

Examining the Influence of Perceived Neighborhood Environment and Connectedness on the Mental Health Symptoms of Black Adolescent Serious Offenders

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Abstract

Juvenile Justice (JJ) involvement disproportionately impacts Black youth. While there is literature on the relationship between both connectedness and the perceived neighborhood environment (PNE) on mental health among Black youth, few studies focus on these aspects among Black youth in the juvenile justice system – particularly among those adjudicated guilty as serious offenders. **Purpose**: The current study addresses the relationship between connectedness and PNE on Black youth adjudicated guilty as serious offenders in the juvenile justice system using a subset of data from a sample of 180 Black youth aged 14–18 from the Pathways to Desistance Project. **Results**: Black boys reported statistically significant lower mental health symptoms than Black girls (β = -0.21, p<.01). Gender, age, and parent social position explained a statistically significant proportion of variance in mental health symptoms (R^2 =0.07, F(3, 151)=3.31, p<.05). **Discussion**: PNE and connectedness did not contribute to a statistically significant change in the proportion of variance predicting MH symptoms of Black youth in the JJ system above and beyond demographic variables. This study contributes to growing knowledge that suggests a notable influence at the intersection of PNE and parent social position that contribute to the mental health functioning of Black female-identified justice-involved serious offenders.

Keywords Mental health · Neighborhood environment · Black youth · Connectedness · Juvenile justice

Purpose

The perceived neighborhood environment (PNE), which is defined by how residents of a neighborhood experience the environment in which they live (Hill & Maimon, 2013) and connectedness, the degree to which individuals or groups are socially close, interrelated, cared for, and respected

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by others, (Foster et al., 2017; Whitlock, 2007) have been explored in studies of mental health symptoms among Black youth living in disadvantaged areas. Few studies, however, have explored these constructs together to understand their combined explanatory power in predicting mental health symptoms of Black youth who are serious offenders in the juvenile justice system. Therefore, this study addresses this gap in knowledge by exploring the following questions: (1) Does perception of the neighborhood environment explain more variance in mental health symptoms scores than sociodemographic variables alone? (2) Does the addition of four distinct types of connectedness (peer, family, community, school) explain more variance in mental health symptoms scores above and beyond demographic variables and perceived neighborhood environment? and (3) Does the relation between perceived neighborhood environment and mental health symptoms vary across demographic variables?



Background

Since 2012 the prevalence of mental health challenges among youth has rapidly grown worse in the United States (Bernaras et al., 2019; Bitsko et al., 2018; Griffin et al., 2018; Keyes et al., 2019). This is particularly concerning for Black youth who have experienced alarming increases in rates of suicide attempts compared to all other racial and ethnic groups in the last thirty years (Lindsey et al., 2019; SAMHSA, 2020). Among Black youth, rates of major depressive episodes have also increased from 9 to 10.3% in three years (i.e., 2015 to 2018) (Mental Health America, n.d.). Additionally, the increasing rates of major depression and suicidality among Black youth have been accompanied by increasing use of emergency services for mental health issues (Abrams et al., 2022). One vulnerable group of Black youth that requires targeted attention is juvenile justiceinvolved Black youth. Although Black youth ages 12 to 17 make up 14% of adolescents in the United States, they appear in 35% of juvenile justice cases and represent over 40% of incarcerated youth in the United States (Hockenberry & Puzzanchera, 2020; Sue & Sue, 2016; Washington et al., 2021; Wilson et al., 2022).

Mental health challenges are especially pervasive among juvenile justice youth. At various juvenile justice contact points, up to 70% of youth have been found to experience mental health problems (Office of Juvenile Justice and Delinquency Prevention, 2017; Schubert et al., 2011; Vincent et al., 2008; Walker et al., 2022). The impact of mental health challenges can intensify among justice-involved youth, with an estimated 40 - 60% of youth contending with mental health challenges, without adequate resources for support and treatment (Altschuler & Brash, 2004; Fields & Abrams, 2010). A 2016 systematic review by Spinney and colleagues reported that 63% of studies that examined the decision to provide mental health services to youth in the juvenile justice system found racial disparities in programmers' decisions related to which youth were referred to mental health services. This disparity was found in six out of nine juvenile justice decision points, with racial minority youth being significantly less likely than white youth to receive contact with a mental health clinician within 24 h of detention center intake or to receive a referral to mental health services upon detention center discharge (Aalsma et al., 2014; Cohen et al., 2011).

The experience of mental health challenges, coupled with the limits on access to services can result in a downward spiral of long-term disadvantage and prolonged symptoms that may severely impact a young person's ability to successfully engage in economic and social development, resulting in missed opportunities in employment and education as well as poorer health and social outcomes into adulthood (Dragomir & Tadros, 2020; Gase et al., 2016; Malla et al., 2018; Teplin et al., 2021).

With disproportionately higher contact with the justice system (Padgaonkar et al., 2021), unmet mental health needs while navigating the justice system (Spinney et al., 2016), and disproportionately higher residence in disadvantaged neighborhood environments (Butler & Grabinsky, 2020), Black youth involved in the juvenile justice system face multiple disadvantages and deserve focused attention to improve their mental health outcomes. Two important, and underexplored areas of investigation surrounding the mental health of Black youth in the juvenile justice system are as follows: (1) understanding the experiences of these youth within their neighborhood environments and (2) understanding the connections and relationships they form within their neighborhood environments (Office of the Surgeon General, 2021).

Perceived Neighborhood Environment

Racial disparities found in the juvenile justice system are associated with the neighborhood environment, which often holds a historical legacy of concentrated socioeconomic disadvantage, racial segregation, racial discrimination, overpolicing, and mistreatment that can intensify juvenile justice involvement and sentencing decisions for adjudicated delinquent Black youth (Craig et al., 2021; Desai et al., 2012; Lacey, 2013; Office of Juvenile Justice and Delinquency Prevention, 2022; Washington et al., 2021). Black Americans are more likely than other racial groups to be "stuck in place" with up to 66% percent of Black Americans brought up and remaining in the poorest quarter of neighborhoods across generations (Butler & Grabinsky, 2020; Sharkey, 2013). Characteristics of the neighborhood environment, include high crime levels (Assink et al., 2015), community violence (Hoskins et al., 2021), living in an urban area (Farrington et al., 2012), low levels of informal social control and cohesion (Farrington et al., 2012), and perceptions of neighborhood disorder (e.g., ambient risks like rundown housing, vandalism, litter) (Fowler et al., 2009; Nebbitt & Lombe, 2007; Oh & Connolly, 2022) are often identified as risk factors for juvenile justice contact. It is suggested that how young people perceive their neighborhood influences their mental health by shaping their perceptions of the neighborhood as dangerous and stressful (Aneshensel & Sucoff, 1996; Fitzpatrick et al., 2005; Snedker & Herting, 2013). A disadvantaged neighborhood marked by poor neighborhood conditions and disorder presents a unique set of stressors for youth with a history of contact with the juvenile justice system (Voisin et al., 2017). This is important to note given that relationship between neighborhood disorder and justice involvement has been found to be significantly



related among Black youth (Oh & Connolly, 2022), and this relationship may impact mental health. One study by Abram and colleagues (2004) examining trauma and PTSD among a random sample of 898 youth who were arrested and newly detained found that Black males in their sample were more likely to experience community-based trauma, having witnessed violence compared to non-Hispanic White youth. The stressors associated with disadvantaged neighborhoods are also often accompanied by fewer available social resources (Voisin & Kim, 2018), which may influence youth's ability to build positive relationships (Meza et al., 2023) and may add to mental health challenges from the environment (Animosa et al., 2018).

Connectedness

Supportive relationships that are formed within neighborhood environments (e.g., relationships with peers, school, community, and family) can act as a buffer against mental health challenges (Zwecker et al., 2018). Connectedness, the degree to which individuals or groups are socially close, interrelated, cared for, and respected by others, has the potential to be a target of interventions designed to increase protective factors against the accumulation of mental health challenges over time (Foster et al., 2017; Whitlock, 2007). Connectedness is rooted in previous theoretical work that documents the importance of healthy supportive relationships for well-being (Deitz et al., 2020; Eraslan-Capan, 2016; Foster et al., 2017; Lee & Robbins, 1998; Maton et al., 1998; Rose et al., 2019; Saeri et al., 2018; Townsend & McWhirter, 2005; Williams & Galliher, 2006). Connectedness has also been identified as an important protective factor against mental health problems among marginalized youth (Sapiro & Ward, 2020), with supportive relationships being a protective factor of resilient youth involved in the juvenile justice system, generally (Craig et al., 2021). Connectedness consists of several types of relationships including family (Eraslan-Capan, 2016; Townsend & McWhirter, 2005), peers (Eraslan-Capan, 2016; Lee & Robbins, 1998; Williams & Galliher, 2006), school (Neumark-Sztainer et al., 1997; Townsend & McWhirter, 2005), and community (Maton et al., 1998; Townsend & McWhirter, 2005). These relationships are known to offer social, emotional, and educational resources that may promote mental health (Chung et al., 2007; Dawson et al., 2019; Hoskins et al., 2021). For example, positive relationships with family are known to have positive outcomes for behavioral health (Animosa et al., 2018). As youth move from childhood to adolescence, peers grow in importance for feelings of belonging (Animosa et al., 2018). In the absence of family and peer connectedness, school connectedness aids in prevention of involvement with risk behaviors (Animosa et al., 2018) and community connectedness, particularly in disordered neighborhoods, may serve as motivation for personal aspirations to "do better" (Animosa et al., 2018). A recent study by Villodas and colleagues (2023) found that among 561 adjudicated guilty Black youth in the juvenile justice system, mental health symptom scores at baseline increased connectedness scores one year later, supporting the relationship between connectedness and mental health in this population. Less is known, however, about the utility of connectedness in buffering mental health symptoms among justice-involved Black youth who perceive their neighborhood environment as inundated with disorder.

The Current Study

This study uses data from the Pathways to Desistance Project, a large-scale, multisite, longitudinal study of desistance from crime among serious juvenile offenders from adolescence to young adulthood (Mulvey & Schubert, 2012). The study's primary aim was to examine how developmental processes, social context, interventions, and sanctioning experiences affect stopping antisocial activities and crime (Mulvey & Schubert, 2012). Although PNE and connectedness have been explored in studies of mental health symptoms among Black youth living in disadvantaged areas, no known studies have explored these constructs together within the context of understanding their combined explanatory power in predicting mental health symptoms of Black youth in the juvenile justice system who are adjudicated guilty for serious offenses. Therefore, this study examines the following questions: (1) Does perception of the neighborhood environment explain more variance in mental health symptoms scores than socio-demographic variables alone? (2) Does the addition of four distinct types of connectedness (peer, family, community, school) explain more variance in mental health symptom scores above and beyond demographic variables and perceived neighborhood environment? and (3) Does the relation between perceived neighborhood environment and mental health symptoms vary across demographic variables? Building on past research, it was hypothesized that (1) PNE would explain more variance in mental health symptom scores than socio-demographic variables alone, (2) the addition of four distinct types of connectedness (peer, family, community, school) would explain more variance in mental health symptom scores above and beyond socio-demographic variables and PNE, and (3) the interaction between parent index of social position and PNE would vary across demographic variables (e.g., gender identity).



Method

Sample

Data for this study come from baseline interviews in the Pathways to Desistance Project (Mulvey & Schubert, 2012). The total sample for the Pathways to Desistance study consisted of 1,354 adjudicated youth between the ages of 14 and 17 years at the time of their index offense from the juvenile justice systems in Philadelphia County of Philadelphia, Pennsylvania, and Maricopa County of Phoenix, Arizona (Schubert et al., 2004). Eligible youth were selected for enrollment in the Pathways to Desistance Project if court files in their locale determined they had been adjudicated delinquent or found guilty of a serious offense in juvenile court (Schubert et al., 2004). Given the focus on the impact of neighborhood environment on Black youth's mental health, this study's sample was restricted to adjudicated guilty youth in the juvenile justice system who were (1) not detained or living in a residential treatment facility during the time of the interview and (2) youth who identified racially as Black. A total number of 561 youth identified as Black. After accounting for those who were not detained or living in a residential treatment facility during the time of the interview (N = 399; 68.9%), the sample for this study sample was reduced to a total of 180 participants in the baseline wave of the Pathways to Desistance Project in the year 2000.

Procedure

Data for the Pathways to Desistance Project were collected using laptop computers with interviewers sitting beside participants (Schubert et al., 2004). Baseline interviews were conducted within 75 days of the participant's adjudication hearing within participants' neighborhoods, at residential treatment facilities, in prisons or at detention centers in two counties (Maricopa County or Philadelphia County) (Schubert et al., 2004). An article by Schubert and colleagues (2004) provides a detailed discussion of the methodology (e.g., eligibility, recruitment, interview schedule beyond baseline, measurement) for the Pathways to Desistance study and a report by Mulvey and colleagues (2014) discusses key study findings. The publicly available dataset can be accessed through the Inter-university Consortium for Political and Social Research (ICPSR) (Mulvey, n.d.). Approval for use of this publicly available data was provided by the [MASKED FOR REVIEW] Institutional Review Board. The authors have no conflict of interest. This study was not supported by any funding sources.

Measures

The following measures were used to assess the perceived neighborhood environment, the four types of connectedness (school, peer, family, and community) and mental health symptoms among the sample of 180 Black adjudicated guilty juvenile offenders.

Independent Variables

Perceived Neighborhood Environment Perceived neighborhood environment was captured using the Neighborhood Conditions Measure (NCM) (Mulvey, n.d.; Sampson and Raudenbush, 1999), which was adapted for the Pathways to Desistance study (Mulvey, n.d.). The NCM is a 21-item scale assessing observable indicators of high social disorganization in the respondent's neighborhood (Mulvey, n.d.; Sampson and Raudenbush, 1999). A 4-point Likert scale is used with options ranging from "never" to "often" with higher scores indicating greater perceived disorder within the respondent's neighborhood (Mulvey, n.d.; Sampson and Raudenbush, 1999). Items from this self-report measure contained 12 questions about perceived physical disorder of the neighborhood (e.g., "cigarettes on the street or in the gutters," "graffiti or tags"), as well as 9 questions about perceived social disorder (e.g., "adults fighting or arguing loudly," "people using needles or syringes to take drugs"; (Mulvey, n.d.; Sampson and Raudenbush, 1999). The NCM was found to have excellent internal consistency among this sample in the parent study (alpha = 0.94) (Mulvey, n.d.).

School Connectedness School connectedness was operationalized as the extent to which youth feel that they are valued and part of a school community, are close to people at their school, and that teachers treat students fairly (Foster et al., 2017; Resnick, 1997). This was captured through school attachment items (Cernkovich & Giordano, 1992) and covered two dimensions including Bonding to Teachers (e.g., "Most of my teachers treat me fairly") and School Orientation (e.g., "Schoolwork is very important to me") (Mulvey, n.d.). Ten items were rated on a 5-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree," with higher scores indicating a greater degree of school connectedness (Mulvey, n.d.). The mean was taken for the items associated with each of two subscales. Bonding to teachers had three items (alpha = 0.65) and school orientation had seven items (alpha = 0.83 in the parent study sample) (Mulvey, n.d.). A total score for school connectedness involved generating the mean of the two subscale scores.

Peer Connectedness Peer connectedness was operationalized as the perceived support, caring, and trust in an



individual's peer group (Bernaras et al., 2019; Foster et al., 2017). Peer connectedness was measured using items from the Friendship Quality scale, an adaptation of items included in the Quality of Relationships Inventory (Mulvey, n.d.; Pierce, 1994). This adapted scale measures interpersonal support from the youth's five closest friends and contains 10 items on a 4-point Likert scale ranging from "not at all" to "very much" (Mulvey, n.d.). Examples of survey questions included "How much can you count on the people for help with a problem" and "How close do you think you will be to these people in ten years" (Mulvey, n.d.). The scale's reliability with the parent study sample was 0.70 (Mulvey, n.d.).

Family Connectedness Family connectedness was operationalized as a youth's perception of their closeness to their mother and/or father as well as perceived love, care, and value from parents (Foster et al., 2017; Resnick, 1997). Family connectedness was measured using an adapted version of the Quality of Parental Relationships Inventory to assess the parental-adolescent relationship (Conger et al., 1994; Mulvey, n.d.). Items from the measure captured parental warmth (e.g., "How often does your mother let you know she really cares about you?") for both mother and/or father (Mulvey, n.d.). The scale contained 42 items, including 21 items to assess the maternal relationship and 21 items to assess the paternal relationship), and participants responded to questions on a 4- point Likert scale ranging from "Always" to "Never" (Mulvey, n.d.). Items aggregated into a composite score with higher scores on the warmth scale indicating a more supportive and nurturing parental relationship (Mulvey, n.d.). Reliability for maternal warmth and paternal warmth were 0.92 and 0.95, respectively, in the parent study sample (Mulvey, n.d.).

Maternal and paternal warmth were combined to create the family connectedness score. The mean of maternal and paternal warmth was computed when data for both parents were available, and when data for only one parent was known, family connectedness scores were constructed using the single parent score. When parent warmth was unknown for both parents, the family connectedness score was not computed.

Community Connectedness Community connectedness was operationalized as the youth's perception of being cared for by adults in their community as well as being able to count on their community for support (Bernat & Resnick, 2009; Foster et al., 2017; Nagin & Paternoster, 1994). Community connectedness was measured using the Social Capital Inventory (SCI) (Mulvey, n.d.; Nagin and Paternoster, 1994). The SCI is a 13-item scale consisting of two

subscales, including social integration (e.g., "How many of your teachers do your parents know by name?"), intergenerational closure (e.g., "How many of the parents of your friends know your parents?") (Mulvey, n.d.; Nagin and Paternoster, 1994). Total community connectedness scores were calculated by generating the mean of all items in the subscales (Mulvey, n.d.). Higher scores indicated greater community connectedness (Mulvey, n.d.). The scale's reliability with the parent study sample was 0.74 (Mulvey, n.d.).

Dependent Variable

Mental Health Symptoms The Brief Symptom Inventory (BSI) (Derogatis & Melisaratos, 1983) was used to measure mental health symptoms. A total score for the BSI involved generating the mean of the 9 subscales that comprise the measure. The BSI is a 53-item self-report inventory where respondents rate how much they have been bothered in the past week by various symptoms. A 5-point Likert scale was used with options ranging from "not at all" to "extremely" (Derogatis & Melisaratos, 1983). Higher scores indicated higher severity. The BSI's nine subscales assessing individual symptom groups include: somatization (e.g., "Faintness or dizziness"), obsessive-compulsive (e.g., "Having to check and double-check what you do"), interpersonal sensitivity (e.g., "Feeling inferior to others"), depression (e.g., "Feeling no interest in things"), anxiety (e.g., "Feeling tense or keyed up"), hostility (e.g., "Having urges to break or smash things"), phobic anxiety (e.g., "Feeling uneasy in crowds, such as shopping or at a movie"), paranoid ideation (e.g., "Others not giving you proper credit for your achievements"), and psychoticism (e.g., "The idea that something is wrong with your mind"). The reliability of the BSI with the parent study's sample is 0.95 (Derogatis & Melisaratos, 1983; Mulvey, n.d.).

Covariates

This analysis also included gender, age, and parent index of social position (ISP) as control variables. Gender was captured dichotomously as male or female. Age was captured in years, and parent ISP is a proxy for parent socioeconomic status, determined based on parent occupation and education (Mulvey, n.d.). Parent occupation was coded using a seven-point scale ranging from 1 to 7. Lower numbers on the scale indicated higher education and higher-wage professions and higher scores indicated lower educational attainment and lower-wage work as determined by Hollingshead's index of social position (see Hollingshead, 1957). Occupation and education were captured for both the mother and the father, and then combined to create a parent ISP score. The mean



of the mother and father occupation was taken when data for both parents were available. When occupation data for only one parent was known, parent ISP was computed using the single parent score. When both the occupation and education of the parent were unknown, the individual parent ISP score was not computed (Mulvey, n.d.).

Analysis Plan

All analyses were conducted using Stata v16. Univariate descriptive statistics were conducted to describe the sample demographics. A hierarchical regression was used to explore whether specific independent variables (i.e., PNE and four types of connectedness) increased the explanatory power of the model in terms of their ability to predict mental health symptoms. In the hierarchical regression, each independent variable or block group of variables were added to the model in sequential steps to determine if the additional variable(s) significantly improved the explanatory power of the model (Keith, 2015). Specifically, the hierarchical regression analysis included four steps. The first step included variables related to demographic information: gender, age, and parent ISP. The second step added PNE. The third step added the four types of connectedness including peer, family, school, and community. The fourth and final step added a two-way interaction between PNE and parent ISP by gender. Parent ISP was examined in the interaction alongside PNE based on the theoretical relationship between socioeconomic status and PNE (Aneshensel, 2009). Gender was examined in this step due to documented gender differences in mental health problems (Belknap & Holsinger, 2006). Multiple imputation methods were used to account for missing data (Acock, 2014). Participants whose responses followed a skip logic that did not lead them to questions related to relevant variables explored in this study were coded as ineligible instead of missing, and therefore excluded from the analysis. As such, the sample was reduced to N=158. It was hypothesized that (1) PNE would explain more variance in mental

health symptom scores than socio-demographic variables alone, (2) the addition of four distinct types of connectedness (peer, family, community, school) would explain more variance in mental health symptom scores above and beyond socio-demographic variables and PNE, and (3) the interaction between parent index of social position and PNE would vary across demographic variables (e.g., gender identity).

Results

Univariate Analysis

The descriptive statistics of demographic variables in the Pathways to Desistance Project sample and the subset for this study are presented in Table 1. Most of the sample of youth in the Pathways to Desistance Project racially identified as Black (41.4%) followed by Hispanic (20.2%), and then White (20.2%). Among the sample Black adjudicated guilty youth eligible for inclusion for this present study, 77.8% identified as male and 22.2% identified as female compared to 86.4% who identified as male and 13.6% who identified as female in the total sample. The ages of the sample of youth included in the present study ranged from 14 to 18 years old, (M = 15.91, SD = 1.18) compared to 14–19 years old (M=16.04, SD=1.14) in the total sample. About 76% of the youth in the included in this study's sample reported living in single-parent homes, while 7.8% reported living with both parents, and 16% reported they did not live with either parent compared to 67.4%, 14.7%, and 17.9% in the total sample, respectively.

Descriptive statistics of the variables used in this study are presented in Table 2. The values in the descriptive statistics of study variables are centered and include pooled estimates following multiple imputation.

 Table 1 Descriptive Statistics of Demographic Variables

Sample Demographics	N (%)	Range	Mean	SD	N (%)	Range	Mean	SD
Race / Ethnicity							·	
Black	561 (41.4)							
Hispanic	274 (20.2)							
White	454 (33.5)							
Gender								
Male	1170 (86.4)				140 (77.8)			
Female	184 (13.6)				40 (22.2)			
Age	1354	14–19	16.04	1.14	180	14–18	15.91	1.18
Family Composition								
Single Parent	913 (67.4)				137 (76.1)			
Two Parent	199 (14.7)				14 (7.8)			
Does not live with parents	242 (17.9)				29 (16.1)			



Table 2 Descriptive Statistics of Study Variables

Study Variables	N	Range	Mean	SD
	(%)			
Parent Index of Social Position	179	-27.1	-0.04	11.47
(ISP)		-(27.9)		
Mental Health	178	-4.07-	-1.45	1.08
		(0.95)		
Perceived Neighborhood	180	-1.5-	0.01	0.69
Environment (PNE)		(1.49)		
Community Connectedness	180	-1.63-	0.002	0.51
		(1.12)		
Family Connectedness	177	-1.86-	0.004	0.72
•		(0.97)		
School Connectedness	163	-2.05	0.002	0.62
		-(1.45)		
Peer Connectedness	176	-1.75	0.004	0.39
		-(0.55)		

Note. Values are centered and include pooled estimates following multiple imputation. Missing data points for variables are due to participants not skipping into the question during the survey completion

Hierarchical Regression

A hierarchical regression was used to examine if (1) PNE would explain more variance in mental health symptom scores than socio-demographic variables alone, (2) if the addition of four distinct types of connectedness (peer, family, community, school) would explain more variance in mental health symptom scores above and beyond socio-demographic variables and PNE, and (3) if the interaction between parent ISP and PNE would vary by gender. The analysis begins with a baseline model examining sociodemographic variables on mental health. Table 3 provides each of the four steps of the hierarchical regression as well as the reported R^2 , F change in R^2 (ΔR^2), and its significance.

Baseline Model

Gender was found to have a negative and statistically significant relationship with mental health symptoms, meaning among this sample of Black youth adjudicated guilty for serious offenses, those who identified as male reported statistically significant lower mental health symptoms than those who identified as female ($\beta = -0.21, p < .01$). Results from the first step of the regression indicated that gender, age, and parent ISP explained a statistically significant proportion of variance in mental health scores $R^2 = 0.06$, F(3, 151) = 3.31, p < .05.

Research Question 1 - Does Perception of the Neighborhood Environment Explain More Variance in Mental Health Symptoms Scores than Socio-demographic Variables Alone?

PNE did not explain mental health symptoms above and beyond socio-demographic variables. This is contrary to our hypothesis that PNE would explain more variance in mental health symptom scores than socio-demographic variables alone While PNE explained a significant proportion of variance in mental health symptom scores $R^2 = 0.06$, F(4, 150) = 2.65, p = .04, results from the F test, indicated there was not a statistically significant change from step 1, to step $2 \Delta R^2 = 0.004$, F for ΔR^2 (1, 138.1) = 0.54, p > .05.

Research Question 2 - Does the Addition of Four Distinct Types of Connectedness (Peer, Family, Community, School) Explain More Variance in Mental Health Symptom Scores Above and Beyond Demographic Variables and PNE?

Contrary to our predictions, connectedness did not explain mental health symptoms above and beyond socio-demographic variables and PNE. Similar to step 2, the inclusion of connectedness variables increased the proportion of variance explained by the model R^2 =0.13, F(8, 143.7)=2.52, p=.01. The R^2 nearly doubled with the addition of the connectedness variables in step 3. However, the change in R^2 from step 2 to step 3 was not statistically significant ΔR^2 =0.056, F for ΔR^2 (4, 141.3)=2.26, p=.06.

Research Question 3 - Does the Relation Between Perceived Neighborhood Environment and Mental Health Symptoms Vary Across Demographic Variables?

Results from the interaction of parent ISP and PNE by gender provided support for the hypothesis that this interaction would vary by gender. The two-way interaction term for PNE and parent ISP by gender showed that that the relationships between parent ISP and PNE was negative and significant among female-identified youth ($\beta = -0.17$, p<.05), and was negative but not significant among male-identified youth ($\beta = -0.03$, p = .72).

Discussion

This study aimed to examine the relationship between perceived neighborhood environment, connectedness (family, peer, school, and community), and mental health symptoms among a sample of Black youth from two U.S. counties who were adjudicated guilty for serious offenses. Findings revealed that among this sample of youth, those who



-0.17*-0.03-0.13-0.14-0.050.01 0.02 0.10 0.08 2.50** Step 4 0.028 0.01 0.16 0.14 0.13 0.15 0.01 0.21 0.01 0.20 SE-0.004-0.04-0.59-0.14-0.29-0.240.03 0.13 0.01 0.01 Table 3 Summary of Hierarchical Regression Analysis for Variables Predicting Juvenile Justice- Involved Black Youth's Mental Health (N = 158) -0.20**-0.12-0.16-0.05 0.004 0.001 0.11 0.11 2.52** Step 3 0.1200.0560.13 2.26 0.07 0.01 0.14 0.14 0.15 0.21 SE-0.13-0.51-0.27-0.230.001 0.16 0.01 0.01 -0.21**0.11 90.0 0.01 Step 2 2.65* 0.004 0.19 0.07 0.13 0.07 0.55 0.01 SE-0.001-0.540.01 0.09 -0.21** 0.01 Assessment of Change in R² 3.36* 3.36* Step 1 0.20 0.07 0.01 SE-0.54 0.01 0.01 Connectedness Community Parent ISP x Parent ISP Female Family School $F \text{ for } \Delta R^2$ Male Variable Peer Gender PNE PNE Age ΔR^2

0.003

0.033

0.041 0.026 0.001

0.040 0.000 0.026 0.004

ES

Note. *p < .05. ** p < .01.; $\Delta =$ change; ES = Effect size; values for gender were dummy coded as 0 = female, 1 = male



identified as male reported lower mental health symptom scores than those who identified as female at every step of the model. This is consistent with previous research that has shown that girls in the juvenile justice system are more likely to report experiencing mental health problems than boys (Belknap & Holsinger, 2006; Walker et al., 2015). This study also found that contrary to our predictions, this sample of youth's perception of the neighborhood environment did not significantly increase the model's explanatory power above and beyond demographic variables. Furthermore, although the R² doubled with the addition of the four connectedness types, the addition of this variables did not have a statistically significant increase in the proportion of variance explaining mental health symptom scores above and beyond demographic variables and the perceived neighborhood environment. The lack of significance is inconsistent with prior research highlighting that connectedness is a protective factor of mental health symptoms (Craig et al., 2021; Foster et al., 2017). Therefore, future research should examine whether other relevant factors that were not included in this study, such as adverse childhood experiences (ACEs), and test the explanatory power of such model.

The interaction between the parent index of social position (which consisted of parent employment and education) and perceived neighborhood environment was significant for the female-identifying youth in the sample, but not for male identifying youth. This indicates that the interactions of these two constructs may have impacted the mental health symptoms of the female-identifying youth in this sample in ways that they may not have impacted male-identifying youth. One consideration for this finding is that there may be a sensitivity to parent social position and how female-identifying youth in the sample perceived risks in the neighborhood environment that add stressors that intensify mental health challenges.

Finally, the majority of this study's sample lived in single-parent households. Research has found that youth's family structure may influence both delinquency and mental health, with a recent study on Dutch children finding that the likelihood of juvenile delinquency increases when children are born into single parent homes (Kroese et al., 2021). Given the stressors associated with being a single-parent and having lower income (Sullivan et al., 2022), research is needed to examine how these stressors may impact one's parenting style and how parenting styles may buffer against or contribute to challenges associated with mental health challenges and serious offending among justice involved Black youth.

Study Limitations

This study is limited by a number of factors. First, it is important to note that the analysis was cross-sectional. Therefore, causal relationships between the variables cannot be established as none of the follow up interviews were included as part of this analysis. While the cross-sectional nature of this data was sufficient for examining the added contribution of perceived neighborhood environment and connectedness in a model explaining the presence of mental health symptoms, this data cannot account for fluctuations in how youth perceive their neighborhood environments, the feelings of connectedness they experience, and the severity of mental health symptoms over time. Secondly, this study focused on a subset of youth from the baseline wave of the Pathways to Desistance Project, where all those included in this study were youth in the juvenile-justice system as opposed to youth in the adult criminal legal system. Therefore, these findings cannot be applied to youth in the adult criminal legal system. Third, the data used for this study was collected in the year 2000. Despite the age of the data, this study remains valuable as it explores relationships between variables that transcend time. Fourth, the brief symptoms inventory (BSI) may be a limitation in this study. Many assessment tools do not capture the language and manifestation of the symptoms and experiences of Black youth mental health, as stressors are often expressed as anger, which the BSI does not ask about (Jones et al., 2020; Opara et al., 2021). Finally, although this study was adequately powered, the sample size is still relatively small and only captures data from only two counties in the U.S. and a specific subset of Black youth from these two counties who were serious offenders. Therefore, there are limits to the generalizability of these findings.

Implications for Social Work Research

Bearing these limitations in mind, our study offers implications for research and practice. The current study elaborates on prior research that finds the relationship between perceived neighborhood violence and PTSD to be stronger in females than males (Butcher et al., 2015). Black girls have been overrepresented in the justice system in recent years (accounting for 35% of all justice-involved girls though they comprise only 14% of the national population of American girls) (Quinn et al., 2021). Considering the double jeopardy of their marginalized identities (i.e., Black and female), the results of this study support the need for future research that investigates the interacting role of parent social position and the PNE on mental health symptom severity among young Black female who are serious offenders. Future studies should also examine the pathways to mental health



from PNE and parent social position especially for femaleidentified youth so that these mechanisms can be targeted in prevention programs.

Future research should also include an assessment of risk profiles related to mental health symptoms and the PNE may also be useful practice to elucidate which youth can benefit most from evidence-based programs that support mental health among young Black serious offenders in the juvenile-justice system that live in neighborhoods inundated with disorder (Howell et al., 2014; Lipsey et al., 2010; Wilson et al., 2022).

Implications for Social Work Practice

This study also offers implications for practice. Growing research on responsivity indicates that adverse childhood experiences (ACEs), specifically those linked to maltreatment and exposure to household challenges, are linked to a number of juvenile justice outcomes, including mental health outcomes (Logan-Greene et al., 2017; Wilson et al., 2020). Implications for practice include addressing parenting stressors and social relationships alongside ACEs to assist in minimizing the impact of previous adverse experiences on building connectedness among Black youth who are serious offenders. This may include targeted therapeutic groups within neighborhood organizations or clinics and schools that provide individual and group services.

Conclusion

Black youth who make contact with the juvenile justice system are an exceptionally vulnerable population that require consideration in efforts to improve youth mental health outcomes. This study contributes to growing knowledge that suggests a notable influence at the intersection of perceived neighborhood environment and parent social position that contribute to the mental health functioning of female-identified justice-involved youth. By examining the influence of the perceived neighborhood environment and connectedness in a sequential way, this analysis draws out important considerations for future research that may aid in our knowledge and efforts to address mental health concerns of this particularly vulnerable and over-represented population in the juvenile justice system.

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