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**RACIAL BIAS IN THE ASSOCIATION OF EXTERNALIZING  
SYMPTOMS WITH BLACK AND WHITE CHILDREN: THE  
DEVELOPMENT AND APPLICATION OF AN IMPLICIT  
ASSOCIATION TEST**

Maura Francis

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RACIAL BIAS IN THE ASSOCIATION OF EXTERNALIZING SYMPTOMS WITH  
BLACK AND WHITE CHILDREN: THE DEVELOPMENT AND APPLICATION OF  
AN IMPLICIT ASSOCIATION TEST

A dissertation submitted in partial fulfillment  
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

to the faculty of the

DEPARTMENT OF PSYCHOLOGY

of

ST. JOHN'S COLLEGE OF LIBERAL ARTS AND SCIENCES

at

ST. JOHN'S UNIVERSITY

New York

by

Maura Francis

Date Submitted \_\_\_\_\_

Date Approved \_\_\_\_\_

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## **ABSTRACT**

### **RACIAL BIAS IN THE ASSOCIATION OF EXTERNALIZING SYMPTOMS WITH BLACK AND WHITE CHILDREN: THE DEVELOPMENT AND APPLICATION OF AN IMPLICIT ASSOCIATION TEST**

Maura Francis

The objective of this study was to test the hypothesis that school and mental health professionals more strongly associate externalizing behaviors with Black children compared to White children. To test this hypothesis, we developed an implicit association test to determine if there was a difference in the reaction times in classifying symptoms as externalizing when the symptoms were paired with the word “Black Child” as opposed to paired with the word “White Child”. In a sample of 54 school and mental health professionals, we found clear evidence in support of our hypothesis. The existence of this implicit bias may explain the discrepancy in the diagnosis of externalizing behaviors in Black and White children and may also explain the existence of the school-to-prison pipeline that has been widely discussed with respect to how Black children are treated in our education system.

## ACKNOWLEDGEMENTS

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And finally, I would like to heavenly acknowledge my late grandfather, Thomas L. Francis, who sadly passed in 2019. Education meant so much to him, so to continue the Francis legacy as the youngest granddaughter with such a prestigious title is such an honor and I hope he is so proud. I wish he were here physically to finally hear Dr. Maura Francis in real time. It brings tears to my eyes thinking about how big his smile would be and hearing his belly-filled laugh. This dissertation is for him.

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## **Introduction**

The United States has since its inception had a history of systemic racism. From time-to-time recognition of this racism ignites in protests usually as the result of a particularly salient event such as George Floyd's death on May 25, 2020. However, police brutality towards Black Americans is not a new phenomenon in America, nor is the disparate treatment of Black Americans in other areas, such as healthcare and education. In particular, because of the disparities of healthcare and mental health care that result from living within a society of systemic racism, Black people develop mental health conditions from pre-existing stressors and conditions at a higher rate than other groups. Many minority youth with mental health disorders are typically referred to the juvenile justice system due to display of aggressive or disruptive behaviors without considering untreated mental health problems (Rogers et al., 2006). Particularly, there appears to be a strong tendency to view Black mental health issues as predominantly externalizing behavioral issues that require management rather than treatment. These conditions are often ignored or viewed as less serious by White therapists perhaps because of a lack of cultural competency and complicit ignorance in racial biases. According to Worthington, misdiagnosis is common in minority populations, such as African Americans (1992). Black males reported the highest levels of overtly aggressive behavior and also reported experiencing higher levels of depression, anxiety, and aggression than White and Hispanic/Latino groups in the U.S. (McLaughlin, Hilt, Nolen-Hoeksema, 2007). Negative health consequences that could result from ignoring culture include missed opportunities for screening or misdiagnosis, due to lack of familiarity with the prevalence of conditions among certain minority groups, could

result in miscommunication between providers and patients, ineffective treatment, and poor treatment outcomes (Moffic & Kinzie, 1996).

### *Racial Disparities in Mental Health*

Most communities of color, specifically predominantly Black and non-White Latino neighborhoods, are hit the hardest with severe illness and death rates due to long-standing systemic health and social inequities, which poses an increased risk on their lives. The individuals who live in these neighborhoods are faced with day-to-day challenges that compromise their overall well-being and safety. These outcomes are especially detrimental when we consider the effects on mental health within these communities.

The consequences of disparities in the frequency of mental health issues are magnified by a reduced access to quality mental health care experienced by black people. Because of feelings of marginalization and stigmatization, Black people often feel distrustful towards mental health professionals. This makes them reluctant to seek out psychiatric treatment. Parents of youth with childhood externalizing mental disorders, such as Attention-Deficit Hyperactivity Disorder (ADHD) and Oppositional Defiant Disorder (ODD), are frequently stigmatized when parenting practices are strongly implicated in the etiology or cause of the disorder (Hinshaw, 2005). They may blame themselves for their child's internalizing symptoms and blame their children for their externalizing behaviors and therefore, are less likely to seek help knowing that there is a strong possibility they will experience mistrust and lack of cultural competency amongst mental health professionals.

The development and consequences of internalizing and externalizing problems among racial minority youth are not well understood (Liu et al., 2016). Generally, individuals with externalizing disorders are more susceptible to significant implicit and explicit stigmatization relative to individuals with other disorders. For example, although ADHD is the most commonly diagnosed mental health disorder in children in the United States, African American children are diagnosed with ADHD at only two-thirds the rate of white children despite displaying greater ADHD symptomatology (Morgan et al., 2013). Additional factors that contribute to lack of care are a lower likelihood of referral by school professionals, limited ability to pay for health care, and negative attitudes toward disability identification and treatment in some racial/ethnic subcultures (Morgan et al., 2013). Additionally, stressful like events and racial discrimination predict higher comorbid problems while exposure to violence predicted high externalizing problems (Liu et al., 2016).

### *School-Based Interventions*

Rones and Hoagwood (2000) defined school-based mental health services as “any program, intervention, or strategy applied in a school setting that was specifically designed to influence students’ emotional, behavioral, or social functioning.” There have been several school-based anxiety treatment studies which have evaluated Cognitive Behavior Therapy (CBT) interventions, and these have shown similar response rates to clinical trials conducted in academic research. Implementing more mental health school-based interventions will not only help those children who present with psychopathology

that is impactful in the school environment, but also will continue to help school move away from zero-tolerance policies and punitive consequences.

Black youth have higher rates of developing psychological problems and unfortunately, less likely to receive the adequate care they need to address these issues (Farahmand, et al. 2000). And even those who do receive mental health services they are still faced with other risks within practical and structural barriers, such as stigma, lack of information, inaccessible location of services, or difficulty with transportation (Farahmand et al., 2001). These issues are less likely to be addressed in these settings because the interventions are administered by individuals who lack awareness of these additional issues among Black youth.

It is essential that clinicians continue to develop, modify, and implement school-based interventions carefully and effectively. However, many school-based interventions designed to engage Black youth have limited empirical findings in its effectiveness, in addition to excluding individuals with comorbid conditions, such as ADHD, ODD, and Conduct Disorder (CD), which are commonly present along with anxiety diagnoses. These limitations hold unintended consequences, which further widens the gap in engaging Black youth in treatment interventions. Awareness of the implicit bias that clinicians and teachers hold about Black youth is a critical step in ensuring that interventions are administered in culturally and socially important ways.

### *School-to-Prison Pipeline*

Zero tolerance policies developed after the federal government passed the Gun-Free Schools Act in response to the sharp increase of school shootings in the United

States from the late 1980s to the 1990s. To further control minor violations to prevent serious crimes (e.g., drug enforcement) and school violence, zero tolerance policies became popular in efforts to make schools safer places to learn. But in turn, educators and other school officials found that these harsh disciplinary policies were counterproductive by disproportionately suspending Black students for a wide range of minor infractions of conduct, that did not involve weapons, compared to their White peers (Wallace et al., 2008). However, there is no clear evidence that zero tolerance policies are effective at keeping students safe, so the end result is that suspension and expulsion rates continue to increase for Black students who have impulse or emotional regulation control problems often caused by mental health disorders.

Educational and policy-related initiatives have been proposed as potential solutions to help reduce stigmatization of mental disorders (Hinshaw, 2000). However, zero tolerance policies are still very much present in schools, which have little to no effect in addressing behaviors that are denounced as disruptive. As disruptive behavior worsens, the coercive cycle of managing behavior becomes more difficult to break. Roberts (2011) notes that Black children are often exposed to multiple instances of racism that negatively impact their academic achievement, such as lower self-esteem, higher rates of depression, increased behavioral problems, lower academic achievement, lower cognitive and behavioral expectations by teachers that “African American children externalize” and thus, do not perform to their potential. As a result, Black children are more likely to drop out of and be pushed out of school; thus, increasing their chance for future incarceration. As adults, students who were arrested are more likely to have

continued justice system contact (Homer & Fisher, 2019). According to the Bureau of Justice Statistics (2015), Black males had the highest arrests rates at age 18 or younger.

### *Discipline Referrals*

According to the Committee for Children (2011), discipline referrals should be based on a thorough design that will provide documentation and data to decide the best outcome after evaluation. This includes crucial details that stem from questions that ask the basics: “Who (persons involved in incident), What (incident and types of behaviors being referred), When (specific times and occurrences), Where (specific location), and How (consequences of disciplinary actions).” Girvan, Morrison and Skiba (2001) proposed that these referrals are not an overt type of racism but more determined by complex interactions of the student, such as the type of infraction, student characteristics, and environment characteristics.

All of these factors serve to perpetuate biases about differences between Black and White children’s mental health issues. Without acknowledging these disparities from its origin, any initiatives to serve in underrepresented communities will be ineffective. Mental health professionals are initially trained to recognize their cognitive biases when it comes to serving a diverse array of clients, but it is essential to not generalize symptoms specifically in the Black population. Without this awareness of responsibilities, our lack of diligence will perpetuate the cycle of the school-to-prison pipeline. What we know is that mental health disorders are best treated successfully when addressed in childhood. The longer these problems go misdiagnosed and/or unaddressed, the more difficult it becomes to effectively treat that individual.

## *Implicit Bias*

The dehumanization of Black people has a long and chilling history, stemming from early theories of race from both theological and biological perspectives. These writings created and perpetuated the belief that people of African descent were innately, lazy, aggressive, dim, hypersexual, and in need of benevolent control as a result of assumptions that manifested from the belief that Black people were more directly related to apes than White people (Goff et al., 2008). Because of this, the way Black people were conceptualized was altered to make negative mental associations that subjected Black people to prejudice and injustice. Although these beliefs are generally no longer explicitly stated, the centuries long exposure to these beliefs may have created the continued implicit endorsement of these beliefs. The Implicit Association Test (IAT) was developed to measure implicit bias that exists beyond individuals' conscious awareness (Banks, Eberhardt, & Ross, 2006). A major application of the IAT is to explore and challenge racial stereotypes and criminality based on primed associations with aggressiveness and violence. The results around these studies concluded that African Americans with highly stereotypical appearances were more subject to racial profiling being associated with crime than White people. There are similar associations between aggressive and disruptive behaviors of Black children; thus, making them more likely to be misdiagnosed with an externalizing disorder and 2) more likely to have internalizing disorders disregarded.

The existing literature on implicit bias is fragmented and comes from a variety of fields. In addition, the effectiveness of implicit-bias-informed educational interventions and training in healthcare professions is not clearly established. By creating an IAT to

initially document implicit biases that may impact the assessment of Black children's mental health and can potentially be used as an educational tool for mental health and school professionals to help guide training and further design curriculums and treatment interventions that will serve all children.

### *Hypothesis*

The primary motivation behind this study is to test the hypothesis that implicit biases more strongly associate externalizing behaviors with black children compared to white children. Support for this hypothesis would be an important initial step toward dismantling the school-to-prison pipeline and creating policies around discipline that take a proactive approach to extinguishing disruptive, "zero tolerance" behaviors, and decrease the need for law enforcement presences and practices in schools. Therefore, the present study is designed to further our understanding of the associations between internalizing and externalizing disorders and race. Specifically, the hypothesis is that implicit bias will be demonstrated in clinicians and school personnel when words used to describe externalizing symptoms are paired with the words "Black children" as opposed to the words "White Children". The bias will be manifested in the differences in the reaction times in classifying a symptom as externalizing or internalizing. It is predicted that participants will have faster reaction times when identifying symptoms as externalizing when those words are associated with Black children compared to white children. If this hypothesis is supported the IAT developed here may be a valuable tool for therapists, as well as teachers for understanding and explicitly addressing their biases. Acknowledging these biases may allow mental health and school professionals to further

develop their cultural competence. This would also bring further awareness of how racism has prevailed within primary and secondary schools.

## Methods

### *Recruitment and Data Collection of Participants*

The decision to use and create an IAT to better understand associations between race of children and diagnostic disorders was first approved by the dissertation committee then an application was submitted to the Institutional Review Board (IRB). The IRB at St. John's University in Queens, New York approved this project in May 2021 as the first author's dissertation project. Following IRB approval, the current study, data was collected from individuals who work with children either in the mental health field or primary education in the United States through Qualtrics. Written consent from individuals over age 18 was obtained prior to starting the demographic survey and IAT. This study was only compatible through a desktop or laptop computer. There is no literature supporting IAT data retrieved through a mobile device, such as tablet and smartphone; therefore, the test would not allow participants to continue with the IAT portion of the study if accessed from a mobile device. A diverse sample was obtained from individuals within different states and cities across the country through recruitment using social media platforms and email-list-servs. In this sample, information was collected regarding age, race, gender, location, profession, years of experience, certifications and degree status, work setting, and whether if they have made a mental health referral for a child in reference to their job. Statistical analyses were conducted using SPSS Version 28 for Windows and MAC IOS. Originally, 111 participants were considered after data collection. After cleaning the dataset to remove individuals who either did not meet the inclusion criteria or did not complete the IAT portion of the study, the sample size was reduced to 54 participants in the final sample. Continuous baseline

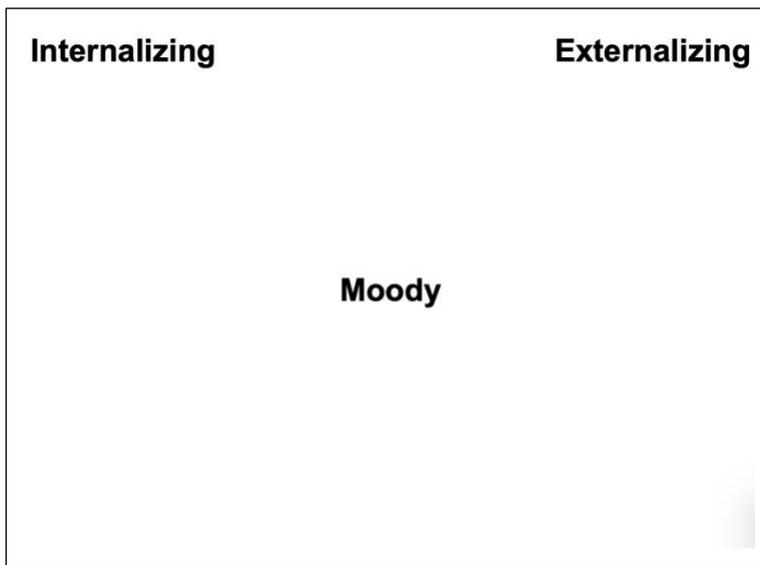
descriptive data and dichotomous variables were calculated. Separate analyses were used to report the aggregated mean of each variable to compare to the value of the scale. These analyses were used to better represent the average age, years of experience, and test time completion for each participant (*see Table 1*) and to better describe the sample after cutting the sample size (*see Table 2*).

### *Development of the IAT*

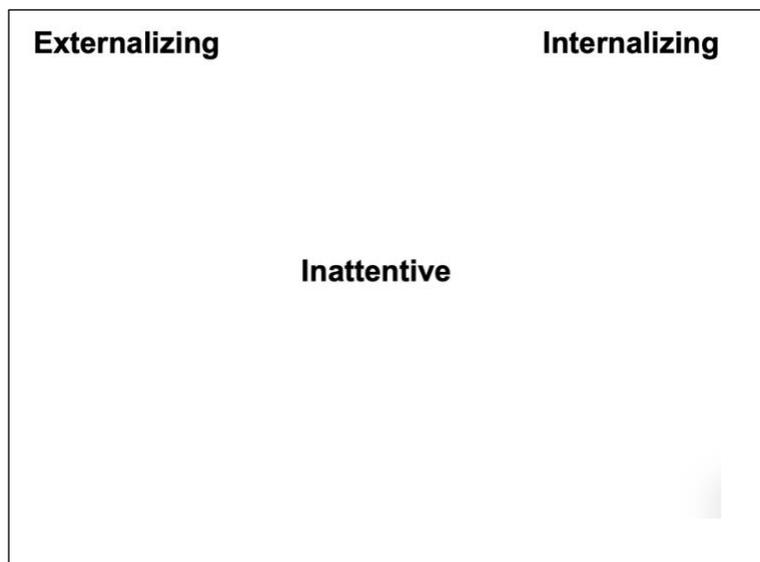
This test was developed using iatgen software version 4.1.1 using clinical language derived from the Diagnostic Statistical Manual of Disorders, 5<sup>th</sup> Edition (DSM-5) and language used to describe children's behavior from teachers and other mental health professionals during collaboration and consultation. Then, this information was exported into Qualtrics to create the final test. The participants had to place their left and right index fingers on the E and I keys on a keyboard. Then, at the top of the screen were two categories. For the task, words associated with internalizing and externalizing disorders appeared in the middle of the screen. Participants were instructed to associate the middle words with one of the categories above as quickly as possible. If they made an error, a red "X" would appear, and they were instructed to correct errors by hitting the opposite key before moving on to the next word. There was a total of four conditions. The first condition paired words associated with only internalizing and externalizing categories presented at the top of the screen (*see Image 1*). The second condition switched the categories to appear on the opposite side of the screen (*see Image 2*). The third condition showed both categories at the top of the screen again, in addition to having Black or White Children under each category to assess further association between race and

descriptions of diagnostic symptoms (*see Image 3*). The fourth condition switched the categories again to appear on the opposite side of the screen (*see Image 4*). All the words that appeared in the middle of the screen did not appear in no particular order as they were randomized.

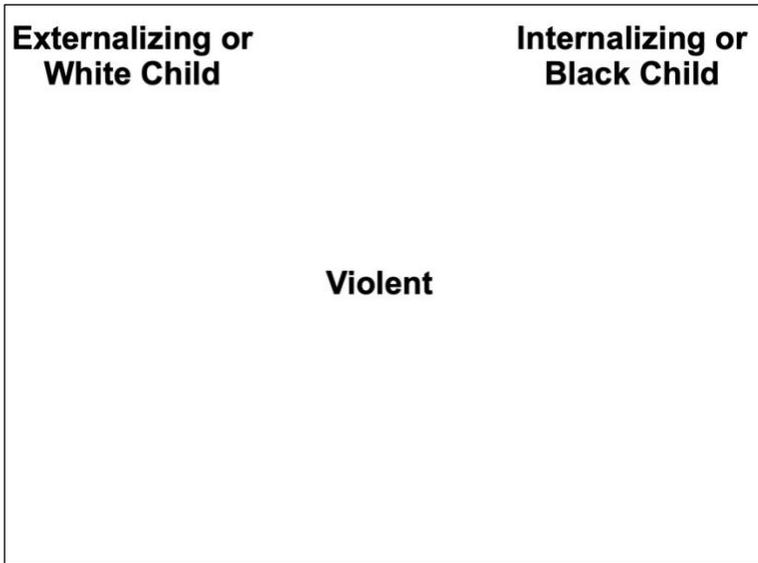
*Image 1.* Example of First IAT Condition



*Image 2.* Example of Second IAT Condition



*Image 3.* Example of Third IAT Condition



*Image 4.* Example of Fourth IAT Condition



### *Data Management*

Before conducting the primary analyses, the dataset was cleaned to remove participants who did not meet the inclusion criteria for the study and participants who did not finish both parts of the study. Those who did not finish the study were assumed to be

participants who accessed the study through a mobile device. Therefore, their demographic information was not included in the obtained sample.

Finally, the dataset was cleaned to remove outlying reaction time values from each participant's data as each of these values might reflect inattention or other distractions that would inappropriately inflate the reaction times. Outliers were defined as values that fell outside of the 95<sup>th</sup> percentile of each participant's distribution.

## Results

### *Descriptive Statistics at Baseline*

Descriptive statistics are shown in *Table 1*.

*Table 1. Descriptive Statistics of Variables at Baseline*

| <b>Continuous Variables</b>  |          |                   |                |             |                       |
|------------------------------|----------|-------------------|----------------|-------------|-----------------------|
|                              | <i>N</i> | <i>Minimum</i>    | <i>Maximum</i> | <i>Mean</i> | <i>Std. Deviation</i> |
| Age                          | 48       | 21                | 66             | 36.35       | 11.91                 |
| Years of Experience          | 49       | 0                 | 36             | 10.20       | 8.91                  |
| Time to Complete             | 54       | 253               | 329118         | 7434.72     | 44874.23              |
| <b>Categorical Variables</b> |          |                   |                |             |                       |
| <i>Gender</i>                | <i>N</i> | <i>Percentage</i> |                |             |                       |
| Male                         | 8        | 14.8              |                |             |                       |
| Female                       | 45       | 83.3              |                |             |                       |
| Non-Binary                   | 1        | 1.9               |                |             |                       |
| Total                        | 54       | 100               |                |             |                       |
| <i>Race</i>                  | <i>N</i> | <i>Percentage</i> |                |             |                       |
| Asian or Pacific Islander    | 4        | 7.4               |                |             |                       |
| Black                        | 8        | 14.8              |                |             |                       |
| Hispanic or Latino           | 5        | 9.3               |                |             |                       |
| White                        | 34       | 63                |                |             |                       |
| Mixed Race                   | 3        | 5.6               |                |             |                       |
| Total                        | 54       | 100               |                |             |                       |
| <i>Profession</i>            | <i>N</i> | <i>Percentage</i> |                |             |                       |
| Clinical Psychology          | 29       | 53.7              |                |             |                       |
| School Psychology            | 18       | 33.3              |                |             |                       |
| Teachers                     | 3        | 5.6               |                |             |                       |
| Professor of Psychology      | 1        | 1.9               |                |             |                       |
| Social Work                  | 2        | 3.7               |                |             |                       |
| Clinical Administrator       | 1        | 1.9               |                |             |                       |
| Total                        | 54       | 100               |                |             |                       |

| <i>Mental Health Referral</i> | <i>N</i> | <i>Percentage</i> |
|-------------------------------|----------|-------------------|
| Yes                           | 39       | 72.2              |
| No                            | 15       | 27.8              |
| Total                         | 54       | 100               |

*Tests of the Primary Hypothesis*

For the primary analyses, it was predicted that people would have slower reaction times in the externalizing White condition versus the externalizing Black condition. We calculated the mean times for both externalizing conditions (*see Table 2*) and a paired samples t-test within the 95% confidence interval between 35.73 and 285.58 (*see Table 3*). We also calculated a correction for Cohen’s d between both means for externalizing White and externalizing Black conditions. The reported values for the 95% confidence interval of this difference fell between 160.52 and 394.62. The standardized effect size per Hedges’ d for this effect is .29 within the 95% confidence interval difference between .057 and .521. In both externalizing White conditions, the reaction times were slower.

However, considering the outliers may reflect the effect might reflect one reason why some people might be slower in the externalizing White condition is because they are having difficulty reconciling their bias when the pairing is against their bias. We conducted the same analyses once we cleaned the data for extreme values. The standardized effect size per Hedges’ d for this effect, with outliers removed, is .44 within the 95% confidence interval difference between .235 and .644. Therefore, the outliers are removed, the effect is larger and supports that interpretation, according to the data (*see Table 4*).

Table 2. Reaction Times for Both Externalizing Conditions—Outliers Included and Outliers Removed

|                                 | <i>Mean</i> | <i>N</i> | <i>Std. Deviation</i> | <i>Std. Error Mean</i> |
|---------------------------------|-------------|----------|-----------------------|------------------------|
| extW average (outliers)         | 1525.57     | 54       | 516.68                | 70.31                  |
| extB average (outliers)         | 1364.92     | 54       | 579.04                | 78.80                  |
| extW_average (outliers removed) | 1789.99     | 54       | 637.56                | 86.76                  |
| extB_average (outliers removed) | 1512.42     | 54       | 614.92                | 83.68                  |

Table 3. Paired Samples T-Test: Externalizing White and Externalizing Black with Outliers Included

|                               | <i>Mean</i> | <i>Std. Deviation</i> | <i>Std. Error Mean</i> | <i>Lower</i>     | <i>Upper</i> |
|-------------------------------|-------------|-----------------------|------------------------|------------------|--------------|
| extW_average—<br>extB_average | 160.65      | 457.70                | 62.29                  | 35.72            | 285.58       |
|                               | <i>t</i>    | <i>df</i>             | <i>Two-Sided p</i>     | <i>Hedges' d</i> |              |
|                               | 2.58        | 53                    | .013                   | .29              |              |

Table 4. Paired Samples T-Test: Externalizing White and Externalizing Black with Outliers Removed

|                               | <i>Mean</i> | <i>Std. Deviation</i> | <i>Std. Error Mean</i> | <i>Lower</i>     | <i>Upper</i> |
|-------------------------------|-------------|-----------------------|------------------------|------------------|--------------|
| extW_average—<br>extB_average | 277.57      | 428.83                | 58.36                  | 160.52           | 394.61       |
|                               | <i>t</i>    | <i>df</i>             | <i>Two-Sided p</i>     | <i>Hedges' d</i> |              |
|                               | 4.76        | 53                    | < .001                 | .44              |              |

## Discussion

The primary hypothesis was supported. Generally, we found clear support for an implicit bias suggesting that people have a stronger association of externalizing behaviors with Black children compared to White children. These findings were supported by faster reaction times when associating externalizing behaviors with Black children versus White children in both conditions that included and removed extreme values.

### *The Implications of Findings for Externalizing Behaviors in Black Children*

One implication of these findings is that bias can lead to the over diagnosis of externalizing disorders in Black children; thus, potentially missing indicators of possible internalizing symptoms and/or disorders that may better explain for their behaviors. Externalizing disorders are often linked to behaviors, such as aggression, non-compliance to rules and laws, and destruction of property and can lead to disciplinary actions, such as suspension and expulsion, in addition to involving law enforcement and the criminal justice system. In turn, this may further explain the school-to-prison pipeline as there is also a tendency to remove Black children into alternative classrooms and higher suspension and expulsion rates than their White peers as they are perceived as a greater threat in the community and society overall. Furthermore, risk and protective factors also need to be considered in lieu of comorbid diagnosis and conceptualization. Examining one type of problem in absence of the other is likely to produce biased or incomplete diagnoses (Liu et al., 2016). Racial discrimination research has often overlooked its effects on African American children, especially adolescents, when thinking about

negative mental health outcomes. Adolescents are particularly sensitive to social stressors and have less awareness of ethnic identity and stress regulation capacity (Gibbons et al., 2007).

### *Use of IAT to Address Implicit Bias*

The use of this IAT can be used to address this bias by bringing awareness of how it may be useful to receive feedback to correct this problem. This test can be used to bridge between implicit bias and constructive conversations regarding cultural competency and psychoeducation about mental health symptoms and diagnoses, especially in non-clinical settings. School personnel may benefit from diversity and cultural competence awareness training in effort to reduce biases and improve their ability to interact with Black students. This would be a more proactive approach in addressing raised concerns and referring them to better resources and competent clinicians, providing more appropriate diagnoses and interventions. It is also important to consider that results of the IAT are often met with defensiveness and criticism and should be met with critical cognitive flexibility regarding assumptions, values, and theoretical positions (Sukhera et al., 2019). Discussions should be prepared to address these potential reactions and criticisms, which could also create challenges when trying to implement systemic and systematic change.

### *Limitations*

One of the major limitations of this study was the sample size. It was originally planned to do additional paired sample analyses to look at the different categories (i.e., teachers vs clinicians). Although the overall sample was small, the effect size was good enough to run more subjects even though statistical power was not a problem. However, a larger sample would also look like a more representative sample, which is more believable and trustworthy when interpreting findings. Continuous variables, such as ‘years of experience’ could have been more powerful statistically with a larger sample. Otherwise, it is more arbitrary because of the decreased power. In addition to small sample size, correlation analyses could not be conducted. Variables, such as ‘years of experience’ and ‘age’ were found to be confounded when attempting to run correlation analyses as well. The recruitment for this study was also challenging, as more people are using mobile devices to access information. If we had more data that supported IAT research and data collection through mobile devices, we could have had a slightly larger sample and could have recruited more participants easily by expanding mobile access. It is unclear in the IAT literature if the IAT design and properties are compatible to be completed on a mobile device. We were also unsure about possible limitations that could derive from completing this test on a mobile device, such as keyboard set up, distractions caused by incoming notifications (e.g., phone call, texts, etc.), and concerns with validity. However, since mobile devices are a primary source of technology used in today’s society, this is something to consider in the future study. Also, when we cleaned the reaction time data by getting rid of outliers, it is possible that we could have thrown out an effect.

### *Future Directions*

Our primary goal is to expand this research by obtaining a larger sample in the next study. Not only will we be given the opportunity to hopefully replicate these findings but to obtain a more representative sample as well by expanding our analyses to include looking at the different demographic categories. If we can gain a more representative sample while replicating our findings from this study, it could be possible to turn this IAT into a tool to use for cultural competence and diversity workshops to address implicit biases and/or possibly used to screen potential job candidates. Once this test becomes a statistically sound and powerful tool, it can be used to help be more proactive in addressing differential diagnoses rather than a reactive approach when it is too late, and the child has been carrying around a misdiagnosis than can be harmful to them and their future.

## **Conclusion**

The work with implicit bias stepped into the present spotlight during a racially charged time in America and brought conversations about racial blind spots and privilege in the criminal justice system. Unfortunately, Black children are more likely to become incarcerated based off assumption of behaviors and mental status. Having implicit bias does not imply that the person is “bad”; instead, such bias is a marker of our history but left unchecked implicit bias can lead to detrimental consequences for social groups and the world that we share (Eberhardt, 2020). The IAT is not intended for diagnostic use but for educational purposes. The IAT has shown to be useful as an educational tool to measure bias and raise awareness to generate discussions and promote reflection in addressing racial inequities (Sukhera et al., 2019). Overall, our findings from this study have supported the hypothesis of associating externalizing behavior with Black children, which will hopefully raise awareness to issues with differential diagnosis and assessment, as well as disciplinary and mental referrals.

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