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Associations of ethnic/racial discrimination with internalizing symptoms and externalizing behaviors among juvenile justice-involved youth of color

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Abstract

Introduction: Youth of color (e.g., Black/African American and Latinx/Hispanic) are overrepresented in the juvenile justice system and experience greater health disparities compared to non-Hispanic White youth. Ethnic/racial discrimination (ERD) is a risk marker for poor mental health and behavioral outcomes among youth of color, and traumatic stress and emotion dysregulation have been implicated in these pathways. Despite the relevance of these factors for justice-involved youth of color, understanding of their interrelations within this demographic is lacking.

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Methods: Participants were 173 recently arrested adolescents (86% African American; 45% girls; ages 13-18) on probation in a large Midwest city in the United States. Participants completed surveys assessing ERD, traumatic stress, emotion dysregulation, internalizing symptoms, and externalizing behaviors. Using linear regression and path analysis, this study tested the cross-sectional links among two types of ERD (i.e., interpersonal experiences and perceptions of group experiences), traumatic stress symptoms, emotion dysregulation, and internalizing symptoms and externalizing behaviors.

Results: Interpersonal ERD (e.g., hearing racial insults) was associated with increased internalizing symptoms and externalizing behaviors; for internalizing symptoms, the relation was stronger for girls than boys. Gender differences were partially accounted for by traumatic stress symptoms and emotion dysregulation.

Conclusions: This study offers new insights into ERD experiences among juvenile justice-involved youth of color, gender differences in ethnic/racial discrimination experiences, and the potential value of gender-sensitive and culturally responsive programming in strengthening youths' ability to cope with ERD.

Keywords

juvenile justice; discrimination; traumatic stress; emotion regulation; mental health; gender differences

The need to investigate and address health disparities among justice-involved adolescents is critical. Studies show significantly more mental health and behavioral problems among justice-involved versus non-justice-involved youth (Chassin, 2008; Teplin et al., 2002; Vincent, Grisso, Terry, & Banks, 2008). Of note, mental health problems may be up to three times higher in this population than in community samples (Cauffman, 2004; Underwood & Washington, 2016; Vermeiren, Jaspers, & Moffitt, 2006). Co-occurrence with substance use is also high; almost 65% of justice-involved adolescents meet criteria for both mental health and substance abuse disorders (Teplin et al., 2005). This co-occurrence can lead to significant morbidity and mortality (Kann et al., 2016), and adolescents who encounter the justice system often suffer ongoing problems with mental health and substance use into adulthood (Abram et al., 2015; Welty et al., 2016).

Youth of color, specifically Black/African American and Latinx/Hispanic, are overrepresented in the juvenile justice system (Hanes, 2012; Puzzanchera, 2013) and experience greater health disparities compared to non-Hispanic White youth (Abram et al., 2017; Alegria, Vallas, & Pumariega, 2010; Alegria et al., 2011). Yet, little is known about the social mechanisms that might exacerbate poor health outcomes in this population. Recent research implicates racial discrimination as a critically important mechanism contributing to health disparities among youth of color (Causadias & Korou, 2019; Neblett, 2019). Thus, in this study, we examine ethnic/racial discrimination (ERD), which is generally defined as differential treatment due to one's ethnic or racial group membership (Benner et al., 2018), as one contributor to poor health outcomes in juvenile justice-involved youth of color.

Several studies link ERD to mental and physical health problems in youth of color (e.g., Benner et al., 2018; Umaña-Taylor, 2016; Yip, 2018), yet few have examined its associations with mental and behavioral health among justice-involved youth of color. Investigating this gap in the literature has implications for improving health outcomes among justice-involved youth of color. Drawing on stress and coping frameworks (Lazarus & Folkman, 1984; Masten, 2004), we investigated two potential mediating factors especially prevalent among justice-involved youth (Abram et al., 2004; Kerig et al., 2009) -- traumatic stress and emotion dysregulation. Both have been linked to ERD and may exacerbate the negative effects of stress and adversity on justice-involved youth's health.

Additionally, prior studies involving school and community-based samples note gender differences in the links between discrimination and health outcomes (Brody et al., 2006; Pascoe & Richman, 2009). For example, ERD is associated with internalizing and externalizing problems in African American women (Gibbons et al., 2014) and conduct disorder in African American boys (Brody et al., 2006). Yet, these findings have not been explored in justice-involved youth samples. Therefore, we explored gender differences for youth of color on probation. The gap addressed by the current study is important given the substantial health disparities faced by probation youth of color, and the need to illuminate modifiable factors for improving their long-term health trajectories.

Ethnic/Racial Discrimination and Adolescent Mental and Behavioral Health

Adolescence is an important period in the life span to investigate the links between ERD and health due to notable changes, involving enhanced cognitive abilities (Steinberg, 2009), rapid physiological growth and pubertal changes (Susman & Dorn, 2009), shifting role expectations from family, school, and society (e.g., Brown & Larson, 2009; Eccles, Brown, & Templeton, 2008), and increasing social opportunities for an individual to assert their independence (e.g., Mahoney, Vandell, Simpkins, & Zarrett, 2009). Research also suggests the probability for youth to experience discrimination increases in adolescence, as they spend more time outside of the home (Fisher, Wallace, Fenton, 2000; Sellers, Copeland-Linder, Martin, & Lewis, 2006), and many racial/ethnic disparities in health begin in adolescence (e.g., Benner et al., 2018; Sanders-Phillips et al., 2009). For youth of color on probation, these developmental transitions can also occur in the context of community reintegration and previous offender status.

Prior studies implicate ERD in poor mental and behavioral health (Berkel et al., 2010; Gibbons et al., 2012; Jackson et al., 2004; Pascoe & Richman, 2009; Sanders-Phillips et al., 2009; Williams, Neighbors, & Jackson, 2003; Umaña-Taylor, 2016), above and beyond other social stressors (e.g., economic stress, family conflict; Gaylord-Harden & Cunningham, 2009). More frequent encounters with ERD are associated with depression, lower self-esteem, and poor academic performance among adolescents of color surveyed from community and school-based samples (Brittian, Toomey, Dumka, & Gonzales, 2013; Greene, Way, & Pahl, 2006; Seaton, Upton, Gilbert, & Volpe, 2014). Over time, poor mental health appears to coalesce with other health problems (Graham, Calloway, & Roemer, 2015), such as substance use (Flores et al., 2010) and increased risk for justice system involvement (Burt & Simons, 2015; Burt, Simons, & Gibbons, 2012).

Although awareness of racial differences and bias is present in childhood (e.g., Brown, Alabi, Huynh, & Masten, 2011; Umaña-Taylor, 2016), it is not until early adolescence that individuals begin to make meaning of their social experiences related to race and ethnicity, due to advances in cognitive development and social transitions (Quintana & McKown, 2008). Further, understanding experiences with ERD among adolescents may illuminate potential distinct effects on mental health and behavioral outcomes during a critical developmental period when individuals are trying to make sense of their world and how their social experiences inform future life choices (e.g., education, employment; Spencer, Swanson, & Harpalani, 2015). This is particularly important for justice-involved teens who are involved in rehabilitation services, and are also developing critical skills to cope with adversity.

ERD is best conceptualized as a multidimensional concept that encompasses acute and chronic experiences with discrimination from different sources (e.g., other youth or adults), and between individuals or groups (Brondolo et al., 2009; Hughes, Watford, & Del Toro, 2016). Yet, different forms of discrimination are rarely investigated in the same study, despite their likely differential impact on health behaviors (Pascoe & Richman, 2009). For example, interpersonal discrimination (encounters between individuals) is associated with lower self-esteem, whereas group-based discrimination (denigration of one's group as a whole) is associated with higher group esteem as a result of increased group affiliation -- also known as the rejection-identification effect (Armenta & Hunt, 2009; Branscombe, Schmitt, & Harvey, 1999).

To shed light on the existing findings and contribute to the broader literature linking perceptions of discrimination to health outcomes (e.g., Krieger, 2000), we examined the differential association of two types of discrimination--interpersonal and group--with justice-involved youths' mental health and behavioral outcomes. This study is among the first to examine distinct types of ERD experiences in a juvenile justice sample.

The Role of Traumatic Stress

Rates of post-traumatic stress exposure are high among justice-involved youth (Abram et al., 2013; Ford, Chapman, Connor, & Cruise, 2012; Ford, Hartman, Hawke, & Chapman 2008), along with co-occurring psychiatric disorders (e.g., anxiety and depression) and substance use (Smith & Saldana, 2013). Abram and colleagues (2013) found that 92.5% of detained youth reported at least one traumatic experience in the last year; while few youths qualified for post-traumatic stress disorder (PTSD), far more reported significant symptoms related to trauma exposure.

ERD is a potential contributor to juvenile justice-involved youth's PTSD symptoms (e.g., Butts, 2002; Flores et al., 2010; Sanders-Phillips, 2009), as traumatic stress is a common response to racially motivated encounters, such as being treated differently by teachers or being followed in stores (Carter, 2007; Sanders-Phillips, 2009; Sanders-Phillips et al., 2009). Still, findings linking ERD with trauma symptoms are mixed; some data associate ERD with increased traumatic stress symptoms in adolescents (Flores et al., 2010) and adults (Carter,

2007; Cheng & Mallinckrodt, 2015; Chou, Asnaani, & Hofmann, 2012), while others involving children do not (Piña et al., 2008).

No study to our knowledge has examined the links between ERD and traumatic stress for adolescents in juvenile justice, although they may experience more racially motivated encounters than non-justice involved teens (e.g., Fader, Kurlychek, & Morgan, 2014). In addition to school and neighborhood experiences non-justice involved youth of color encounter, the juvenile justice system exposes youth of color to new and complex systems that are known to perpetuate racial bias from initial contact to sentencing (e.g., Bishop, Leiber, & Johnson, 2010; Talley, Rajack-Talley, & Tewksbury, 2005). To date, only one study of adolescents investigated the indirect association of ERD with health behaviors via symptoms of traumatic stress, finding ERD was indirectly linked to increased risk taking (substance use, fighting, and risky sexual behaviors) in Mexican American adolescents (Flores et al., 2010). The mixed findings linking ERD and traumatic stress symptoms (e.g., Piña et al., 2008), together with higher rates of self-reported trauma symptoms among justice-involved youth, highlight the need to understand the pathways to distress that may be important for justice-involved youth of color. Thus, we explored the relations among ERD, traumatic stress symptoms, and justice-involved youths' mental and behavioral health outcomes.

The Role of Emotion Dysregulation

Emotion dysregulation (difficulty monitoring, evaluating, and/or modifying emotional reactions in an adaptive way to accomplish one's goals) may also be elevated among justice-involved youth (Ford, Chapman, Connor, et al., 2012; Kemp et al., 2017). Justice-involved teens are more likely to report exposure to potentially traumatic events compared to non-justice-involved teens (Abram et al., 2004; Ford et al., 2008), and exposure to traumatic events is highly correlated with difficulty regulating emotions (Steinberg, 2009).

Emotion regulation (abilities to control emotions when faced with adversity) is a critical skill for healthy coping (Buckner, Mezzacappa, & Beardslee, 2003) that may be negatively impacted by ERD. Burt and Simons (2015) stated, "Racial discrimination represents an antagonistic, unfair, and unpredictable social interaction that teaches people that social rules do not apply to everyone fairly (p. 538)." Being treated unfairly due to one's racial or ethnic group membership can elicit strong and warranted negative emotions, particularly for adolescents whose ability to manage their emotions is still developing (Casey, Jones, & Hare, 2008; Dahl, 2004; Steinberg, 2009). Being able to regulate difficult emotions, on balance, may facilitate effective engagement with bias and other challenging circumstances, and promote attainment of youth's long-term goals.

Notably, justice-involved youth may be especially vulnerable to developing problems with emotion regulation because of exposure to prior traumatic experiences (Abram et al., 2004; Ford & Blaustein, 2013; Ford, Chapman, Mack, & Pearson, 2006), and because ERD may further comprise the development of critical and important coping skills, we evaluated problems with emotion regulation in the current study. Further, because the ability to cope with racial stress through emotion regulation can promote mental health and positive

adjustment (Alvarez & Juang, 2010), we evaluated the role of emotion regulation in the associations among ERD and mental health and behavioral outcomes for justice-involved youth.

Gender Differences

Research indicates gender differences regarding racial discrimination (e.g., Crenshaw, Ocen, & Nanda, 2015; Seaton, Caldwell, Sellers, & Jackson, 2008) and experiences in the juvenile justice system (Javdani, Sadeh, & Verona, 2011). Men report more frequent encounters with ERD than women (Brodish et al., 2011; Hammond, 2012) and boys report more racially-motivated experiences than girls (Seaton et al., 2008). Some findings link ERD more strongly to conduct disorder in boys than girls (Brody et al., 2006), while others indicate ERD is more strongly linked to unhealthy behaviors (e.g., disordered eating) in African American women (Pascoe & Richman, 2009), suggesting important implications for behavioral problems in boys and health behaviors in girls.

Gender differences in mental health symptoms also exist in the general population, with women reporting more internalizing symptoms (e.g., anxiety and depression) and fewer externalizing behaviors (e.g., physical aggression and delinquency) than men (e.g., Leadbeater et al., 1999; Kessler et al., 2005). By contrast, rates of externalizing behaviors among girls in juvenile justice are similar to boys (Wasserman et al., 2005), signifying a potentially unique subpopulation in need of consideration and services (e.g., Ford, Steinberg, Hawke, Levine, & Zhang, 2012; Javdani, Sadeh, & Verona, 2011). In response to a recent call for more research to investigate how differences in social position and interactions with systems of oppression differentially shape women's experiences (e.g., Ghavami, Katsiaficas, & Rogers, 2016; Seaton, Quintana, Verkuyten, & Gee, 2017; Seaton & Tyson, 2019), also known as *intersectionality* (Crenshaw, 1989; Collins & Bilge, 2016), we examined how relations in these processes may differ for girls and boys of color on probation.

Current Study

This cross-sectional path analysis study, conducted with justice-involved youth of color, addresses several gaps. First, no study to our knowledge has examined the linkages among ERD, traumatic stress symptoms, emotion regulation, and internalizing symptoms and externalizing behaviors among justice-involved youth of color. Second, we employed a more nuanced evaluation of ERD by distinguishing two types -- interpersonal and group-based -- in relation to adolescent outcomes. Third, we explored the role of traumatic stress symptoms and emotion dysregulation in the association between ERD and mental and behavioral symptoms. Finally, we compared patterns between boys and girls to identify any gender differences in the pathways.

We hypothesized that interpersonal and group ERD would each be directly related to greater internalizing symptoms and externalizing behaviors. We expected boys to report more ERD experiences than girls, and in turn, endorse more internalizing and externalizing symptoms. We predicted that the relation between individual and group ERD and internalizing and externalizing symptoms would be explained in part by greater traumatic stress symptoms

and problems with emotion regulation. Specifically, we expected ERD would be directly associated with traumatic stress symptoms and emotion dysregulation, and indirectly with health outcomes.

Method

Participants

Participants were a subset ($n = 173$) of a federally-funded study testing the efficacy of an HIV prevention program for youth on probation (Donenberg, Emerson, & Kendall, 2018) who completed measures on ERD at 6-month follow-up (see Procedure). Youth in the current study were boys (55%) and girls (45%), age 13-18 years old ($M = 16.1$; $SD = 1.1$), primarily African American (86%); 9% were Latinx and 5% were biracial/multiracial. Participants self-reported their most recent offense(s). Most participants reported person-related crimes (i.e., assault and battery; 41%), followed by public order offenses (e.g., gun possession; 22%), property-related crimes (i.e., theft, trespassing; 20%), drugs (9%), and other offenses (8%); rates were comparable to national trends (Hockenberry & Puzanchera, 2015).

Procedure

Participants in the parent study were recruited using two strategies. First, boys and girls were recruited from Chicago Cook County's Evening Reporting Centers (ERC), community-based diversion programs for arrested non-detained youth. The ERCs offer single-sex, on-site, after-school supervision and programming for up to 28 days while adolescents await sentencing. Youth reside in the community and are transported to the ERCs by the probation department. Research staff presented the project to all youth at the ERC as a group, and interested teens provided parental/guardian contact information. The second recruitment strategy focused exclusively on girls, who constitute only 14% of arrested youth annually in Cook County and are less likely to be remanded to the ERC than boys. Probation officers distributed flyers to girls in their caseload, and girls returned a form in a sealed envelope indicating their interest.

Participants in the parent study completed 2-hour baseline, 6-, and 12-month follow-up assessments for which they were compensated \$30, \$35 and \$40 respectively. Youth assent and parental consent was obtained. All study procedures were approved by a university's Institutional Review Board, with special attention to vulnerable populations. Because youth only reported on ERD experiences at the 6-month follow-up, the current study is a cross-sectional examination of data collected at this time point, including internalizing symptoms and externalizing behaviors, traumatic stress symptoms, and emotion dysregulation to examine associations among these factors. Of note, the intervention was not intended or expected to impact ERD.

Measures

Ethnic/racial discrimination (ERD).—Interpersonal ERD was assessed with the widely-used *Adolescent Discrimination Distress Index* (Fisher, Wallace, & Fenton, 2000), a self-report measure of adolescent experiences of racial or ethnic discrimination in institutional

(e.g., hassled by a store clerk or store guard), educational (e.g., differential treatment from teachers), and peer (e.g., being excluded from activities) settings in the last 3 months. Internal consistency was strong for the total scale ($\alpha=.86$). Group ERD was assessed using seven items from the perceived discrimination subscale of the *Scale of Ethnic Experience* (Malcarne, Chavira, Fernandez, & Liu, 2006). Items assessed participants' perceptions of criticism and respect for their own ethnic group and treatment of their ethnic group (e.g., perceived barriers to opportunity). Sample items included "My ethnic group is often criticized in this country," "My ethnic group does not have the same opportunities as other ethnic groups," and "Generally speaking, my ethnic group is respected in America (reverse coded)." Participants rated each item on a scale from 1 = *strongly disagree* to 5 = *strongly agree*. Internal consistency was acceptable ($\alpha=.65$).

Traumatic stress.—Youth completed the *UCLA PTSD Reaction Index (RI) for DSM-IV: Adolescent Version* (Rodriguez, Steinberg, & Pynoos, 1999; Steinberg et al., 2004), a well-validated measure of exposure to traumatic events and symptoms. Participants received an overall severity score, with higher scores indicating more symptoms of traumatic stress. Participants who reported no exposure to traumatic events were assigned a score of 0. Internal consistency was strong ($\alpha=0.92$).

Emotion dysregulation.—Youth completed 6-items adapted from the *Structured Interview for Disorders of Extreme Stress (SIDES)*, a validated measure of emotion regulation (Pelcovitz et al., 1997). Responses range from 1 = *not at all* to 4 = *often*. Sample items include "In the past 3 months, small problems got me very upset," and "In the past 3 months, I have felt overwhelmed by strong feelings." A total score was used in the analyses; higher scores indicate more difficulty managing feelings. Internal consistency was strong ($\alpha=.88$).

Internalizing symptoms and externalizing behaviors.—Youth reported their internalizing symptoms and externalizing behaviors on the Youth Self-Report (YSR), a widely-used measure of adolescent emotional and behavioral problems with extensive evidence of reliability and validity (Achenbach & Rescorla, 2001). Normed for children age 11-18 years, the YSR generates raw and T-scores for internalizing (e.g., depression, anxiety) and externalizing (e.g., rule breaking and aggressive behavior) symptoms. T-scores for this measure account for age and gender. Sample items include "I cry a lot" for internalizing symptoms and "I break rules at home, school or elsewhere" for externalizing behaviors. Higher scores indicate greater internalizing symptoms and externalizing behaviors. Internal consistency was strong for both internalizing symptoms ($\alpha=0.90$) and externalizing behaviors ($\alpha=0.90$).

Analytic plan

Because data for the current study were collected 6-months after youth participated in the prevention program or control group, we initially examined mean differences between the intervention and the control group on all study variables. In addition to statistical testing, we visually examined the distribution of all variables by group to assess for potential imbalances. The intervention group was slightly older compared to the control ($M = 16.3$ vs.

15.9; $p = 0.042$). Although no other significant differences between the groups were observed in the data used in the current study, we subsequently adjusted for group assignment and age in all statistical analyses (i.e., age and group were included as control variables) to address any residual group imbalances on measured or unmeasured confounders that could have been present despite randomization. Frequencies and measures of central tendency (means, medians) were used to examine variable distributions. We compared measures of ERD, traumatic stress, emotion dysregulation, and internalizing symptoms and externalizing behaviors by gender using t-tests or Wilcoxon rank-sum tests for continuous variables. Spearman rank-order correlations were calculated separately for boys and girls to assess initial magnitude and direction of associations and assess multicollinearity.

We sought to examine the independent and combined effects of interpersonal ERD and group ERD on internalizing symptoms and externalizing behaviors separately for boys and girls. Linear regression models were fit separately for internalizing symptoms and externalizing behaviors. Models included main effects of interpersonal ERD, group ERD, and gender, as well as interactions of each type of ERD with gender. The presence of a statistically significant interaction term ($p < .05$) indicated that the effect of ERD on the outcome varied by gender. We also tested interactions between interpersonal ERD and group ERD, and three-way interactions between both types of ERD and gender. Regression diagnostics examined residual plots, variance inflation, and overall tests of model misspecification, and indicated adequate fit for each of the models. Regression models were fitted using STATA SE/14 for Windows (StataCorp, College Station, TX).

Path analyses were conducted in Mplus version 7.4 to assess the direct and indirect paths from interpersonal ERD and group ERD to internalizing symptoms and externalizing behaviors via symptoms of traumatic stress and emotion dysregulation. All constructs were treated as observed variables. We ran multi-group path models for internalizing symptoms and externalizing behaviors separately, and, for each outcome, differences in direct and indirect pathways by gender were assessed using Wald tests. Models were fitted using full information maximum likelihood estimation. All models adjusted for age, group (intervention or control), and residual covariance among mediators. Because models were saturated or “just-identified,” meaning that all pathways were estimated as in traditional linear regression and fit perfectly to the data, fit statistics are not reported. Due to the asymmetric distribution of the indirect effects, bias corrected bootstrap confidence intervals (CI) around the indirect effects were estimated using 5000 replicates to ensure precision; CI that excluded zero were considered statistically significant (Williams & MacKinnon, 2008).

Results

Descriptive Findings

Per the well-established norms on the YSR (Achenbach & Rescorla, 2001), 16 girls (20.8%) and 14 boys (14.7%) met criteria for internalizing symptoms in the clinical range and 22 girls (28.5%) and 30 boys (31.58%) met criteria for clinically significant externalizing problems using t-score cut-offs > 63 . Per the norms of the UCLA PTSD-RI, 19 girls (25%) and 3 boys (3.19%) reported symptoms in the clinical range for PTSD. Means and standard

deviations for all study variables are reported for the total sample and by gender in Table 1. On average, girls reported higher internalizing symptoms ($M = 15.2$ vs. 9.6 ; $p < 0.001$), emotion dysregulation ($M = 14.1$ vs. 12.9 ; $p = 0.025$), and traumatic stress symptoms ($M = 19.5$ vs. 13.5 ; $p = 0.019$) compared to boys. Mean levels of interpersonal ERD, group ERD and externalizing symptoms did not differ significantly by gender ($p > .05$); median level of interpersonal ERD was higher for boys compared to girls. Correlations among study variables by gender are presented in Table 2. Frequencies for all interpersonal ERD items are reported in Table 3.

Interpersonal ERD and Group ERD, Internalizing Symptoms, and Externalizing Behaviors

Regression models indicated that interpersonal ERD was significantly associated with higher internalizing symptoms and externalizing behaviors (Table 4). The association between interpersonal ERD and internalizing symptoms was stronger for girls than boys (Figure 1). Associations between group ERD and internalizing symptoms and externalizing behaviors were not statistically significant. No interactions between group ERD and gender emerged. None of the three-way interactions were significant for any outcomes; they were excluded in the final models.

Roles of Traumatic Stress and Emotion Dysregulation

Path analyses involving internalizing symptoms indicated that interpersonal ERD was associated with more traumatic stress for girls than boys (Figure 2). Interpersonal ERD was also significantly associated with more emotion dysregulation for girls than boys, while group ERD was associated with more emotion dysregulation for boys than girls. Traumatic stress was significantly associated with internalizing symptoms for girls and boys. Emotion dysregulation was associated with greater internalizing symptoms for girls than boys. There was a significant indirect relation between interpersonal ERD and internalizing symptoms via symptoms of traumatic stress for girls ($\beta = 0.33$; 95% CI 0.16-0.56) and boys ($\beta = 0.19$; 95% CI 0.00-0.36). In addition, there was a significant indirect path from interpersonal ERD to internalizing symptoms via emotion dysregulation ($\beta = 0.09$; 95% CI 0.01-0.22) among girls; these associations were not observed for boys.

Path analyses involving externalizing behaviors showed more traumatic stress directly associated with increased externalizing behaviors among boys, while emotion dysregulation was directly associated with increased externalizing behaviors among girls and boys (Figure 3). Significant indirect paths emerged from interpersonal ERD to externalizing behaviors via emotion dysregulation for girls ($\beta = 0.14$; 95% CI 0.04-0.30), and via symptoms of traumatic stress for boys ($\beta = 0.16$; 95% CI 0.01-0.30). For boys, we also found a statistically significant indirect path from group ERD to externalizing behaviors via emotion dysregulation ($\beta = 0.05$; 95% CI 0.004-0.17).

Discussion

To our knowledge, the current study is the first to examine different types of ERD as they relate to internalizing symptoms and externalizing behaviors in a sample of youth of color on probation. Consistent with studies involving non-justice-involved youth (e.g., Hughes et

al., 2016; Seaton et al., 2008), our findings suggest that ERD is associated with poorer mental health for justice-involved youth of color. However, our findings showed differential patterns depending on the type of ERD (i.e., individual vs. group). That is, youths' interpersonal ERD but not group ERD was directly associated with more internalizing symptoms and externalizing behaviors, supporting a multidimensional consideration of discrimination as it relates to adolescent health (e.g., Hughes et al., 2016). Thus, findings contribute to the broader discourse regarding the prevalence of ERD incidences among youth of color and implications of ERD for adolescent mental health and development (e.g., Benner, 2017; Benner et al., 2018; Umaña-Taylor, 2016) and juvenile justice populations (e.g., Burt, Simons, & Gibbons, 2012).

As evident by the relatively large effect size observed between interpersonal ERD and traumatic stress for girls, our cross-sectional findings suggest that justice-involved girls could be more vulnerable and potentially sensitive to the effects of interpersonal ERD, with implications for their mental health. One explanation for this finding is that girls may be more relationship-oriented and have more intimate connections with others (Gavin & Furman, 1996; Way & Chen, 2000) compared to boys, and thus may be more bothered by negative interpersonal interactions that are racially motivated. Likewise, it is possible that girls are more sensitive to personal criticism, a characteristic that has been linked to gender differences in internalizing symptoms (e.g., Hankin & Abramson, 2001; Prinstein et al., 2005). It is also possible that complex traumatic stress is more pronounced among girls in juvenile justice (Ford, Steinberg, Hawke, et al., 2012) and it played a role in girl's ability to cope with racial stress. Because we are among the first to investigate links between ERD and traumatic stress in youth of color on probation, particularly girls, additional research is needed to assess replication. Further, because findings are cross sectional, and thus directionality cannot be inferred, longitudinal research on the long-term impact of interpersonal ERD on mental health among girls and boys on probation is an important direction for future research.

Consistent with other studies involving community-based samples, the current study found links between ERD and symptoms of traumatic stress (Carter, 2007; Chou et al., 2012; Flores et al., 2010), and in this study, traumatic stress appeared to play a role in the relation between ERD and mental health symptoms. For both boys and girls, interpersonal ERD was associated with more traumatic stress symptoms, and traumatic stress contributed to the strength of the relation between interpersonal ERD and internalizing symptoms. Traumatic stress also contributed to the link between interpersonal ERD and externalizing problems in boys. Given that justice-involved youth report elevated rates of trauma exposure compared to peers outside the justice system (Vermeiren, Jaspers, & Moffitt, 2006), our findings suggest prevention and intervention efforts with youth of color should consider addressing traumatic stress associated with ERD experiences. Future studies should consider ERD among the constellation of complex traumatic stressors that justice-involved youth of color may experience (e.g., Ford, Chapman, Conner, et al., 2012), and assess and treat accordingly in practice (e.g., Chaves-Dueñas, Adames, Perez-Chavez, & Salas, 2019). Additionally, intervention programs involving youth of color in juvenile justice might include a module or component on ways to cope with or combat racial and ethnic discrimination (e.g., advocacy, involvement in social groups, talking to understanding adults). For example, the *Engaging*,

Managing, and Bonding through Race intervention is a 5-session family-based racial socialization and racial stress and trauma (RST) management intervention designed to reduce parent and adolescent RST and improve familial psychological and physiological well-being and adolescent academic engagement (Anderson et al., 2018). The *Strong African American Families* program is a 7-week interactive educational program for African American parents and their early adolescent children that has been linked to psychological adjustment, substance use and high-risk behavior in rural African American youth (Brody et al., 2006); the components around coping with racial discrimination and promoting racial pride may be particularly relevant for our population. Future work is needed to support this recommendation.

Another notable finding was the role of emotion dysregulation in the relation between interpersonal ERD and both internalizing symptoms and externalizing behaviors. Results suggest that emotion dysregulation may exacerbate the effects of interpersonal ERD on internalizing symptoms and externalizing behaviors in girls but not boys, and group ERD on externalizing problems in boys but not girls. Findings suggest that boys and girls may benefit from strengthening their ability to regulate emotions, but the approaches may need to focus differentially on interpersonal ERD for girls and group ERD for boys. Beyond replicating the present findings in a longitudinal sample, future research should explore how adolescent boys and girls of color might cope with ERD differently (e.g., Brittian et al., 2013), or the complex role ethnic and racial identity may serve in these processes (Yip, 2018), especially for justice involved youth of color (e.g., Knight et al., 2012). Fortunately, emotion regulation skills can be taught, and these cross-sectional findings suggest potential value in addressing emotion regulation with justice-involved youth.

Collectively, findings from our study contribute to the growing body of literature examining gender differences and youths' juvenile justice system involvement (e.g., Chesney-Lind, Morash, & Stevens, 2008; Javdani, Sadeh, & Verona, 2011; Vermeiren, Jaspers, & Moffitt, 2006), as well as calls for gender-specific considerations for interventions with these youth (e.g., Burt & Simons, 2015; Ford, Steinberg, Hawke, et al., 2012), which is also in line with an intersectional approach to understanding development. Despite the need for gender sensitive programs (e.g., Walker, Muno, & Sullivan-Colglazier, 2015), most programs for juvenile justice-involved youth have been designed for boys (Zahn et al., 2009) or for both boys and girls (Donenberg et al., 2018). Historically, theories about delinquency were based on patterns observed among boys and failed to consider girl's experiences (Bloom, Owen, Deschenes, & Rosenbaum, 2002; Chesney-Lind & Shelden, 2004; Zahn-Waxler, Shirtcliff, & Marceau, 2008). Unfortunately, the number of girls entering the juvenile justice system is increasing, and a growing body of literature presents evidence of gender discrimination at the individual and systemic levels. For example, previous research examining gender differences in youth's trajectories through the justice system has found that girls receive harsher sentences for the same offense compared to boys (Nanda, 2012). In addition, African American/Black girls who encounter the juvenile justice system tend to receive harsher sentencing compared to White girls (Moore & Padavic, 2010). Thus, our findings underscore the need for more research on gender differences and gender-sensitive programming for girls in the juvenile justice system, and the importance of understanding the intersection of race/ethnicity and gender.

Limitations and Directions for Future Research

Findings should be interpreted within the context of study limitations. The cross-sectional nature of this study limits our ability to infer directionality, and sample size may have limited statistical power to identify three-way interactions (e.g., between interpersonal ERD, group ERD, and gender). It is possible that participating in an intervention altered youths' perceptions of ERD, but the intervention did not target coping with ERD and the absence of differences observed in study variables between the control and intervention groups somewhat mitigates this concern. The assessments used in the current study are designed to screen for traumatic stress, emotional dysregulation, internalizing, and externalizing symptomology and thus, may limit generalizability to clinical populations; future research should consider how ERD may contribute to mental health disorders. In addition, the ERD measure did not address gender discrimination, which is another important source of social stress for girls (Seaton & Tyson, 2019). Finally, findings may be specific to African American youth who comprised most of participants in this study.

Conclusions

This study offers new insights into ethnic and racial discrimination experiences among juvenile justice-involved youth of color, gender differences in ethnic/racial discrimination experiences, and the potential value of gender-sensitive programming in strengthening youths' ability to cope with ERD. Findings provide new evidence of the relations among ethnic and racial discrimination and self-reported internalizing symptoms and externalizing behaviors, as well as traumatic stress and emotion regulation, among justice-involved youth, highlighting several potential research and intervention avenues.

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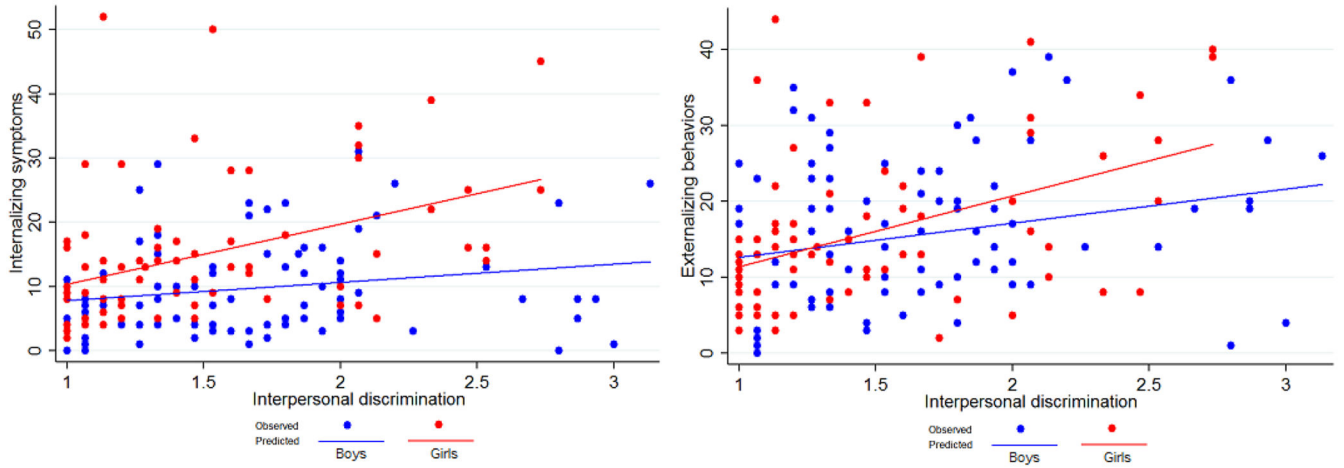


Figure 1.
The two-way interaction between interpersonal ethnic/racial discrimination and internalizing symptoms, and interpersonal discrimination and externalizing behaviors, by gender

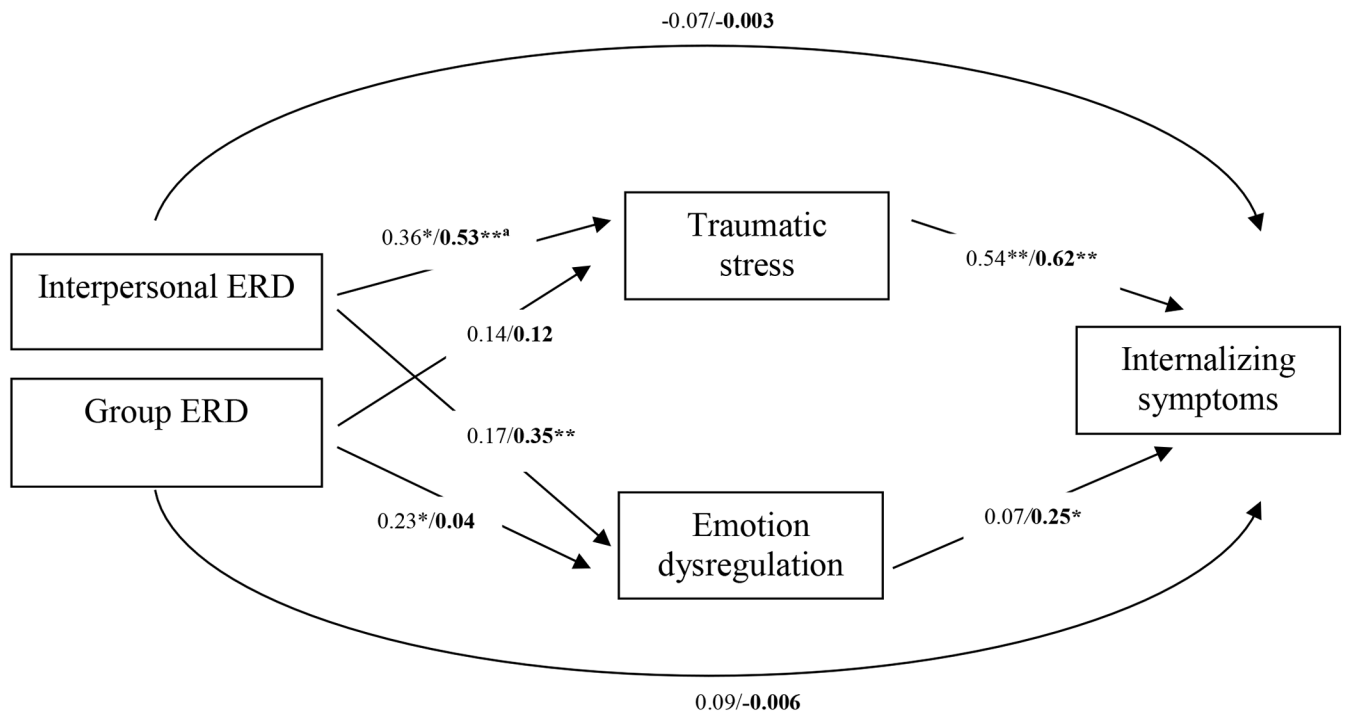


Figure 2.

Path analyses testing associations between interpersonal ethnic/racial discrimination, group ethnic/racial discrimination, traumatic stress symptoms, emotion dysregulation and internalizing symptoms; controlling for age and group

Values for boys are shown to the left of the slash and values for girls (in bold) are shown to the right of the slash. All coefficients are standardized.

* $p < 0.05$ ** $p < 0.01$

a. Path was significantly different for boys and girls ($p = 0.044$).

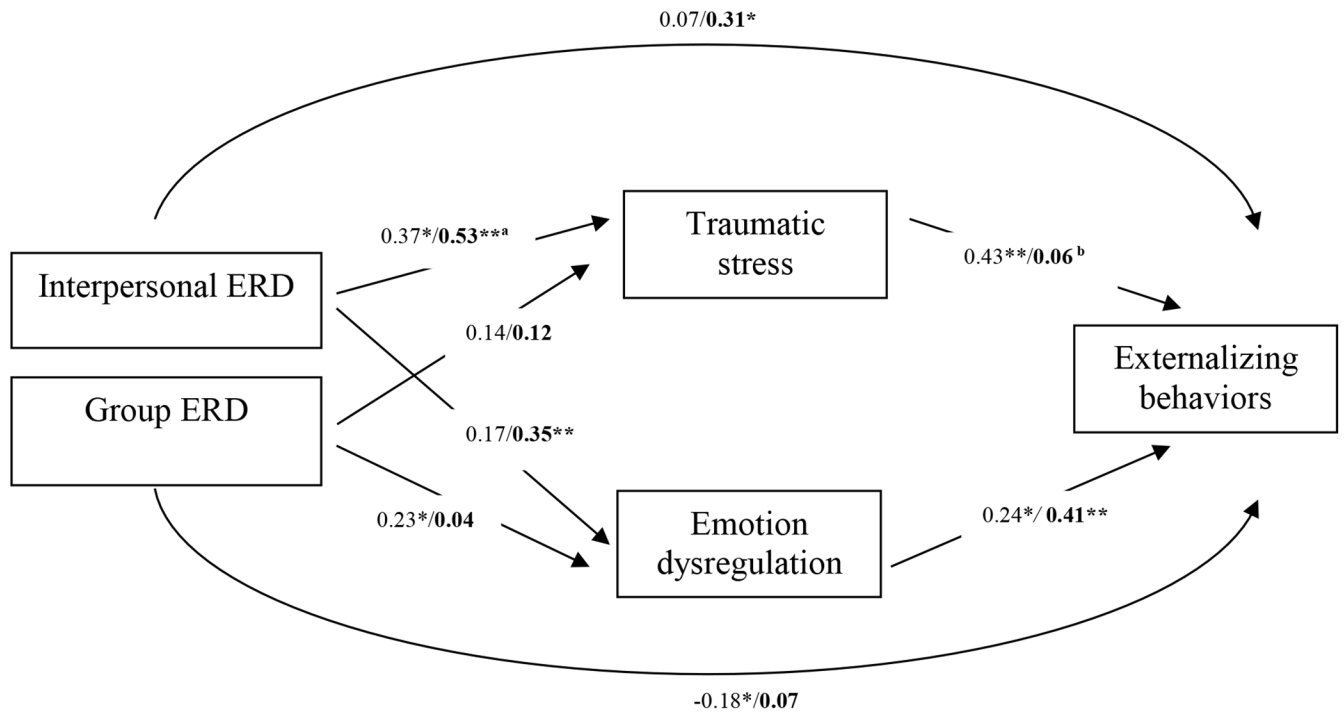


Figure 3.

Path analyses testing associations between interpersonal ethnic/racial discrimination, group ethnic/racial discrimination, traumatic stress symptoms, emotion dysregulation and externalizing behaviors; controlling for age and group

Values for boys are shown to the left of the slash and values for girls (in bold) are shown to the right of the slash. All coefficients are standardized.

* $p < 0.05$ ** $p < 0.01$

a. Path was significantly different for boys and girls ($p = 0.047$).

b. Path was significantly different for boys and girls ($p = 0.003$).

Table 1.

Participant characteristics for total sample and by gender

	Total N = 173	Boys N = 96	Girls N = 77	p-value
Internalizing symptoms, Mean (SD)				
Raw score, Mean (SD)	12.1 (9.5)	9.6 (7.1)	15.2 (11.2)	<0.001
T score, Mean (SD)	53.0 (11.0)	51.9 (10.2)	54.3 (11.8)	0.157
Externalizing behaviors				
Raw score, Mean (SD)	15.9 (10.2)	15.6 (9.6)	16.4 (10.9)	0.590
T score, Mean (SD)	57.4 (11.2)	57.1 (11.5)	57.9 (11.0)	0.637
Interpersonal ERD				
Mean (SD)	1.6 (0.6)	1.6 (0.5)	1.6 (0.7)	0.298
Median (IQR)	1.5 (1.1-1.9)	1.5 (1.3-1.9)	1.3 (1.1-1.7)	0.029
Group ERD				
Mean (SD)	3.0 (0.7)	3.0 (0.7)	3.0 (0.7)	0.933
Median (IQR)	3.0 (2.6-3.4)	3.0 (2.6-3.4)	3.0 (2.7-3.4)	0.970
Traumatic stress, Mean (SD)^a				
	16.2 (16.5)	13.5 (12.0)	19.5 (20.3)	0.019
Emotion regulation, Mean (SD)				
	13.4 (3.7)	12.9 (3.4)	14.1 (3.8)	0.025
Study arm				
Intervention	89 (51.5)	44 (45.8)	45 (58.4)	0.099
Health Promotion	84 (48.6)	52 (54.2)	32 (41.6)	

Notes. ERD = ethnic/racial discrimination; SD = standard deviation; IQR = interquartile range;

^aAssigned score of 0 to those reporting no traumatic events (n = 43)

Table 2.

Zero-order correlations for study variables by gender

	Interpersonal ERD	Group ERD	Internalizing symptoms	Externalizing behaviors	Traumatic stress	Emotion regulation
Interpersonal ERD	—	0.42 **	0.50 **	0.45 **	0.48 **	0.37 **
Group ERD	0.37 **	—	0.19	0.26 *	0.32 **	0.17
Internalizing	0.23 *	0.12	—	0.62 **	0.71 **	0.56 **
Externalizing	0.26 *	-0.005	0.63 **	—	0.36 **	0.52 **
Traumatic stress	0.42 **	0.18	0.49 **	0.47 **	—	0.56 **
Emotion regulation	0.22 *	0.23 *	0.34 **	0.41 **	0.40 **	—

Notes. Correlations for boys are shown below the diagonal and correlations for girls are shown above the diagonal. ERD = ethnic/racial discrimination;

* $p < 0.05$

** $p < 0.01$

Table 3.

Prevalence of interpersonal ethnic/racial discrimination incidences

	Total N = 173 n (%)	Boys N = 96 n (%)	Girls N = 77 n (%)
<i>Because of your race or ethnicity:</i>			
You were hassled by a store clerk or store guard.	38 (22%)	26 (27%)	12 (16%)
People acted as if they were afraid of you.	90 (52%)	58 (60%)	32 (42%)
People acted as if they thought you were not smart.	89 (51%)	53 (55%)	36 (47%)
People expected less of you than they expected of others your age.	87 (50%)	47 (49%)	40 (52%)
You were hassled by the police.	95 (55%)	69 (72%)	26 (34%)
You received poor service at a restaurant.	52 (30%)	25 (26%)	27 (35%)
You were discouraged from joining an advanced level class.	22 (13%)	13 (14%)	9 (12%)
You were given a lower grade than you deserved.	61 (35%)	30 (31%)	31 (40%)
People expected more of you than they expected of other kids your age.	98 (57%)	62 (65%)	36 (47%)
You were wrongly disciplined or given after-school detention.	53 (31%)	33 (34%)	20 (26%)
You were called racially insulting names.	51 (29%)	33 (35%)	18 (23%)
Others your age did not include you in their activities.	36 (21%)	19 (20%)	17 (22%)
You were threatened.	41 (24%)	24 (25%)	17 (22%)
You were discouraged from joining a club.	16 (9%)	10 (10%)	6 (8%)
People assumed your English was poor.	42 (24%)	25 (26%)	17 (22%)

Table 4.

Regression analyses for interpersonal ethnic/racial discrimination and group ethnic/racial discrimination predicting internalizing symptoms and externalizing behaviors

	<u>Internalizing symptoms</u>				<u>Externalizing behaviors</u>			
	B (95% CI)	SE	z	p	B (95% CI)	SE	z	p
Interpersonal ERD	7.09 (3.95, 10.2)	1.60	4.42	<0.001	7.87 (4.39, 11.3)	1.77	4.44	<0.001
Group ERD	1.31 (-1.81, 4.43)	1.59	0.82	0.410	1.47 (-1.98, 4.91)	1.76	0.83	0.405
Gender (boys = 1)	-0.25 (-12.8, 12.3)	6.40	-0.04	0.968	9.25 (-4.60, 23.1)	7.07	1.31	0.191
Interpersonal ERD x Gender	-5.12 (-9.88, -0.35)	2.43	-2.10	0.035	-2.76 (-8.03, 2.50)	2.69	-1.03	0.304
Group ERD x Gender	0.74 (-3.48, 4.97)	2.15	0.34	0.731	-2.27 (-6.94, 2.39)	2.38	-0.95	0.340

Note. ERD = ethnic/racial discrimination