

Effects of Child and Parent Race on Reported Externalizing and Internalizing Symptoms: Findings from the PACCT Study

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A substantial body of research has demonstrated that Black children are more likely to be diagnosed with Disruptive Behavior Disorders (DBD) compared with non-Hispanic white children and less likely to be diagnosed with affective disorders. Several explanations for this phenomenon have been explored in the literature, including the effects of stereotypes, clinician bias, and measurement bias. There is also evidence to suggest that Black and non-Hispanic white caregivers may report symptoms differently and have different thresholds for determining a behaviour as problematic. The current study aimed to assess whether caregiver race impacted the level of parent-reported externalizing and internalizing symptoms for Black and non-Black children in a sample of 324 children and adolescents with same and different-raced parents recruited from an ongoing longitudinal study of early childhood adversity. Results indicate that non-Black caregivers reported significantly higher rates of internalizing symptoms in non-Black children. However, there were no significant differences in the reported rate of internalizing or externalizing symptoms in Black children, regardless of reporter race. There were also no significant differences between Black and non-Black children in terms of symptoms overall. These results suggest that there may be meaningful differences in the manner in which Black and non-Black caregivers report externalizing and internalizing symptoms. These findings are a preliminary analysis and future research should further investigate the role of caregiver race in the determination of childhood diagnoses for Black and non-Black children.

Keywords: externalizing, internalizing, child race, parent race

Previous research has demonstrated that Black individuals are diagnosed with certain psychiatric disorders at higher rates than non-Hispanic white individuals (Garb, 1997). In adults and adolescents, studies have shown that Black individuals receive diagnoses of schizophrenia at higher rates than non-Hispanic white patients (Garb, 1997; Kilgus et al., 1995; Strakowski et al., 1993; Strakowski et al., 1995; Olbert et al., 2018). In children and youth, researchers have documented higher rates of externalizing disorders among Black children (Delbello et al., 2001; Lau et al., 2004; Nguyen et al., 2007). Specifically, Black youth are more likely to receive a diagnosis of Conduct Disorder (CD) than non-Hispanic white youth, and less likely to receive a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD; Cameron & Guterman, 2007; Coker et al., 2016; Fadus et al., 2020; Feisthmel & Schwartz, 2009; Flores & Lin, 2013; Mandell et al., 2007; Morgan et al., 2013). However, Black children appear to experience similar or greater rates of ADHD symptomatology compared to non-Hispanic white children (Miller et al., 2009). There is some evidence to suggest that the higher rate of CD diagnoses in Black youth may be reflective of stereotypes of Black children as more aggressive, older, and more culpable for their actions than non-Hispanic white children (Goff et al., 2014). There is also research that indicates Black caregivers may report symptoms differently than white caregivers, and clinicians may receive reports differently as a function of race (Bax et al., 2019; Cooper-Patrick et al., 1999; Lau et al., 2004; Leslie et al., 2007; Mandell et al., 2007; Mandell & Novack, 2005; Vázquez & Villodas, 2019). The current study aims to assess whether

there are differences in the magnitude of externalizing and internalizing symptoms for Black and non-Black children as a function of caregiver race. This study is unique in that it utilizes data from the ongoing Parents and Children Coming Together (PACCT) longitudinal study on adverse childhood experiences and includes a large proportion of child and caregiver dyads who are not matched on race. This study represents a first step in disambiguating the effects of child and reporter race on reported externalizing and internalizing symptoms.

Diagnostic Differences Based on Race

Differences in the rate of diagnosis of certain disorders based on race was first identified in the research literature in the 1980's (Adebimpe, 1981; Adebimpe, 1982; Bell & Mehta, 1980; Bell & Mehta, 1981). Specifically, Adebimpe (1981) reviewed available literature on misdiagnosis of black patients and highlighted the need for clinicians and diagnostic criteria to be sensitive to the symptomatology of Black patients. Several scholars have demonstrated that Black adults and adolescents, especially Black men, are more likely to be diagnosed with schizophrenia than non-Hispanic white adults (Kilgus et al., 1995; Olbert et al., 2018; Strakowski et al., 1993; Strakowski et al., 1995). Strakowski et al. (1993) retrospectively analyzed the charts of 173 patients with psychotic disorders discharged from a state psychiatric hospital during a 7-month period. Results indicated that Black patients were more likely to be diagnosed with schizophrenia than white patients (odds ratio (OR) = 5.1), and men were more likely to be diagnosed with schizophrenia than women (OR = 1.9).

Strakowski et al. (1995) further conducted a retrospective chart review of 490 patients randomly selected from 9500 visits to a psychiatric emergency service during a period of one year. The authors found Black patients were more likely to be diagnosed with schizophrenia and substance use disorder and less likely to be diagnosed with a personality disorder than similar white patients. Black patients were also more likely to be hospitalized. More recently, Olbert et al. (2018) conducted a meta-analysis of schizophrenia diagnosis rates in the United States. The authors included 14 studies that used structured diagnostic instruments and 41 studies using unstructured instruments. Results indicated that Black individuals were diagnosed with schizophrenia at higher rates than white individuals across all studies (OR = 2.42), including studies using unstructured interviews (OR = 2.43) and in studies using structured interviews (OR = 1.77). Importantly, studies that used structured interviews did not seem to significantly attenuate the odds ratio as compared to studies that used unstructured interviews. Thus, there appears to be a consistent trend in which Black adults are diagnosed with schizophrenia at higher rates than non-Hispanic white adults.

In children, several studies have documented higher rates of diagnosed disruptive behaviour disorders among Black children and lower rates of affective disorders as compared to non-Hispanic white children (DelBello et al., 2001; Lau et al., 2004; Nguyen et al., 2007). In a retrospective chart review of all adolescents aged 12 to 18 admitted to the Adolescent Psychiatry Unit at Cincinnati Children's Hospital Medical Center between July 1995 and June 1998 (N = 1001), DelBello et al. (2001) found that Black males were diagnosed with schizophrenic spectrum disorders at higher rates than Black females, or Caucasian adolescents overall. Black patients were diagnosed with conduct disorder (CD) at significantly higher rates than Caucasian adolescents, who were diagnosed more often with alcohol use disorders and major depression.

Nguyen et al. (2007) examined the impact of race and ethnicity on psychiatric diagnoses for 1189 children and adolescents who participated in a federally funded community

mental health program. The authors found that after controlling for age, gender, functional impairment, and socioeconomic status (SES), Black and Native Hawaiian youth were at higher risk of being diagnosed with a disruptive behaviour disorder (DBD). Black, Asian American, and Native Hawaiian youth were also rated as having fewer internalizing symptoms than white youth. This study demonstrates that the higher rates of externalizing disorders in Black youth are not accompanied by higher rates of functional impairment and cannot be attributed to other demographic factors such as SES.

Among the DBDs (ADHD, CD, Oppositional Defiant Disorder [ODD]), research suggests that Black children and youth are diagnosed with CD more often than non-Hispanic white children and diagnosed with ADHD at lower rates (Cameron & Guterman, 2007; Coker et al., 2016; Fadus et al., 2020; Feisthmel & Schwartz, 2009; Flores & Lin, 2013; Mandell et al., 2007; Morgan et al., 2013). Mandell et al. (2007) analyzed the diagnoses received prior to the diagnosis of Autism Spectrum Disorder (ASD) in a sample of 406 Medicaid-eligible children. ADHD was the most common diagnosis among children who did not receive an ASD diagnosis on their first specialty care visit. However, African American children were 2.4 times more likely than white children to receive a diagnosis of CD than ADHD. As a possible explanation for these results, the authors suggest that Black parents may be more likely to describe their child's behaviours in a way that emphasizes externalizing symptoms (Mandell et al., 2007). In a longitudinal study of 4297 children and caregivers, Coker et al. (2016) found that African American children had significantly lower odds of receiving an ADHD diagnosis in both fifth grade (OR = .40) and tenth grade (OR = .42) as compared to non-Hispanic white children.

Similarly, Morgan et al. (2013) analyzed rates of ADHD diagnosis in a nationally representative sample of 17,100 children involved in a longitudinal study. The authors found African American children were 69% less likely to be diagnosed with ADHD than non-Hispanic white children. These disparities were already present in kindergarten and extended to at least eighth grade. Another study found that among 1173 youth living in residential treatment facilities, only 24.4% of non-Hispanic white youth were diagnosed with CD while 34.4% of African American youth had received a CD diagnosis (Cameron & Guterman, 2007). Feisthmel and Schwartz (2009) conducted a study of diagnostic rates in a sample of 899 community mental health agency clients ranging from 4 to 85 years of age. Clients were assessed by master's and doctoral level mental health counsellors blind to the research question using the Structured Clinical Interview for DSM-IV (SCID; First, Spitzer, Gibbon, & Williams, 1995). European American clients were significantly more likely than their African American counterparts to receive a diagnosis of adjustment disorder (15% vs 7%), while African American clients were significantly more likely to receive a childhood disorder diagnosis, including DBDs (20% vs. 12%). In this study, none of the diagnosticians identified as African American. This study demonstrates that the use of a structured clinical interview may not be sufficient to prevent discrepancies in clinical diagnoses based on race.

Importantly, Miller et al. (2009) have demonstrated that lower rates of ADHD diagnosis among Black children are not attributable to lower rates of ADHD symptomatology in this group. The authors conducted a review and meta-analysis of 5 studies on ADHD diagnosis and 5 studies of ADHD symptoms. Results suggest that African American children actually had more ADHD symptoms but were diagnosed with ADHD only two-thirds as often as Caucasian children (OR = .66), even after controlling for SES. Other studies in adult populations have also shown differences in diagnosis based on race when structured or semi-structured clinical interviews were used (Neighbors et al., 2003; Olbert et al., 2018). Neighbors et al. (2003) analyzed data from 665 African American and white

psychiatric inpatients interviewed by psychiatric residents using a shortened version of the DSM-III-R Symptom Checklist (Hudziak et al., 1993). African American patients were significantly more likely to be diagnosed with schizophrenia, and clinicians used a different process to link client symptoms to diagnostic constructs for African Americans, especially for schizophrenia. Taken together, these studies suggest that CD may be over-diagnosed in Black children while ADHD may be under-diagnosed. These discrepancies appear to persist even when structured diagnostic instruments are used.

Implications and Causes of CD Overdiagnosis

Overdiagnosis of CD in Black children may reflect stereotypes of Black children as aggressive, violent, and older than non-Hispanic white children (Goff et al., 2014). In a series of studies using mixed methodologies with university students and police officers, Goff et al. (2014) demonstrated that Black male children are perceived as less innocent and childlike than white children and elicit a less essential conception of childhood. Results also demonstrated that Black youth were perceived as older and more culpable for their actions than white youth. The authors further demonstrated that dehumanization of Black children through implicit associations between Black children and apes predicted actual racial disparities in police officer use of force. Rattan et al. (2012) further demonstrated that Black adolescent offenders are viewed as more deserving of adult sentencing than identical white offenders.

The conception of Black youth as older and more responsible for their actions is reflected in the rate of Black youth who are sentenced as adults within the criminal justice system. Research has demonstrated that Black youth are 18 times more likely than white youth to be sentenced as adults and make up 58% of those youth sentenced to adult facilities (Poe-Yamagata & Jones, 2007). These findings reflect more general trends in the overcriminalization of Black individuals. According to the US Department of Justice Bureau of Justice Statistics, in 2018 Black males were incarcerated at a rate 5.8 times higher than white males. While Black people make up approximately only 13% of the US population, they comprised 33% of the sentenced prison population in 2017 (Gramlich, 2019). According to the most recently available data from the US Department of Justice Office of Juvenile Justice and Delinquency Prevention, in 2017 Black juveniles were incarcerated at a rate of 151 for every 100,000 whereas non-Hispanic white juveniles were incarcerated at a rate of 26 for every 100,000.

Stereotypes of Black children as aggressive may perpetuate and bolster the reciprocally reinforcing relationship between diagnoses of CD and criminal justice system involvement. CD is one of the most frequent diagnoses given to youth in the criminal justice system (Drerup et al., 2008; Teplin et al., 2002). Teplin et al. (2002) assessed the rate of psychiatric diagnoses amongst a randomly selected, stratified sample of 1829 detained juveniles in Cook County, Illinois using the Diagnostic Interview Schedule for Children version 2.3 (DISC; Schaffer et al., 1996). The authors found that 37.8% of male detainees met criteria for CD. Interestingly, compared with African American juveniles, non-Hispanic white juveniles had significantly higher rates of any disorder, any DBD, and CD specifically.

In contrast with this finding, more recent research by Baglivio et al. (2017) found that among 8763 adolescent males involved with the Florida Department of Juvenile Justice, Black males were 40% more likely than non-Hispanic white males to have received a diagnosis of CD, and approximately 40% less likely to have received a diagnosis of ADHD. However, Black males were 32% less likely to receive psychiatric treatment. Similarly, Rawal et al. (2004) found that among a sample of 473 justice-involved youth,

Black youth demonstrated greater mental health needs but received lower rates of services. Further, Teplin et al. (2005) found that white youth were twice as likely to be detected by the criminal justice system as needing mental health treatment than Black youth.

Some research has suggested that white youth who demonstrate conduct problems are more likely to be steered towards mental health treatment while Black youth may be relegated to the criminal justice system (Atkins et al., 1999; Cohen et al., 1990; Lewis et al., 1979). In a comparison of youth age 12-15 residing in a state psychiatric hospital or juvenile corrections facility, Cohen et al. (1990) found that Black youth in the correctional setting had similar scores on the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983) as white youth in the psychiatric hospital. Similarly, Westendorp et al. (1986) found that race, but not psychopathology, significantly predicted which youth would be treated in a psychiatric facility and which would be sent to a juvenile justice facility. Atkins et al. (1999) has reported similar findings. These findings suggest that the overdiagnosis of Black children and youth may be one expression of systemic racial biases in which clinicians and service providers view Black youth as inherently more delinquent and less treatable than non-Hispanic white youth.

Mechanisms and Moderators of Bias

Emerging evidence suggest that discrepancies in the rate of CD and ADHD diagnoses between Black and non-Hispanic white children may not be accompanied by concomitant symptom levels (Miller et al., 2009). There is evidence to suggest that racially based differences in the presentation, interpretation, and/or reporting of externalizing symptoms may contribute to the higher rate of externalizing disorder diagnoses among Black children. Specifically, clinicians are not immune to racial biases about Black patients. Studies have shown that health professionals hold both implicit and explicit biases that may affect delivery of care to Black patients (Fitzgerald & Hurst, 2017; Institute of Medicine, 2002; van Ryn et al., 2011). van Ryn et al. (2011) found that white health professionals most often have low explicit and high implicit bias towards Black patients, who perceive this combination as particularly aversive due to the mismatch between verbal and non-verbally communicated cues. Diagnostic bias may also occur as a result of statistical discrimination (Balsa & McGuire, 2001), in which clinicians use expectations about the rate of a disorder in a particular population to inform diagnostic decision making. In this way, clinicians who believe externalizing behaviours are more common in Black children and ADHD less common, may reinforce this discrepancy by conforming to this stereotype in their diagnostic decisions. Research has also demonstrated that clinicians who are under conditions of greater cognitive load may experience reduced capacity to regulate implicit biases and may rely more heavily on stereotypes (Dyrbye et al., 2019; Johnson et al., 2016).

There is also evidence to suggest that clinical diagnostic measures used to assess psychopathology may be producing differential diagnoses for non-Hispanic white and Black children (Breslau et al., 2008; Eisen et al., 2006; Green et al., 2012; Johnson et al., 2007; Randolph & Koblinsky, 2003; Zink et al., 2015). Instruments designed to diagnose psychopathology are often validated on general population samples and thus may not be as sensitive or specific to psychopathology in minority populations (Breslau et al., 2008). As previously discussed, studies that assessed participants using structured or semi-structured instruments have also found differences in the rate of diagnoses for certain disorders in Black individuals (Cohen et al., 1990; Neighbors et al., 1999; Neighbors et al., 2003; Olbert et al., 2018). Given the evidence suggesting that Black children experience ADHD symptoms at similar or higher rates than non-Hispanic white children (Miller et

al., 2009), these results suggest that the race of children or reporters may be impacting the diagnostic process at some junction.

While clinician and measurement bias may contribute to the overdiagnosis of Black children with CD and underdiagnosis of ADHD, the description of externalizing symptoms may also vary by reporter race. Specifically, there is evidence to suggest that white parents may report externalizing symptoms differently than Black parents (Bax et al., 2019; Lau et al., 2004; Mandell et al., 2007; Vázquez & Villodas, 2019). Further, research has also demonstrated that clinicians may receive and interpret reports of symptoms differently as a function of reporter race (Cooper-Patrick et al., 1999; Leslie et al., 2007; Mandell & Novack, 2005). For example, Mandell et al. (2007) found that African American parents were more likely to describe their children's behaviour in a way that emphasized externalizing symptoms. Bax et al. (2019) conducted a secondary analysis of children with and without ADHD according to teacher and parent symptom report. The authors found that among children with underlying ADHD, white children from two parent households were more likely to have received assessment and medication services. Studies have also shown that Black parents may express greater concerns about the motivations of mental health care providers and the possibility of stigmatization (Mishra et al., 2009). Additionally, Bignall et al. (2015) have demonstrated that Black individuals are more likely to normalize psychopathology and make spiritual attributions for mental health issues.

There is also evidence to suggest that non-Hispanic white and Black caregivers may have different thresholds for labelling behaviour as problematic. In an analysis of 4175 youths and their caregivers, Roberts et al. (2005) found that the rate of concordance between youth and caregiver report of youth emotional and behavioural problems varied by race. The authors found a higher rate of concordance among European American dyads compared to African Americans. European American caregivers appeared to have a lower threshold for labeling youth behaviours as problematic, despite similar rates of youth reported problems across groups. However, in a study of 741 caregivers, Vázquez and Villodas (2019) found that Black parents were more likely to indicate their child needed intervention programs when they reported clinically elevated externalizing problems. Thus, Black caregivers may have a higher threshold for identifying behaviours as clinically elevated yet may be more likely to endorse the need for intervention when problem behaviours are identified. However, research has demonstrated that clinicians may be more responsive to reports of problem behaviours from non-Hispanic white parents (Leslie et al., 2007), which may contribute to the discrepancy between Black and non-Hispanic white youth in service utilization and treatment receipt.

Despite documented findings indicating that Black and non-Hispanic white caregivers may report symptoms differently, studies have not yet disambiguated the effects of parent and child race in the reporting of internalizing and externalizing symptoms. Elucidating the specific effects of parent race on reported symptoms is difficult as most studies use samples in which parent and child dyads are primarily biologically related, and thus matched on race. The current study is unique in that it utilizes a sample from an ongoing longitudinal study on adverse childhood experiences. Experimental groups in this study are characterized by a high proportion of children who were adopted. As such, many children and guardian pairs are not of the same race. This discrepancy will allow for an analysis of the effects of reporter race on the reported internalizing and externalizing symptoms in both Black and non-Black children.

This study aims to examine whether differences exist in the magnitude of externalizing and internalizing symptoms for Black and non-Black children that are moderated by caregiver race. This study utilizes data from the longitudinal study on adverse childhood experiences and includes a large proportion of child and caregiver dyads who are not matched on race. This sample presents a unique opportunity to analyze the effects of caregiver race on reported symptoms for Black and non-Black children. This study represents an initial step in disambiguating the effects of child and reporter race on reported externalizing and internalizing symptoms.

Hypotheses

The hypotheses for this study are twofold. The first hypothesis is that there will be differences in the rate of internalizing and externalizing symptoms for Black and non-Black children overall such that Black children will have higher parent-reported externalizing symptoms than will non-Black children. The second hypothesis is that parent race will moderate the level of internalizing and externalizing symptoms for both Black and non-Black children such that the level of symptoms for Black and non-Black children will be influenced by the race of the parent reporter.

Methods

Procedures

Data were obtained from the first phase of the ongoing Parents and Children Coming Together (PACCT) longitudinal study led by Dr. Nim Tottenham (IRB-AAAR1888) on the effects of early adverse childhood experiences on psychosocial and neurobiological outcomes. All procedures were approved by the Columbia University Institutional Review Board. Caregivers gave written informed consent and assent was obtained from child participants. Trained research assistants with master's level education in either psychology or social work collected self-report questionnaire data from reporters at in-person visits. While the race of the research assistants may be an important variable in influencing symptom reports, this data was not available for the purpose of this study. Participants were compensated \$175 USD for each child that participated in an in-person visit. Children also received 4 hours' worth of community service and a video file with neuroimaging from their visit.

Participants

The current study included four experimental groups and one control group. Experimental groups consisted of children with prior histories of international institutional care (Previously Institutionalized; PI), domestically adopted children (Domestically Adopted; DA), children with disrupted caregiving (Disrupted Caregiving; DC), and children who have experienced international foster care but not institutionalization (International Foster Care; IFC). The control group was composed of children who had always been with the biological parent(s) and had never experienced prolonged separation from the primary caregiver.

There were 324 participant dyads in this study, consisting of a unique child and a reporter. Data was available for 71.29% (n = 231) children and 67.59% (n = 219) reporters. Data on self-identified race was missing for 93 (28.7%) children and 105 (32.4%) reporters. Some reporters had multiple children enrolled in the study. Age at the time of data collection ranged from 6-12 years old (M = 8.84, SD = 2.03). Of the child participants, 52.6% (n = 169) were female and 28.7% children (n = 93) reported their race as African American or Black. Of the children in this study, 30.86% (n = 100) reported their race and ethnicity as non-Hispanic white. Of the reporters in this study, 25.93% (n = 84) reported their race as African American or Black while 52.16% (n = 169) reported their race as non-Hispanic white. Participant dyads were matched on race between child and reporter in 54.01% (n =

175) cases. Reporters consisted of biological parents, adoptive parents, foster parents, and/or legal guardians.

Measures

Externalizing and Internalizing symptoms were measured using the Parent Report version of the Child Behavior Checklist for ages 4-18 (CBCL; Achenbach, 1991). The CBCL is a 113-item parent report questionnaire scored on a three-point Likert scale (0 = Not True, 1 = Somewhat or Sometimes True, 2 = Very True or Often True). Reporters were asked to choose the response that reflected their child's behavior in the past six months. The CBCL has 8 subscales, grouped into three categories including the two categories of Internalizing Behaviors (Withdrawn, Somatic Complaints, and Anxious/Depression), and Externalizing Behaviors (Delinquent and Aggressive). The final three subscales are Social Problems, Thought Problems, and Attention Problems (Achenbach, 1991). The current study analyzed the computed T-scores for the Internalizing and Externalizing scales. The CBCL has good psychometric properties with high internal consistency within scales (Internalizing, $\alpha = .90$ and Externalizing, $\alpha = .94$), inter-rater reliability (Internalizing, $r = .72$, Externalizing, $r = .85$), and stability (Internalizing, $r = .80$, Externalizing, $r = .82$) and has normed comparison data (Achenbach, 1991). The CBCL has also demonstrated good content, criterion-related, and construct validity (Achenbach, 1991).

Data was analyzed using IBM SPSS v.27. Based on parent reported demographic data, children and reporters were coded as Black or non-Black. T-scores for the Externalizing and Internalizing subscales of the CBCL were computed using manualized protocols provided by the authors (Achenbach, 1999).

Results

Child and Reporter Race Effects

First, a repeated measures ANOVA was used to assess whether dichotomized child and reporter race, and their interaction, were associated with the difference in T-scores on the Externalizing CBCL subscale from the Internalizing CBCL subscales. The repeated measures ANOVA was used to elucidate whether child or reporter race was significantly associated with differences in CBCL T-scores. There were no significant main effects of child race ($F(1, 301) = 1.06, p = .304$) or reporter race ($F(2, 301) = 1.08, p = .340$) on differences between Externalizing and Internalizing T-scores. There was a significant interaction of child race and reporter race on the difference between Externalizing and Internalizing T-scores ($F(1,301) = 5.53, p = .019$), such that non-black children who had non-Black reporters had higher internalizing scores than non-Black children with Black reporters ($t = -2.48, p = .014$), while we did not find a significant effect of reporter race on CBCL difference scores for Black children ($t = .85, p = .397$).

Child/Reporter Race Match Effects

Next, a repeated measures ANOVA was used to assess whether dichotomized child race, child/reporter race match, and their interaction, were associated with the difference in T-scores on the Externalizing CBCL subscale from the Internalizing CBCL subscales. Child/reporter race match was established by scoring whether the self-reported race for the child and caregiver dyad was congruent. There was no significant main effect of child race on the difference between Externalizing and Internalizing scores ($F(1, 302) = .26, p = .606$). There was a trend level main effect of child/reporter race match on the difference between Externalizing and Internalizing CBCL subscale T-scores ($F(1, 302) = 3.75, p = .053$). The interaction of child race and child/reporter race match was not significant ($F(1, 302) = .02, p = .902$).

Discussion

The present study aimed to assess whether there were differences between externalizing and internalizing symptoms for Black and non-Black children that varied as a function of reporter race. We anticipated that Black children would have higher reported externalizing symptoms than non-Black children and that this finding would be moderated by reporter race. Results support the hypothesis that there are differences in the manner in which Black and non-Black parents report internalizing and externalizing symptoms for non-Black children. However, the current study did not find significant differences between Black and non-Black children on the level of reported externalizing and internalizing symptoms overall.

The hypothesis that there would be differences in reported externalizing and internalizing symptomatology between Black and non-Black children was not supported by the results of this study. Results indicated that there was a significant interaction of child race and reporter race on the difference between externalizing and internalizing symptom reports. Results indicated that non-Black caregivers with non-Black children reported significantly higher internalizing symptoms than Black caregivers with non-Black children. We did not find a significant difference between internalizing and externalizing symptoms for Black children as a function of caregiver race.

Further, we analyzed whether congruency in child and caregiver race was associated with differences in the rate of internalizing and externalizing symptoms. We did find a trend level effect of child/reporter race match on the rate of internalizing and externalizing symptoms. The interaction of child race and child/reporter race match was not significant. Given the resources often necessary to adopt or foster children, there may be systematic socioeconomic or demographic differences between the groups in which children were not matched with their caregivers on race and the control group in which reporters were biological parents. This difference may be driving the trend level effect of child/reporter race match that was observed in this study.

These results add to the body of literature suggesting that reporters of different races may have higher or lower thresholds for labelling youth behaviour as clinically significant (Roberts et al., 2005). However, non-Black caregivers of non-Black children only reported elevated levels of internalizing symptoms and not externalizing symptoms. Results are partially in accordance with findings from Roberts et al. (2005) who found that European American caregivers had lower thresholds for labelling their child as having emotional and behavioural problems. While the authors of that study described their measures as intending to capture “emotional and behavioural problems”, the five-item tool they used may have more effectively captured internalizing symptoms as compared with externalizing symptoms. The measure utilized by Roberts et al. (2005) probed overall mental health, life satisfaction, happiness, and role strain, which may be more closely associated with typical internalizing symptoms. This may explain why we did not find elevated rates of externalizing symptoms reported by non-Black caregivers of non-Black children.

Results did not indicate differences in the rate of externalizing or internalizing symptoms for Black children depending on reporter race. Given the differences in sample size between Black (93 children, 84 reporters) and non-Black (138 children, 135 reporters) groups in this study, analyses may have been underpowered to detect differences between reporter ratings for Black children. The majority of research in this area has focused on differences in the rate of diagnosis and not symptomatology. As previous

research has described, Black children appear to have similar rates of externalizing symptoms as non-Hispanic white youth, yet are diagnosed at different rates (Cohen et al., 1990; Miller et al., 2009). Thus, the finding that Black and non-Black children did not have different levels of reported symptoms may reflect findings from this literature.

The current study compared the magnitude of caregiver-reported externalizing and internalizing symptoms for Black and non-Black children. However, most studies that have assessed differences in the rate of diagnosis have compared Black children with non-Hispanic white children. Several studies have demonstrated that diagnostic trends in the underdiagnosis of ADHD and overdiagnosis of DBDs may also occur in Hispanic and Native Hawaiian youth (Baglivio et al., 2017; Cameron & Guterman, 2007; Fadus et al., 2020; Garb, 1997; Nguyen et al., 2007). However, this trend appears to be inconsistent across studies. For example, Nguyen et al. (2007) found that both Black (OR = 2.76) and Native Hawaiian (OR = 2.05) youth involved in a community-based treatment program were more likely than non-Hispanic white youth to be diagnosed with a DBD. Hispanic youth in this study were not more likely to receive a DBD diagnosis than non-Hispanic white youth. Similarly, Baglivio et al (2017) found that among youth in a juvenile justice residential placement, Black male youth were significantly more likely than white youth to receive a diagnosis of CD. However, both Black and Hispanic male youth were less likely than non-Hispanic white youth to receive an ADHD diagnosis.

In contrast, Cameron and Guterman (2007) found that among youth in residential treatment facilities, both Hispanic and African American youth received CD diagnoses at higher rates (43.3% and 34.4%) than non-Hispanic white youth (24.4%). Given these findings, the inclusion of Hispanic white children, Asian American children, Native Hawaiian/Pacific Islander children, American Indian and Alaska Native children, and children of more than one race in the “non-Black” group may have obscured differences in symptom magnitude between Black children and non-Hispanic white children in this study. The inclusion of these children may explain why differences were not observed between Black and non-Black children on the measure of externalizing and internalizing symptoms overall.

Limitations

There are several limitations to this study. First, data on self-identified race was missing for 93 (28.7%) children and 105 (32.4%) reporters. It is possible that the exclusion of these missing data points may have impacted the results of the current study. Many of the missing data points were associated with participants who had study visits at the beginning stages of this longitudinal study. This trend is likely due to initial issues in the implementation of study procedures at the start of data collection, rather than participant factors. However, there may be systematic differences between participants with missing data and those who have data available. Thus, results of this analysis should be interpreted with caution.

Second, there were differences in the number of Black and non-Black participants both for children and reporters. These differences in sample size may have contributed to underpowered analyses that were unable to detect differences in reporter ratings for Black children.

Finally, children and caregivers in the experimental groups in this study may not be representative of the general population in regard to socioeconomic variables. As previously discussed, the adoption process requires significant financial and personal resources. Thus, participant dyads who were not matched on race in this study may be

systematically more socioeconomically advantaged than children and youth involved in other studies on parent-reported symptomatology. A systematic analysis of these factors was beyond the scope of the current study but deserves consideration.

Future Directions

Future projects could compare the rate of externalizing and internalizing symptoms for Black children compared only to non-Hispanic white children. While the current analysis used parent-report measures and did not include clinician assessed measures, the ongoing longitudinal project from which data for this study was derived used trained master's-level research assistants to diagnose participants using the Kiddie Schedule for Affective Disorders and Schizophrenia (KSADS) semi-structured interview. Future research could investigate whether there were differences in the rate of CD diagnosis compared to ADHD in this sample and whether this is associated with differences in symptom frequency, duration, and severity as reflected in clinician note-keeping during the interview. These findings may aid researchers in identifying whether differential rates of diagnosis are moderated by parent race.

Additionally, there is some research to suggest that diagnostic discrepancies may affect Black youth differently depending on gender (Baglivio et al., 2017; DelBello et al., 2001; Goff et al., 2014). Given these findings, future research may benefit from analyzing whether there are differences in reported internalizing and externalizing symptoms as well as differences in the rate of CD and ADHD diagnosis for this sample depending on both race and gender.

Conclusion

This study represents a unique investigation into moderating effect of caregiver race on reported externalizing and internalizing symptomatology in Black and non-Black children. While the majority of research on this topic has utilized samples in which child and caregiver race was matched, this study utilized data from an ongoing longitudinal study in which a large portion of the child and reporter dyads were not biologically related and differed on self-reported race. Findings suggest that there are differences in the ways in which Black and non-Black caregivers report child symptoms that are dependent on race such that non-Black reporters may indicate higher rates of internalizing symptoms in non-Black children. These results represent an important first step in identifying the processes and junctures through which discrepancies in the rate of externalizing disorders in Black children are produced. This research is integral to the equitable and appropriate treatment of both Black and non-Black children and youth in health care and criminal justice settings, and the critical awareness that clinicians and researchers must have of the potential impact of caregiver race on reported symptomatology. Further research is necessary to elucidate the mechanisms through which diagnostic discrepancies between Black and non-Black children are created.

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