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# Racial Biases in Parent-Teacher Ratings of Childhood ADHD Symptoms: An Examination of Prejudice and Stereotypes

Sungha Kang  
*University of Massachusetts Amherst*

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Racial Biases in Parent-Teacher Ratings of Childhood ADHD Symptoms: An Examination  
of Prejudice and Stereotypes

A Dissertation Presented

by

SUNGHA KANG

Submitted to the Graduate School of the  
University of Massachusetts Amherst in partial fulfillment  
of the requirements for the degree of

Doctor of Philosophy

September 2023

Psychological and Brain Sciences

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SUNGHA KANG

Approved as to style and content by:

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Elizabeth Harvey, Chair

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Nilanjana Dasgupta, Member

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Sarah Fefer, Member

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Maria Galano, Member

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Maureen Perry-Jenkins, Department Head  
Psychological and Brain Sciences

ABSTRACT

RACIAL BIASES IN PARENT-TEACHER RATINGS OF CHILDHOOD ADHD SYMPTOMS: AN  
EXAMINATION OF PREJUDICE AND STEREOTYPES

SEPTEMBER 2023

SUNGHA KANG, B.A., UNIVERSITY OF IOWA

M.S., UNIVERSITY OF MASSACHUSETTS AMHERST

PH.D., UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Professor Elizabeth A. Harvey

A robust body of literature has documented systematic parent-teacher discrepancies in ratings of children's ADHD symptoms (inattentive, hyperactive, or impulsive behaviors) as a function of child race. Past research has suggested a potential role of teachers' racial bias in higher ratings of Black children's ADHD behaviors relative to Black parents' ratings. The present study sought to better characterize these racial biases by examining implicit and explicit measures of racial prejudice and racial stereotypes, as well as Black parents' perceptions of those biases as predictors of their ratings of Black children's ADHD behaviors. Results suggested that white teachers' explicit racial ADHD stereotypes predicted more biased ratings of Black boys' ADHD symptoms. Moreover, perceptions of systemic racism predicted Black parents' lower ratings of Black boys' ADHD symptoms, relative to white boys. Finally, mediational analyses across the whole sample indicated that white teachers demonstrated more implicit racial prejudice than did Black parents, which in turn predicted more biased ratings of Black boys' hyperactivity symptoms. No measures of racial bias predicted biased ratings of Black girls' ADHD symptoms. Future

research should aim to better understand the roles of these racial biases in assessments of other common types of childhood psychopathology, and develop interventions to reduce the impacts of racial biases in psychological assessments for children of color to promote racial equity in mental health care.

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## CHAPTER 1

### INTRODUCTION

Attention deficit/hyperactivity disorder (ADHD) is a common childhood neurodevelopmental externalizing disorder characterized by pervasive and developmentally deviant inattention, hyperactivity, and/or impulsivity that are functionally impairing across multiple settings (American Psychiatric Association, 2013). There is currently no objective, conclusive diagnostic test for ADHD. Although neuropsychological tests can provide a comprehensive picture of the child's cognitive functioning, they have limited ability to accurately identify ADHD (Gualtieri & Johnson, 2005). Therefore, the diagnostic process for ADHD involves multimodal assessments using interviews and rating scales, which rely heavily on parent and teacher perceptions of child behavior and associated functional impairment (e.g., academic performance, daily living responsibilities, social functioning; Sparrow & Erhardt, 2014).

Despite the crucial role of parents' and teachers' perceptions of ADHD symptom severity and functional impairment in informing diagnosis, a large body of literature suggests systematic disagreement between parents and teachers (Achenbach et al., 1987; Achenbach, 2011; De Los Reyes et al., 2011; Grills & Ollendick, 2002), which are particularly pronounced between parents and teachers of different races (Harvey et al., 2013, Lau et al., 2004). For example, white adults have consistently rated Black children's behavior problems higher than children of other races (DuPaul et al., 2014; DuPaul et al., 2016; Harvey et al., 2013; Hervey-Jumper et al., 2006; Lau et al., 2004; Samuel et al., 1997), whereas Black adults have rated Black children's behavior

problems low compared to other raters (Harvey et al., 2013). These differences in the ways that Black children's behavior is perceived and rated may contribute to racial disparities in the rates of diagnoses for ADHD. Because the majority (82%) of teachers in the United States are white (Office of Planning, Evaluation, and Policy Development, 2016), an ADHD assessment of Black children may rely heavily on discordant parent-teacher ratings of their behaviors, which places Black children at greater risk for diagnostic inaccuracy. It is imperative to better understand mechanisms that underlie parent-teacher discrepancies in ratings of Black children's ADHD behaviors to inform culturally sensitive ADHD assessment and to reduce the racial disparities in diagnosis and treatment. The goal of the present research is to consider how factors related to individual and systemic racism contribute to the perceptions and ratings of Black children's ADHD symptoms. Specifically, this study will examine the roles of white teachers' racial prejudice and stereotypical beliefs about Black children, as well as Black parents' beliefs about this systemic bias toward Black children.

### **1.1 Informant Discrepancies in Ratings of Behavior Problems in Children as a Function of Race**

The limited agreement between different informants' (self, parents, teachers, and clinicians) rating of children's social-emotional problems is well-documented (Achenbach et al., 1987) and is thought to be due to both variation in child behavior across contexts (e.g., home and school) and differences in informants' perceptions (De Los Reyes & Kazdin, 2005). Differences in informant race and ethnicity have emerged from this literature as a robust predictor of informant discrepancies. Research has found

greater disagreement when youth/parents and teachers are of different racial or ethnic backgrounds. In particular, teachers have tended to report more behavior problems in Black children than do their parents. Among a sample of a thousand children and adolescents getting evaluated for ADHD, Lawson and colleagues (2017) found that teachers reported higher levels of ADHD symptoms for Black children than parents and trained observers. In an epidemiological study of children and adolescents, Lau and colleagues (2004) examined the level of agreement between self, parent, and teacher in ratings of youth behavior problems, and found that teachers reported fewer internalizing problems and more externalizing problems (e.g., hyperactivity, aggression, defiance) for Black youth, compared to parent- or self-reports. This pattern of teachers giving higher ratings of behavior problems to Black children than do Black parents has been evident across the age spectrum from preschool aged children (Harvey et al., 2013) to adolescents (Youngstrom et al., 2000). Furthermore, teachers have not only tended to report more externalizing problems for Black children compared to child self-reports and parents' reports, but also compared to their own ratings for children of other races (DuPaul et al., 2014; DuPaul et al., 2016; Youngstrom et al., 2000). Of the few studies that reported teachers' race, most were predominantly white (87%; DuPaul et al., 2014; DuPaul et al., 2016), indicating a potential role of racial mismatch between white teachers and Black parents in discrepant ratings of Black children's behavior problems.

Most of the past research has compared parent-teacher ratings of children's behaviors in their respective settings (i.e., home vs. school), and little research has

examined whether these systematic discrepancies extend to when parents and teachers observe the same behavior. In a recent study, we (Kang & Harvey, 2020) showed identical videoclips of children in classrooms to Black parents and white teachers, and compared their ratings of ADHD behaviors. We found that compared to Black parents, white teachers gave higher ratings of ADHD behaviors to Black boys, though parents and teachers were similar in their ratings of Black girls', white boys', and white girls' ADHD behaviors. Taken together, the existing body of literature has consistently demonstrated that white teachers and Black parents differ in their ratings of Black children's behavior problems, though little research has examined the specific reasons why those differences exist. It is important to further elucidate possible predictors of racial differences in white teachers' and Black parents' perceptions of child behavior to better inform the diagnostic and treatment processes of Black children's externalizing behaviors.

## **1.2 Racial Disparities in the Diagnosis of ADHD in the United States**

Understanding differences in Black parents' and white teachers' perceptions of externalizing behavior problems in Black children is important because these differences may contribute to the disparities in the rate of diagnosis and treatment of ADHD in Black children. Although a handful of studies have found similar rates of ADHD diagnosis across Black and white children (Cuffe et al., 2005; Pastor & Reuben, 2008; Visser et al., 2014; Wolraich et al., 2014), most have found disparities. Historically, Black children have been reported to have lower prevalence of ADHD compared to their white counterparts (e.g., Coker et al., 2016; Morgan et al., 2013; Morgan et al., 2014; Pastor &

Reuben, 2005; Schneider & Eisenberg, 2006). In particular, a 10-year review of the small body of literature specifically on Black children's ADHD found that Black children are diagnosed at two-thirds the rate of white children of similar symptom severity and socioeconomic status, suggesting a potentially higher rate of unmet treatment needs for Black children (Miller et al., 2009). On the other hand, several recent studies have found that Black children are diagnosed with ADHD more than their white counterparts (Danielson et al., 2018; Fairman et al., 2020; Siegel et al., 2016). There are likely a complex array of factors that account for disparities in diagnosis. Discrepant ratings of child behavior between Black parents and white teachers are likely one key factor, given the heavy reliance on parents' and teachers' ratings in the diagnosis of ADHD. Such discordant ratings place Black children at risk for inaccurate diagnoses, leading to either under- or over-diagnosis of ADHD, which can result in unfair outcomes for Black children (e.g., over-punishment at school; Behnken et al., 2014). More research is needed to understand why discrepant ratings occur, to promote more accurate and sensitive identification of ADHD for Black children, which will mitigate the longstanding unequal treatment, and educational and societal outcome for Black children.

### **1.3 Discrepant Ratings within the Context of Systemic Racism: Potential Mechanisms**

Discrepant ratings of Black children's behavior between Black parents and white teachers are likely due to a variety of ways in which cultural differences affect individual perceptions. Historical and systemic racism, which continues to disproportionately oppress Black Americans, likely influences the worldviews of Black and white Americans in different ways, which in turn may affect the ways white teachers and Black parents



perceive and rate ADHD behaviors in Black children. In particular, systemic racism may affect white teachers' perceptions through their prejudice and stereotypes about Black children, and may influence Black parents' ratings through their perceptions of systemic bias toward Black children.

### ***1.3.1 Critical Race Theory***

Critical Race Theory provides an important framework for understanding the differences in the ratings of Black children's ADHD behaviors by white teachers and Black parents. Critical Race Theory posits that structural and institutional racism have a foundational role in the construction of the American society, and this deeply rooted racism plays a pervasive and integral role in daily exchanges of Black Americans (Delgado & Stefancic, 2017), including Black children (Umaña-Taylor, 2016). According to the Critical Race Theory, racism is embedded in every structural and systemic components of daily life, and two important psychological manifestations of such racism at the individual level involve negative attitudes (i.e., prejudice) and overgeneralized beliefs (stereotypes; Bonilla-Silva, 2015). It is important to note that the nature of racism as described by Critical Race Theory is a product of historical and institutional interactions between multiple structures of society, and individual attitudes and behaviors are only a small part of that complex system. Nevertheless, individuals are influenced by and contribute to maintaining systemic racism (Bonilla-Silva, 2021). Therefore, understanding the effects of systemic racism at the individual level has important implications for identifying potential areas for change at the systemic level.

### **1.3.2 The Role of Prejudice**

Although its definition and operationalization has varied over time as a function of historical and social contexts (see Devine et al., 2001 for review), prejudice generally refers to negative attitudes or feelings toward a particular group that inform an individual's or institution's interactions with members of that group (Allport, 1954). The social categorization theory contends that individuals are inclined to categorize themselves and others to be similar (ingroup) or dissimilar (outgroup) based on perceived group differences, and this body of literature has mostly focused on racial group differences (see Hornsey, 2008 for review). Individuals tend to perceive members of their ingroup more favorably than members of an outgroup (Tajfel, 1982), and prejudicial attitudes are derived from this ingroup favoritism. Additionally, members of the dominant group (i.e., white Americans) are more likely to perpetrate racial prejudice toward members of the minority group (Devine et al., 2001). Whereas traditional or "old-fashioned" racial prejudice involved blatant and overt hostility, more covert and subtle forms of racial prejudice emerged as blatant forms of racial prejudice became denounced by society (see Dovidio, 2001). For example, these modern forms of racial prejudice are identified within individuals who hold sympathy for victims of past injustice, claim support for racial equality, and genuinely consider themselves to be free of prejudicial attitudes, while also holding implicit negative feelings and beliefs about members of a racial group (Gaertner & Dovidio, 1986). Aversive racism, as one form of such contemporary racial prejudice, describes white Americans' ambivalent racial attitudes and often unacknowledged negative feelings and beliefs toward Black

Americans that have equally deleterious impact as overt racism (Dovidio & Gaertner, 2004).

According to Critical Race Theory, teachers in the United States likely endorse egalitarian ideals (e.g., Vaught & Castagno, 2008) while also being influenced by modern forms of racism within the structure of an inherently racist society that benefits white Americans and disadvantages Black Americans (Delgado & Stefancic, 2017). Such contemporary forms of racism often manifest as implicit bias. Implicit bias refers to the automatically activated attitudes or beliefs that individuals hold about a group of people, which influences their understanding, actions, decisions, and interactions with members of that group (Greenwald et al., 1998). Implicit biases are thought to be activated involuntarily and without the individual's awareness or intentional control, especially in ambiguous settings (Hoffman et al., 2008), even if those biases do not align with the individual's explicitly endorsed set of egalitarian beliefs (Beattie et al., 2013; Greenwald & Krieger, 2006). Because of its automatic and involuntary nature, implicit bias is often measured using reaction times to racial stimuli (Cunningham et al., 2001).

No studies have directly examined whether teachers' implicit racial prejudice is associated with their perceptions of behavior problems in Black children; however, some previous studies provide indirect evidence. For example, Gilliam and colleagues (2016) showed videoclips of a multiracial classroom to predominantly white preschool teachers and asked them to anticipate problematic behavior using eye-tracking device. Although there were no differences in the actual level of behavior problems of children in the videos, teachers gazed significantly longer at Black boys, indicating that they

expect behavior problems from Black boys more than from children of other races (Gilliam et al., 2016). This study, however, did not directly measure each participating teachers' implicit racial bias.

The educational literature also offers indirect evidence that teachers' implicit racial prejudice may be implicated in their perceptions of Black children's behavior problems, and has resulted in the overrepresentation of Black children in the school disciplinary system (Losen & Martinez, 2013; Townsend, 2000). The U.S. Department of Education's (2014) guiding principles to improve school climate and discipline recognize teachers' and administrators' implicit racial bias as contributing to the overrepresentation of Black students in the school disciplinary system. Black children are two to four times more likely to be identified as having problematic behavior and more likely to be subject to school exclusionary discipline compared to their white peers with similar levels of problem behaviors (Skiba et al., 2011). These disparities in rates of discipline are not fully explained by differences in Black children's actual behavior problems or socioeconomic differences (Bradshaw et al., 2010; Skiba et al., 2002; Skiba et al., 2011; Villodas et al., 2019). Rather, discipline decisions for Black children are made based on behaviors that are more subject to interpretation (e.g., disrespect or excessive noise) compared to discipline decisions for white children made in response to more objective infractions (e.g., smoking or vandalism; Skiba et al., 2002). This pattern of subjectivity in disciplinary decision-making suggests that teachers may be guided by implicit prejudicial beliefs that Black children require more control and are unlikely to respond to nonpunitive measures (Monroe, 2005). Although previous research and the

federal government guidelines have recognized the potential role of teachers' implicit biases in the disproportionate rate of identification of behavior problems for Black children and exclusionary discipline, no research has directly examined the role of teachers' implicit racial prejudice in their perceptions of Black children's externalizing behaviors.

In contrast to implicit bias, explicit biases operate in conscious awareness to influence behaviors. Explicit biases involve overt racism and blatant endorsement of derogatory statements about a racial group (see Virtanen & Huddy, 1998). Explicit biases are consciously endorsed by individuals, are consciously accessed in decision making and in interactions with outgroup members (Dovidio et al., 2002; Greenwald & Krieger, 2006), and are often measured by self-reported rating scales (see Stangor, 2016). Although most individuals in the modern United States will likely deny holding such overtly racist attitudes (e.g., "Black people are inferior to white people") and deny the role that these attitudes play in their daily decision making, many endorse derogatory beliefs (see Dovidio & Gaertner, 2004). In a previous study, we examined the role of white elementary school teachers' explicitly endorsed racial prejudice in their ratings of Black children's externalizing behaviors, and found that teachers who endorsed more negative racial attitudes rated Black boys' externalizing behaviors higher compared to teachers who endorsed fewer negative racial attitudes (Kang & Harvey, 2020).

In sum, theory suggests that both implicit and explicit prejudice play a role in discriminatory behavior (Nosek et al., 2007), but research has only examined the role of

explicit prejudice in teachers' perceptions of Black children's ADHD behaviors (e.g., Kang & Harvey, 2020) and the role of implicit prejudice is unclear. It may be that for some teachers, these processes are explicit and for some teachers, they are implicit; thus, explicit and implicit prejudice likely each account for unique variance in teacher ratings. Therefore, examining the roles of both explicit and implicit prejudice is important for informing points of intervention to reduce the effects of such attitudes in teachers' perceptions and ratings of Black children's behaviors.

### ***1.3.3 The Role of Stereotypes***

Compared to prejudice, the definition of stereotypes has historically been more complex, though scholars have generally contended that stereotypes are characterized by cognition or knowledge that serve as mental attributions of characteristic traits of group members that are overgeneralized to all members of that group (Stangor, 2016). As with prejudice, stereotypes are explained as a product of social categorization or the desire to categorize self and others by group identification (Tajfel, 1981), and manifest implicitly (outside of conscious awareness) and explicitly (consciously). Because of the automaticity of social categorization and activation of stereotypic material (Devine & Sharp, 2009), the implicit endorsement of stereotypes may also be measured indirectly using reaction times, whereas the explicit endorsement of stereotypic beliefs can be directly measured using self-report questionnaires (see Olson, 2009). Although stereotypes can be negative or positive (Allport, 1954), and can be applied to self or others (Wheeler & Petty, 2001), the overgeneralization and simple categorization of

individuals have deleterious effect on the individuals in the stereotyped group (Stangor, 1995).

In educational settings where Black students are often negatively stereotyped in their behavior and academic achievement (Chang & Demyan, 2007; Nasir, 2011), teachers might be prone to activating racial stereotypes, especially when asked to evaluate student behavior (Kunesh & Noltemeyer, 2019). Even though white teachers may not endorse overtly prejudicial and racist attitudes (e.g., Vaught & Castagno, 2008), they have nonetheless been shown to endorse negative stereotypical beliefs about Black students being aggressive and disobedient (Chang & Demyan, 2007). Moreover, research on stereotypes held in the general population point to a number of stereotypes related to ADHD that teachers may also hold. In particular, Black people in the United States are often perceived as having energetic body language and expression (i.e., verve; Boykin, 1983), and are stereotyped as being impulsive (Duncan, 1976) and as having low academic achievement (Nasir, 2011). These common perceptions and stereotypes likely extend to teachers' perceptions of Black students' behaviors. Stereotypes may become especially salient when teachers are asked to complete rating scales for ADHD for Black children, which include questions about excessive activity level (e.g., acts as if driven by a motor), impulsivity (e.g., interrupts others), and non-compliance (e.g., does not follow through on instructions). Therefore, it is possible that teachers' stereotypical beliefs about Black children's behaviors might impact their ratings on ADHD assessments, though this role of stereotypes in ADHD ratings has not been studied in the existing body of literature.

#### ***1.3.4 Unique Roles of Prejudice and Stereotypes***

Theory and research suggest that both prejudice and stereotypes likely play a role in white teachers' ratings of Black children. However, prejudice and stereotypes are distinct, but also related constructs (Dovidio et al., 1996; Stangor, 2016). Thus, it is critical to determine if stereotypes and prejudice play unique roles in parent and teacher ratings of Black children, taking into account the overlap between these constructs. It is possible that teachers' ratings of Black children's ADHD behaviors are influenced only by stereotypes, and that any association with prejudice is due to the correlation between stereotypes and prejudice. Similarly, effects may be driven entirely by prejudice. Finally, it is also possible that prejudice and stereotypes each play a unique, additive role in white adults' perceptions of Black children. Understanding the precise roles of prejudice and stereotypes in teacher ratings will inform our understanding of the parent-teacher discrepancies in ratings of Black children's behaviors, and point to potential modes of intervention to reduce those discrepancies.

#### ***1.3.5 Parents' Perceptions about Systemic Racism***

Although the discrepant ratings of children's ADHD behaviors between Black parents and white teachers may be driven by white teachers giving higher ratings to Black children, Black parents' underrating of their children's behavior problems may also contribute to those discrepancies. In a previous study, we examined the role of Black parents' beliefs about stigma related to ADHD, beliefs about typical activity level for children (i.e., *verve*), and their past experiences with racial discrimination in ratings of children's ADHD symptoms. None of these variables explained the discrepant ratings of



Black boys' ADHD symptoms between Black parents and white teachers (Kang & Harvey, 2020). Given that significant parent-teacher discrepancy was evident only in ratings of Black boys' ADHD behaviors, Black parents may be uniquely concerned about the perception of Black boys' behaviors, and may be driven to underreport their ADHD behaviors for reasons beyond the factors examined in the Kang and Harvey (2020) study. For example, Black parents may be aware of the unique challenges that Black men and boys face in society such as being perceived as threats (Todd et al., 2016). Especially within the context of the recent Black Lives Matter movement (Garza, 2016), Black parents may feel a particular need to protect their children from additional biases they are subjected to in a racist, prejudicial society. The literature on Black parents' racial socialization, which refers to parenting practices that implicitly and explicitly prepare children to live in a prejudicial society and cope with racial discrimination (see Hughes et al., 2006 for review), indirectly supports this notion. Within Black families, one of the main goals in racial socialization is to prepare children for being subjected to racial bias (Hughes & Johnson, 2001). Living in an inherently racist society and being exposed to various levels of racial discrimination, Black parents might be more vigilant about observing and monitoring Black children's behaviors (e.g., Carter & Forsyth, 2010), and this vigilance may inform the ways that Black parents rate Black children's behavior problems. Therefore, if Black parents do indeed rate Black children's ADHD behaviors lower than white teachers, it may be a reaction against systemic racism to which Black children may be subject.

#### **1.4 Intersectionality of Race and Gender**

According to intersectionality theory, multiple marginalized identities interact to create unique life experiences that are distinct from a simple aggregate of oppression from each identity (Cole, 2009; Crenshaw, 1989). Under this intersectionality framework, adult perception of Black boys' and girls' behaviors likely vary, and racial and gender biases may influence these perceptions in distinct ways.

The intersectionality framework is especially pertinent in ADHD research because of the longstanding gender disparities in ADHD diagnoses (Gershon, 2002). Specifically, ADHD is historically diagnosed more in boys than girls by 10:1 in clinical samples and 3:1 in community samples (Biederman et al., 2002; Cuffe et al., 2005). More recently, these gender gaps have been reported to close through adolescence and adulthood as girls get diagnosed at a later age than do boys (Danielson et al., 2018; Williamson & Johnston, 2015). These patterns of gender disparity in the prevalence and course of ADHD have been attributed to visible symptoms (i.e., hyperactivity) being more common among boys (London & Landes, 2021) whereas inattention symptoms are more common in girls (Biederman et al., 2002). Evidence that teachers are less likely to attribute girls' behaviors to ADHD (Coles et al., 2012; Groenewald et al., 2009) lends further support for the role of gender biases in perceptions of ADHD behaviors.

The interplay of racial stereotypes (e.g., Black children are more active; Boykin, 1983; Black children are more disobedient; Chang & Demyan, 2007) and gender stereotypes (e.g., girls are less likely to be disruptive than boys; Biederman et al., 2002) is likely to result in different patterns of bias for Black boys and girls. Therefore, it is important to disaggregate the role of child race and gender in examining the effects of

racial prejudice and stereotypes in how children's ADHD behaviors are perceived by parents and teachers.

### **1.5 The Present Study**

The diagnostic process for ADHD relies heavily on parent and teacher perceptions and ratings of symptomatic behaviors, and past research has demonstrated a greater degree of disagreement among Black parents and white teachers in these ratings. These parent-teacher discrepancies may partially contribute to the longstanding disparities in the rates of diagnoses of ADHD in Black children. However, no past studies, with the exception of Kang and Harvey (2020), have considered the mechanisms underlying discrepancies between white teachers' and Black parents' perceptions and ratings of ADHD behaviors in Black children. Therefore, the present study aims to address this gap in the literature to inform appropriate interventions for more equitable treatment of Black children by the school and mental health systems. Informed by the framework of Critical Race Theory and intersectionality theory, this study has the following aims:

1. **Delineate the role of implicit and explicit prejudice and stereotypes in teachers' ratings of Black boys' and girls' ADHD behaviors.** Although prejudice and stereotypes are related constructs, they are distinct in content and effect on behavior (Stangor, 2016). Whereas prejudice refers to broadly negative attitudes, stereotypes are more domain specific. Previously documented patterns of white teachers' higher ratings of Black children's ADHD behaviors (Harvey et al., 2013; Kang & Harvey, 2020; Lau et al., 2004) may be uniquely

attributable to prejudicial attitudes by teachers (e.g., Kang & Harvey, 2020) and/or stereotypes about Black children's expressive body language (Boykin, 1983) and impulsivity (Duncan, 1976). Therefore, this aim sought to test predictions that follow from three competing hypotheses about the role of prejudice and stereotypes in teachers' ratings of Black children's ADHD behaviors. I tested these hypotheses separately for boys and girls, given prior research that ADHD is diagnosed more often in boys than girls, and that white teachers' negative racial attitudes were found to be uniquely related to their ratings of Black boys' ADHD symptoms (Kang & Harvey, 2020).

**Competing Hypothesis 1a. Teachers' perceptions of Black children's ADHD behavior are primarily affected by prejudice, rather than stereotypes.** If prejudice, rather than stereotypes, play a primary role in teachers' ratings of Black children's ADHD behaviors, teachers' prejudice will predict higher ADHD ratings for Black children, controlling for stereotypes. Specifically, white teachers with stronger implicit and explicit prejudicial attitudes toward Black Americans will give more biased ratings of Black children's inattentive and hyperactive symptoms compared to teachers with less prejudicial attitudes, controlling for implicit and explicit stereotypes.

**Competing Hypothesis 1b. Teachers' perceptions of Black children's ADHD behavior are primarily affected by stereotypes, rather than prejudice.** If stereotypes, rather than prejudice, play a primary role in

teachers' ratings of Black children's ADHD behaviors, teachers' stereotypical beliefs will predict ratings of ADHD in Black children, controlling for prejudice. Teachers who hold stronger implicit and explicit stereotypes related to Black children and ADHD behaviors (i.e., more strongly associating being Black with ADHD behavior) will give more biased ratings of Black children's ADHD symptoms compared to teachers who show weaker Black-ADHD stereotypes, controlling for their implicit and explicit prejudice.

**Competing Hypothesis 1c. Teachers' perceptions of Black children's ADHD behavior are affected by both prejudice and stereotypes.** It is possible that prejudice and stereotypes both uniquely predict teachers' ratings of Black children's ADHD behaviors. If this is the case, implicit and explicit measures of both prejudice and stereotypes will be related to teachers' biased ratings of ADHD behaviors for Black children.

- 2. Determine if Black parents' perceptions about systemic racism predict their ratings of Black children's ADHD behaviors.** Discrepant ratings between Black parents and white teachers may also be driven by Black parents giving lower ratings than teachers. Black parents' perceptions about systemic and institutional racism may motivate them to underreport symptoms of psychopathology for Black children. This may occur as a function of a desire to protect Black children from additional stigma associated with behavioral or emotional problems (Gary, 2005). Therefore, the present study sought to

delineate the role of Black parents' perceptions about systemic racism in their ratings of Black children's ADHD behaviors by testing the following hypothesis:

Hypothesis 2. Black parents who endorse stronger beliefs about systemic racism experienced by Black children in society (e.g., institutional barriers; unfair targeting) will report fewer ADHD symptoms in Black children relative to white children, compared to Black parents who endorse fewer concerns.

## CHAPTER 2

### METHOD

#### 2.1 Participants

Participants included 103 white teachers ( $M_{\text{age}} = 38.78$ ,  $SD = 10.10$ ; 76% female, 24% male) and 48 Black parents ( $M_{\text{age}} = 36.36$ ,  $SD = 6.67$ ; 75% female, 25% male) who completed all video ratings and at least one predictor variable<sup>1</sup>. Teachers mostly reported multiple European ethnicities, including English, German, Irish, Polish, and/or Italian. The majority of parents ( $n = 41$ , 85.4%) reported their ethnicity as African American, and the remaining parents identified as Haitian ( $n = 1$ ), Somali ( $n = 1$ ), Trinidadian ( $n = 1$ ), Bajan ( $n = 1$ ), or biracial/biethnic ( $n = 3$ ; Black and English, Mexican, or Native American). Teachers' years of experience teaching ranged from 6 months to 35 years (Median = 8 years, 5 months; Mean = 11 years, 4 months,  $SD = 8$  years, 3 months), and they reported that an average of 54.09% of students (Median = 57%,  $SD = 30.96\%$ ) qualify for free and reduced price lunch at their schools. A majority of teachers (66%) reported being a parent, and 23.3% reported having at least one child who has been diagnosed or is suspected of having ADHD. Ten teachers (9.7%) disclosed having been diagnosed with ADHD themselves. Most parents reported having one ( $n = 16$ , 33%), two ( $n = 15$ , 31%), or three ( $n = 9$ , 19%) children; 13 parents (27.1%) disclosed having at least one child who has been diagnosed or is suspected of having ADHD, and 4 parents (8.3%) disclosed having ADHD themselves. On average, white teachers reported

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<sup>1</sup> A total of 158 participants enrolled (50 parents; 108 teachers). Among these, 7 participants (2 parents and 5 teachers) were excluded from analyses because they partially completed video ratings and/or did not have any predictor variables.

a significantly higher median annual income (Median range: \$80,000 to \$99,999) than did Black parents (Median range: \$40,000 to \$59,999),  $F(1, 147) = 8.77, p = .004$ .

Participants reported residing in 39 different states in the United States (See Table 1 for Participant Demographic Descriptive Statistics).

## **2.2 Procedure**

All participants were screened twice using identical surveys 3 weeks apart. This two-part screening procedure was designed to limit the number of MTurk workers who falsely claimed to meet participation criteria. Parents were asked the ages, birth months, birth years, and race/ethnicity for each of their children, and their own race/ethnicity. Teachers were asked about their race/ethnicity, and the grade level, type of school, and subject they teach, as well as the year and state from which they received their teaching certificate or licensure. Parents who indicated their race/ethnicity as Black/African American (including biracial and multiracial if they also indicated being Black/African American), and teachers who indicated their race/ethnicity as white/European American were invited to the second screening. The decision to include biracial and multiracial Black parents was made for inclusivity, and, by including them, I may have the opportunity to explore whether findings differ for multiracial parents compared to monoracial parents with a large enough sample size. Lastly, all participants rated their familiarity with ADHD, and those who reported never having heard of ADHD were not invited to the full survey. Parents and teachers who provided consistent responses over the two screening surveys were invited to participate in the full survey



on Qualtrics. The full study was split into two sessions in order to minimize fatigue from long study participation and repeated tasks (e.g., IATs).

During session 1, participants watched eight 1-minute video clips from classrooms ranging from preschool to first grade in counterbalanced order for child race and gender (i.e., four different orders for video clips). After each video clip, participants were asked to rate a designated child (two Black boys, two white boys, two Black girls, two white girls) on the degree to which they displayed behaviors associated with ADHD<sup>2</sup>. After watching and rating the eight video clips, participants were administered either the racial prejudice IAT or the racial ADHD stereotypes IAT in a counterbalanced order<sup>3</sup> for one child gender (See Appendix Table 1 for counterbalanced conditions) After the first IAT, participants were administered the first half of a demographic questionnaire, then they completed the second IAT (either the racial prejudice IAT or the racial ADHD stereotypes IAT for the same child gender as the first IAT). Next, participants were administered a semantic differential scale to determine the extent to which they explicitly associate (or stereotype) each ADHD symptom with Black and white boys or girls according to the child gender of the IATs of their assigned condition.

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<sup>2</sup> Participants also rated the degree to which each child in the videoclips displayed behaviors associated with oppositional defiant disorder (ODD), anxiety, and depression. However, these ratings were not used in analyses because more than half of all participants indicated these symptoms as being non-applicable across the videoclips, likely because these behaviors were not readily observable from the videoclips.

<sup>3</sup> The gender of Black and white children was counterbalanced across the two sessions, such that half of the participants completed racial prejudice IAT and ADHD racial stereotypes IAT in a counterbalanced order for boys or girls during the first session, then racial prejudice IAT and ADHD racial stereotypes IAT for the other child gender during the second session.

Then, participants completed the racial attitudes questionnaire (Brigham, 1993) that corresponded with their race to assess explicit racial prejudice toward the other race, and the Beliefs about Children's Experiences questionnaire that assessed their beliefs about systemic racism toward Black boys and Black girls. Lastly, they completed the second half of the demographic information and family history questionnaire.

Upon full completion of session 1, participants were invited to complete session 2 within one week. During session 2, participants completed the racial prejudice IAT, the racial ADHD stereotypes IAT (again in counterbalanced order), and semantic differential scales all for the other child gender than the first session.

The first screening compensated \$0.02 to each participant, and the second screening compensated \$0.05. For the full study, the first session lasted 1 hour and compensated \$4 per participant, and the second session lasted 20 minutes and compensated \$6 per participant. Thus, each participant who fully completed the study was paid \$10 total.

### **2.3 Materials**

The videos used to create the eight 1-minute video clips were obtained from YouTube ([www.youtube.com](http://www.youtube.com)) and consisted of three preschool, two kindergarten, and two first grade classrooms containing a racially diverse group of children. These grade levels were chosen because younger children tended to exhibit more observable behaviors consistent with ADHD behaviors compared to older children, whereas these behaviors are often more subtle and infrequent in older grades. These eight videos were chosen from 20 one-minute video clips which were rated by three undergraduate

research assistants, two clinical psychology graduate students, and one licensed clinical psychologist and professor in clinical psychology. Among these, eight videoclips that were given the most similar range of ADHD behavior ratings were selected to use for the full study. The final eight 1-minute segments were selected to display a child (two Black boys, two Black girls, two white boys, and two white girls) showing at least some behaviors reflecting ADHD symptoms. In these video clips, the two Black boys were in preschool and kindergarten, the two Black girls were in preschool and kindergarten, both white boys were in first grade, and both white girls were in preschool. In cases where more than one clip was created from the same classroom, none were identical segments. Videoclips were displayed in an alternating order for race and gender of each child, so that no same-race and same-gender children were shown consecutively.

## **2.4 Measures**

### ***2.4.1 Child Behavior Ratings***

Participants were asked to rate the behaviors of the child indicated in the videos using selected items from the Vanderbilt Assessment Scale. The Vanderbilt Assessment Scale (Wolraich, 2003) is commonly utilized among clinicians, school psychologists, and pediatricians to assess psychopathology in children and adolescents. The Vanderbilt Assessment Scale shows good to excellent internal consistency ( $\alpha = .90 - .95$ ; Wolraich et al., 2003), and includes 43 items, 18 of which apply to the diagnostic criteria of ADHD. Participants rated children in the video clips using 11 items from the ADHD scale (4 from

the inattention subscale, 7 from the hyperactivity and impulsivity subscale)<sup>4</sup> from the Vanderbilt Assessment Scale Teacher Report Scale. These items were selected based on what could be readily observed from the video clips. Each item on the Vanderbilt Assessment Scale is normally rated on a 4-point Likert scale (*Never, Occasionally, Often, Very Often*), but participants were asked to use a slider scale that ranges from 0 to 100 scale instead of a 4-point Likert scale to allow for more precise comparison of participants' symptom endorsement for each child. The obtained value from this slider scale provided a mean score for each participant's ratings of each child, where a higher score represents greater inattention and hyperactivity symptom endorsement.

From these video ratings, eight composite variables were constructed (four for inattention ratings and four for hyperactivity ratings) by averaging ratings for the two Black boys, two white boys, two Black girls, and two white girls. To directly measure each participant's racial bias in their perceptions of child behavior, and to take into account individual differences in the use of the sliding scale, I determined each participant's ratings of Black children's behaviors relative to their ratings of white children by computing 4 difference scores, subtracting white children's ratings from Black children's ratings for each symptom composite (inattention, hyperactivity) separately by child gender. Higher (more positive) difference scores reflected the magnitude with which Black children's behaviors were rated highly relative to white

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<sup>4</sup> Additional symptom ratings for ODD (5 items), anxiety (2 items), and depression (4 items) from the Vanderbilt Assessment Scale were administered but not used in analyses.

children for each participant, indicating a relative bias in ratings of Black children's inattentive and hyperactive symptoms.

#### ***2.4.2 Implicit Prejudice and Stereotypes***

The Implicit Association Test (IAT; Greenwald et al., 2003) was used to measure all participants' implicit (i.e., subconscious) racial prejudice and racial ADHD stereotypes. The IAT is a dual-categorization task that measures response times to assess the strength of automatic associations between distinct concepts. The basic assumption of the IAT is that people are faster to categorize groups of stimuli that share a response key when those stimuli are mentally linked for participants (Greenwald et al., 1998). For example, the IAT assumes that participants who more strongly associate white children with positive concepts than Black children with positive concepts will be faster to categorize stimuli when the categories "white" and "good" are paired on the same response key compared to when the categories "Black" and "good" are paired on the same key.

For this study, I designed IATs to examine the strength of association between race (i.e., Black and white) and positive concepts (e.g., miracle), and race and ADHD symptoms for each child gender. In other words, four IATs were employed in total: two racial prejudice IATs for boys and girls to measure participants' affective attitudes toward Black and white children (Black and white boy or girl images; pleasant-unpleasant words); two racial ADHD stereotypes IATs for boys and girls to measure participants' associations between ADHD symptoms and Black/white boys and girls (Black and white boy or girl images; ADHD symptoms-not-ADHD symptoms). Participants

used their keyboard to categorize Black and white children's face images, and to categorize pleasant-unpleasant words in the prejudice IATs, and words descriptive (or not descriptive) of ADHD in the stereotypes IATs.

Each IAT involved seven total blocks of trials (Greenwald et al., 2003). In Block 1, participants were instructed to categorize boys' or girls' face images into their correct racial category by pressing the corresponding keyboard key (e.g., the "e" key for Black faces, the "i" key for White faces). In Block 2, participants were instructed to categorize words that are pleasant or unpleasant in prejudice IATs, or categorize words that are descriptive or not descriptive of ADHD in stereotypes IATs, using the same keyboard keys from Block 1 (e.g., "e" for ADHD words, "i" for non-ADHD words). In Blocks 3 and 4, participants were instructed to categorize both face images and pleasant vs. unpleasant (or ADHD vs. not ADHD) words in randomly presented order into their respective categories, with certain categories sharing response keys (e.g., Black and ADHD categories sharing the "e" key, white and non-ADHD categories sharing the "i" key). In Block 5, participants repeated Block 1 with reversed category-key pairings (e.g., "e" for white faces, "i" for Black faces). Blocks 6 and 7 repeated Blocks 3 and 4 with the reversed category-key pairings from Block 5 (e.g., white faces and ADHD sharing the "e" key, Black faces and not ADHD sharing the "i" key). Blocks 3, 4, 6, and 7 serve as the critical test blocks such that comparing response times across these blocks assesses the strength of association each participant has with Black and white children to pleasant and unpleasant words, and to words descriptive and not descriptive of ADHD symptoms.

Each participant's strength of association between Black children and the stimulus category were measured by the difference in reaction time (latencies in milliseconds) between the four test blocks described above. This difference in reaction time between blocks were calculated as a standardized difference score (*D* score), where a negative *D* score indicates faster association between Black-unpleasant (i.e., greater prejudice) and Black-ADHD (i.e., stronger racial ADHD stereotype; see Lane et al., 2007 for details on the IAT procedure). In the present study, these negative *D* scores were reversed so that higher scores indicate greater bias. Images of Black and white children's faces were obtained from the Child Affective Facial Expression (CAFE) set (LoBue & Thrasher, 2015), which have been used in previous studies to examine implicit semantic associations between concepts (Thiem et al., 2019; Todd et al., 2016). Selected facial images of neutral expressions of 24 children (6 Black boys, 6 Black girls, 6 white boys, and 6 white girls) whose racial categories are easily identifiable with respect to skin complexion and hair texture from Todd et al. (2016) and Thiem et al. (2019) were used across the four IATs (See Appendix Table 2 for IAT stimuli). Previous research has demonstrated good psychometric properties of the IAT (Cunningham et al., 2001) in addition to evidence that IAT performance is associated with attitudes and behaviors toward the individuals in target groups (Greenwald et al., 2009). Using IATs on online survey platforms (Qualtrics) has demonstrated viable psychometric utility (Carpenter et al., 2019).

### **2.4.3 Explicit Prejudice and Stereotypes**

The Racial Attitudes Scale (Brigham, 1993) was administered to measure explicit prejudice, where a lower score indicates greater racial prejudice. The racial attitudes scale consists of two scales, one for Black respondents and one for white respondents, and is designed to assess prejudice and racial attitudes toward the other race. Each scale contains 20 items rated on a 7-point Likert scale (*Strongly disagree – Strongly agree*). The scale that measures Whites' Attitudes Toward Blacks (ATB) includes 10 positively worded and 10 negative worded items with good reliability (e.g., "Black people are demanding too much too fast in their push for equal rights";  $\alpha = 0.88$ ). Brigham (1993) show that the ATB scale yields four strongly intercorrelated factors: social distance, affective reactions, governmental policy, and personal worry ( $r_s = .53$  to  $.63$ ). Given that this study aimed to examine the role of white teachers' racial prejudice toward Black children in their ratings of Black children's ADHD behaviors, only the ATB was used for analysis. In the current sample, the ATB demonstrated good reliability ( $\alpha = .89$ ). In the present study, the racial attitudes scores were reversed so that higher scores indicate greater explicit prejudice.

Two Semantic Differential Scales (one for boys and one for girls) measured explicit racial ADHD stereotypes about Black and white boys and girls, using the same stimuli items as the IAT. In particular, participants indicated the extent to which they associate each stimulus word (e.g., Inattentive—Attentive) with Black or white boys or girls (Peffley et al., 1997) on a bipolar scale. In other words, results on the semantic differential scale reflected the extent to which participants consciously associated each



ADHD symptom to Black or white boys. In order to capture each participant's explicit ADHD stereotypes about Black children relative to their explicit ADHD stereotypes about white children, difference scores were calculated by subtracting white children's ratings from Black children's ratings separately by child gender. Higher (more positive) difference scores indicating greater association of ADHD symptoms with Black children relative to white children.

#### **2.4.4 Beliefs about Systemic Racism**

The Beliefs about Children's Experiences questionnaire was developed for this study and aims to assess participants' perceived experiences of systemic/institutional bias by Black boys and girls. This 16-item questionnaire assesses participants' beliefs about Black boys' and girls' experiences with institutional racial bias in the following domains: unfair treatment by society, police violence, expectations of academic achievement, unfair punishment at school, misdiagnoses by medical professionals, inappropriate prescription of medication, and unfair treatment in the mental health system. In a preliminary study, this questionnaire demonstrated excellent reliability ( $\alpha = .97$ ) across Black and White participants, and factor analysis yielded two subscales, one describing racism in the broader society, by the police, and in school ( $\alpha = .97$ ), and the other factor describing racism by the healthcare systems ( $\alpha = .96$ ). In the present sample of Black parents, the two subscales were significantly correlated among boys ( $r = .71, p < .001$ ) and among girls ( $r = .83, p < .001$ ). Similarly, in the sample of teachers, the two subscales were significantly correlated among boys ( $r = .79, p < .001$ ) and girls ( $r = .86, p < .001$ ). Therefore, a total score was used by averaging across the 8 items for

each child gender. In the present sample, the Beliefs about Children's Experiences total score demonstrated good to excellent reliability among white teachers (Boys  $\alpha = .94$ ; Girls  $\alpha = .96$ ) and Black parents (Boys  $\alpha = .84$ ; Girls  $\alpha = .92$ ).

#### **2.4.5 Social Desirability**

As a measure of white participants' social desirability in answering questions about prejudice and stereotypes, the Internal/External Motivation to Respond Without Prejudice Scale (IMS/EMS; Plant & Devine, 1998) was administered. This questionnaire was designed to measure participants' internal (personal) and external (social) motivation to respond without prejudice when interacting with Black Americans. The IMS/EMS contains 10 items (5 internal and 5 external motivation) rated on a 9-point Likert scale (*Strongly disagree – Strongly agree*) with acceptable to good reliability ( $\alpha = .76-.85$ ). The IMS subscale was very similar in content to the Racial Attitudes Scale and they were highly correlated ( $r = -.69, p < .001$ ), and, conceptually, I was interested in participants' feelings of social pressure to deny bias, the EMS subscale was used as a measure of social desirability in this study. In the current sample of white teachers, the EMS subscale demonstrated good reliability ( $\alpha = .86$ ).

#### **2.4.6 Demographic and Family History Scale**

All participants answered sociodemographic questions (e.g., age, gender, annual income, education). Teachers reported the percentage of students receiving free/reduced lunch and parents were asked whether each of their children has been suspected of having or has been diagnosed with ADHD, and whether anyone in their immediate family has been diagnosed with ADHD.

## 2.5 Analytic Plan

Descriptive statistics and analyses of variance were conducted using SPSS v28 (IBM Corp, 2021) and regression analyses were conducted using MPlus v8 (Muthén & Muthén, 1998-2017). Full information maximum likelihood was used to address missing data. Power analyses for linear multiple regressions conducted using G\*Power (Faul et al., 2009) showed that a sample of 103 white teachers was sufficient to detect a small-medium effect size ( $f^2 = .08$ ), and a sample of 48 Black parents was sufficient to detect a medium-large effect size ( $f^2 = .17$ ) with a power of .80.

For Aim 1, I used linear regression analyses to determine whether implicit and explicit measures of prejudice and stereotypes toward Black boys and Black girls predicted white teachers' difference scores in ratings of Black and white children's ADHD behaviors. The four dependent variables of video difference scores for inattention and hyperactivity by child gender were each regressed on implicit and explicit measures of prejudice and stereotypes in separate models (one predictor and one dependent variable in each model). To determine unique effects, each significant regression was followed up by regressing the dependent variable on both prejudice and stereotype variables simultaneously (though separately for implicit and explicit measures).

For Aim 2, I used linear regression analyses to test whether Black parents' beliefs about systemic racism against Black boys and girls predict ratings of their ADHD behaviors. The four dependent variables of video difference scores for inattention and hyperactivity by child gender were each regressed on Beliefs about Children's Experiences questionnaire scores for Black boys and girls respectively. For exploratory

purposes, each video rating difference score was regressed on the composite score across the Beliefs about Children's Experiences scores for both Black boys and girls.

## CHAPTER 3

### RESULTS

#### 3.1 Preliminary Analyses

First, I examined descriptive statistics and distributions of all independent and dependent variables. No variables were significantly skewed (range -0.94 to 0.44). There were two outliers. One white teacher had three IAT *D* scores between 3.74 and 3.93 times the standard deviation from the mean of the entire sample; thus, these three outlier *D* scores were adjusted to the next highest value according to the recommendations by Tabachnick and Fidell (2019). The other outlier was another white teacher whose explicit racial prejudice was 4.47 times the standard deviation from the mean of the white teacher sample; this participant was omitted given this extreme deviation from the mean and concerns about any disproportionate impact this participant may have on the regression analyses. Overall, most participants reported the study to be *not at all difficult* ( $n = 108, 71.5\%$ ) and most reported having no distractions at all while completing the study ( $n = 119, 78.8\%$ ), with no difference between white teachers and Black parents ( $ps > .14$ ). On average, participants completed session 1 in 50 minutes (parents:  $M = 57.03, SD = 17.65$ ; teachers:  $M = 46.15, SD = 16.15$ ) and session 2 in 18 minutes (parents:  $M = 21.14, SD = 10.65$ ; teachers:  $M = 16.89, SD = 8.34$ ). These data suggest that the procedures were not overly taxing and that the participants were engaged.

#### 3.2 Descriptive Statistics

Descriptive statistics for study variables completed by both white teachers and Black parents are listed in Table 1. On average, white teachers' implicit racial prejudice and implicit racial ADHD stereotypes for both boys and girls were significantly higher than that of Black parents ( $p < .001$ ). Whereas Black parents' scores on implicit measures were very close to zero on average (indicating no bias, or similar associations between white and Black children), white teachers' scores were above zero indicating that, on average, white teachers associated Black children's faces with negative words and with ADHD symptoms. A majority of teachers showed implicit prejudice scores greater than zero (boys  $n = 83$ , 85.56%; girls  $n = 90$ , 90.91%) and implicit stereotype scores greater than zero (boys  $n = 78$ , 79.59%; girls  $n = 74$ , 77.08%). Although teachers and parents did not differ in their explicit racial ADHD stereotypes difference scores for boys ( $p = .34$ ), teachers' explicit racial ADHD stereotypes about girls were significantly higher than parents',  $F(1, 142) = 6.53$ ,  $p = .01$ , indicating that teachers' racial stereotypes about Black girls with ADHD, relative to white girls, were higher than Black parents' racial stereotypes. Additionally, a repeated-measures ANOVA examined whether these explicit ADHD stereotypes vary as a function of child race and gender. A significant child race by participant group interaction,  $F(1, 140) = 4.56$ ,  $p = .04$ , indicated that white teachers endorsed significantly more stereotypes about Black children ( $M = 4.12$ ,  $SE = 0.08$ ) than did Black parents ( $M = 3.79$ ,  $SE = .13$ ), though they did not differ in ADHD stereotypes about white children,  $p = .91$ . Furthermore, a significant main effect of child gender,  $F(1, 140) = 60.04$ ,  $p < .001$ , indicated that, on average, both parents and teachers endorsed more explicit ADHD stereotypes about boys ( $M = 4.32$ ,  $SE = .08$ ) than

girls ( $M = 3.64, SE = .08$ ) across child race. Lastly, on average, Black parents more strongly endorsed the existence of systemic racism toward Black boys,  $F(1, 145) = 33.18, p < .001$ , and Black girls,  $F(1, 145) = 25.30, p < .001$ , than did white teachers.

In addition to the direct mean comparisons of the video ratings presented in Table 1, I examined whether Black parents and white teachers systematically differed in their ratings of Black and white children's inattention and hyperactivity, using a repeated-measures ANOVA with child race and gender as within-subjects factors and participant group (Parent vs. Teacher) as a between-subjects factor. For inattention, there was a significant child race by participant group interaction,  $F(1, 148) = 9.08, p = .003$ . Follow-up analyses showed that on average, Black parents rated white children ( $M = 36.74, SE = 2.68$ ) as showing more inattention than Black children ( $M = 27.23, SE = 2.63$ ),  $p < .001$ , as did white teachers (white:  $M = 30.81, SE = 1.84$ ; Black:  $M = 27.98, SE = 1.81$ ),  $p = .03$ . Thus, both Black parents and white teachers agreed that the four white children showed more inattention than the four Black children, but this difference was significantly smaller for white teachers than for Black parents. The child race by child gender by participant group interaction was not significant,  $F(1, 148) = 1.93, p = .17$ . For hyperactivity, the child race by participant group was trending,  $F(1, 149) = 3.11, p = .08$ , such that on average, Black parents rated white children ( $M = 36.95, SE = 2.68$ ) as showing more hyperactivity than Black children ( $M = 33.20, SE = 2.84$ ),  $p = .03$ , though white teachers rated Black ( $M = 29.65, SE = 1.94$ ) and white ( $M = 29.66, SE = 1.83$ ) children similarly,  $p = .99$ . The child race by child gender by participant group was also not significant for hyperactivity,  $F(1, 149) = 0.02, p = .89$ , and no other two-way

interactions involving participant group emerged for either inattention or hyperactivity ratings.

These results are consistent with prior findings showing that Black parents and white teachers show different patterns of perceptions of ADHD symptoms as a function of child race (e.g., Kang & Harvey, 2020). The subjective nature of ADHD rating scales makes it impossible to determine whether these differences are driven by overreporting or underreporting by either parents or teachers. Although I made an effort to match children's behavior across videoclips, participants tended to rate white children in the videoclips as displaying more ADHD symptoms than Black children, and this difference was more pronounced in Black parents' ratings than in white teachers' ratings. It is possible that the difference between Black parents' and white teachers' ratings is due to Black parents accurately detecting a larger difference between Black and white children, which white teachers were less able to detect due to bias in favor of white children. It is also possible that these differences were driven by Black parents overreporting symptoms in white children or underreporting symptoms in Black children. Regardless of the reason for the differences in how Black parents and white teachers rated Black and white children, there was substantial variability in how differentially Black parents and white teachers rated Black and white children, pointing to the importance of predicting individual differences in differential perceptions of ADHD symptoms in Black and white children.

Intercorrelations for all study variables for teachers and parents separately are shown in Tables 2 and 3 (for intercorrelations of composite video ratings, see Appendix



Tables 3 and 4). Among both samples, inattention and hyperactivity difference scores were correlated within each child gender, and all four IAT *D* scores were correlated with each other

(except for girls' implicit racial prejudice with other *D* scores for Black parents). In addition, boys' and girls' explicit racial ADHD stereotypes were correlated with each other, as were beliefs about boys' and girls' experiences with systemic racism for both teachers and parents. For teachers, greater implicit racial prejudice was related to greater explicit ADHD stereotypes about Black girls, and with less beliefs about systemic racism experienced by both Black boys and girls. For teachers, greater explicit racial prejudice was correlated with greater explicit racial ADHD stereotypes for Black girls, and with less beliefs about systemic racism experienced by both Black boys and Black girls. Although teachers' experiences teaching Black children relative to white children were not correlated with any video ratings, more experience teaching Black children was associated with less implicit racial prejudice for both boys and girls, and with less explicit racial prejudice. For Black parents, more explicit ADHD stereotypes about white boys were correlated with more explicit ADHD stereotypes about white girls, and with less beliefs about systemic racism experienced by Black boys.

### **3.3 Aim 1: Delineate the role of implicit and explicit racial prejudice and racial ADHD stereotypes in teachers' ratings of Black boys' and girls' ADHD behaviors**

#### ***3.3.1 Prejudice Effects***

**3.3.1.1 Implicit racial prejudice.** Inattention and hyperactivity video difference scores for boys and girls were each regressed on boys' and girls' prejudice IAT *D* scores,

respectively. White teachers' implicit racial prejudice toward Black boys and girls were not significantly associated with either inattention or hyperactivity difference scores, though effects were in the expected direction (See Table 4).

**3.3.1.2 Explicit racial prejudice.** Inattention and hyperactivity video difference scores for boys and girls were each regressed on the measure of explicit racial prejudice. Teachers' explicit racial prejudice was not significantly associated with any video difference scores for boys or girls (See Table 4).

### **3.3.2 Stereotypes Effects**

**3.3.2.1 Implicit racial ADHD stereotypes.** Inattention and hyperactivity video difference scores for boys and girls were each regressed on boys' and girls' stereotypes IAT *D* scores, respectively. White teachers' implicit ADHD racial stereotype toward Black boys and girls were not significantly associated with either inattention or hyperactivity difference scores (See Table 4).

**3.3.2.2 Explicit racial ADHD stereotypes.** Inattention and hyperactivity video difference scores for boys and girls were each regressed separately on explicit racial ADHD stereotype difference scores for boys and girls, respectively. Greater Black-white difference score in explicit racial ADHD stereotypes predicted greater Black-white difference scores in boys' hyperactivity ratings,  $b = 7.82$ ,  $SE = 2.40$ ,  $\beta = .31$ ,  $p = .001$ , and marginally greater difference scores in inattention ratings,  $b = 4.38$ ,  $SE = 2.42$ ,  $\beta = .18$ ,  $p = .07$ . In other words, teachers who held more explicit racial ADHD stereotypes for Black boys relative to white boys were more likely to rate Black boys' inattention and hyperactivity symptoms higher than white boys' symptoms. Teachers' explicit racial

ADHD stereotypes were not significantly associated with any video ratings for girls (See Table 4). To examine the unique effects of explicit racial ADHD stereotypes, boys' inattention and hyperactivity difference scores were each regressed on both explicit racial prejudice and explicit racial ADHD stereotypes (See all unique effects in Appendix Table 5). The effect of explicit racial ADHD stereotypes<sup>5</sup> on boys' hyperactivity ratings remained controlling for explicit racial prejudice,  $b = 7.77$ ,  $SE = 2.42$ ,  $\beta = .31$ ,  $p = .001$ , and the effect of explicit racial ADHD stereotypes on boys' inattention ratings became significant when controlling for explicit racial prejudice,  $b = 4.81$ ,  $SE = 2.40$ ,  $\beta = .20$ ,  $p = .04$ <sup>6</sup> (See Figure 1).

### **3.4 Aim 2. Determine if Black parents' perceptions about systemic racism predict their ratings of Black children's ADHD behaviors.**

Black parents' inattention and hyperactivity video difference scores for boys and girls were each regressed on their ratings of systemic racism experienced by boys and girls, respectively. More beliefs of systemic racism toward Black boys were marginally associated with lower ratings of Black boys' hyperactivity relative to white boys' hyperactivity,  $b = -5.53$ ,  $SE = 3.24$ ,  $\beta = -.24$ ,  $p = .09$ . Black parents' beliefs about systemic racism toward Black boys and girls did not predict their difference scores in video ratings for boys' inattention, girls' inattention, or girls' hyperactivity (See Table 5).

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<sup>5</sup> This effect of explicit racial ADHD stereotypes on boys' hyperactivity difference scores also remained when controlling for both explicit prejudice and social desirability,  $b = 7.71$ ,  $SE = 2.45$ ,  $\beta = .09$ ,  $p = .002$ .

<sup>6</sup> This effect of explicit racial ADHD stereotypes on boys' inattention difference scores also remained when controlling for both explicit prejudice and social desirability,  $b = 4.79$ ,  $SE = 2.43$ ,  $\beta = .20$ ,  $p = .05$ .

### 3.5 Exploratory Mediation Analyses

Although implicit racial prejudice and implicit racial ADHD stereotypes were not significantly associated with ratings of Black children's ADHD behaviors among teachers, there were parent-teacher differences in video ratings and measures of implicit bias. Therefore, I examined whether implicit and explicit prejudice and stereotypes and beliefs about systemic racism toward children mediated the relation between participant group (Black parents vs. white teachers) and each video difference rating using a bootstrapping approach with 10,000 resamples. The indirect effect of implicit racial prejudice toward boys approached significance in mediating the relation between participant group and boys' hyperactivity difference scores ( $b = 2.98, SE = 1.59, \beta = .08, p = .06$ ). Specifically, being a white teacher was significantly associated with greater implicit racial prejudice toward Black boys ( $b = 0.37, SE = .07, \beta = .42, p < .001$ ), which, in turn, was associated with higher ratings of Black boys' hyperactivity relative to white boys' hyperactivity (i.e., more racial bias in video ratings),  $b = 8.09, SE = 4.01, \beta = .20, p = .04$  (See Figure 2). This marginally significant indirect effect remained when controlling for implicit racial ADHD stereotypes about boys. All other indirect effects were not significant (See Table 6).

## CHAPTER 4

### DISCUSSION

The present study sought to better understand possible mechanisms underlying racial differences in parent-teacher perception of ADHD symptoms. Specifically, I examined the roles of white teachers' racial biases and Black parents' beliefs about racial biases in their ratings of Black and white children's ADHD behaviors. Results showed that white teachers' stronger explicit ADHD stereotypes about Black boys (relative to white boys) predicted more biased ratings of Black boys' inattentive and hyperactive symptoms. Among Black parents, stronger beliefs in systemic racism experienced by Black boys marginally predicted lower ratings of Black boys' hyperactive symptoms, relative to ratings of white boys. Lastly, across the entire sample, white teachers demonstrated more implicit racial prejudice than Black parents, which in turn predicted more racially biased ratings of Black boys' hyperactive symptoms. White teachers' explicit racial prejudice did not predict biased ratings, and no measures of prejudice or stereotypes predicted biased ratings of girls' ADHD symptoms.

#### **4.1 The Role of Prejudice in Teachers' Perceptions**

Implicit racial prejudice did not significantly predict biased ADHD ratings among white teachers, though the effect was in the expected direction. However, there was support for implicit racial prejudice as a mediator of parent-teacher differences; white teachers demonstrated more implicit racial prejudice than did Black parents, which in turn predicted more biased ratings of Black boys' hyperactivity symptoms. These findings lend empirical support to the previously hypothesized notion that teachers'

implicit racial biases may account for their overidentification of behavioral problems in Black boys (Gilliam et al., 2016; U.S. Department of Education, 2014).

White teachers' explicit racial prejudice did not predict more biased ratings of Black children's inattention and hyperactive symptoms. This finding contrasts with my previous study that found greater explicit anti-Black prejudice to be related to higher ratings of Black boys' ADHD symptoms among white teachers (Kang & Harvey, 2020). Although the precise reason for this is unclear, there are some factors that might be at play. For example, some key differences in present study's design compared to the previous study may have produced these contrasting findings. Participants in this study only rated Black and white children's behaviors, whereas participants in my previous study also rated Asian and Latinx children. Therefore, the purpose of this study may have been more obvious to participants. It is also possible that completing two race-based IATs before the explicit prejudice questionnaire affected participants' perceptions of their own prejudice and conscious endorsement of racial prejudice in this study (O'Brien et al., 2010). Lastly, it also may be that the current sociopolitical climate and attention to anti-Black racism (Garza, 2016; Howard, 2021) affected teachers' willingness to explicitly endorse racial prejudice towards Black Americans.

Notably, white teachers who endorsed stronger beliefs in systemic racism experienced by Black children demonstrated lower implicit racial prejudice and implicit ADHD stereotypes toward Black boys, and lower explicit prejudice toward Black Americans in general. In addition, white teachers who reported relatively more experience teaching Black students demonstrated lower implicit racial prejudice toward

both Black boys and girls, and lower explicit prejudice. These results are consistent with the contact hypothesis, which states that more contact with outgroup members can reduce prejudicial attitudes (Allport, 1954). Although neither of these variables (beliefs in systemic racism; experiences teaching Black children) directly predicted white teachers' behavior ratings, their relations to measures of prejudice may have important implications for interventions.

#### **4.2 The Role of Stereotypes in Teachers' Perceptions**

White teachers who explicitly endorsed more ADHD stereotypes about Black boys (relative to white boys) were more likely to give biased ratings of Black boys' inattention and hyperactivity, even after controlling for their explicit racial prejudice. However, white teachers' implicit racial stereotypes, despite being stronger than Black parents', did not reach significance in predicting ADHD ratings for either boys or girls. In other words, there were significant parent-teacher differences in implicit racial ADHD stereotypes though implicit stereotypes did not predict video ratings; on the other hand, there were no parent-teacher differences in explicit racial ADHD stereotypes for boys, but white teachers' explicit ADHD stereotypes about Black boys predicted higher ratings of Black boys' inattention and hyperactivity symptoms. There may be a few reasons for this. First, on average, neither Black parents nor white teachers explicitly associated ADHD symptoms more with Black boys than they did with white boys. However, there was substantial variability in explicit racial ADHD stereotypes among teachers, and those teachers who held racial ADHD stereotypes for Black boys tended to show biased hyperactivity and inattention ratings for Black boys. Second, although white teachers

showed greater *implicit* racial stereotypes than Black parents, many teachers with more implicit stereotypes may have consciously adjusted their explicit responses, both regarding racial ADHD stereotypes and in their ratings of ADHD, thereby weakening the relation between implicit stereotypes and bias in ADHD ratings.

Taken together, these results suggest that teachers' biased ratings of Black boys' ADHD symptoms may be a product of racial stereotypes they hold about Black boys' inattentive, hyperactive, and impulsive behaviors. These results enrich the existing body of literature on the role of teachers' racial stereotypes in Black children's academic achievement (Chang & Demyan, 2007; Nasir, 2011) and school discipline (Kunesh & Noltemeyer, 2019; Skiba et al., 2002) by demonstrating potential effects in ADHD assessments.

#### **4.3 The Role of Perceptions of Systemic Racism in Parents' Perceptions**

Compared to white teachers, Black parents more strongly endorsed the existence of systemic racism for both Black boys and Black girls. There was also some evidence that Black parents' beliefs about systemic racism experienced by Black boys predicted lower ratings of Black boys' hyperactivity symptoms, relative to ratings of white boys, though the effect did not quite reach significance. This effect was medium-sized and may be more readily detected with a larger sample of Black parents. If this finding is replicated with a larger sample, it lends some support to the notion that Black parents might be motivated to underreport Black boys' hyperactivity symptoms in an effort to protect them from additional stigma associated with behavioral or emotional problems (Gary, 2005). Such motivations may at least partially explain the previously-



documented pattern of Black parents giving lower ratings of their children's externalizing behaviors than teachers (Harvey et al., 2013). These findings call for more careful investigation of family-level factors that may affect identification of ADHD and access to appropriate services for Black boys, especially given the historical trends of underdiagnosis compared to white counterparts (e.g., Miller et al., 2009). Some of these factors may include Black parents' ambivalence towards ADHD diagnoses and school-based interventions, stemming from historical mistreatment and resulting mistrust towards medical professionals (Olaniyan et al., 2007). Accordingly, reparative efforts to build trust and reduce longstanding disparities in Black children's behavioral health needs will require community engagement and transparent communication at all levels of care (see Shim et al., 2021).

It is possible that Black parents and white teachers have different attributions of behavior problems for Black children. For example, white teachers may perceive Black children's behaviors as disruptive and choose discipline as an appropriate response. Black parents, on the other hand, may attribute their children's behaviors to more contextual factors such as racial trauma (Thompson et al., 2020) or lack of fit with the classroom setting (Olaniyan et al., 2007). These potential parent-teacher differences in attributions of Black children's behavior problems may partially explain the historically lower prevalence of ADHD diagnosis (e.g., Miller et al., 2009) and higher representation in the school disciplinary system (Losen & Martinez, 2013; Townsend, 2000) for Black children, because parents often initiate ADHD evaluations for their children whereas teachers have oversight of school discipline.

#### **4.4 Intersectionality of Race and Gender**

The findings of this study highlight the need for an intersectional approach to understanding racial bias in perceptions of ADHD behaviors in children. Although white teachers and Black parents generally demonstrated a similar pattern of prejudice, stereotypes, and perceptions of bias for both boys and girls, parent-teacher discrepancies in perceptions of ADHD behaviors only emerged for boys. Furthermore, these measures of bias (and perceptions of bias) were linked only to perceptions of boys' behaviors. These findings mirror previous research that reported consistent parent-teacher discrepancies in ratings of boys' ADHD symptoms (DuPaul et al., 2014; DuPaul et al., 2015) and little to no discrepancies in ratings of girls' ADHD symptoms (Harvey et al., 2013; Hogue et al., 2014). These results are also consistent with research that documented a role of teachers' racial prejudice in higher ratings of Black boys', but not Black girls', ADHD symptoms (Kang & Harvey, 2020).

These results may be attributable to gender differences in stereotypes about ADHD. Because ADHD is diagnosed less frequently in girls (Biederman et al., 2002) with less visible symptomatology (London & Landes, 2021), there may be fewer stereotypes about girls and ADHD behaviors. In fact, both white teachers and Black parents in this study explicitly associated ADHD stereotypes more with boys than with girls across child race. Therefore, despite white teachers demonstrating stronger stereotypes (both implicitly and explicitly) for girls compared to Black parents, these generally low stereotypes may not have translated into biases in teachers' ratings of ADHD symptoms for Black girls.

Although white teachers did not show biased ratings of Black girls' ADHD behaviors, they did show significant implicit racial prejudice against Black girls. Thus, teachers' racial prejudice may not show up in their ADHD ratings (because of fewer gender stereotypes), but these prejudices may affect Black girls in other ways, for example in school exclusionary discipline practices (Blake et al., 2010). In particular, Black girls are estimated to be three times as likely as their white counterparts to be disciplined at schools, whereas Black boys are twice as likely to be disciplined as their white counterparts. This disciplinary decision-making pattern has been theorized to be a combined product of teachers' racial and gender biases (Morris & Perry, 2017). However, empirical research on the precise interplay of racism and sexism as they contribute to Black girls' experiences in different institutions (e.g., schools, Annamma et al., 2019; healthcare, Chinn et al., 2021) is alarmingly sparse. Therefore, a continued investigation of how racial and gendered biases uniquely predict perceptions of Black girls' behaviors, and their subsequent educational and social-emotional outcomes is imperative.

#### **4.5 Limitations**

There were several limitations to this study. First, although this study aimed to examine individual differences of bias in ratings of children's ADHD behaviors, as with prior research, there was no way of establishing whether average parent-teacher differences in ADHD ratings were driven by parent bias, teacher bias, or a combination of both. Furthermore, parents in this study were asked to rate children's behaviors in the classroom; thus, parents may have had less familiarity with the context of classroom

behaviors compared to teachers. Next, the current sample size was underpowered to detect smaller, more subtle effects. Due to time constraints, I was not able to recruit the number of Black parents initially proposed. However, data collection is ongoing so these trending results presented here may become significant with continued recruitment. Third, although the use of short videoclips of children of different races and genders allowed for comparisons in how Black and white adult participants perceive and rate the same child behavior differently, the children in the clips generally did not show very high levels of ADHD symptoms (mean ratings were generally between 30 and 40 on a 100-point scale). Therefore, these effects might be different if adults were observing behaviors with more severe symptoms of ADHD. Similarly, the 1-minute video clips were likely too short to assess the full range of biased ratings in actual ADHD assessments. When parents and teachers are asked to rate ADHD symptoms for a child in clinical settings, they have a greater scope of familiarity with the child's everyday behaviors at home and in the classroom. Thus, the short videoclips may have been insufficient to capture the extensive basis upon which parents and teachers typically make their behavior ratings during ADHD assessments. Next, the validity and generalizability of biases as measured by implicit association tests are controversial. Specifically, the construct validity (i.e., does it actually measure implicit bias? Schimmack, 2021) and ecological validity (i.e., does it actually translate to discriminatory behavior? Oswald et al., 2013, 2015) of the IATs have been hotly debated since its inception in the late 1990s. However, the consistent differences between Black parents and white teachers across these measures suggest that the IATs used in this study were tapping an important

racial difference in associations, even if the precise construct of bias that was measured is less clear. Finally, the scope of this study only aimed to examine prejudicial attitudes and stereotypical beliefs towards Black children and how their ADHD behaviors are perceived. It is important for future studies to investigate how racial biases affect children of other marginalized racial/ethnic backgrounds to inform a racially equitable ADHD assessment and treatment processes.

#### **4.6 Implications and Future Directions**

This study is the first to examine the roles of both implicit and explicit racial prejudice and racial ADHD stereotypes in how Black children's ADHD behaviors are perceived and rated by white teachers. The finding that both racial prejudice and racial ADHD stereotypes predict white teachers' ratings of Black boys' inattentive and hyperactive symptoms relative to White boys, highlights the importance of culturally sensitive clinical practice and has potential implications for interventions. Clinicians often view teachers as the expert reporters of ADHD symptoms, but in the case of assessments of Black children's externalizing behaviors, they should consider the role of these racial biases and may need to rely more on parent reports of symptoms. Clinicians should also consider conducting a more thorough interview with teachers to gain a clearer understanding of how symptoms manifest in the classroom and question the potential role of teachers' racial biases when there are discrepant parent-teacher reports in ADHD assessments for Black children. Especially given that there is no objective method of diagnosing ADHD, interventions aimed at reducing the impact of racial biases on ADHD assessments for Black children are imperative. A recent

educational psychology study examined teachers' motivation to promote racial equity in school discipline, and pivotal moments that reinforced their motivation to reduce their racial biases. This study highlighted the importance of continuous education for teachers to engage in learning about racial bias and systemic effects of racism on school outcomes (Bastable et al., 2021). Although the social psychology literature on effective interventions to reduce implicit biases and their impacts is small and decidedly mixed (FitzGerald et al., 2019), some research from child clinical psychology has demonstrated that providing parents with explicit guidelines before they complete symptom questionnaires reduced the magnitude of parent-teacher disagreements in ADHD assessments (Johnston et al., 2014). Therefore, intervention efforts to reduce the impact of racial biases in psychological assessments for children should consider these interdisciplinary findings from social, educational, and clinical psychology to determine the most efficient and effective way to achieve racial equity in mental health care.

The finding that Black parents' beliefs about systemic racism predicted their ratings of children's ADHD behaviors highlights the importance of culturally sensitive mental healthcare. Clinicians working with Black families should be especially mindful of the historical and sociocultural contexts for these families, as well as institutional barriers and inequities that uniquely yet consistently challenge Black children and families in the United States. Delivering such culturally sensitive mental healthcare may involve individually tailored clinical interviews, awareness of racial trauma, and thoughtful consideration of the appropriateness of some assessments (American Psychological Association, 2017)

An important future direction for this line of research is to connect the impact of interpersonal racism (both implicit and explicit) to the broader context of systemic racism in the education and mental healthcare system that consistently underserves children and families of color in the United States. This future work should involve more closely examining how Black children's behaviors are perceived and how their needs for emotional and behavioral services are assessed at various levels of care (e.g., classrooms, school districts, and behavioral health providers). Examinations of these systems-level barriers will be imperative to achieving a racially equitable mental healthcare system and closing the gaps in academic, social, and emotional outcomes for historically marginalized and underserved children of color in the United States.

Table 1. Descriptive Statistics for Study Variables

Categorical Variables	Parents		Teachers		df	$\chi^2$	p
	N	%	N	%			
Gender	48		101		1	0.03	.87
Female	36	75.00	77	76.23			
Male	12	25.00	24	23.76			
Education	48		100		7	50.64	< .001
11 <sup>th</sup> grade	1	2.08	0	0.00			
High School Diploma or G.E.D.	15	31.25	1	1.00			
Vocational Degree	3	6.25	0	0.00			
Associate Degree	5	10.42	3	3.00			
Bachelor's degree	18	37.50	50	50.00			
Master's degree	6	12.50	44	44.00			
Ph.D., J.D., or M.D.	0	0	2	2.00			
Marital Status	48		103		5	9.21	.10
Cohabiting	8	16.67	7	6.80			
Divorced	4	8.33	5	4.85			
Married	23	47.92	74	71.84			
Separated	1	2.08	1	0.97			
Single	12	25.00	16	15.53			

Continuous Variables	Parents		Teachers		df	F	p
	M	SD	M	SD			
Age	36.63	6.68	38.78	10.10	1, 147	1.81	.18
<u>Predictor Variables</u>							
Boys' implicit racial prejudice	-0.02	0.36	0.34	0.38	1, 141	30.13	< .001
Girls' implicit racial prejudice	-0.01	0.33	0.43	0.34	1, 138	50.44	< .001
Boys' implicit racial ADHD stereotypes	0.03	0.35	0.25	0.33	1, 142	13.29	< .001
Girls' implicit racial ADHD stereotypes	-0.09	0.28	0.25	0.32	1, 138	34.47	< .001
Explicit racial prejudice			-5.28	1.04			
Boys' explicit racial ADHD stereotypes difference scores	-0.19	1.27	-0.03	0.71	1, 144	0.92	.34
Black boys' explicit stereotype	4.08	1.16	4.39	0.80	1, 144	3.34	.07
White boys' explicit stereotype	4.27	1.40	4.41	0.98	1, 144	0.52	.47
Girls' explicit racial ADHD stereotypes difference scores	-0.22	1.03	0.24	1.00	1, 142	6.53	.01
Black girls' explicit stereotype	3.43	1.15	3.85	0.99	1, 142	4.94	.03
White girls' explicit stereotype	3.66	1.18	3.61	0.89	1, 142	0.07	.79
Boys' experiences with systemic racism	6.34	0.64	5.14	1.38	1, 145	33.18	< .001
Girls' experiences with systemic racism	6.01	0.95	4.80	1.54	1, 145	25.30	< .001
<u>Outcome Variables</u>							
Boys' inattention difference scores	-7.89	15.20	1.92	17.31	1, 149	11.33	< .001



Continuous Variables	Parents		Teachers		df	F	p
	M	SD	M	SD			
Black boys' inattention composite	30.12	23.74	32.52	20.19	1, 149	0.42	.52
White boys' inattention composite	38.00	24.32	30.60	18.69	1, 149	4.21	.04
Boys' hyperactivity difference scores	3.71	14.87	7.16	17.93	1, 149	1.34	.25
Black boys' hyperactivity composite	35.31	23.58	31.32	20.56	1, 149	1.12	.29
White boys' hyperactivity composite	31.60	23.69	24.17	18.19	1, 149	4.48	.04
Girls' inattention difference scores	-11.13	18.13	-7.49	19.17	1, 148	1.21	.27
Black girls' inattention composite	24.34	19.99	23.49	18.76	1, 148	0.06	.80
White girls' inattention composite	35.47	23.96	30.91	19.79	1, 149	1.52	.22
Girls' hyperactivity difference scores	-11.20	17.80	-7.18	16.86	1, 149	1.80	.18
Black girls' hyperactivity composite	31.10	22.77	27.97	20.56	1, 149	0.71	.40
White girls' hyperactivity composite	42.29	24.15	35.14	18.75	1, 149	3.94	.05

Table 2. Teachers Intercorrelations Table

	1	2	3	4	5	6	7	8	9	10	11	12
1. Boys inattention difference score	--											
2. Boys hyperactivity difference score	<b>.62</b> $p < .001$	--										
3. Girls inattention difference score	.04 $p = .73$	.13 $p = .20$	--									
4. Girls hyperactivity difference score	.10 $p = .34$	.03 $p = .80$	<b>.70</b> $p < .001$	--								
5. Boys implicit racial prejudice	.16 $p = .13$	.14 $p = .16$	.07 $p = .51$	.04 $p = .71$	--							
6. Girls implicit racial prejudice	.13 $p = .19$	.08 $p = .46$	-.08 $p = .46$	.10 $p = .33$	<b>.42</b> $p < .001$	--						
7. Boys' implicit racial ADHD stereotypes	.13 $p = .22$	.01 $p = .89$	-.09 $p = .39$	-.04 $p = .74$	<b>.31</b> $p = .002$	<b>.35</b> $p < .001$	--					
8. Girls' implicit racial ADHD stereotypes	-.002 $p = .98$	-.08 $p = .46$	.08 $p = .43$	.03 $p = .77$	<b>.22</b> $p = .04$	<b>.31</b> $p = .003$	<b>.30</b> $p = .003$	--				
9. Explicit racial prejudice	-.14 $p = .18$	.04 $p = .66$	.04 $p = .68$	.06 $p = .57$	.15 $p = .16$	-.01 $p = .90$	.07 $p = .49$	-.15 $p = .16$	--			
10. Boys explicit ADHD stereotypes difference score	.18 $p = .08$	<b>.31</b> $p = .002$	-.04 $p = .73$	-.07 $p = .52$	.14 $p = .16$	.06 $p = .56$	.09 $p = .36$	.08 $p = .46$	.12 $p = .23$	--		
11. Girls explicit ADHD stereotypes difference score	-.03 $p = .79$	.03 $p = .73$	-.06 $p = .55$	-.12 $p = .23$	<b>.23</b> $p = .03$	.03 $p = .74$	.13 $p = .22$	-.03 $p = .81$	<b>.23</b> $p = .02$	<b>.28</b> $p = .005$	--	
12. Boys' experiences with systemic racism	-.02 $p = .85$	-.08 $p = .46$	-.07 $p = .52$	-.05 $p = .64$	<b>-.26</b> $p = .01$	-.04 $p = .71$	<b>-.27</b> $p = .008$	-.01 $p = .95$	<b>-.45</b> $p < .001$	-.14 $p = .17$	-.06 $p = .55$	--
13. Girls' experiences with systemic racism	-.04 $p = .72$	-.09 $p = .40$	-.10 $p = .35$	-.06 $p = .57$	<b>-.26</b> $p = .01$	.01 $p = .90$	<b>.22</b> $p = .04$	-.04 $p = .70$	<b>-.42</b> $p < .001$	-.12 $p = .25$	-.12 $p = .25$	<b>.92</b> $p < .001$

Note. Significant correlations are bolded. All difference scores were calculated by subtracting white child ratings from Black child ratings, where higher scores indicate the magnitude by which Black children were rated higher than their white counterparts for each participant (i.e., more racial bias in rating Black children)

Table 3. Parents Intercorrelations Table

	1	2	3	4	5	6	7	8	9	10	11
1. Boys inattention difference score	--										
2. Boys hyperactivity difference score	<b>.61</b> <i>p</i> < .001	--									
3. Girls inattention difference score	-.04 <i>p</i> = .77	.06 <i>p</i> = .69	--								
4. Girls hyperactivity difference score	.01 <i>p</i> = .97	-.05 <i>p</i> = .76	<b>.54</b> <i>p</i> < .001	--							
5. Boys implicit racial prejudice	.01 <i>p</i> = .93	.28 <i>p</i> = .06	.18 <i>p</i> = .24	.10 <i>p</i> = .52	--						
6. Girls implicit racial prejudice	.07 <i>p</i> = .66	.13 <i>p</i> = .41	-.02 <i>p</i> = .92	-.21 <i>p</i> = .19	.22 <i>p</i> = .16	--					
7. Boys' implicit racial ADHD stereotypes	.08 <i>p</i> = .60	.17 <i>p</i> = .25	.07 <i>p</i> = .65	-.17 <i>p</i> = .26	<b>.46</b> <i>p</i> = .002	.06 <i>p</i> = .73	--				
8. Girls' implicit racial ADHD stereotypes	-.14 <i>p</i> = .37	-.02 <i>p</i> = .91	-.04 <i>p</i> = .82	-.05 <i>p</i> = .75	<b>.40</b> <i>p</i> = .007	.12 <i>p</i> = .46	<b>.31</b> <i>p</i> = .04	--			
9. Boys explicit ADHD stereotypes difference score	.16 <i>p</i> = .28	.27 <i>p</i> = .07	.19 <i>p</i> = .22	-.04 <i>p</i> = .77	.11 <i>p</i> = .48	.13 <i>p</i> = .43	.05 <i>p</i> = .73	.03 <i>p</i> = .85	--		
10. Girls explicit ADHD stereotypes difference score	-.15 <i>p</i> = .32	.05 <i>p</i> = .73	.26 <i>p</i> = .09	.03 <i>p</i> = .85	.16 <i>p</i> = .32	.23 <i>p</i> = .16	.09 <i>p</i> = .58	-.04 <i>p</i> = .82	<b>.56</b> <i>p</i> < .001	--	
11. Boys' experiences with systemic racism	-.02 <i>p</i> = .91	-.24 <i>p</i> = .10	-.13 <i>p</i> = .39	.12 <i>p</i> = .40	-.18 <i>p</i> = .22	-.27 <i>p</i> = .09	-.15 <i>p</i> = .32	-.20 <i>p</i> = .19	<b>-.36</b> <i>p</i> = .02	<b>-.56</b> <i>p</i> < .001	--
12. Girls' experiences with systemic racism	.09 <i>p</i> = .56	-.13 <i>p</i> = .37	-.11 <i>p</i> = .47	.11 <i>p</i> = .48	<b>-.31</b> <i>p</i> = .04	-.11 <i>p</i> = .48	.21 <i>p</i> = .16	<b>-.30</b> <i>p</i> = .05	.24 <i>p</i> = .11	-.39 <i>p</i> = .01	<b>.65</b> <i>p</i> < .001

*Note.* Significant correlations are bolded. All difference scores were calculated by subtracting white child ratings from Black child ratings, where higher scores indicate the magnitude by which Black children were rated higher than their white counterparts for each participant (i.e., more racial bias in rating Black children)

Table 4. Individual Effects of White Teacher Racial Bias on Video Ratings

<b>Teachers only (n = 103)</b>	<b>b</b>	<b>SE</b>	<b>β</b>	<b>p</b>
Boys' inattention difference scores				
Implicit racial prejudice for boys	7.05	4.53	.15	.12
Implicit racial ADHD stereotypes for boys	6.60	5.19	.13	.20
Explicit racial prejudice	-2.90	2.12	-.14	.17
Explicit ADHD stereotypes difference scores for boys	4.38	2.42	.18	.07
Boys' hyperactivity difference scores				
Implicit racial prejudice for boys	6.73	4.70	.14	.15
Implicit racial ADHD stereotypes for boys	0.85	5.44	.02	.88
Explicit racial prejudice	0.97	2.21	.04	.66
Explicit ADHD stereotypes difference scores for boys	7.82	2.40	.31	.001
Girls' inattention difference scores				
Implicit racial prejudice for girls	-4.18	5.64	-.07	.46
Implicit racial ADHD stereotypes for girls	4.68	5.91	.08	.43
Explicit racial prejudice	1.00	2.38	.04	.67
Explicit ADHD stereotypes difference scores for girls	-1.18	1.93	-.06	.54
Girls' hyperactivity difference scores				
Implicit racial prejudice for girls	4.86	4.94	.10	.33
Implicit racial ADHD stereotypes for girls	1.54	5.20	.03	.77
Explicit racial prejudice	1.23	2.13	.06	.56
Explicit ADHD stereotypes difference scores for girls	-2.05	1.68	-.12	.22

*Note.* These coefficients represent regressions where each predictor was entered separately for each outcome.

Table 5. Effects of Black Parental Beliefs about Systemic Racism in Video Ratings

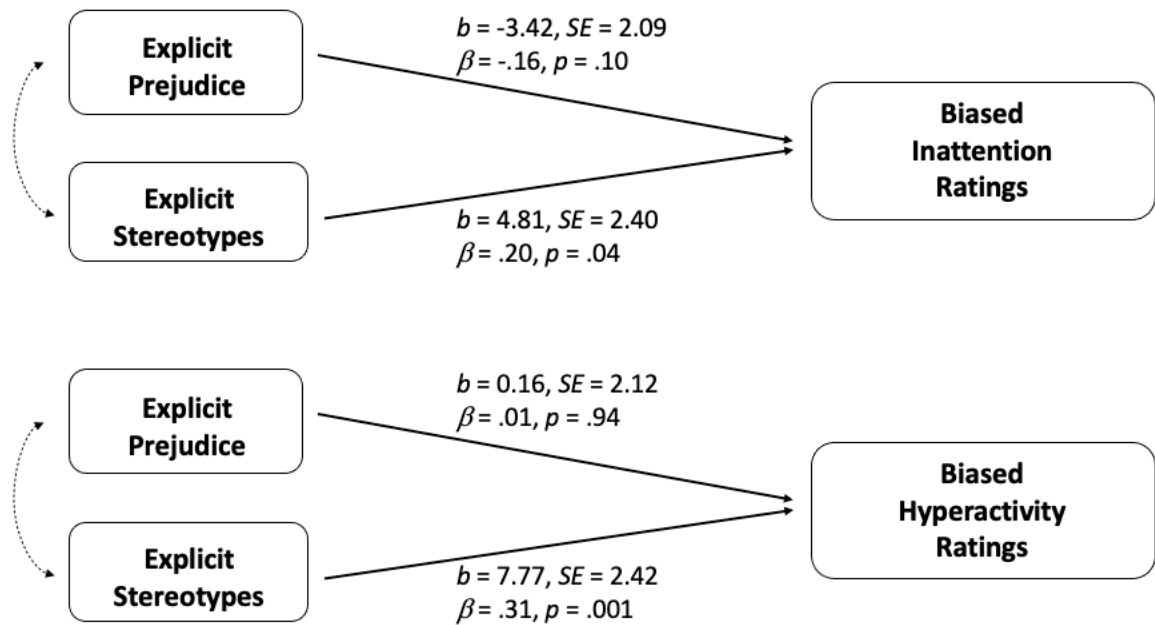
<b>Parents only (n = 48)</b>	<b><i>b</i></b>	<b><i>SE</i></b>	<b><math>\beta</math></b>	<b><i>p</i></b>
Boy inattention difference score				
Boys' experiences with systemic racism	-0.40	3.41	-.02	.91
Boy hyperactivity difference score				
Boys' experiences with systemic racism	-5.53	3.24	-.24	.09
Girl inattention difference score				
Girls' experiences with systemic racism	-2.05	2.75	-.11	.46
Girl hyperactivity difference score				
Girls' experiences with systemic racism	1.98	2.70	.11	.46

Table 6. Indirect Effects in Mediation Models

<b>Mediation Indirect Effects</b>	<b><i>b</i></b>	<b><i>SE</i></b>	<b><math>\beta</math></b>	<b><i>p</i></b>
<u>Boys</u>				
Teacher → Implicit Prejudice → Inattention	1.89	1.63	.05	.24
Teacher → Implicit Prejudice → Hyperactivity	3.00	1.59	.08	.06
Teacher → Implicit Stereotypes → Inattention	1.21	0.94	.03	.20
Teacher → Implicit Stereotypes → Hyperactivity	0.67	0.93	.02	.47
Teacher → Explicit Stereotypes → Inattention	0.47	0.66	.01	.47
Teacher → Explicit Stereotypes → Hyperactivity	0.86	1.13	.02	.45
Teacher → Beliefs about Racism → Inattention	0.31	1.49	.01	.83
Teacher → Beliefs about Racism → Hyperactivity	1.72	1.61	.05	.29
<u>Girls</u>				
Teacher → Implicit Prejudice → Inattention	-1.42	1.70	-.04	.40
Teacher → Implicit Prejudice → Hyperactivity	0.14	1.69	.004	.93
Teacher → Implicit Stereotypes → Inattention	0.97	1.71	.02	.57
Teacher → Implicit Stereotypes → Hyperactivity	0.14	1.61	.004	.93
Teacher → Explicit Stereotypes → Inattention	0.31	1.05	.01	.77
Teacher → Explicit Stereotypes → Hyperactivity	-0.58	0.65	-.02	.38
Teacher → Beliefs about Racism → Inattention	1.61	1.57	.04	.31
Teacher → Beliefs about Racism → Hyperactivity	0.28	1.45	.01	.85

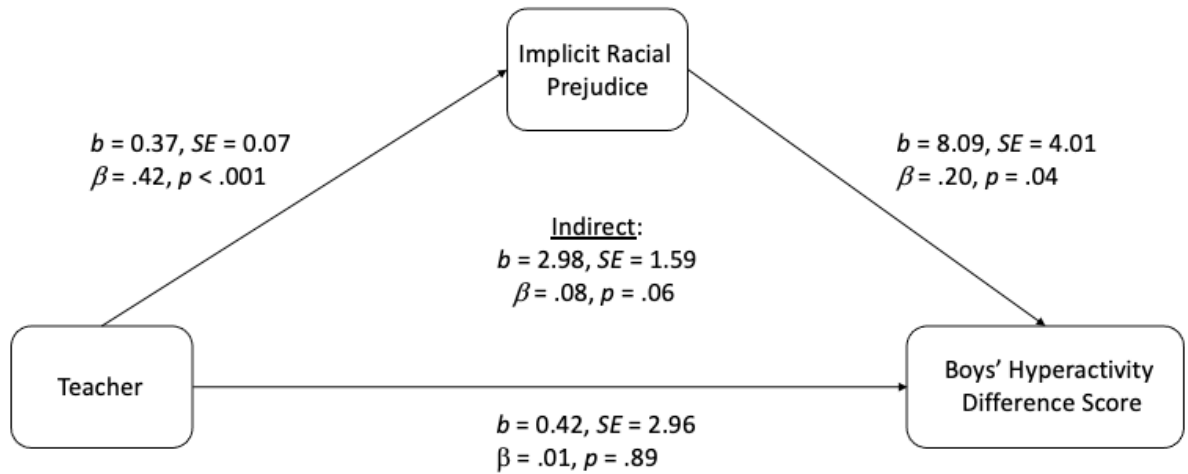
*Note.* These mediation analyses were conducted using 10,000 bootstrap resamples. The mediating role of explicit prejudice was not tested because Black parents and white teachers completed different questionnaires of explicit racial prejudice toward the opposite race.

Figure 1. White Teachers' Explicit Racial Bias in Predicting Black Boys' ADHD Symptoms



Note. Explicit stereotypes represent the difference scores between Black boys' ADHD stereotypes and white boys' ADHD stereotypes where higher value represents more explicit ADHD stereotypes about Black boys relative to white boys. Similarly, inattention and hyperactivity ratings represent the difference scores between Black boys' symptom ratings and white boys' symptom ratings where higher value represents more biased ratings in Black boys' symptoms.

Figure 2. Mediating Role of Implicit Racial Prejudice



*Note.* Mediation conducted with 10,000 bootstrap resamples; predictor was a dummy-coded variable where 1 was white teacher and 0 was Black parent. Difference scores in video ratings were calculated by subtracting white boys' hyperactivity ratings from Black boys' hyperactivity ratings for each participant.



APPENDIX A  
STUDY CONDITIONS

Session 1						Session 2					
Condition	Video Order	IAT 1	IAT 1 gender	IAT 2	IAT 2 gender	Condition	IAT 3	IAT 3 gender	IAT 4	IAT 4 gender	
1	A	Prejudice	Boy	Stereotypes	Boy	1	Prejudice	Girls	Stereotypes	Girls	
2	B	Stereotypes	Boy	Prejudice	Boy	2	Stereotypes	Girls	Prejudice	Girls	
3	A	Stereotypes	Boy	Prejudice	Boy	3	Prejudice	Boys	Stereotypes	Boys	
4	B	Prejudice	Boy	Stereotypes	Boy	4	Stereotypes	Boys	Prejudice	Boys	
5	A	Prejudice	Girl	Stereotypes	Girl						
6	B	Stereotypes	Girl	Prejudice	Girl						
7	A	Stereotypes	Girl	Prejudice	Girl						
8	B	Prejudice	Girl	Stereotypes	Girl						
9	C	Prejudice	Boy	Stereotypes	Boy						
						<b>Cross Condition Assignment</b>					
						<u>Session 1</u>				<u>Session</u>	
										<u>2</u>	
10	D	Stereotypes	Boy	Prejudice	Boy	Conditions	1 to 4	9 to 12	→	1 or 2	
11	C	Stereotypes	Boy	Prejudice	Boy		5 to 8	13 to 16	→	3 or 4	
12	D	Prejudice	Boy	Stereotypes	Boy						
13	C	Prejudice	Girl	Stereotypes	Girl						
14	D	Prejudice	Girl	Stereotypes	Girl						
15	C	Stereotypes	Girl	Prejudice	Girl						
16	D	Stereotypes	Girl	Prejudice	Girl						

Video Order Key:

- A. Black boy 1 – White boy 1 – Black girl 1 – White girl 1 – Black boy 2 – White boy 2 – Black girl 2 – White girl 2
- B. White boy 1 – Black boy 1 – White girl 1 – Black girl 1 – White boy 2 – Black boy 2 – White girl 2 – Black girl 2
- C. Black girl 1 – White girl 1 – Black boy 1 – White boy 1 – Black girl 2 – White girl 2 – Black boy 2 – White boy 2
- D. White girl 1 – Black girl 1 – White boy 1 – Black boy 1 – White girl 2 – Black girl 2 – White boy 2 – Black boy 2

APPENDIX B

STIMULI USED FOR IMPLICIT ASSOCIATIONS TESTS

**Target**

Black Boy images



White Boy images



Black Girl images



White Girl images



Prejudice IAT  
**Categories**

<u>Pleasant</u>	<u>Unpleasant</u>
Lucky	Poison
Honor	Grief
Rainbow	Disaster
Gift	Hatred
Happy	Evil
Miracle	Bomb
Peace	Filth

ADHD Stereotype IAT  
**Categories**

<u>ADHD</u>	<u>Non-ADHD</u>
Inattentive	Attentive
Fidgety	Still
Hyperactive	Composed
Disorganized	Organized
Distracted	Focused
Impulsive	Self-Controlled
Restless	Calm

APPENDIX C  
INTERCORRELATIONS TABLE OF COMPOSITE VIDEO RATINGS AND STUDY PREDICTORS FOR PARENTS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Black boy inattention composite	--														
2. Black boy hyperactivity composite	<b>.89</b> <i>p</i> < .001	--													
3. White boy inattention composite	<b>.80</b> <i>p</i> < .001	<b>.74</b> <i>p</i> < .001	--												
4. White boy hyperactivity composite	<b>.79</b> <i>p</i> < .001	<b>.80</b> <i>p</i> < .001	<b>.87</b> <i>p</i> < .001	--											
5. Black girl inattention composite	<b>.64</b> <i>p</i> < .001	<b>.59</b> <i>p</i> < .001	<b>.56</b> <i>p</i> < .001	<b>.62</b> <i>p</i> < .001	--										
6. Black girl hyperactivity composite	<b>.63</b> <i>p</i> < .001	<b>.67</b> <i>p</i> < .001	<b>.59</b> <i>p</i> < .001	<b>.73</b> <i>p</i> < .001	<b>.85</b> <i>p</i> < .001	--									
7. White girl inattention composite	<b>.73</b> <i>p</i> < .001	<b>.64</b> <i>p</i> < .001	<b>.63</b> <i>p</i> < .001	<b>.69</b> <i>p</i> < .001	<b>.67</b> <i>p</i> < .001	.65 <i>p</i> < .001	--								
8. White girl hyperactivity composite	<b>.81</b> <i>p</i> < .001	<b>.76</b> <i>p</i> < .001	<b>.77</b> <i>p</i> < .001	<b>.80</b> <i>p</i> < .001	<b>.68</b> <i>p</i> < .001	.71 <i>p</i> < .001	<b>.81</b> <i>p</i> < .001	--							
9. Boys implicit racial prejudice	.13 <i>p</i> = .38	.24 <i>p</i> = .11	.12 <i>p</i> = .43	.05 <i>p</i> = .72	.09 <i>p</i> = .55	.04 <i>p</i> = .78	-.06 <i>p</i> = .67	-.04 <i>p</i> = .81	--						
10. Girls implicit racial prejudice	<b>.32</b> <i>p</i> = .04	.29 <i>p</i> = .07	.26 <i>p</i> = .10	.19 <i>p</i> = .23	.04 <i>p</i> = .80	-.04 <i>p</i> = .80	.05 <i>p</i> = .76	.13 <i>p</i> = .43	.22 <i>p</i> = .16	--					
11. Boys' implicit racial ADHD stereotypes	.17 <i>p</i> = .27	.17 <i>p</i> = .25	.11 <i>p</i> = .47	.06 <i>p</i> = .70	.13 <i>p</i> = .37	.02 <i>p</i> = .90	.06 <i>p</i> = .71	.15 <i>p</i> = .33	<b>.45</b> <i>p</i> = .001	.05 <i>p</i> = .73	--				
12. Girls' implicit racial ADHD stereotypes	.26 <i>p</i> = .09	.24 <i>p</i> = .11	<b>.34</b> <i>p</i> = .02	.25 <i>p</i> = .10	-.01 <i>p</i> = .97	.06 <i>p</i> = .68	.02 <i>p</i> = .89	.10 <i>p</i> = .53	<b>.40</b> <i>p</i> = .01	.12 <i>p</i> = .46	<b>.31</b> <i>p</i> = .04	--			
13. Boys explicit stereotypes difference score	-.15 <i>p</i> = .33	-.16 <i>p</i> = .28	-.25 <i>p</i> = .10	-.32 <i>p</i> = .03	-.13 <i>p</i> = .39	-.22 <i>p</i> = .13	-.25 <i>p</i> = .10	-.18 <i>p</i> = .22	.11 <i>p</i> = .48	.13 <i>p</i> = .43	.05 <i>p</i> = .73	.03 <i>p</i> = .85	--		
14. Girls explicit stereotypes difference score	-.20 <i>p</i> = .20	-.17 <i>p</i> = .26	-.10 <i>p</i> = .54	-.20 <i>p</i> = .18	-.16 <i>p</i> = .29	-.20 <i>p</i> = .19	<b>-.34</b> <i>p</i> = .03	-.21 <i>p</i> = .16	.16 <i>p</i> = .32	.23 <i>p</i> = .16	.09 <i>p</i> = .58	-.04 <i>p</i> = .82	<b>.56</b> <i>p</i> < .001	--	
15. Boys' experiences with systemic racism	-.09 <i>p</i> = .52	-.12 <i>p</i> = .43	-.08 <i>p</i> = .58	.03 <i>p</i> = .81	-.07 <i>p</i> = .64	.07 <i>p</i> = .62	.04 <i>p</i> = .79	-.02 <i>p</i> = .88	-.18 <i>p</i> = .22	-.27 <i>p</i> = .09	-.15 <i>p</i> = .32	-.20 <i>p</i> = .19	<b>-.36</b> <i>p</i> = .02	<b>-.56</b> <i>p</i> < .001	--
16. Girls' experiences with systemic racism	-.05 <i>p</i> = .74	-.02 <i>p</i> = .88	-.10 <i>p</i> = .49	.06 <i>p</i> = .68	.03 <i>p</i> = .86	.21 <i>p</i> = .15	.10 <i>p</i> = .48	.12 <i>p</i> = .40	<b>-.31</b> <i>p</i> = .04	-.11 <i>p</i> = .48	-.21 <i>p</i> = .16	-.30 <i>p</i> = .05	-.24 <i>p</i> = .11	<b>-.39</b> <i>p</i> = .01	<b>.65</b> <i>p</i> < .001

Note. Significant correlations are bolded.

APPENDIX D

UNIQUE EFFECTS OF WHITE TEACHERS' PREJUDICE AND STEREOTYPES ON VIDEO RATINGS

<b>Teachers only (n = 103)</b>	<i>b</i>	<i>SE</i>	$\beta$	<i>p</i>
<b>Boys' inattention difference scores</b>				
Implicit racial prejudice for boys	5.85	4.75	.13	.22
Implicit racial ADHD stereotypes for boys	4.50	5.43	.09	.41
	$R^2 = .03, p = .37$			
<b>Boys' inattention difference scores</b>				
Explicit racial prejudice	-3.42	2.09	-.16	.10
Explicit racial ADHD stereotypes for boys	4.81	2.40	.20	.04
	$R^2 = .06, p = .21$			
<b>Boys' hyperactivity difference scores</b>				
Implicit racial prejudice for boys	7.21	4.95	.15	.15
Implicit racial ADHD stereotypes for boys	-1.74	5.67	-.03	.76
	$R^2 = .02, p = .46$			
<b>Boys' hyperactivity difference scores</b>				
Explicit racial prejudice	0.16	2.12	.01	.94
Explicit racial ADHD stereotypes for boys	7.77	2.42	.31	.001
	$R^2 = .10, p = .09$			
<b>Girls' inattention difference scores</b>				
Implicit racial prejudice for girls	-6.05	5.89	-.11	.31
Implicit racial ADHD stereotypes for girls	6.46	6.17	.11	.30
	$R^2 = .02, p = .52$			
<b>Girls' inattention difference scores</b>				
Explicit racial prejudice	1.12	2.44	.05	.65
Explicit racial ADHD stereotypes for girls	-1.39	2.91	-.07	.49
	$R^2 = .01, p = .71$			
<b>Girls' hyperactivity difference scores</b>				
Implicit racial prejudice for girls	4.88	5.19	.10	.35
Implicit racial ADHD stereotypes for girls	-0.07	5.44	-.001	.99
	$R^2 = .01, p = .62$			
<b>Girls' hyperactivity difference scores</b>				
Explicit racial prejudice	1.76	2.16	.09	.41
Explicit racial ADHD stereotypes for girls	-2.37	1.75	-.14	.18
	$R^2 = .02, p = .47$			

*Note.* This table represents coefficients for regressions with both prejudice and stereotypes entered simultaneously in the same model, and the variance of the outcome accounted for by both measures of bias.

## APPENDIX E

### VIDEO RATING SCALE

Adapted from the Vanderbilt Assessment Scale – Teacher Informant (Wolraich et al., 2003)

How often do you think the child displays this behavior?	Never	Occasi- onally	Often	Very Often
1. Has difficulty sustaining attention to tasks or activities	0			100
2. Does not seem to listen when spoken to directly	0			100
3. Does not follow through on instructions	0			100
4. Is easily distracted	0			100
5. Fidgets with hands or feet or squirms in seat	0			100
6. Leaves seat in classroom or in other situations in which remaining seated is expected	0			100
7. Is “on the go,” or often acts as if “driven by a motor”	0			100
8. Talks excessively	0			100
9. Blurts out answers before questions have been completed	0			100
10. Has difficulty waiting his or her turn	0			100
11. Interrupts or intrudes on others (e.g., butts into conversations/games)	0			100
12. Argues with adults	0			100
13. Actively defies or refused to go along with adults’ requests or rules	0			100
14. Deliberately annoys people	0			100
15. Is touch or easily annoyed by others	0			100
16. Is angry or resentful	0			100
17. Is fearful, anxious, or worried	0			100
18. Is self-conscious or easily embarrassed	0			100
19. Feels worthless or inferior	0			100
20. Blames self for problems; feels guilty	0			100
21. Feels lonely, unwanted, or unloved; complains that “no one loves him/her”	0			100
22. Is sad, unhappy, or depressed	0			100

23. How likely do you think it is that this child has ADHD?

Very Unlikely – Unlikely – Somewhat Unlikely – Somewhat Likely – Likely – Very Likely

24. How much do you think this child's behaviors cause problems in his/her daily life (e.g., school, home, peers)?

0 = no problem to 7 = Extreme problem

25. How likely do you think this child will succeed as a student?

Very Unlikely – Unlikely – Somewhat Unlikely – Somewhat Likely – Likely – Very Likely

26. How likely do you think this child will need special education services?

Very Unlikely – Unlikely – Somewhat Unlikely – Somewhat Likely – Likely – Very Likely

27. How likely do you think this child will be placed in detention or suspension at school?

Very Unlikely – Unlikely – Somewhat Unlikely – Somewhat Likely – Likely – Very Likely

#### For parents

1. If your own child was acting similarly to this child in the classroom, how likely are you to seek assessment for ADHD?

Very Unlikely – Unlikely – Somewhat Unlikely – Somewhat Likely – Likely – Very Likely

2. If your child was acting similarly to this child in the classroom, how likely are you to seek treatment for their behavior?

Very Unlikely – Unlikely – Somewhat Unlikely – Somewhat Likely – Likely – Very Likely

#### For teachers

1. If a student in your classroom was acting similarly to this child in the classroom, how likely are you to recommend special education services?

Very Unlikely – Unlikely – Somewhat Unlikely – Somewhat Likely – Likely – Very Likely

2. If a student in your classroom was acting similarly to this child in the classroom, how likely are you to recommend school disciplinary?

Very Unlikely – Unlikely – Somewhat Unlikely – Somewhat Likely – Likely – Very Likely

## APPENDIX F

### BELIEFS ABOUT BLACK CHILDREN'S EXPERIENCES

For each question below, please rate to what extent you believe each item to be true for Black/African American boys and for Black/African American girls.

	<b>Strongly Agree</b>				<b>Strongly Disagree</b>			
	1	2	3	4	5	6	7	
1. Black boys are more likely to be treated unfairly in society than White boys.	1	2	3	4	5	6	7	
2. Black girls are more likely to be treated unfairly in society than White girls.	1	2	3	4	5	6	7	
3. Black boys are at greater risk for police violence than White boys.	1	2	3	4	5	6	7	
4. Black girls are at greater risk for police violence than White girls.	1	2	3	4	5	6	7	
5. School personnel have lower expectation for academic achievement for Black boys than for White boys.	1	2	3	4	5	6	7	
6. School personnel have lower expectation for academic achievement for Black girls than for White girls.	1	2	3	4	5	6	7	
7. Black boys are more likely to be misdiagnosed by medical professionals than White boys.	1	2	3	4	5	6	7	
8. Black girls are more likely to be misdiagnosed by medical professionals than White girls.	1	2	3	4	5	6	7	
9. People are more likely to unfairly call the police on Black boys than White boys.	1	2	3	4	5	6	7	
10. People are more likely to unfairly call the police on Black girls than White girls.	1	2	3	4	5	6	7	
11. Black boys are more likely to face unfair punishment at school than White boys.	1	2	3	4	5	6	7	
12. Black girls are more likely to face unfair punishment at school than White girls.	1	2	3	4	5	6	7	
13. Black boys are more likely to be prescribed inappropriate medication by medical professionals compared to White boys.	1	2	3	4	5	6	7	
14. Black girls are more likely to be prescribed inappropriate medication by medical professionals compared to White girls.	1	2	3	4	5	6	7	
15. Black boys are more likely to be treated unfairly in the mental health system than White boys.	1	2	3	4	5	6	7	
16. Black girls are more likely to be treated unfairly in the mental health system than White girls.	1	2	3	4	5	6	7	

## APPENDIX G

### RACIAL ATTITUDES SCALE

Please answer the following questions to the best of your abilities. Your answers will be kept anonymous, and it is important that your answers are honest and straightforward.

Whites' Attitudes Toward Blacks (ATB)							
	Strongly Disagree	Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Agree	Strongly Agree
1. If a black person were put in charge of me, I would not mind taking advice and direction from him or her.	1	2	3	4	5	6	7
2. I would rather not have black people live in the same apartment building I live in.	1	2	3	4	5	6	7
3. I would probably feel somewhat self-conscious dancing with a black in a public place.	1	2	3	4	5	6	7
4. I would not mind it at all if a black family with about the same income and education as me moved in next door.	1	2	3	4	5	6	7
5. I think that black people look more similar to each other than white people do.	1	2	3	4	5	6	7
6. Interracial marriage should be discouraged to avoid the "who-am-I?" confusion which the children feel.	1	2	3	4	5	6	7
7. I get very upset when I hear a white person make a prejudicial remark about black people.	1	2	3	4	5	6	7



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8. If I had a chance to introduce black visitors to my friends and neighbors, I would be pleased to do so.	1	2	3	4	5	6	7
9. I favor open housing laws that allow more racial integration of neighborhoods.	1	2	3	4	5	6	7
10. It would not bother me if my new roommate was black.	1	2	3	4	5	6	7
11. It is likely that blacks will bring violence to neighborhoods when they move in.	1	2	3	4	5	6	7
12. I enjoy a funny racial joke, even if some people might find it offensive.	1	2	3	4	5	6	7
13. The federal government should take decisive steps to override the injustices black people suffer at the hands of local authorities.	1	2	3	4	5	6	7
14. Black and white people are inherently equal.	1	2	3	4	5	6	7
15. Black people are demanding too much too fast in their push for equal rights.	1	2	3	4	5	6	7
16. White people should support black people in their struggle against discrimination and segregation.	1	2	3	4	5	6	7

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17. Generally, black people are not as smart as white people.	1	2	3	4	5	6	7
18. I worry that in the next few years I may be denied my application for a job or a promotion because of preferential treatment given to minority group members.	1	2	3	4	5	6	7
19. Racial integration (of schools, businesses, residences, etc.) has benefitted both white people and black people.	1	2	3	4	5	6	7
20. Some black people are so touchy about race that it is difficult to get along with them.	1	2	3	4	5	6	7

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**Blacks' Attitudes Toward Whites (ATW)**

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	Strongly Disagree	Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Agree	Strongly Agree
17. Most whites feel that blacks are getting too demanding in their push for equal rights.	1	2	3	4	5	6	7
18. I feel that black people's troubles in the past have built in them a stronger character than white people have.	1	2	3	4	5	6	7
19. Most whites can't be trusted to deal honestly with blacks.	1	2	3	4	5	6	7
20. Over the past few years, blacks have gotten more economically than they deserve.	1	2	3	4	5	6	7
21. Most whites can't understand what it's like to be black.	1	2	3	4	5	6	7

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22. Some whites are so touchy about race that it is difficult to get along with them.	1	2	3	4	5	6	7
23. I would rather not have whites live in the same apartment building I live in.	1	2	3	4	5	6	7
24. I would accept an invitation to a New Year's Eve party given by a white couple in their own home.	1	2	3	4	5	6	7
25. It would not bother me if my new roommate was white.	1	2	3	4	5	6	7
26. Racial integration (of schools, businesses, residences, etc.) has benefitted both whites and blacks.	1	2	3	4	5	6	7
27. It's not right to ask Americans to accept integration if they honestly don't believe in it.	1	2	3	4	5	6	7
28. I favor open housing laws that allow more racial integration of neighborhoods.	1	2	3	4	5	6	7
29. Most whites fear that blacks will bring violence to neighborhoods when they move in.	1	2	3	4	5	6	7
30. By and large, I think blacks are better athletes than whites.	1	2	3	4	5	6	7
31. Local city officials often pay less attention to a request or complaint from a black person than from a white person.	1	2	3	4	5	6	7
32. When I see an interracial couple I feel that they are making a mistake in dating each other.	1	2	3	4	5	6	7

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33. I have as much respect for whites as I do for some blacks, but the average white person and I share little in common.	1	2	3	4	5	6	7
34. I think that white people look more similar to each other than black people do.	1	2	3	4	5	6	7
35. Whites should support blacks in their struggle against discrimination and segregation.	1	2	3	4	5	6	7
36. If a white were put in charge of me, I would not mind taking advice and direction from him or her.	1	2	3	4	5	6	7

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## APPENDIX H

### INTERNAL AND EXTERNAL MOTIVATION TO RESPOND WITHOUT PREJUDICE SCALE

The following questions concern various reasons or motivations people might have for trying to respond in nonprejudiced ways toward Black people. Some of the reasons reflect internal-personal motivations whereas others reflect more external-social motivations. Of course, people may be motivated for both internal and external reasons; we want to emphasize that neither type of motivation is by definition better than the other. In addition, we want to be clear that we are not evaluating you or your individual responses. All your responses will be completely confidential. We are simply trying to get an idea of the types of motivations that people in general have for responding in nonprejudiced ways. If we are to learn anything useful, it is important that you respond to each of the questions openly and honestly. Please give your response according to the scale below.

Each item is rated from 1 (Strongly Disagree) to 9 (Strongly Agree)

1. Because of today's politically correct standards, I try to appear nonprejudiced toward Black people.
2. I attempt to act in nonprejudiced ways toward Black people because it is personally important to me.
3. I try to hide any negative thoughts about Black people in order to avoid negative reactions from others.
4. According to my personal values, using stereotypes about Black people is OK. (R)
5. If I acted prejudiced toward Black people, I would be concerned that others would be angry with me.
6. I am personally motivated by my beliefs to be nonprejudiced toward Black people.
7. I attempt to appear nonprejudiced toward Black people in order to avoid disapproval from others.
8. Because of my personal values, I believe that using stereotypes about Black people is wrong.
9. I try to act nonprejudiced toward Black people because of pressure from others.
10. Being nonprejudiced toward Black people is important to my self-concept.

APPENDIX I

DEMOGRAPHIC INFORMATION

Part 1:

Please answer the following questions about each of your children.

	Age	Grade in school	Gender
Child 1			
Child 2			
Child 3			
Child 4			
Child 5			
Child 6			
Child 7			

What is your current age?

What is your gender?

What is your relationship to your each of your children? (drop down choices will be “biological mother,” “Stepmother,” “Adoptive mother,” “Biological fathers’ partner,” “Biological father,” “Stepfather,” “Adoptive father,” “Biological mothers’ partner,” “Other”):

Child 1	
Child 2	
Child 3	
Child 4	
Child 5	
Child 6	
Child 7	

What is the highest grade or educational degree you have completed?

8<sup>th</sup> grade    9<sup>th</sup> grade    10<sup>th</sup> grade    11<sup>th</sup> grade    H.S. Diploma    G.E.D.  
 Associate degree    Vocational degree    Bachelor's degree    Master's degree  
 Ph.D., J.D., M.D.    Other \_\_\_\_\_

How would you describe your current relationship status?

Married     Separated     Cohabiting     Divorced     Single     Other:

\_\_\_\_\_

What is your approximate annual family income?

0-19,999  
 20,000- 39,999  
 40,000-59,999  
 80,000-99,999  
 100,000-119,999  
 120,000-139,999  
 140,000-159,999

160,000-179,999  
180,000-199,999  
200,000 or more

Are you employed?     Yes, Full time     Yes, Part time     No

In which State do you currently live? \_\_\_\_\_

What country were you born in? \_\_\_\_\_

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**PART 2:**

Please indicate whether each of your children has been diagnosed or is suspected of having any of the following (drop down choices will be “not diagnosed or suspected,” “yes, diagnosed,” “not diagnosed but suspected”):

	Age	Autism	Down’s Syndrome	Attention Deficit/Hyperactivity Disorder (ADHD)	Cerebral Palsy
Child 1					
Child 2					
Child 3					
Child 4					
Child 5					
Child 6					
Child 7					

Has anyone in your immediate family been diagnosed with ADHD?

Yes     No.

If Yes, specify each person’s age and relationship to you

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Do any of your children take any medication for behavioral or emotional reasons?

Yes     No

If so, please specify the name of the medication and the age of the child who takes it:

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