

It Starts in the Classroom: The Relationship Between Teacher Education Students' Implicit Racial Biases and Classroom Disciplinary Decisions

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Teachers often hold lower academic and behavioral expectations for Black students, and they are more likely to make a disciplinary referral for Black students than their White peers for similar infractions. The mechanism underlying this may be teachers' implicit attitudes about their Black students. This quantitative study examined the connection between teacher implicit racial attitudes and how teachers choose to discipline disruptive classroom behaviors, addressing the research question: How do teacher education students' (TES) implicit racial attitude scores on an implicit bias test affect their decisions to refer students for disciplinary action? The study looked at teacher education students (N=233) who completed three sets of tests: the racial bias Implicit Assessment Test; a set of questions assessing disciplinary referral decisions using vignettes depicting student misbehaviors in a classroom setting; and a demographic questionnaire. We predicted that TES who scored higher on the racial bias IAT would be more likely to recommend Black students for a disciplinary referral. While the hypothesis couldn't be confirmed, there was evidence that TES who showed greater bias against Black protagonists were more likely to choose to ignore disruptive behavior in Black students in the classroom than those with lower bias against Black protagonists; however, because choosing to ignore behavior has several underlying causes, this outcome needs to be examined more closely in future research. Ultimately, this study adds to the literature on TES racial attitudes and the effect of these on their classroom interactions with their students.

Keywords: race, implicit bias, teacher education, discipline, discipline gap

Literature Review

There is a racial gap in student referrals for disciplinary action – Black students are disciplined at three times the rate of their White counterparts (Gregory et al., 2016; Skiba et al., 2011; U.S. Department of Education Office for Civil Rights, 2016) and suspension rates for Black students have increased 200% over the past forty-five years (Bottiani et al., 2017).

One reason for this gap in disciplinary actions may be the growing discrepancy between the racial composition of the American teaching population versus the racial composition of the student population (NCES, 2020). Over the past ten years, while the proportion of American school students of color rose from 42% to 50%, the composition of the American teaching population remained predominantly White (79%) as of the 2017-2018 school year, the most recent year for which statistics are available (NCES, 2020). The resulting discrepancy between the race of the teacher and the race of the students in their classroom may contribute to cultural stereotyping (Chang & Demyan, 2007; Gregory et al., 2010; Skiba et al., 2011), such as teachers viewing students as lacking in “appropriate” behaviors, which are defined by the dominant cultural narrative and shaped by the hidden curriculum (Battey & Leyva, 2016). An example of this is a teacher punishing a student for “talking back” when their home communication patterns may differ from what the teacher uses. Research has shown these beliefs to have a hand in teachers racially stereotyping their students (Gregory et al., 2010; Skiba et al., 2011).

Research has consistently found that teachers treat children of color differently in the classroom by exhibiting negative attitudes and low expectations toward those students, communicating these attitudes both verbally and nonverbally (Simpson & Erickson, 1983). Teachers often hold lower academic and behavioral standards for Black students than White students, and teachers are prone to give unfavorable ratings to Black students on measures of

behavior, personality, and motivation (Chang & Demyan, 2007; Chang & Sue, 2003). These negative perceptions and attitudes may then lead to increased discipline, which has a negative effect on both short- and long-term educational outcomes (e.g., Balfanz et al., 2015; Bates & Glick, 2013; Frankenberg, 2012).

Research has found ample evidence that White people view Black children as older, bigger, and more responsible than their age (Blake et al., 2017), and White teachers specifically view Black students as more likely to misbehave and perform poorly in school (Okonofua & Eberhardt, 2015), all of which reflect a perception that Black students are more responsible for their actions and, at the same time, are poorer students in general. This perspective may, in turn, have a strong influence on referring Black students for disciplinary action for seemingly minor infractions at high rates.

Race and school discipline

There is a discrepancy in disciplinary punishment in the American education system. This has been documented for over forty years, beginning with the Children's Defense Fund (1975) report and continuing through the present, with the "discipline gap" increasing for Black students in this time period (Gregory et al., 2016; Gregory et al., 2010; Skiba et al., 2011). This incongruence begins with referrals for class removal and continues through to exclusionary discipline, which includes out-of-school suspension and expulsion (Skiba et al., 2011). Exclusionary discipline is the most severe punishment and is supposed to be used as a last resort (Gilliam, 2005). In the most recent national estimates, Black students are three times more likely to receive exclusionary discipline than their White counterparts (Gregory et al., 2016; Skiba et al., 2011). Moreover, there are no differences in gender in these discrepancies; Blake et al. (2017) found that the rates of exclusionary discipline for Black females are on par with those of Black

males. This gap begins as early as preschool, where the 2013-2014 school year report from the U.S. Department of Education's Office for Civil Rights (2016) found that Black preschoolers are 3.6 times more likely to receive OSS than their White peers. Gilliam (2005) goes on to say that this statistic has long-term ramifications for these young students: "Children expelled from prekindergarten are much more likely to be ill-prepared for kindergarten and elementary school and are likely to be among those most at risk for school failure" (p. 2).

It is also important to note that previous empirical research has found that Black students are more likely to receive a disciplinary referral for minor infractions that are often overlooked in their White peers such as tardiness, loitering, and noncompliance (e.g., talking back) (Bottiani et al., 2017; Gregory et al., 2010; Okonofua & Eberhardt, 2015; Skiba et al., 2011). Combined, these research articles list 19 unique studies to support this. For example, Gregory et al. (2010) discuss several papers that found that students of color have historically been selected for disciplinary referral at disproportionate rates, and often for compliance-based reasons, such as "a student calling into question established classroom practices or the teacher's authority" (p. 62).

Okonofua and Eberhardt (2015) tested this same argument by presenting 57 teachers (67% White, all female) with a series of school behavioral records with minor infractions such as non-compliance-based behavior with stereotypically racialized names for Black and White students. They found that teachers were more likely to increase disciplinary consequences for Black students than their White counterparts for these minor incidences (Okonofua & Eberhardt, 2015). Additionally, research has found that teachers are more likely to refer Black students after their first infraction than White students (Battey & Leyva, 2016; Blake et al., 2017), and also view repeated infractions of Black students more seriously than White students, leading to referrals more often for second infractions (Okonofua & Eberhardt, 2015).

Batthey and Leyva (2016) put these racial discrepancies in the context of White teachers' discomfort with students of color in their classrooms who may not behave in expected ways based on the dominant cultural narrative. Teachers who feel uncomfortable confronting their racial conceptions of their students may direct these feelings into attitudes and behaviors that place the responsibility of the challenges the students face on the students themselves as opposed to larger systemic educational issues. The authors point out that "an ideology of whiteness would...serve to position white people, white ideas, and white behaviors as more valued institutionally and in classrooms...[and] an unwillingness to question how institutions benefit whites, coupled with statistics showing lower achievement scores from African American and Latinas shifts the blame to students, families, communities, and culture away from whiteness" (Batthey & Leyva, 2016, pp. 55-56). This can be seen in the research, as students who attend schools with large disparities in disciplinary referrals report a more negative school climate, fewer feelings of school belonging, and greater levels of adjustment problems among Black students (Bottiani et al., 2017).

Research into exclusionary discipline outcomes has also found that it serves to remove students from the classroom, thereby increasing the chances that students will fail academically (Batthey & Leyva, 2016; Gregory et al., 2016; Gregory et al., 2010; Skiba et al., 2011) or leave the school system entirely by dropping out (O'Conner et al., 2014; Okonofua & Eberhardt, 2015). Students punished by exclusionary discipline also experience long-term consequences such as lower income over their lifespan or higher rates of incarceration (Gregory et al., 2016; Okonofua & Eberhardt, 2015). Exclusionary discipline alienates students from their school community and peers, leading to academic disidentification (Batthey & Leyva, 2016), further removing students from the learning process (Bottiani et al., 2017; Gregory, Skiba, & Noguera, 2010; O'Conner et al., 2014; Skiba et al., 2011) and contributing to the achievement gap (Gregory et al., 2016;

Gregory, Skiba, & Noguera, 2010; Okonofua & Eberhardt, 2015). In general, there is evidence that exclusionary discipline is inefficacious (Skiba et al., 2011), serving to further disenfranchise students of color.

Racial disciplinary discrepancies don't just happen once students reach the school administration as the final point of contact; they begin in the classroom when the teacher makes the initial referral to the administration (Skiba et al., 2011). There has been a wealth of speculation, none of which is supported by the data, as to why teachers refer their Black students for exclusionary discipline at three times the rate of their White students, including poverty (Gregory et al., 2016; Gregory et al., 2010; Okonofua & Eberhardt, 2015; Skiba et al., 2011), higher rates of classroom disruptions (Gregory et al., 2016; Okonofua & Eberhardt, 2015; Skiba et al., 2011), and more severe infractions (Blake et al., 2017). Recent research indicates that when factors previously used to explain disciplinary discrepancies, such as poverty or higher rates of disruption by Black students, are held constant, their contribution to the gaps disappears (Gregory et al., 2016; Gregory, Skiba, & Noguera, 2010; Skiba et al., 2011). In other words, the only explanation for the discipline gap is the different skin colors of the students. Chin et al. (2020), in a large-scale study of data from Harvard's Project Implicit, found that counties, where teachers' implicit racial bias is higher, had larger discipline gaps between Black and White students, suggesting that implicit bias may account for much of this gap.

Race and implicit attitudes

Beliefs are expressed as attitudes in two different ways: explicitly and implicitly. Explicit attitudes are conscious and deliberate expressions about people and things, often stated after processing stimuli or information (Glock & Krolak-Schwerdt, 2014; Warikoo et al., 2016).

Implicit attitudes are automatic thoughts about people and things, and the person with these

attitudes is not aware of them (Warikoo et al., 2016), which can affect decisions people make and interactions people have without them being aware. Implicit racial attitudes have been found to affect political beliefs such as voting decisions and policy support, and research suggests that they may affect how teachers work with students (Warikoo et al., 2016).

Cognitively activated stereotypes derived from implicit attitudes shape decision-making early in information processing at an unconscious level (Glock & Krolak-Schwerdt, 2014). Teachers make hundreds of small but important decisions each day in the classroom, often relying on implicit attitudes in stressful situations to make swift decisions (Warikoo et al., 2016). Research has found that when teachers are faced with increasing demands on their cognitive resources and subsequent cognitive depletion, their implicit stereotypes are activated (Glock & Krolak-Schwerdt, 2014); therefore, implicit bias may very well contribute to the discipline gap (Gregory et al., 2010).

Teachers may assume that their judgments aren't biased, but this is from the perspective of explicit attitudes, which are activated after the person has time to think through actions and rationalize them (Glock & Krolak-Schwerdt, 2014). Implicit attitudes, which are a direct function of beliefs, lead to behavior that is expressed both verbally and nonverbally toward others. Implicit attitudes are cognitive functions that affect choices, resulting in specific behaviors (Fishbein, 1966; Yang & Montgomery, 2013). Regarding race, these attitudes may influence teacher behavior that sends messages to students about how they feel toward them and what they expect out of them regarding classroom behavior, educational outcomes, and educational attainment. Research suggests that teachers' implicit racial attitudes also influence how they work with their students in the classroom. Teacher attributions of student behavior may affect these implicit attitudes, but this may also be a bidirectional relationship where implicit attitudes also affect attributions.

This study examines the connection between teacher implicit racial attitudes and how teachers discipline classroom behavioral disruptions. There is a wealth of both theory-based and empirical research on implicit racial biases as well as on how labeling classroom behavior impacts student outcomes in the classroom (Chang & Demyan, 2007; Graham, 1988; Hunter & Barker, 1987). However, previous research on teacher attitudes toward classroom behavior has focused on explicit attitudes, as implicit attitudes are hard to measure since they are outside of the realm of consciousness. However, these implicit attitudes may hold the key to understanding teacher-student relations, and the psychological mechanisms underlying these disciplinary referral disparities needs identifying (Gregory et al., 2010; Okonofua & Eberhardt, 2015). Warikoo et al. (2016) specifically make the case for more empirical work connecting the social psychological work in implicit attitudes with educational processes and outcomes. In a review of the literature on the connection between implicit racial attitudes and educational outcomes, the authors claim that implicit racial attitudes may affect classroom outcomes due to the historical nature of pervasive negative racial views of Black students in the literature (Warikoo et al., 2016).

The importance of studying this connection in teacher education students (TES) is more than just an academic question of correlation; it concerns who will be teaching in the future and what they are thinking about which students need to be disciplined and how to implement that discipline. Working with prospective teachers is a social justice concern, as the ways in which implicit attitudes limit and distort TES acceptance of multicultural content shape how they interpret what they are exposed to in their coursework. This study seeks to extend this work by making the connection between implicit racial attitudes and TES decisions about disruptive classroom behavior.

Research Question and Hypothesis

Teacher education programs set a goal of preparing teachers to work with diverse populations but rarely do programs ask their TES to closely examine the racial attitudes they bring with them into their training. Teacher education programs often treat their TES specifically as though they come into the program as an empty vessel waiting to be filled with the knowledge of teaching without the interference of previously held beliefs. However, these previously held beliefs affect how and what TES, both pre-service and in-service, learn in their teacher education programs and subsequently take into their classrooms.

We posit that teachers' implicit racial attitudes influence their decisions about which students to refer for disciplinary action. To address the impact of implicit racial attitudes on teachers' disciplinary decisions and practices, it is important to examine TES and the attitudes they hold toward their current and future students. This study asks: How do TES' implicit racial attitude scores on an implicit bias test affect their decisions to refer students for disciplinary action?

The literature has shown that teachers' racial beliefs about and attitudes toward students are associated with a greater tendency to refer Black students than White students for discipline and that Black students receive more severe punishments than White peers for similar infractions (Balfanz et al., 2015; Bates & Glick, 2013; Blake et al., 2017; Chang & Demyan, 2007; Frankenberg, 2012; Okonofua & Eberhardt, 2015). This study will build on these findings by hypothesizing that TES who score higher on an implicit bias measure will be more likely to recommend Black students than White students for disciplinary referral outside the classroom.

Methodology

The study population was a local sample of teacher education students (N=233) enrolled in teacher education and school counseling programs in New York City. Participants ranged in age from 19 to 54 years old (average age of 25.63). Table 1 displays the sample characteristics.

Table 1

Characteristics of the Sample

Characteristic	(N = 233)
Average age in years	25.63
Gender	
Male	42
Female	187
Other	2
Race/Ethnicity	
White	112
Black	16
Hispanic or Latinx	63
Native American	4
Asian	48
Other	15

Note: When asked for their race/ethnicity, participants were instructed to check all that applied, so N will total more than 233. When asked for their gender, two participants did not respond.

Measures

Implicit Associations Test (IAT). The IAT, originally created by Greenwald et al. (1998), examines associations between a pair of dichotomous descriptor words and a construct. The IAT measures implicit attitudes by pairing the descriptor and the construct and then measuring the speed of response. The faster a participant responds in milliseconds, the stronger the participant's association between the pair of adjective items (Glock et al., 2013; Greenwald et al., 1998; van den Bergh et al., 2010). For example, the IAT might examine the relation between the dichotomous adjective pair good/bad and a construct such as a gender or race (e.g., male or female, White or Black). Participants go through a set of trials categorizing a mixture of the sets (i.e., Black and

good; White and good; Black and bad; White and bad) using keyboard keys for their responses (Greenwald et al., 1998). Greenwald et al. (1998) found convergent validity for the IAT as well as divergent validity for explicit and implicit measures of attitudes, and Greenwald et al. (2009) found predictive validity of the IAT using a meta-analysis of 122 articles that used the IAT.

Classroom Behavior Vignettes. The proposed study used vignettes depicting student misbehaviors, specifically focusing on male students of two races: Black and White. This choice was made after the pilot study found that there was a potential gender effect when participants were presented with two genders and two races (Lorenzetti & Johnson, in press). Since the focus of this study is specifically on whether there is an effect of race on TES' decisions about disciplinary referral, the researcher decided to focus only on male students for this study. This also allowed the researcher to create a more direct and structured racial comparison across child pathology diagnostic criteria (discussed in detail below) since there was no need to build in gender and the interaction with race.

The vignettes were developed by the researchers and were piloted during the above-referenced pilot study (N=17 undergraduate and graduate TES from an urban university) to assess clarity in understanding the pathology presented in the vignettes as well as in understanding what the feedback questions were asking (Lorenzetti & Johnson, in press); this was done by presenting each participant with four vignettes (one Black female, one White female, one Black male, and one White male) and asking participants what they would be most likely and least likely to do in the situation presented, with a series of options (Lorenzetti & Johnson, in press). These vignettes and questions were then edited for the current study based on that feedback. The genders varied in the pilot study; for this larger study, only males were described to prevent a gender confound in the vignette protagonists, which was a concern in that pilot study. Because the vignettes were

examining how TES label student behavior and make decisions based on these perceptions, the pilot analysis of the vignettes determined that the social validity of the vignettes was met by determining the social significance of their decisions to refer students for discipline or keep students in the classroom.

The vignettes, which were two sentences in length, depicted student misbehaviors that are disruptive but common in a classroom setting. These behaviors were based on four diagnostic categories in child pathology: ADHD symptoms, internalization, non-compliance/disruptive behavior, and non-compliance/disorganization. The researchers worked to ensure the vignettes met face validity criteria by ensuring that each vignette was similar in the number of words as well as characters (word range 25-28 words, character range 133-139 characters) to ensure similarity in structure. Each vignette also contained two sentences beginning with “This student...” An example of one of the vignettes for the non-compliance/disorganization category was as follows: *This student often forgets his binder, his book, his classwork, and homework. His work is often loose, wrinkled, and partially completed.*

Each diagnostic category had two corresponding vignettes, one for a White male and one for a Black male. Each vignette described a male student (race specified with a stock photo) misbehaving in the classroom, and four questions followed, one of which is the focus of this analysis: TES were asked to select an action toward the student in the vignette by ranking the choices in the order they would respond to the student, which included the option to rank up to all five choices or to not rank anything. The ranking options were: *institute a warning system with a consequence; modify the classroom to accommodate the behavior; develop a behavioral plan with the student’s input; refer the student to the school psychologist, and ignore the behavior.* The researchers developed the vignettes and piloted them to assess clarity in understanding.

Demographic questionnaire. Demographic information was collected on participants' ages, race/ethnicities, and teaching experiences.

Procedure

The participants were first given the IAT using open-source software, consisting of two practice trials (one for race and one for positive/negative words) followed randomly by two trials pairing Black faces with positive words and White faces with negative words and two trials pairing White faces with positive words and Black faces with negative words. The random trials mitigated any practice effect that may have resulted from participating in trials in a consistent order.

The participants were then presented with all eight vignettes, and each vignette was followed by a question covering the participant's selection of disciplinary action choices. The participant then completed the demographic questionnaire. The tasks were ordered in this way to avoid priming of conscious racial bias or prevention of bias by providing the demographic questionnaire before the IAT. The total test time was approximately 30 minutes.

Results

Analysis began with finding IAT effect sizes as established in the literature (Greenwald & Banaji, 2003). Effect sizes were calculated as Cohen's d for each participant; a higher negative effect size represented a greater bias against Black protagonists.

To answer the question of whether teachers who showed greater bias against Black protagonists on the racial implicit bias test will be more likely to recommend referral outside the classroom for discipline for Black students than for White students, responses to the vignette questions asking participants what they would be most likely to do in the situation were dummy coded, with responses that entailed keeping the child in the classroom classified by 0 and those removing the child from the classroom classified as 1. The ranking question allowed participants

to rank up to five options, including not ranking anything at all; dummy coding in this way accounted for the times that participants only selected one option, as that would represent their first choice. Participants who chose to rank nothing at all were considered missing; overall, between one and three participants chose not to assign any rankings for each of the vignettes.

A regression using IAT effect size as the regressor examined the effects of IAT scores on the disciplinary action decisions for students by race. One relationship reached statistical significance: TES who showed greater bias against Black protagonists on the IAT were more likely to opt to ignore disruptive behavior in Black students in the classroom than TES who showed lower bias against Black protagonists, as seen in Table 2.

Table 2

Regression of IAT Scores on Disciplinary Actions Selections

Pathology criteria	Student race	Refer to the school psychologist						Take action in the classroom		
		<i>F</i>	<i>p</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>df</i>
Disorganization	White	2.40	0.12	225	0.87	0.35	225	3.36	0.07	225
	Black	0.67	0.41	223	0.95	0.33	223	1.89	0.17	223
Disruptive behavior	White	0.36	0.55	224	3.21	0.08	224	0.00	--	227
	Black	2.62	0.11	225	5.86	0.02	225	1.61	0.21	225
ADHD	White	2.50	0.12	224	1.93	0.17	224	0.13	0.72	224
	Black	0.15	0.70	224	2.91	0.09	224	2.42	0.12	224
Internalization	White	0.14	0.71	224	0.42	0.52	224	0.00	0.96	224
	Black	0.46	0.50	223	0.01	0.90	223	0.26	0.61	223

While only one relationship neared statistical significance, there were areas of note. Specifically, TES who showed more racial bias against Black protagonists on the IAT were more

likely than TES with a bias against White protagonists to indicate that they would ignore the behavior of Black students displaying ADHD symptoms as well as disruptive behavior in White students. Additionally, as TES' IAT scores showed greater bias against Black protagonists, there was a greater likelihood that they would take action in the classroom with White students who show symptoms of disorganization more than their Black counterparts. While these did not reach statistical significance, these F scores had p values nearing significance, which indicates a need for further investigation in the future.

Upon further examination, the decision to ignore a behavior could be considered an action taken in the classroom, as it is a conscious choice by teachers to handle the behavior *in* the classroom (perhaps by extinguishing it through not responding to it) rather than *out* of the classroom. Since the research question for this study asked at what point TES would refer students outside of the classroom for disciplinary issues, TES who chose to ignore the behavior in the classroom still chose to opt to keep the student in the classroom; this possibly indicates that the behavior didn't meet the threshold to refer for disciplinary action outside of the classroom. To that end, responses to the question asking participants what they would be most likely to do in the situation were combined and dummy coded for acting in the classroom, including ignoring the behavior, and referring the student to the school psychologist. There were no statistically significant relationships between the IAT scores and disciplinary decisions by student race when disciplinary decisions were categorized as either in the classroom or removal from the classroom.

Discussion

This study hypothesized that TES who score higher on an implicit bias measure will be more likely to recommend Black students than White students for disciplinary referral outside the classroom. The results did not completely support the hypothesis that implicit bias is directly

related to classroom disciplinary decisions; however, the results suggest that something is happening within the findings that warrants a closer look. We found that TES who showed greater bias against Black protagonists were more likely to choose to ignore disruptive behavior in Black students in the classroom than those with lower bias against Black protagonists *regardless* of their implicit racial bias measure, indicating that in this first attempt to look at these questions of implicit racial bias connecting to classroom disciplinary decisions, there is a subtle relationship that needs more examination in that teachers as an aggregated group made racialized disciplinary decisions regardless of where they scored on the IAT.

An additional interesting point in the findings was TES' preference to ignore disruptive behavior in the Black protagonist over the White protagonist. This may be a result of how the ranking task was structured; encompassed within the construct of "taking action the classroom" were three items: "institute a warning system with a consequence;" "modify the classroom to accommodate the behavior;" and "develop a behavioral plan with the students' input." Including these three dimensions, including later with "ignore the behavior," instead of one global dimension, may be a potential confound. However, despite this potential confound, the data still shows that the TES in this study chose selective active responses more often for White than for Black students.

Additionally, when participants selected "ignoring the behavior" as a primary choice, we can't be sure what they intended by this option, as ignoring the behavior could mean a variety of things, such as hoping that ignoring the behavior will make it go away or feeling that the behavior isn't fixable so it isn't worth addressing. Whatever the reason for this specific decision, the impact of ignoring a student's behavior is the same, in that the student receives no feedback on their behavior and does not have the direction or notice to shift to a choice that is more constructive to

their learning. The importance of this finding is heightened by recent research indicating that teachers are more likely to specifically ignore internalizing behaviors in the classroom because they feel they don't have the tools to deal adequately with these behaviors (Ginsberg et al., 2021).

One approach to understanding this decision in the classroom might be to remove this choice from the ranking system and create a separate question asking students (on a Likert scale) how likely they would be to ignore the behavior in the classroom followed by an open-ended question asking TES about why or why not. This could then guide future research as to how to incorporate the choice to ignore the behavior as an option. Another approach to understanding this behavior would be to initially ask participants if they would deal with the behavior in the classroom, refer the student out of the classroom, or ignore the behavior by providing a mutually exclusive and exhaustive single-choice item, and then from there inquire more deeply into the "why" of these decisions using open-ended questions based on which choice they selected.

Limitations

There were limitations in this study, specifically within the instruments. First, on the ranking task in the vignettes, which sought to determine what TES would do in relation to dealing with the behavior. The ranking procedure asked participants to rank the five options in one list – as in, select their first choice, second choice, etc. As noted, there were three options for taking action in the classroom, one for ignoring the behavior, and one for referral to the school psychologist. This ranking system had several issues, including the multiple options for in-classroom discipline, and the option to not rank anything, or to rank only one option. This led the researcher to question whether or not the action of *not* ranking was in fact a type of ranking. For our purposes here, it was coded as a form of ranking, but this should be examined closer in the

future. Additionally, it may have been preferable to ask participants to choose their top choice and one backup choice instead of ranking all five choices (i.e., rating in place of ranking).

Another limitation is the hypothetical nature of the vignettes. These may not be a good measure of how teachers would actually make in-the-moment decisions in the real-world classroom, as the vignettes are hypothetical in nature and not a measure of observed behavior. Additionally, the lack of relationship between the IAT and the hypothetical vignettes could reflect either a limitation of the IAT itself or a detachment between real-world decision-making and hypothetical decision-making.

Finally, this study has illuminated concerns with the IAT as a measure of implicit bias within hypothetical behavioral choices. The lack of relationship between IAT scores of bias and hypothetical decision making may indicate that the IAT's measure of latent response time, used as an implicit measure, may not be a predictor of decision making, which is an explicit measure, in non-real-world settings. This leads to larger questions around what the IAT and latent response measures actually represent in these scenarios and whether they can predict behavior.

Future Directions

This work is a promising step in connecting TES' racialized beliefs about students to their decisions about disciplining students in the classroom. Expanding this work through longitudinal data would be ideal in that TES are sometimes in the classroom working as classroom teachers and sometimes not yet in the classroom. Measuring implicit racial bias and classroom disciplinary records at several points in time over the course of a teacher's career – including at the TES level – may reveal changes over time in both implicit biases as well as teachers' choices to discipline students, as well as the interaction between the two.

Next, this study specifically looked at males only to avoid a potential gendered effect of using both male and female protagonists. To that end, more data should be collected using the same vignettes and changing males to females to determine if there is a contrast between how TES opt to discipline Black and White females, as well as to compare how TES would opt to discipline Black males, Black females, White males, and White females. Additionally, to examine whether there is an intersectional effect between the gender and age of the vignette protagonists, it would be worth repeating these measures with photos of students presenting as adolescents.

Finally, there are also several other factors, both in and out of this study, that warrant further examination. This study collected data on a multitude of factors that can be explored in more depth. First, the school level of participants, specifically undergraduate or graduate level, may impact the disciplinary decisions of participants based on their experience in the classroom, as graduate students may be more likely to be in-service teachers. Additionally, the area of certification may also influence how teachers assign disciplinary decisions; special education teachers, for instance, may be more apt to keep students in the classroom due to their experience and training to work with, and even directly working with, students with challenging behaviors. Third, there may potentially be an effect of the matched race relationship between the participant and the vignette protagonist, which should be explored.

Significance and Conclusion

This study sought to find a connection between TES implicit racial attitudes and discipline decisions in the hypothetical classroom. Specifically, this study predicted that TES who scored higher on the racial bias IAT would be more likely to recommend students of color for disciplinary referral. Although the hypotheses were not confirmed, the findings revealed racial discrepancies in TES discipline decisions that warrant further examination to more deeply explore causes for the

systemic racial bias that runs deep in the school system – starting with teacher preparation programs.

Disciplinary referrals begin in the classroom (Skiba et al., 2011), so long-term and continuous teacher training and support are vital to mitigating these actions (Gregory et al., 2016). One recent study found that meditation training that focused on inhibiting negative racial implicit attitudes showed an improvement in these attitude measures (Kang et al., 2013). Research has also found that access to behavioral consultants, such as school psychologists, also decreases the number of disciplinary referrals in younger grades (Gilliam, 2005). Gregory et al. (2016) found that a year-long professional development program aiming to decrease disciplinary referrals through teacher coaching and self-reflection succeeded in doing so not just in the first year of the intervention when teachers received coaching, but again in the following year even with no additional in-class supports. These referral declines also included lower rates of referrals for Black students, evening out the number of referrals of Black students with students of other races (Gregory et al., 2016). The authors argue that teacher professional development using coaching and teacher self-reflection on their classroom work was able to have long-term effects on mitigating the racial gap in disciplinary referrals, and this path may have stronger results than just focusing on classroom management techniques (Gregory et al., 2016). These studies suggest that addressing implicit racial bias through in-depth and long-ranging professional development in teachers may be the key to closing the discipline gap.

This study will add to the literature on TES racial attitudes and how they affect their classroom interactions with their students, an area that is currently lacking in empirical evidence. This is a significant contribution to the body of research on TES, as their implicit racial attitudes

toward their future students may undermine teacher preparation programs' emphasis on culturally responsive pedagogy and multiculturalism.

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