Rating the Honesty of White and Black Children *via* Implicit and Explicit Measures: Implications for Child Victims in the Criminal Justice System

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Abstract

The present study explored implicit and explicit honesty perceptions of White and Black children and whether these perceptions predicted legal decisions in a child abuse case. Participants consisted of 186 younger and 189 older adults from the online Prolific participant pool. Implicit racial bias was measured via a modified Implicit Association Test and explicit perceptions through self-reports. Participants read a simulated legal case where either a Black or White child alleged physical abuse against their sports coach, and they rated the honesty of the child's testimony and rendered a verdict. Participants were implicitly biased to associate honesty with White children over Black children, and this bias was stronger among older adults. In the legal vignette, for participants who read about a Black child victim, greater implicit racial bias predicted less trust in the child's testimony and a lower likelihood of convicting the coach of abusing the child. In contrast to their implicit bias, participants self-reported Black children as being more honest than White children, suggesting a divergence in racial attitudes across implicit and explicit measures. Implications for child abuse victims are discussed.

Introduction

Children are sometimes involved in the legal system when disclosing or discussing events such as child sexual and physical abuse, neglect, and family disputes. For example, in the United Kingdom, the police recorded over 24,000 child abuse allegations in the past year (Statista Research Department, 2022) and over 1.5 million cases of suspected child abuse or neglect were reported in 1 year to child protective services in the United States (Flaherty & Sege, 2005). Yet, data suggests that children of color may be treated differently than White children throughout disclosure and investigation of these allegations (Ards et al., 2003; Flaherty & Sege, 2005; Williams & Farrell, 1990). For cases that do go to trial, the child's testimony regarding the event may be a critical piece of evidence. Stolzenberg and Lyon (2014) found that attorneys directly discussed whether the child was lying or telling the truth in 22% of child abuse cases and discussed whether the child's report was coached in 36% of cases ($N = 72$ court transcripts of child sexual abuse cases filed in Los Angeles). Thus, although not the only factor considered in a child abuse case, the extent to which a child's testimony is perceived as honest is relevant. An important question is whether adults' perceptions of child honesty differ as a function of the child's race.

Moreover, as racial biases occur both explicitly (within conscious awareness) and implicitly (below conscious awareness; e.g., Dovidio et al., 2002; Sawyer & Gampa, 2018), it is necessary to study whether honesty biases differ across child race at both the implicit and explicit levels. In the present study, we examined whether adults' implicit and explicit honesty perceptions varied as a function of child race (Black vs. White children), and we explored whether these honesty biases predicted legal decision-making when reading about a simulated child abuse case.

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Perceptions of Child Witnesses

Adults' perceptions of child witnesses are often collected via mock-trial methods where participants read a simulated court trial and respond to questions through a self-report questionnaire. A two-factor model of child witness credibility has been established, where children tend to be perceived as more honest (Factor 1) yet less cognitively competent and more suggestible (Factor 2) to adult influence/coaching when testifying (Bala et al., 2005; Connolly et al., 2008; Ross et al., 1990, 2003). This suggests that potential jurors may be particularly trusting of children while recognizing limits in their cognitive capacities.

Research has studied, at the explicit level, how perceptions of child witnesses may vary by child characteristics, with most of this research focused on child age and gender (e.g., Bottoms et al., 2004; Bottoms et al., 2007; Leippe & Romanczyk, 1989; Nunez et al., 2011). Yet, little research has been devoted to how perceptions may vary across child race. In the present study, we were particularly interested in exploring how the *honesty* factor in the two-factor credibility model may change based on the child's race and how this predicts legally relevant decision-making.

Racism and Stereotypes in the Legal System

Despite the theoretical and practical importance of studying racism (Correll et al., 2014; Johnson, 2020; Mitchell et al., 2005), only a small line of research has examined whether perceptions of child witnesses differ as a function of the child's race. In a concerning finding, Black children were rated as more responsible for alleged child sexual abuse compared to White children (Alley et al., 2019; Bottoms et al., 2004), possibly because of racial promiscuity stereotypes (Alley et al., 2019). Yet, it is currently unknown whether Black and White child victims are perceived differently outside of a sexual context. In the present study, we examined perceptions of Black and White children alleging physical abuse, and we were specifically interested in honesty assessments of the children.

Racism in the criminal justice system has been well-studied outside of the child witness context. Black individuals have been overpoliced (Jones-Brown & Williams, 2021) and are overrepresented in the criminal and juvenile justice system (Abrams et al., 2021). Individuals also tend to endorse racist stereotypes that associate Black individuals with crime (Levinson et al., 2010; Levy et al., 1998; Rattan et al., 2012; Todd et al., 2016). Of particular relevance, Lloyd et al. (2017) asked adults to evaluate whether Black and White adult speakers were lying or telling the truth, and the Black speakers were judged to be telling the truth more often than the White speakers. Yet, this truth bias was predicted by adults' self-reported motivation to not appear prejudiced. In our study, we

build upon this research to examine whether perceptions of *child witness* honesty differ by race, and importantly, we measured trust perceptions at both the explicit *and* implicit levels, as implicit measures are less affected by social desirability biases.

Implicit Racial Bias

Perceptions of child witness honesty have almost exclusively been studied via explicit self-report methodologies where participants reflect upon and report their beliefs (e.g., Bala et al., 2005; Connolly et al., 2008; Masip et al., 2004; Nunez et al., 2011; O'Connor et al., 2019; Ross et al., 2003). Research examining how child witness race affects mock jurors' perceptions has also exclusively used self-report methods (Alley et al., 2019; Bottoms et al., 2004). Yet, self-report methods capture only part of people's attitudes, measuring reflective responses. Participants may not report true beliefs if these beliefs contradict social norms or may indicate prejudice against certain groups. Implicit biases, on the other hand, are automatic social associations that tap into beliefs that fall outside of a person's awareness (Gawronski & Bodenhausen, 2006; Nosek et al., 2007, 2011). Implicit biases are often measured through reaction-time tasks (e.g., the Implicit Association Test [IAT]; Greenwald et al., 1998) that measure how quickly participants associate certain attributes (e.g., good/bad) with social categories (e.g., Black/White). A faster reaction time when sorting items together (e.g., good and White) suggests that those concepts are more strongly associated in one's mind and indicates an implicit bias to associate, for example, "good" attributes with White people.

Assessing perceptions of child witnesses largely through explicit self-reports is particularly limiting when assessing race because racism can occur implicitly, below conscious awareness (Johnson, 2020; Sawyer & Gampa, 2018). Concerningly, these implicit biases can affect legal decision-making (see Kang et al., 2012 for a review). Despite continued overt racism in present society (e.g., Sawyer & Gampa, 2018), modern racism theory (Bottoms et al., 2004; McConahay, 1986) posits that not all racism is overt, and it is important to consider more subtle forms of racism in addition. For instance, adults are implicitly biased to associate guilty verdicts more readily with Black men compared to White men (Levinson et al., 2010) and weapons with Black children versus White children (Todd et al., 2016). Goff et al. (2014) found that greater implicit dehumanization of Black children was positively associated with a greater age overestimation and culpability ratings of Black children relative to White children. Goff et al. (2014) also found that greater implicit dehumanization of Black children predicted greater use of police force against Black children compared to other races. This presents concerning evidence that Black children may face unique challenges in the legal system and demonstrates that implicit biases may play a role in these negative outcomes.

Mock Juror Gender and Age Effects

Prior research has found that perceptions of child witnesses can also vary according to the demographic features of the participants themselves. In perceptions of child and adult sexual abuse victims, women tend to perceive victims as more credible and are more pro-victim than men (Bottoms & Goodman, 1994; Bottoms et al., 2004; Quas et al., 2002). Yet, gender effects are not consistently found when self-reporting on children's credibility in non-sexual abuse contexts (e.g., Nunez et al., 2011; O'Connor et al., 2019; Wright et al., 2010).

Perceptions of witnesses can also vary by participant age. Through self-reports, older adults are more trusting of child witnesses (O'Connor et al., 2019) compared to younger adults. Older adults tend to also show stronger implicit biases towards social groups compared to younger adults (Gonsalkorale et al., 2009; Hummert et al., 2002; Levy, 1996; von Hippel et al., 2000) because of age-related declines in inhibitory mechanisms (e.g., Gonsalkorale et al., 2009; von Hippel et al., 2000). From a practical standpoint, it is important to further study both younger and older adults' legal decision-making because older adults may be increasingly involved as jurors. The older adult population is rapidly growing (USDECA, 2004; National Center for Health Statistics, 2005), and older adults show greater interest in serving on a jury compared to younger ages, even in light of some age-based jury exemptions (Boatright, 2001; O'Connor & Evans, 2020) . As such, there has been a call for research that measures perceptions from potential younger and older jurors (Brank, 2007; Brank & Wylie, 2015).

The Present Study

The present pre-registered study tested adults' implicit and explicit honesty perceptions of White and Black children. We examined whether participants' honesty perceptions predicted their legally relevant decisions after reading about a simulated child physical abuse case. Participants completed a modified IAT where they rapidly categorized White and Black child photos with honest and dishonest words (as used in Fischer et al., 2010), and reaction times were recorded to measure implicit bias. Participants self-reported how honest they thought White and Black children were from a series of photos to measure explicit perceptions. Lastly, participants read a simulated child abuse case and were asked to rate how honest the child's testimony was and to provide a verdict of guilty or not guilty for the accused. Half of the participants were randomly assigned to a condition where they read about a Black child victim and the other half were assigned to read about a White child victim. The study design, sample size, and hypotheses and analyses were pre-registered on aspredicted.org https://aspredicted.org/GM3_K44. As Predicted is an online platform where researchers register their study plans *before* collecting and analyzing data, which is intended to increase reproducibility and openness in science.

Consistent with prior research demonstrating that Black children are rated as less innocent than White children (Goff et al., 2014) and are viewed as less believable than White children in a sexual abuse context (Alley et al., 2019), we predicted that participants would view Black children as less honest than White children in both implicit and explicit measures (but see Lloyd et al., 2017). We also predicted that implicit bias would predict legal decision-making in the legal vignette, such that participants with a greater implicit racial bias would perceive the Black child's testimony to be less honest. We also conducted an exploratory analysis to examine if implicit bias predicted the case verdict.

Method

Participants

To test implicit and explicit honesty perceptions towards Black and White children in our study, we collected a balanced sample of men and women in both younger and older adulthood to examine whether any effects vary with participant gender or age. An initial sample of 203 younger adults (M_{age} = 23.74, SD = 3.60, range = 18–30 years) and 202 older adults (M_{age} = 65.23, SD = 5.48, range = 60–88 years) participated in this study through the Prolific online participant pool (prolific.co). Prolific is a large online participant pool based in the UK that allows for rapid, high-quality data collection from vetted participants. A sample of 199 younger and 199 older adults was determined by a power analysis (using one-sample *t* tests to detect a non-zero implicit bias in each age group with a small effect (.2), alpha of .05, and power of .80; G Power 3.1.9).

Four participants were excluded (from preregistered exclusion criteria) for not completing the implicit measure, one was excluded for completing over 10% of the implicit measure trials in under 300 milliseconds (considered to be responding too quickly following IAT exclusion criteria by Greenwald et al., 2003), and one was excluded because of technical difficulties. In addition, after preregistration, we added a manipulation check in the legal vignette for participants to state the race of the child in the case description, and 24 were excluded for failing this manipulation check. Thus, the present analyses were conducted on 186 younger adults (M_{age} = 23.63, SD = 3.58, range = 18–30 years, 52% female) and 189 older adults (M_{age} = 65.07, SD = 5.39, range = 60–88 years, 51% female). Participants all resided in the United Kingdom and spoke English as their first language. The majority of the sample was White and fairly highly educated (see Table 1 for sample characteristics across younger and older adults).

Table 1. Sample Characteristics.

	Younger Adults	Older Adults
Racial background (%)		
English, Welsh, scottish, Irish, british	82	96
Indian	4	1
African	3	-
Bangladeshi or pakistani	2	-
East or southeast asian	2	-
Arab	.5	-
Caribbean	-	.5
Mixed	6	2
Highest education (%)		
Less than high school	.5	4
A-levels	3	–
High school	15	23
Some or all of college	29	27
Some or all of an undergraduate degree	40	35
Master's degree	9	10
Doctoral or professional degree	1	2

Measures

Implicit Association Test (IAT). Implicit bias was measured via a modified version of the IAT (Nosek et al., 2007). The IAT was modified to present photos of Black and White children and honest and dishonest words as the test stimuli. The child photos were gathered from the validated Child Affective Facial Expression Set (CAFE; LoBue, 2014; LoBue & Thrasher, 2015). Of note, there are limited validated face data sets containing neutral expressions of both Black and White children, and we were restricted to the stimuli available in the CAFE set. The majority of useable child photos in the CAFE set were 4- and 5-year-old children; therefore, we selected children of these ages to minimize age variation in the photos. The photos used in the IAT depicted eight Black children (M_{age} = 5.19 years, SD = .49, 50% female) and eight White children (M_{age} = 4.99 years, SD = .38, 50% female). The age of child photos did not significantly differ across child race, $t(14)$ = .972, p = .348. Only the child's face and hair were visible, and all photos selected depicted children with neutral facial expressions. The word stimuli consisted of six honest words (truthful, fair, integrity, sincere, trustworthy, moral) and six dishonest words (lie, unfair, deceive, steal, cheat, corrupt) taken from Fischer et al. (2010).

The IAT was programmed and run through the Inquisit software (version 6.2.1). In the task, participants sorted photos of Black and White children with honest and dishonest words by pressing a designated key on the computer keyboard when a certain stimulus appeared on the screen. Participants first distinguished White and Black child photos by pressing a key on the left (E) or right side (I) of the keyboard when seeing each photo (e.g., press E for a White child's photo and I for a Black child's photo; 20 trials). Participants then distinguished between honest and dishonest words by, again, pressing a left or right key

for each category (20 trials). In the first critical block (40 trials), both photos and words appeared on the screen one at a time, and White child photos and honest words were associated by sharing a response key (E) and Black child photos and dishonest words were associated by sharing a response key (I). Participants then sorted photos of only faces again (40 trials), but photos were sorted using the opposite key. In the second critical block (40 trials), participants again sorted both photos and words, but this time Black children were associated with honest words by sharing a response key and White children were associated with dishonest words. The order of critical blocks was counterbalanced across participants. The IAT demonstrated good reliability (Guttman split-half coefficient = .596).

IAT scores (D) were calculated using the improved IAT scoring algorithm (see Greenwald et al., 2003 for comprehensive details), by calculating the difference in reaction times when sorting White-honest pairings compared to Black-honest pairings. More specifically, D scores are the difference in average reaction times across the critical blocks divided by the standard deviation of reaction times across the blocks. A faster reaction time when associating White children with honest words (compared to Black children with honest words) indicates that those categories are more strongly associated. In this case, a positive IAT score indicates a White child honesty bias (i.e., faster pairings of White children and honest words), and a negative score indicates a Black child honesty bias (i.e., faster pairings of Black children and honest words). Scores farther from zero indicate a stronger bias. A score of zero indicates no implicit racial bias.

Self-Reported (Explicit) Honesty Ratings. To provide self-reported (explicit) honesty ratings, participants viewed photos of Black children (n = 2; M_{age} = 5.05, SD = .07, 50% female) and White children (n = 2, M_{age} = 5.35, SD = .07, 50%

female) and were asked how honest they thought each child was on a scale from 0 (dishonest) to 7 (honest). These photos were gathered from the CAFE set (LoBue, 2014; LoBue & Thrasher, 2015), depicted neutral expressions, and were new photos that were not included as photo stimuli in the IAT. The order in which the child photos appeared was randomized for each participant. Honesty scores were averaged to produce an honesty rating for Black children and an honesty rating for White children.

Legal Vignette. To measure legally relevant decision-making, participants were presented with a synopsis of a simulated criminal court trial[1] (similar to Bottoms et al., 2004; Higgins et al., 2007). Participants were told that a child has accused their coach of physical abuse. Basic information was provided about the child such that the child is 7 years[2] old, resides in the UK with their mother and father (as participants resided in the UK), and plays on a sports team. The child's race was also stated, with half of the participants assigned to a condition with a Black child and half to a condition with a White child. Aside from manipulating the race of the child, details were identical across conditions. A summary of the case details was provided to participants, stating that the child has alleged that their coach would physically hurt them when they would not perform well, yet the coach has denied the allegations, stating that the child is fabricating the story to remove the coach from the team. Participants were then told to imagine that this case was being argued in court and they were sitting on the jury. This case description was artificially constructed for the purpose of this study.

After reading the trial description, participants were asked the likelihood that the child's testimony was honest on a scale from 1 to 11, with higher scores depicting a greater likelihood that the child's testimony was truthful. Participants were also asked to report whether they would render a guilty or not guilty verdict for the coach if they were a jury member in the courtroom. After these questions, participants were given a manipulation check in which they were asked to select the race of the child in the case description (Black or White). Participants who could not accurately recall the child's race were excluded ($n = 24$).

Procedure

The present study was pre-registered on As Predicted [https://aspredicted.org/GM3_K44] and conducted online via Prolific (www.prolific.co). Participants first provided informed consent. The order of the IAT and the self-report honesty ratings from child photos were counterbalanced across participants. Half of the participants completed the implicit honesty measure (IAT) first followed by the self-reported honesty measure, and the other half completed the self-reported honesty measure first followed by the implicit honesty measure. All participants then completed the legal vignette and then provided demographic information. Participants were debriefed by detailing the purpose of the study and meaning of implicit racial biases.

Results

Analytic Plan

Preliminary analyses were conducted to examine whether there were significant order effects (block order in the IAT and task order in the implicit and explicit measures). Participants' responses were not significantly affected by IAT block order ($p > .080$) or task order of the implicit and explicit measure (ps $> .456$); therefore, order variables were not included in the final models. We first present our focal models that examined whether implicit and explicit honesty perceptions or legal decision-making differed as a function of child race. We then examined whether our primary variables of interest differed across participant age and gender. Lastly, we explored how implicit and explicit reports predicted responses to the legal vignette and how these models were affected by including participant age and gender as covariates in the model. In analyses that included implicit bias as a predictor, we included explicit honesty ratings (from the child photos) as a covariate to examine whether implicit honesty scores provided unique predictive value beyond one's self-reported honesty perceptions. Refer to Table 1 in supplemental materials for the correlation matrix across all primary variables of interest.

Honesty IAT scores (D)

Participants' average D score in the IAT was 0.47 (SD = 0.38), and this was significantly greater than zero, $t (374) = 24.36$, $p < .001$, $d = 1.24$, demonstrating an implicit racial bias to associate White children more strongly with honest words compared to Black children. An ANOVA was conducted on D scores with age group (younger vs. older adults) and gender (women vs. men) entered as predictors. There was a significant effect of age group, $F (1, 369) = 15.66$, $p < .001$, $\eta_p^2 = .041$, where older adults showed a greater implicit racial bias ($M = .55$, SD = 0.39, 95% CI [.49, .61]) compared to younger adults ($M = 0.39$, SD = 0.34, 95% CI [.34, .44]). There was no significant effect of gender, $F (1, 369) = .076$, $p = .782$, $\eta_p^2 < .001$.

Self-Reported Honesty Ratings

Next, we conducted a paired samples t test to examine if participants provided different honesty ratings to White and Black children when asked explicitly. In contrast to our implicit measure, participants explicitly rated Black children as more honest ($M = 4.60$, SD = 1.37) than White children ($M = 3.90$, SD = 1.43), $t (374) = 10.03$, $p < .001$, $d = .52$. A mixed measures ANOVA was then conducted to examine whether participant age and gender predicted self-reported honesty ratings. Women provided higher honesty ratings to children overall ($M = 4.40$, SD = 1.39) compared to men ($M = 4.07$, SD = 1.39), $F (1, 369) = 7.26$, $p = .007$, $\eta_p^2 = .019$. Older adults also provided higher honesty ratings to children

overall ($M = 4.42$, SD $= 1.38$) compared to younger adults ($M = 4.06$, SD $= 1.38$), $F (1, 369) = 8.99$, $p = .003$, $\eta_p^2 = .024$). However, this effect of age group interacted with child race, $F (1, 369) = 8.62$, $p = .004$, $\eta_p^2 = .023$. Both younger adults, $F (1, 182) = 72.97$, $p < .001$, $\eta_p^2 = .286$, and older adults, $F (1, 187) = 29.19$, $p < .001$, $\eta_p^2 = .135$, rated Black children as more honest than White children but this effect was greater among younger adults. The mean honesty ratings to children are as follows: younger adults ($M_{black\ children} = 4.52$, SD $= 1.30$, $M_{white\ children} = 3.61$, SD $= 1.46$), older adults ($M_{black\ children} = 4.67$, SD $= 1.43$, $M_{white\ children} = 4.18$, SD $= 1.34$). See Figure 1 in supplemental materials for a visual depiction of these results.

Legal Vignette

Honesty of legal testimony. An independent samples t test was conducted to examine whether the perceived honesty of a child victim's testimony differed as a function of race condition (reading about a White vs. Black child's testimony). Participants who read about a Black child victim rated the child's testimony as significantly more honest ($M = 7.94$, SD $= 1.94$) compared to those who read a White child victim's testimony ($M = 7.39$, SD $= 2.23$), $t (373) = 2.52$, $p = .012$, $d = .26$. We then examined how participant age and gender predicted honesty ratings. The effect of participant age group again interacted with race condition, $F (1, 365) = 4.36$, $p = .038$, $\eta_p^2 = .012$. In the Black child condition, younger adults gave higher honesty ratings ($M = 8.39$, SD $= 1.85$) compared to older adults ($M = 7.57$, SD $= 1.94$), $F (1, 177) = 8.63$, $p = .004$, $\eta_p^2 = .046$. There was no significant effect of participant

age in the White child condition ($p = .830$, $\eta_p^2 < .001$). There was also a significant main effect of participant gender, $F (1, 365) = 11.02$, $< .001$, $\eta_p^2 = .029$, where women, overall, gave higher honesty ratings to the child's testimony ($M = 8.01$, SD $= 2.13$) compared to men ($M = 7.30$, SD $= 2.02$). The effect of race condition predicting honesty ratings remained significant when controlling for participant age and gender, $F (1, 369) = 7.07$, $p = .008$, $\eta_p^2 = .029$.

A linear regression was then performed to examine whether one's implicit bias (D score from the IAT) predicted honesty ratings of the child's testimony. Condition (0 = White child; 1 = Black child), D scores, and the condition by D scores interaction were included as predictors of honesty ratings. Unstandardized betas are reported. Together, these variables significantly predicted honesty ratings, $R^2 = .169$, $F (3, 371) = 3.65$, $p = .013$; however, only the condition variable emerged as a unique predictor, $b = .885$, $t = 2.53$, $p = .012$, where higher honesty ratings were given to a Black child's testimony compared to a White child's testimony. See Table 1 in Supplemental Materials for correlations between implicit bias and honesty ratings in each condition.

Verdict. Participants who read about a Black child victim were significantly more likely to render a guilty verdict for the coach (79%) compared to participants who read about a White child victim (69%), $\chi^2 (1, 375) = 5.06$, $p = .025$, odds ratio (OR) = 1.71. A logistic regression was conducted to examine whether participant age and gender predicted verdict (0 = not guilty; 1 = guilty). There was a significant age by race condition interaction ($B = -2.24$, Wald = 13.31, $p < .001$, OR = 9.35). In the Black child condition, younger adults rendered
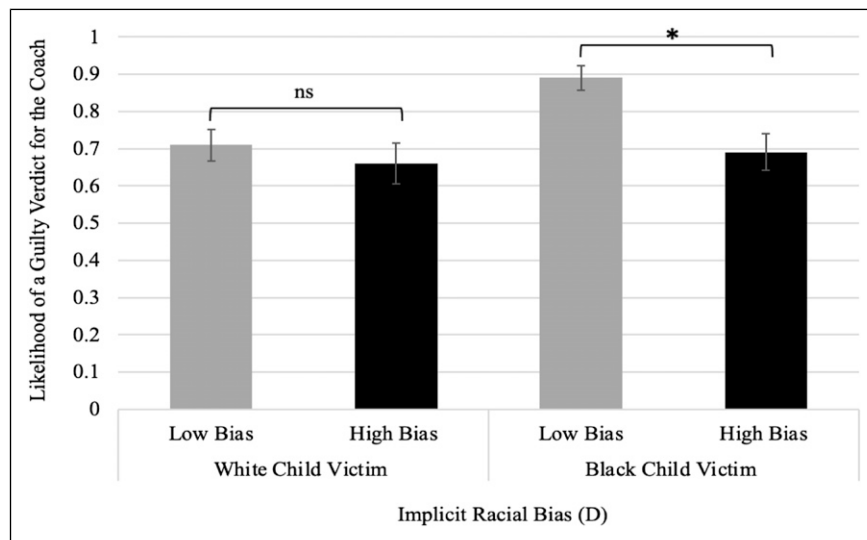

Figure 1. The likelihood of rendering a guilty verdict for the coach by low and high implicit racial bias. *Note.* Implicit bias scores were split into low bias (below the median of .532) and high bias (above the median of .532) for the purpose of visualization (IAT scores were used as a continuous variable in all analyses). Thus, the high bias group depicts participants with a stronger implicit bias to trust White children over Black children. Verdict was dichotomously coded (0 = not guilty; 1 = guilty); therefore, a greater score on the y-axis represents a greater likelihood of convicting the coach of abusing the child. Error bars = SE of the mean. *$p < .05$.

more guilty verdicts for the coach (94%) compared to older adults (67%), $B = -2.10$, Wald $= 16.21$, $p < .001$, OR $= 8.13$. This age effect was not significant in the White child condition ($p = .671$). There was also a main effect of gender, B $= 1.12$, Wald $= 19.39$, $p < .001$, OR $= 3.06$, where women rendered more guilty verdicts overall (84%) than men (64%). The effect of race condition remained significant when controlling for participant age and gender, $B = .616$, Wald $= 5.98$, $p = .014$, OR $= 1.85$.

Next, a logistic regression examined whether implicit bias (D scores) predicted the verdict given to the coach. Condition (0 = White child; 1 = Black child), D scores, and the interaction were entered as predictors of verdict (0 = not guilty; 1 = guilty). The overall model was significant, $\chi^2 (3, 375) = 22.42$, $p < .001$, and the race condition by D scores interaction was significant, $B = -1.89$, Wald $= 7.10$, $p = .008$, odds ratio $= 6.66$. As such, separate logistic regressions were conducted in each condition. Implicit bias did not significantly predict verdicts in the White child condition, $\chi^2 (1, 193) = .497$, $p = .481$, but implicit bias did predict verdicts in the Black child condition, $\chi^2 (1, 182) = 16.83$, $p < .001$, $B = -2.17$, Wald $= 14.50$, OR $= 8.85$. Specifically, for every 1 unit increase in racial bias, the odds of convicting the Black child's alleged abuser were 8.85 times lower (See Figure 1). This effect of implicit bias on verdict remained significant when controlling for self-reported honesty ratings (from the photos of Black children), age group, and gender, $\chi^2 (4, 182) = 41.07$, $p < .001$, $b = -1.35$, Wald $= 5.03$, $p = .025$, OR $= 3.88$, demonstrating the unique predictive value of implicit bias above and beyond one's self-reported bias. Self-reported (explicit) honesty ratings (from the photos) did not uniquely predict verdicts, $b = .240$, Wald $= 2.71$, $p = .100$.

Mediation Analysis. Given that, in the Black child victim condition, implicit bias was related to both honesty testimony ratings and verdict (see Table 1 in supplemental materials), we tested a final mediation model to explore whether self-reported honesty testimony ratings mediated the relation between implicit bias and verdict. Of note, this analysis was not preregistered, but was an analysis that we conducted given the observed results. For participants in the Black child victim condition, we analyzed the direct effect (implicit bias predicting verdict while controlling for honesty ratings of the child's testimony), and the indirect effect (implicit bias predicting verdict through honesty ratings of the child's testimony). A significant indirect effect suggests that differences in implicit bias significantly predicted verdicts *through* reports of how honest the child's testimony was. The Process macro for SPSS was used to test the indirect effect. Unstandardized slope coefficients are reported. This analysis revealed a significant indirect effect, $b = -.872$, 95% BCa CI $[-1.91, -.151]$. However, the direct effect of implicit bias on verdicts (controlling for honesty ratings) remained significant in the model, $b = -2.13$, $p = .002$, 95% CI $[-3.48, -.771]$, suggesting a partial mediation (as the bootstrapped confidence interval in the indirect effect did not include zero). See Figure 2 for a visual depiction of the mediation model.

Discussion

The current study examined adults' implicit and explicit perceptions of how honest White and Black children are and whether these perceptions predicted legally relevant decisions when reading about a simulated child abuse case with either a White or Black child victim. Adults were implicitly biased to associate dishonesty more strongly with Black children over White children. We also found that a greater implicit racial bias predicted a lower conviction rate for the Black child's alleged abuser. Yet, when asked explicitly, participants rated Black children as more honest than White children, suggesting a divergence in racial attitudes across implicit and explicit measures.

Implicit Bias and Legal Decision Making

Consistent with our first hypothesis, we found that adults implicitly associated honesty more with White children than with Black children. These results extend previous work demonstrating harmful implicit racial biases that associate Black people with weapons (Todd et al., 2016), and guilt
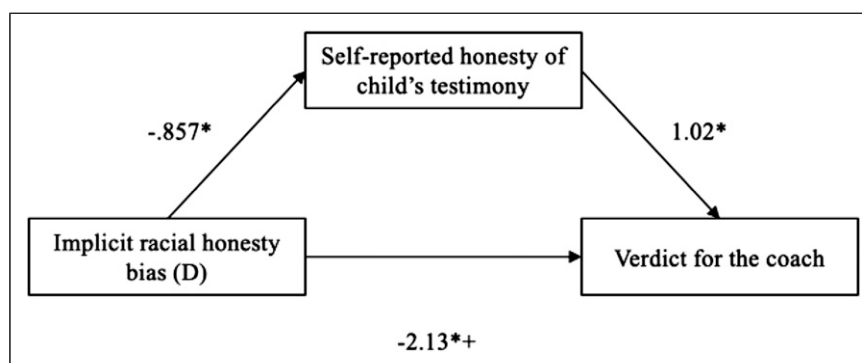

Figure 2. Unstandardized slope coefficients for paths a, b, and c' depicting a partial mediation. *Note.* *$p < .05$; +depicts the direct effect (c' path).

(Levinson et al., 2010), suggesting that Black children may also be implicitly viewed as more deceitful. Goff et al. (2014) reported that Black children were perceived as less innocent than White children, and that a greater implicit racial bias (measured through a dehumanization IAT) predicted greater culpability assessments and use of police force against Black children. Considering these results, Black children may face unique barriers when testifying in the legal system because jurors may perceive Black child witnesses to be less innocent, more responsible for their actions, and less honest than White children. Though jurors are instructed to be unbiased when evaluating a case, the more subtle and automatic nature of implicit attitudes suggests that implicit biases can remain and play an active role in the courtroom (Kang et al., 2012). Thus, an important next step for this research is to study how to reduce implicit racial bias to ensure children of color are treated justly within the legal system.

We also found that older adults held a stronger implicit racial bias compared to younger adults. These results align with literature demonstrating increased implicit bias with advancing age (Gonsalkorale et al., 2009; Hummert et al., 2002; Levy, 1996; von Hippel et al., 2000). Thus, older adult jurors may face greater difficulty in cognitively suppressing automatic social associations and biases. Research on strategies to manage these inhibitory deficits with advancing age will be particularly important for understanding how to reduce implicit bias.

Given the presence of this implicit racial bias, it is then important to determine whether bias predicts legally relevant decisions. Implicit bias only predicted (simulated) legal decision-making when the case involved a Black (vs. White) child abuse victim. We found that a greater implicit racial bias predicted fewer convictions for the Black child's alleged abuser. We also found that self-reported perceived honesty of the child's testimony partially mediated the relation between implicit bias and verdict. This suggests that a greater implicit racial bias predicted fewer guilty verdicts for the Black child's alleged abuser, in part, because this implicit bias resulted in lower self-reported trust in the child. Or, in the alternative direction, participants with a low implicit racial bias were more likely to convict the alleged abuser, in part, because the lower implicit bias resulted in greater self-reported trust in the Black child. Indeed, viewing Figure 1, there may be an "overcorrection concern" where participants with low implicit racial bias *overcorrected* to ensure that they did not respond in a harmful way to Black children, thereby producing more guilty verdicts for the Black child's coach. These results, regardless of the pattern, are concerning as they suggest that adults hold implicit honesty biases that may affect how they appraise case details and render verdicts. The fact that perceived honesty of the child only partially mediated the relation between implicit bias and verdict was not surprising as perceptions of honesty are merely one of many factors that play a role in case verdicts. As we used a simulated trial summary and there are

many factors that can interplay in complex ways to contribute to case outcomes and verdicts, future research with more ecologically valid stimuli is needed to examine how these honesty perceptions contribute to real-world legal decisions. The present results provide only a first step in understanding implicit racial honesty biases and how these may contribute to decision-making in an experimental paradigm.

We also found that women (in both conditions) and younger adults (in the Black child condition) rendered more guilty verdicts compared to men and older adults. These gender effects are consistent with past research where women tend to be more pro-victim in abuse scenarios than men, perhaps because of greater empathy towards victims and children in particular (Bottoms & Goodman, 1994; Bottoms et al., 2004; Quas et al., 2002). The age effect presents a concerning pattern as older adults were shown to hold a stronger implicit racial bias *and* were less likely to find the coach guilty than younger adults, but only when the abuse was alleged by a Black child victim. Together, these results help to demonstrate how legal decisions can also differ by perceiver gender and age, contributing to research on how individual jury members may differ in their legal decision-making (e.g., Bala et al., 2005; Bottoms & Goodman, 1994; Bottoms et al., 2004; Bottoms et al., 2007; Quas et al., 2002). In sum, these results regarding implicit racial bias provide novel evidence that perceptions of child witness honesty differ as a function of the child's race, and that there is unique value in studying implicit biases to predict legal decisions. Considering that the literature on perceptions of child witnesses has almost exclusively examined these patterns at the explicit level (e.g., Bala et al., 2005; Connolly et al., 2008; Masip et al., 2004; Ross et al., 2003), this study underscores the need to further extend this research to implicit perceptions.

Self-Reports of Honesty and Legal Decision Making

In contrast to the pattern of implicit bias, participants did not rate White children as more honest than Black children on the explicit measures. Younger adults rated Black children as more honest than White children across both explicit measures (consistent with adult stimuli in Lloyd et al., 2017). Notably, this means that the effect was found both within-subjects (as participants rated both Black and White child photos) and between-subjects (as participants were assigned to read either a Black or White child victim's testimony). For older adults, they rated Black children as more honest than White children when viewing the photos (within-subjects) but rated Black and White children similarly when assessing the honesty of a child's testimony (between-subjects). Honesty perceptions were positively correlated with the level of trust placed in a Black child's testimony, but it did not uniquely predict case verdicts, while implicit bias did.

Though these implicit and explicit patterns seem at odds with one another, there are several explanations for why this may have occurred. First and foremost, it is possible that, given the recent social emphasis on racial inequality (e.g., the Black Lives Matter movement), participants may have been

particularly motivated to *not* report holding racist beliefs towards Black children. Indeed, Sawyer and Gampa (2018) studied racism before and during the Black Lives Matter movement, finding that White participants' bias to prefer White over Black people (as measured on a preference scale) decreased slightly during the Black Lives Matter movement compared to before the movement. As such, it is possible that social desirability biases on the self-report measures were particularly strong in our current social climate. Considering that adults did show a racial bias against Black children on the implicit measure, this supports this notion.

In light of this finding on the implicit measure, a second potential explanation is that completing the IAT primed participants to think about and want to conceal or overcome their racial biases on the self-report. In our study, half of the participants completed the IAT first, and the other half completed the self-report (from child photos) first, allowing us to directly test this possibility. Yet, we found that participants rated Black children as more honest than White children regardless of task order. Thus, it appears that completing the IAT itself did not prompt participants to report Black children as more honest than White children. Promisingly, our explicit results also align with research by Lloyd et al. (2017) who used a different study design, helping to show that this effect is unlikely purely because of methodological carry-over effects.

A third and final possibility is that adults simply did perceive Black children to be more honest than White children when given the opportunity to reflect upon their beliefs. Considering the historic challenges that Black people have faced in relation to policing and crime (Abrams et al., 2021; Jones-Brown & Williams, 2021; Levinson et al., 2010; Levy et al., 1998; Rattan et al., 2012; Todd et al., 2016), adults may feel particular empathy towards Black children in this context (or believe that Black children would be more likely to be abused), thereby rating their testimony more favorably than White children. As the implicit results presented the opposite bias, adults may still hold more nuanced or subtle racial biases against Black children. This aligns with modern racism theory that posits that when explicit bias is considered unacceptable, prejudice will still be expressed, but in subtle forms (Bottoms et al., 2004; McConahay, 1986; Twenge et al., 2015). Future research that collects implicit and explicit measures at separate times, or studies where the overall study aim is less apparent to participants may help us understand further the similarity or dissimilarity in implicit and explicit racial honesty biases.

However, it is also important to remember that greater implicit bias did still uniquely predict more negative trial outcomes for a Black child victim when accounting for this self-reported "pro-Black child" bias, suggesting that negative implications from this implicit bias remain active in decision-making despite this not showing on the self-report. Moreover, when implicit and explicit scores were both included in the same model to predict case verdict, implicit bias was a significant predictor while one's self-report was not, pointing to the greater predictive value of the implicit over the explicit measure.

Limitations

There are several important limitations when drawing conclusions from the present results. An overarching consideration for this study is that although implicit bias did differ by child race and predicted legally relevant decisions, the legal vignette was simulated, simplified, and cannot capture the full complexity of abuse cases that go to trial (e.g., Stolzenberg & Lyon, 2014). Our investigation focused on the role of honesty specifically, but the results may change when considered in the context of additional case details. As overall credibility assessments of witnesses are informed by perceptions of both honesty and cognitive competence (Ross et al., 2003), exploring racial differences in implicit and explicit perceptions of cognitive competence could complement and extend the present results. In addition, in our legal vignette, we tried to enhance the salience of the child's race by indicating the race of the child without disclosing the child's gender or the coach's gender or race. Therefore, the pattern of results may differ when participants are told greater detail about the child and adult, or indeed can *see* the people in the courtroom. This will be an interesting question to explore in future research.

Manipulating the age of the children may also affect the pattern of results, as self-reported assessments of child witnesses can vary with child age (Bottoms et al., 2004, 2007; Leippe & Romanczyk, 1989; Nunez et al., 2011). The child photos used in the IAT and the self-reported honesty task depicted children from 4-to 5-years of age; however, the legal vignette was localized to a 7 year-old child. Thus, results may change if these ages are modified; however, the bias on the IAT did predict legal decisions in the vignette despite the age difference in children across these measures. It is also important to note that some of our statistically significant correlations and regressions nevertheless had small effect sizes; this must be considered when interpreting the magnitude of these effects.

The present results are also localized to a simulated case of child physical abuse. A logical next step is to examine whether similar implicit and explicit honesty perceptions are present in other legal scenarios (e.g., sexual abuse or when the child is being accused of a crime). Considering the harmful racial stereotypes that associate Black people with crime (Levinson et al., 2010; Todd et al., 2016; Goff et al., 2014), implicit racial biases may be even stronger when Black children are accused of a crime instead of being the victim, but research is needed to test this possibility. As the legal vignette was always the last task in the study, responses may have been affected by the prior implicit and self-report measures. Future research that counterbalances the order of all tasks can help to confirm whether any of our results were an effect of task order.

Lastly, an important consideration is that the majority of the sample was White. As racial biases and stereotypes can differ across in-groups and out-groups (Allport et al., 1954; Bottoms et al., 2004; Schneider, 2004), it will be important to test these effects on a more racially diverse sample. Similarly, while the present results inform research on racial biases towards Black and White children, future work can examine whether these biases exist for children from various racial groups, increasing the generalizability of these findings.

Implications

The results of the present study suggest that adults' perceptions of honesty vary by child race, and this may play a role in how a child's report is perceived, such as when testifying in the legal system. Concerningly, the present results suggest that implicit racial bias may contribute to negative experiences for Black children where they may not be granted the same assumptions of honesty that White children are granted. As this pattern was primarily found in the implicit measure, legal-psychological research that only assesses perceptions of child witnesses from self-reports may not be able to capture these potentially harmful racial biases. From explicit reports, men were less likely to convict the coach compared to women (regardless of child race); therefore, it will be important to ensure that both men and women are educated on children's disclosures and experience with abuse to reduce such gender biases. Older adults held stronger implicit racial biases and were less likely to convict the coach compared to younger adults, but only when the child was Black. Implicit and explicit racial bias may contribute to the mistreatment or dismissal of Black children's disclosures and place them at further risk of abuse; therefore, it is important to reduce such racial bias, particularly among older adults. Laboratory research has found that implicit biases can, at least in the short-term, be changed by increasing exposure to positive portrayals of a social group or by presenting counter-stereotypical examples to try and reduce the strength of a given stereotype (e.g., Ferguson et al., 2019; Mann et al., 2019). Within a courtroom specifically, it has been suggested that judges and jurors can take an IAT to learn about their own implicit biases and receive education on how these biases may influence their social perceptions (Kang et al., 2012). Therefore, from the present study, it may be important for those involved in the criminal justice system to take a child race IAT and to learn how to mitigate the influence of this bias in their decision-making, to ensure all children's disclosures are treated equally.

Conclusion

The present study found that younger and older adults were implicitly biased to associate honesty more strongly with White children over Black children, and a lower implicit bias predicted a greater conviction rate when abuse was alleged by a Black child. Yet, when asked explicitly, Black children were rated as more honest than White children, though this explicit measure did not uniquely predict case verdicts. These results suggest that implicit measures may capture more subtle racial biases that participants do not provide in self-reports. We hope that these results raise awareness of the harms of implicit racial bias and contribute to research dedicated to reducing and overcoming racial bias to ensure children of all races are treated justly within the legal system.

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Supplemental Material

Supplemental material for this article is available online.

Note

1. The legal vignette is available in supplemental materials.
2. Prior research examining child abuse cases that went to trial found the youngest child witness to be 6 years of age (Stolzenberg & Lyon, 2014). Therefore, we selected 7 as our witness age to ensure the case description seemed realistic and in line with cases that typically go to trial while minimizing the age difference between the vignette and the photos from the self-report measure.

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