that maladaptive grief reactions may vary by race and ethnic identity, which signals the need for future work to investigate additional factors that may contribute to racial disparities in grief reactions. Previous findings have suggested that factors such as religion and spirituality, financial stress, transnational grieving, and role flexibility in caregiving can influence how Black and Latinx communities grieve (Brooten et al., 2016). We anticipated the loss of multiple loved ones and exposure to violent death would help explain potential racial differences in maladaptive grief reactions. Inconsistent with our hypotheses, the loss of multiple loved ones was not a significant mediator in any grief models. Extant research on bereavement exposure has mostly focused on adults who have lost multiple loved ones across their lifespan (Umberson, 2017). Future work may benefit from monitoring the experiences of youth who have lost multiple loved ones longitudinally, as these individuals may experience variance in their symptoms as they age.

Exposure to the death of a loved one by homicide emerged as a potential mechanism to explain disparities in certain domains of maladaptive grief reactions between Black and White youth. Although identifying as Black was not directly associated with circumstance-related distress, identifying as Black was indirectly associated with higher levels of circumstance-related distress and separation distress through the increased likelihood of having experienced the death of a loved one by homicide. This is consistent with the literature suggesting that youth of color

may be more likely to be exposed to violent losses (Zimmerman & Messner, 2013). Circumstances of the death, in particular, have been found to significantly impair bereaved youth's ability to grieve in healthy and adaptive ways (Kaplow et al., 2014).

Inconsistent with our hypothesis, NID was not related to PTSS after accounting for race, polyvictimization, and demographic covariates. NID was directly associated with elevated circumstance-related distress even after accounting for race/ethnicity and covariates. However, it was not associated with the loss of multiple loved ones or exposure to violent death. The finding that the loss of multiple loved ones and exposure to violent death did not account for the relation between NID and circumstance-related distress was unexpected given that researchers have found individuals living in lower-income communities to have an increased likelihood of exposure to community violence and peer homicide (Zimmerman & Messner, 2013). Future research is needed to identify other potential mechanisms that may explain higher rates of circumstance-related distress among youth residing in lower-income neighborhoods. Taken together, Black youth were more likely to experience higher rates of polyvictimization and report homicide as the cause of their loss than Latinx and White youth. The elevated risk for polyvictimization and violent death exposure among Black youth may be potential mechanisms through which these youth were more likely to experience higher levels of PTSS and maladaptive grief symptoms than White youth. It is essential not to equate oppressed identities, such as race/ethnicity and residency among NID, as direct causal factors for poorer mental health outcomes, as this ignores the unique stressors these groups are more likely to experience, such as polyvictimization and exposure to violent deaths.

Our findings have important implications for risk screening and assessment strategies for trauma- and bereavement-exposed Black and Latinx youth and youth living with NID. Clinicians working with low-income youth should assess socioeconomic risk factors before beginning treatment for trauma and bereavement to gain a more nuanced understanding of the unique stressors this population experiences. Clinicians and individuals involved in social service systems should also consider the racial and ethnic context of trauma and loss experiences and consider these factors in mental health assessment, treatment, and social action, including policy work and resource distribution (Santiago et al., 2011). For example, in recognizing that Black youth are more likely than their Latinx and White peers to experience homicide and associated elevations in maladaptive grief reactions, grief-focused treatments that assist in addressing bereavement-related challenges specific to homicide may be useful (e.g., addressing difficult emotions such as guilt, anger, or desires for revenge; Kaplow et al., in press; Saltzman et al., 2017). Further, due to findings of variance in the PTSS and grief experiences of Black and Latinx youth, clinicians treating youth for trauma and bereavement exposure should screen for sociocultural factors as well as culture-specific language clients may use to describe PTSS and grief symptoms; for example, in the United States, Latinx communities sometimes use the term *ataques de nervios*, and Black communities refer to "staying on point" to describe symptomatic reactions following traumatic stress (Alcántara et al., 2013; Smith & Patton, 2016).

Although this study had several strengths, including a racially diverse sample of youth and quality psychosocial assessments, there were also several limitations. This sample was limited to treatment-seeking youth who endorsed trauma exposure and/or bereavement; thus, these findings may not generalize to non–treatment-seeking youth. The current study used a cross-sectional design, and we could not capture the succession of traumatic events and subsequent PTSS and grief symptoms. Additionally, the NID variable was created using zipcode data. Although this method is often utilized to capture neighborhood characteristics, zip codes are limited in their ability to appropriately capture community characteristics when compared with self-reported data (Stockdale et al., 2007). Capturing more comprehensive measures of NID, such as crime rates, residential mobility, and self-report neighborhood perceptions, could add a more nuanced understanding of the effects of community-level stressors on youth well-being (Kahn & Pearlin, 2006). Future studies may benefit from including both objective (i.e., U.S. Census data) and subjective (i.e., self-report) measures of NID when examining its potential influence on trauma- and grief-related outcomes.

In addition, although we were able to account for polyvictimization in youth (i.e., physical abuse, bereavement, bullying), our measure of trauma exposure was limited to capturing the scope of traumatic experiences but not the total number of times each experience took place across a participant's lifetime. It is crucial to account for comprehensive experiences with polyvictimization when investigating PTSS among youth (Finkelhor et al., 2007). To better understand racial and income disparities in PTSS and maladaptive grief reactions, future research should continue to examine psychometric properties of measures of PTSS and maladaptive grief reactions across diverse populations of youth and further test whether the factor structure of these scales works similarly for youth from different socioeconomic backgrounds. Researchers have suggested that experiences of race-related trauma in addition to racial discrimination can be associated with PTSS (Bryant-Davis & Ocampo, 2005). Traumatic events such as police brutality, intergenerational trauma within the family system, migration-related trauma, deportation,

mass incarceration, and racialized hate crimes provide a unique context of trauma that may also play a role in PTSS. These effects have yet to be studied among Black and Latinx youth in the context of grief/bereavement. Further work is also needed to investigate gender differences regarding the experiences of PTSS and maladaptive grief reactions in youth (Tolin & Foa, 2006).

The present study aimed to investigate the role of both race and ethnicity in trauma- and grief-related symptoms. It is pivotal to distinguish race from ethnicity, as these terms capture different aspects of sociocultural constructs and should not be used interchangeably. Due to the limited sample size, we did not have the power to run an analysis between Black and Latinx diaspora communities. Future research should investigate diasporic variability in trauma and grief experiences of Black and Latinx youth as well as in youth with multiple ethnoracial identities. The present results highlight that Black, Latinx, and NID youth face the unique challenge of attempting to maintain their mental health despite facing systemic oppression. It is pivotal for future studies to investigate protective factors for youth from these communities, such as prosocial behavior, to inform treatment and prevention strategies.

OPEN PRACTICES STATEMENT

The study reported in this article was not formally preregistered. Neither the data nor the materials have been made available on a permanent third-party archive; requests for the data or materials can be sent via email to the lead author at douglard@tamu.edu.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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