

Racial Bias in Mock Juror Decision-Making: A Meta-Analytic Review of Defendant Treatment

Tara L. Mitchell,^{1,5} Ryann M. Haw,² Jeffrey E. Pfeifer,³
and Christian A. Meissner⁴

*Common wisdom seems to suggest that racial bias, defined as disparate treatment of minority defendants, exists in jury decision-making, with Black defendants being treated more harshly by jurors than White defendants. The empirical research, however, is inconsistent—some studies show racial bias while others do not. Two previous meta-analyses have found conflicting results regarding the existence of racial bias in juror decision-making (Mazzella & Feingold, 1994, *Journal of Applied Social Psychology*, 24, 1315–1344; Sweeney & Haney, 1992, *Behavioral Sciences and the Law*, 10, 179–195). This research takes a meta-analytic approach to further investigate the inconsistencies within the empirical literature on racial bias in juror decision-making by defining racial bias as disparate treatment of racial out-groups (rather than focusing upon the minority group alone). Our results suggest that a small, yet significant, effect of racial bias in decision-making is present across studies, but that the effect becomes more pronounced when certain moderators are considered. The state of the research will be discussed in light of these findings.*

KEY WORDS: racial bias; juror decision-making; meta-analysis.

It is evident from a review of the literature that minority groups experience a distinct disadvantage with regard to the American criminal justice system. For example, according to a recent report by Human Rights Watch (2000), Black male drug users are 13 times more likely than White male drug users to be sentenced to jail, even though the estimated drug usage rates are equivalent for the two groups. Although researchers tend to agree that these statistics clearly demonstrate the disparate treatment that minority group individuals suffer within the legal system (see e.g., Sommers & Ellsworth, 2001), there is far less agreement over the exact cause

¹Lock Haven University.

²Big Bend Community College.

³University of Regina.

⁴University of Texas of El Paso.

⁵To whom correspondence should be addressed at Department of Psychology, Lock Haven University, Lock Haven, PA, 17745; e-mail: tmitchel@lhup.edu.

for this disparity, especially given the numerous and varied decision points throughout the system including: a police officer's decision to arrest, a prosecutor's decision to charge, a prosecutor's decision to offer a plea, a jury's verdict, and the sentence imposed by a judge.

A number of archival studies have illustrated that minority defendants (particularly Black defendants) are given longer sentences, and sentenced to the death penalty more often, than White defendants (Austin & Allen, 2000; Mustard, 2001; Williams & Holcomb, 2001). Austin and Allen (2000), for example, examined the number of defendants committed to the Pennsylvania Department of Corrections between 1991 and 1995 in relation to the number arrested between 1990 and 1994 (allowing for a 1-year time lag in arrest and commitment/sentence). They sought to examine whether the disparate ratio of minorities to Whites in the Pennsylvania prison system was due to differential commitment of crimes or to racial discrimination within the justice system. Using arrest rate as a proxy for rate of crime commission, the authors found that the arrest rate explained only 43% of the disproportionality in commitment rate, and suggested that race was influencing the likelihood that a defendant would be convicted and sentenced to the prison system. Drug offenses were a large part of this disproportionality, however, as the arrest rate explained 70% of the disproportionality in commitment rate when drug offense decisions were excluded from the analysis. Mustard (2001) conducted a similar analysis of 77,256 defendants sentenced in federal courts under the United States Sentencing Commission Guidelines. He found that Black and Hispanic defendants were given longer sentences than White defendants, even after controlling for crime seriousness. The majority of these effects were confined, however, to those cases in which judges departed from the federal guidelines—as might have been expected, there was less discrepancy in cases where judges followed the guidelines. Baldus and his colleagues (Baldus, Pulaski, & Woodworth, 1983; Baldus, Woodworth, Grosso, & Christ, 2002; Baldus, Woodworth, Zuckerman, Weiner, & Broffitt, 1998) have conducted several archival studies including thousands of capital cases within various locales, including Georgia, Nebraska, and Philadelphia. They have found that defendant race influences death sentences, with Black defendants four times more likely to receive the death penalty than White defendants (Baldus et al., 1998). They have also found that defendant and victim race interact, such that Black defendants are given much longer sentences than White defendants when the victim is White (Baldus et al., 1983; Baldus et al., 2002). It is important to note, however, that a handful of studies have not found a main effect for defendant race. Williams and Holcomb (2001), for example, found that defendant race did not predict death sentences in Ohio between 1981 and 1994, even when the sample of cases was restricted to homicides with felony circumstances.

Citing the above significant findings as evidence, a number of researchers have argued that it is clear that there is discriminatory treatment within the justice system (e.g., Alexander & Gyamerah, 1997). Despite the variety of decision points in which disparate treatment could occur, it may be argued that no other area has been empirically investigated as often as that of jury decision making (Pfeifer, 1990). This supposition has led to a significant amount of empirical research on the decision-making of "mock" jurors. Results from a number of these studies have indicated that Black

defendants are treated significantly more harshly than White defendants, especially in cases involving murder or rape (for a review of this research, see Sommers & Ellsworth, 2001). In contrast, some studies have found a reverse effect, with White defendants being treated more harshly than Black defendants (see Poulson, 1990), leading to some confusion over the issue of race as it relates to mock juror decision-making. Furthermore, a handful of studies and archival research have found that defendant race did not influence juror decision-making (e.g., Pfeifer & Ogloff, 1991; Williams & Holcomb, 2001).

In an attempt to summarize and clarify the racial bias literature, two meta-analyses have previously been conducted (Mazzella & Feingold, 1994; Sweeney & Haney, 1992). While both of these meta-analyses sought to synthesize the empirical literature on racial bias in jury decision-making, each resulted in a different conclusion regarding the state of the field. The Sweeney and Haney (1992) meta-analysis included 14 studies, with 19 effect sizes, involving 2,836 participants. The analysis focused on racial bias, defined as the disparate treatment of Black defendants, in *sentencing decisions* made by White mock juror participants. The authors found a small, but significant, effect of racial bias ($d = .17$) across studies, indicating that the White participants were more likely to give Black defendants longer sentences than White defendants. Sweeney and Haney (1992) also investigated the potential influence of several moderator variables including: the year the study was published; the region the study was conducted in (South v. not South); the type of crime (rape v. not rape); the type of sample (student v. community); the method of conveying defendant race (pictures v. words); whether the study specifically mentioned the participants' race; and whether the victim's race was specified. Participant race and victim race moderated the racial bias effect, such that studies specifying the race of the participants and those specifying the race of the victim produced larger effect sizes than those that did not specify these details.

A second meta-analysis conducted by Mazzella and Feingold (1994) involved a much broader investigation of extralegal factors that could influence juror decisions. In addition to race, these authors also examined physical attractiveness, socioeconomic status, and gender of the defendant and victim. For purposes of the present analysis, however, we will focus on the influence of race in the Mazzella and Feingold meta-analysis. It is important to note that the implicit definition of racial bias relied upon by the authors appears to have been disparate treatment of the minority (Black) defendant. The analysis included 29 studies, with 63 effect sizes, involving 6,709 participants. Unlike the Sweeney and Haney (1992) meta-analysis, Mazzella and Feingold included studies that involved Black participant jurors and an analysis of verdict decisions. Overall, the authors did not find a significant effect of racial bias on either *judgments of guilt* ($d = .01$, $k = 21$, $N = 3,486$) or *sentencing decisions* ($d = .06$, $k = 27$, $N = 4,045$). Despite these non-significant effect sizes, the authors found significant heterogeneity of effect sizes across studies indicating that certain variables might be moderating the effect. Mazzella and Feingold's moderator analysis indicated that crime type played a significant role in decision-making, such that Black defendants were given longer sentences for crimes of negligent homicide, while White defendants were given longer sentences for crimes of fraud. Mazzella and Feingold also found that, although victim race influenced

sentencing decisions (i.e., defendants were given longer sentences for crimes against White victims than crimes against Black victims), it did not influence guilt decisions.

In the decade following the publication of these two meta-analyses, researchers have further investigated the existence of racial bias, as well as the degree to which the effect may be moderated by certain variables that were not accounted for in previous research. For example, one prominent criticism of early jury decision-making studies is that they were generally low in ecological validity, that is, such studies often employed student populations (rather than community members), provided continuous scale guilt responses (rather than dichotomous verdict choices), and frequently failed to inform mock jurors of the relevant legal instructions prior to rendering a verdict (Pfeifer, 1990). Some researchers have argued that mock jurors will show racial bias only in ambiguous situations, and that such situations exist when mock jurors are not instructed on relevant legal standards (see e.g., Pfeifer & Bernstein, 2003; Pfeifer & Ogloff, 1991, 2003; Stephan & Stephan, 1986). Additionally, continuous guilt measures are often used to maximize power in detecting an effect, and some researchers have questioned whether a practically-significant effect of racial bias might be observed when a dichotomous verdict decision is employed (see Pfeifer, 1990). Taken together, such arguments lead to the hypothesis that the racial bias effect seen in juror decision-making studies may not be evidenced when more ecological methods are utilized. This supposition is an important one within the context of the current analysis, given that previous meta-analyses did not examine the possibility that certain legally relevant variables could moderate the racial bias effect.

As noted above, the two previous meta-analyses appeared to define racial bias as the disparate treatment of a minority defendant (typically a Black defendant). As such, these studies restricted analysis to consideration of the disparate treatment of a Black defendant by *all participants*, regardless of race or ethnicity. Sweeney and Haney (1992), for example, excluded the responses of Black participants, when they were separable from responses of non-Black participants, because they felt that Black participants would not sentence same-race defendants more harshly. While Mazzella and Feingold (1994) included the responses of Black participants, they did not analyze the data separately based on the race of the participant. It may be argued, however, that an alternative definition of racial bias may be more appropriate for understanding the treatment of defendants, especially if that definition revolves around the disparate treatment of members of a racial out-group. Such a definition allows for the possibility that Black participants will provide disparate treatment towards White defendants just as White participants will provide disparate treatment towards Black defendants. However, this definition can only be applied when the responses from members of differing racial groups are analyzed separately.

The current meta-analysis, therefore, attempts to resolve inconsistencies within the racial bias literature by examining research on juror decision-making in which the race of the defendant was manipulated. In contrast to previous meta-analyses, racial bias is defined here as a juror's disparate treatment of a defendant from a racial out-group, when compared with a defendant of the juror's own-race, in

verdict and sentencing decisions. Additionally, this meta-analysis sought to examine the influence of several legally-relevant moderator variables on the racial bias effect. It was expected that the meta-analysis would demonstrate a reliable effect of racial bias on both verdict and sentencing decisions. It was also expected that the racial bias effect would be moderated by several key variables related to the ecological validity of the studies. Of particular interest were variables that related to legal procedure, such as the presence of instructions and the use of a continuous v. dichotomous guilt measure. In addition, several other methodological variables were considered, including the race of the participant, the type of sample (students v. community members), and the date and status of the manuscript.

METHOD

Studies

Manuscripts were located through a number of sources, including: (a) searching the PsychINFO, Sociological Abstracts, National Criminal Justice Reference Services Abstracts, and Dissertation Abstracts computer databases using the search terms “racial bias,” “race and defendant,” and “race and jury”; (b) cross-referencing studies in the two previous meta-analyses (Mazzella & Feingold, 1994; Sweeney & Haney, 1992); and (c) contacting researchers in the field who may have had knowledge of unpublished literature. A total of 46 independent effect sizes from 34 studies, representing the responses of 7,397 participants, were located for the analysis of racial bias on juror verdict decisions. Sixteen studies, representing 20 independent effect sizes and 3,141 participants, were identified for the analysis of racial bias on sentencing decisions.

Inclusion/Exclusion Criteria

To be included in the sample, each study had to meet the following criteria: (1) the study had to involve an experimental manipulation of the race of the defendant; (2) the study had to contain enough information to define racial bias as the disparate treatment of a defendant from a racial out-group, such that results from multi-race participant samples were presented separately for each race; and (3) the study had to assess guilt or sentencing in the context of a mock juror simulation. Every effort was made to calculate an exact effect size. The authors of studies that did not report sufficient statistical information for the calculation of an effect size were contacted in order to obtain that information. Those studies that reported non-significant results ($p > .05$) for which we could not calculate an effect size for verdict or sentencing were given an effect size of .00 (Dovidio et al., 1997; Foley & Chamblin, 1982; Foley & Pigott, 2002; Hymes et al., 1993; McGowan & King, 1982; McGuire & Bermant, 1977; Rector & Bagby, 1995; Rector et al., 1993; Sargent & Bradfield, 2004). This approach was used to establish a conservative estimate of the effect of racial bias, although it should be noted that such a procedure weakens the overall effect size (Pigott, 1994). Researchers are encouraged to provide

more complete statistics such that insertion of zero effect sizes in future syntheses is unnecessary.

Coded Variables

Moderator variables were identified based upon three categories of information, namely: variables of theoretical interest; variables that may be sources of distortion, bias, or artifact (e.g., methodological variables); and extrinsic study characteristics (see Lipsey, 1994). Due to the fact that many of our methodological variables were also of theoretical interest, we combined those two categories of information. The methodological/theoretical variables of interest included (a) race of participant (White v. Black participants); (b) type of sample (students v. community members); (c) jury instructions (present v. absent); and (d) type of dependent measure (continuous v. dichotomous scale). Each of these variables had some legal or theoretical relevance. Jury instructions and type of dependent measure, for example, are important elements of the legal system that are not consistently employed in the same manner within mock juror materials. Type of sample is also a possible concern, as the responses of the typical college student employed in many mock juror studies may not generalize to the responses of jurors in real cases who represent a wider range of demographic characteristics (Bornstein, 1999). Race of the participant also has a strong theoretical and legal relevance, as much of social psychological literature points to an ingroup bias, in which individuals favor members of their own group over others, regardless of whether they are a member of the minority or majority group (e.g., Wilder & Shapiro, 1991). Legally, race of the juror can no longer be used as a basis for removing someone from juror service and, as such, the number of minority members on juries appears to be increasing, particularly as many states show a concerted effort to increase the number of minority jury members (Joint State Government Commission, 2003). It is therefore important to determine if minority members show the same racial bias as majority members. We had originally planned on including additional legally and theoretically relevant variables, such as race of the victim and crime type, but were unable to do so due to small sample sizes for these variables. In addition to the methodological/theoretical variables of interest, several extrinsic study characteristics were included such as (e) date of the study and (f) publication status (published v. unpublished).

Measure of Effect Size

We chose an r -based correlation coefficient as our effect size, following the recommendations of Rosenthal (2000) when dealing with samples that include both continuous and dichotomous data. The effect size was recorded based upon an own-race bias in juror decision-making, such that positive effect sizes demonstrate support for the hypothesis of disparate treatment of other-race defendants. Calculation of effect sizes involved the ratio of the exact test statistic (taken from the study) to the exact test statistic summed with the degrees of freedom for continuous data or the ratio of the exact test statistic to the sample size for dichotomous data (see Eqs. 1 and 2 below, respectively). All r 's were then converted to Fisher's z' to control for

skewness in estimating the true population parameter (see Eq. 3 below).

$$r = \text{SQRT}((t^2)/(t^2 + df)) \quad (1)$$

$$r = \text{SQRT}(\chi^2/N) \quad (2)$$

$$z' = 0.5 \times \log^e[(1 + r)/(1 - r)] \quad (3)$$

Finally, to better compare our results with that of the two previous meta-analyses (Mazzella & Feingold, 1994; Sweeney & Haney, 1992), aggregate effect sizes were subsequently converted to Cohen's d effect size (see Eq. 4 below):

$$d = (2 \times r)/(1 - r^2) \quad (4)$$

RESULTS

Racial Bias in Juror Verdicts

Effect sizes were calculated with the hypothesis that mock jurors would exhibit an in-group bias in decision-making, such that individuals would be more lenient on defendants of their own racial group than defendants of another racial group. Thus, a positive effect size indicated disparate treatment of racial out-group members. In testing the racial bias hypothesis in juror verdicts, 34 studies ($k = 46$) met the criteria for inclusion, representing the responses of 7,397 participants. A weighted effect size analysis indicated a small, yet significant, effect of racial bias, $z' = .046$, $d = .092$, $Z = 3.93$, $p < .001$, $N_{fs} = 212$, demonstrating that participants were more likely to render guilt judgments for other-race defendants than for defendants of their own race. The homogeneity test statistic for this sample was significant, $Q = 279.28$, $p < .001$, indicating that the variance of the sample exceeded that expected on the basis of sampling error, and suggesting that a moderator analysis could be performed. Appendix A provides a listing of study characteristics and effect sizes for the sample of studies.

Six moderator variables were identified for the present sample, including race of the participant, sample type, dependent measure scale, presence v. absence of jury instructions, publication status, and date of study. A fixed-effects regression model was used to determine if these potential moderator variables influenced the racial bias effect. The frequency of moderators across studies and results of this analysis are displayed in Table 1. Significant moderator effects were observed for race of participant, type of dependant measure, presence v. absence of instructions, and date of study. The direction of effects indicated that racial bias was more pronounced in the following conditions: for Black participants; when a continuous measure of guilt was utilized; when jury instructions were not provided; and in studies conducted or published in the 1970s.

Table 1. Moderator Analysis for Verdict Decisions

Moderator	<i>Z</i>	<i>k</i>	Level	<i>z'</i>	<i>d</i>
Date of publication	5.25*	6	1970s	0.197	0.404
		7	1980s	0.031	0.062
		13	1990s	-0.032	-0.064
		20	2000s	0.029	0.058
Publication status	0.76	40	Published	0.047	0.094
		6	Unpublished	0.025	0.050
Sample	1.87	7	Community	-0.008	-0.016
		37	Student	0.053	0.106
Instructions	2.53*	26	No Instructions	0.078	0.157
		18	Instructions	0.016	0.032
Race of participant	5.92*	10	Black	0.208	0.428
		36	White	0.014	0.028
Dependent scale	3.14*	18	Continuous	0.075	0.151
		28	Dichotomous	0.017	0.034

* $p \leq .01$.

Racial Bias in Sentencing Judgments

In examining the effect of racial bias on sentencing judgments, 16 studies ($k = 20$) met the criteria for inclusion representing the responses of 3,141 participants. A weighted effect size analysis indicated a significant effect of racial bias, $z' = .092$, $d = .185$, $Z = 5.10$, $p < .001$, $N_{fs} = 25$, demonstrating that participants were more likely to render longer sentences for other-race defendants. However, given the small number of null studies required to invalidate the significant effect of racial bias in sentencing decisions, this effect should be viewed with caution. The homogeneity test statistic for this sample was significant, $Q = 122.81$, $p < .01$, indicating that the variance of the sample exceeded that expected on the basis of sampling error, and suggesting that a moderator analysis could be performed. Appendix B provides a listing of study characteristics and effect sizes for the sample of studies.

A fixed-effects regression model was used to determine if the potential moderator variables discussed previously influenced the racial bias effect in sentencing judgments. The moderator variables and sample characteristics for this analysis included race of the participant, sample type, publication status, and date of study. We did not include instructions as a moderator in this analysis due to the fact that all studies employed standard jury instructions (e.g., burden of proof, case law) rather than sentencing guidelines. The frequency of moderators and results of a fixed-effects regression analysis are displayed in Table 2. Significant moderator effects were observed for race of participant, sample type, and publication status. The direction of effects indicated that racial bias was more pronounced in the following conditions: for Black participants; when community members were participants; and in published studies.

Table 2. Moderator Analyses for Sentencing Decisions

Moderator	Z	k	Level	<i>z'</i>	<i>d</i>
Date of publication	1.46	2	1970s	0.075	0.151
		3	1980s	0.091	0.183
		7	1990s	0.027	0.054
		8	2000s	0.241	0.501
Publication status	2.64*	18	Published	0.103	0.207
		2	Unpublished	-0.009	-0.018
Sample	3.22*	5	Community	0.192	0.394
		15	Student	0.059	0.118
Race of participant	3.38*	3	Black	0.339	0.731
		17	White	0.048	0.096

* $p \leq .01$.

DISCUSSION

The results of this meta-analysis underscore the complexity of racial bias in juror decision-making. Specifically, the analysis of research on this issue indicates a small, but significant, effect for racial bias in both verdict ($d = .092$) and sentencing ($d = .185$) decisions. It is worth noting that, although small, these effects were somewhat larger than those observed in the two previous meta-analyses (Mazzella & Feingold, 1994; Sweeney & Haney, 1992). They are, however, consistent with the Sweeney and Haney (1992) findings regarding sentencing, rather than those of Mazzella and Feingold (1994) in which no racial bias effect was observed. The fail safe N for verdict underscores the reliability of the effect, with over 200 null studies required to eliminate the racial bias effect. Despite the larger effect size, however, the fail safe N for sentencing decisions was only 25, suggesting that the effect may not be robust. Further research involving sentencing decisions appears warranted.

Results also indicated that several moderator variables significantly influenced the size of the racial bias effect. The moderator analysis demonstrated that racial bias in juror verdict decisions was more prominent in Black participants than in White participants, when a continuous measure of guilt was employed (as opposed to a dichotomous "guilty" v. "not guilty" measure), when jury instructions were not provided to jurors prior to a verdict decision, and in studies conducted or published in the 1970s. Consistent with verdict decisions, racial bias in sentencing decisions were also influenced by the race of the participant, such that Black participants showed larger effects than White participants. It is interesting to note that our moderator analysis resulted in a significant effect of participant race similar to that of Sweeney and Haney (1992), in which specification of the participants' race resulted in a larger effect size. Our definition of racial bias, along with the significant effect of participant race, however, suggests that the size of the effect found in Sweeney and Haney (1992) may be due to the fact those "unspecified" participants were showing racial bias towards the White defendants. Thus, the racial bias shown by White

participants was “weakened” by the racial bias shown by other participants, rather than a lack of bias overall.

The race of participant moderator effect is one that deserves careful consideration. On the one hand, only nine of the samples involved Black participants and seven of those nine studies failed to provide instructions and involved continuous guilt measures (conditions that appear to promote the racial bias effect). On the other hand, there is evidence from the social psychological literature that the self-concept of ethnic minorities may be more dependent upon perceptions of race than the self-concept of the ethnic majority. For example, Clark (1985) reported that Black participants’ self-concept was related to their ratings of Blacks, whereas the same relationship was not found with White participants. Grier and Deshpande (2001) further reported that Black participants placed a higher importance on race than did White participants, and that this racial importance predicted consumer decisions. It is possible that group identity may be stronger among minorities than among majority race individuals, making minority jurors more likely to exhibit an own-race bias. Future research should examine this as a possible mediating variable for the racial bias effect.

Practical Significance of Findings

The fact that use of instructions and type of dependent measure influenced the size of the racial bias effect in verdict decisions also deserves some discussion. More specifically, these results underscore the importance of considering the practical significance of the racial bias effect and the limitations of the current research literature before drawing conclusions regarding the effect of racial bias in everyday juror decision-making. One question to consider when reviewing the present findings is whether the effect of racial bias persists when ecologically valid conditions are considered. Examination of the moderating variables in the current study indicates that racial bias does indeed decrease when ecologically relevant procedures are used. More specifically, our results indicated that when a dichotomous guilt scale was used or when standard jury instructions were presented, the effect of racial bias was non-significant ($z' = .017$, $d = .034$, $Z = .93$, and $z' = .016$, $d = .032$, $Z = .83$, respectively). Furthermore, studies that used both a dichotomous guilt scale and standard jury instructions also demonstrated a non-significant effect of racial bias ($d = .040$, $Z = .83$). These findings suggest that the racial bias effect in judgments of guilt may be less pronounced when procedures match those in the real world, as has been suggested by previous researchers (e.g., Pfeifer & Ogloff, 1991).

Despite the above finding, additional empirical research is needed before one may conclude with absolute certainty that racial bias is eliminated with these ecologically relevant procedures, as it is unclear how closely these conditions actually reflect the real world. For example, the studies in this sample provided limited information regarding the instructions employed, frequently referring to them only as “jury instructions.” We interpreted this to indicate instructions on burden of proof, reasonable doubt, and some form of case law. It is unlikely, however, that each study included all of the language provided in standard case law instructions.

Future researchers should be sure to clarify the instructions used and the manner in which they were generated (standard pattern, modified standard pattern, etc.). Also, although actual jurors never provide guilt judgments on a continuous scale, they may be provided with multiple verdict options (first degree murder, second degree murder, manslaughter, etc.). Future research should focus on these variations and more ecologically relevant judgment options in the context of racial bias.

Additionally, it is possible that other variables may increase the likelihood of racial bias. For example, the current analysis indicates that community members tended to demonstrate more racial bias than student samples for sentencing decisions (but not guilt decisions). This finding, however, should be interpreted with caution given that few jurisdictions allow jurors to recommend sentences. The one exception to this involves capital cases, in which jurors make the determination of life or death sentences. It is important to note, however, that only one of the studies included in the current meta-analysis utilized a death penalty decision as a dependent measure (i.e., Dunn, Willis-Esqueda, & Schopp, 2004).

Furthermore, it is important to note that all of the effect sizes calculated for this meta-analysis examined racial bias in *jurors'* decisions (or individual-level analysis) given the limited number of studies using *juries* (or group-level analysis). Therefore, we cannot conclude from the current findings whether racial bias is produced when jurors make decisions as a group. It is possible that the process of deliberation could increase or decrease racial bias. The limited research that has been conducted, for example, suggests that the degree of racial bias may be influenced by the race of the foreperson, with a Black foreperson resulting in less guilt being attributed to Black defendants (see Foley & Pigott, 2002). Further research appears warranted.

Another issue of practical significance regards the manner in which racial bias is defined. The current meta-analysis revised previous definitions to include the disparate treatment of a racial out-group member in order to examine whether racial bias might be present in racial minority juror decisions as well as racial majority juror decisions. As noted above, the current synthesis found that participant race moderated the effect of racial bias such that Black participants were more likely to display racial bias than were White participants. We believe that the examination of multiple racial groups is important for understanding racial bias and should not be overlooked. A growing number of minorities are likely to participate in the legal system as jurors or victims. One in eight people living in the United States (13.3%), for example, are Hispanic, while Blacks make up 12.3% of the population (Yax, 2002). Even with the possibility that minorities are underrepresented on jury rolls, their increasing representation in the population should lead to increases in juror service. As researchers, we increase the ecological validity of our analysis by examining the responses of multiple racial groups, especially those with large representations in our population. While the current literature base primarily involves Black and White racial groups, future researchers should expand their exploration of participant race or ethnicity to consider other racial groups, particularly Hispanics (see Stephan & Stephan, 1986).

Additional Moderator Variables

In considering moderators of the racial bias effect, there were several other variables that we would have liked to explore. For example, Sweeny and Haney (1992) included crime type (i.e., rape v. other) and victim race (i.e., victim race specified v. not specified) as moderators in their analysis, finding that while crime type did not serve as a moderator, specification of victim race did moderate racial bias. Mazzella and Feingold (1994) also found a significant effect of socioeconomic status (SES) on juror verdicts and punishment decisions (although they did not examine SES as a moderator of the racial bias effect). These variables—SES, crime type, and victim race—would appear to be quite relevant moderators to the racial bias effect. Unfortunately, our sample of studies precluded our ability to parse the data to examine these moderators. Given the importance of these variables (particularly victim race) in archival studies, the existing literature should be augmented. Williams and Holcomb (2001), for example, found that victim race—not defendant race—influenced death sentences in Ohio. The largest percentage of defendants receiving the death penalty involved Black defendants accused of killing a White victim, followed by White defendants accused of killing a White victim. This is consistent with the Baldus et al. (1983, 2002) findings, in which victim and defendant race interacted to suggest that Black defendants were most disadvantaged when they were accused of crimes against White victims. Mustard (2001) further found that defendant income influenced departures from the federal sentencing guidelines, with low-income defendants resulting in harsher sentences. The importance of these variables, as well as their potential for complex interactions, has also been seen in previous empirical research (e.g., Foley & Chamblin, 1982; Gordon, 1990; Wuensch et al., 2002). Future research should examine the variables of victim race, socioeconomic status, and crime type within the context of racial bias.

Other Decision Points

Given the results of this meta-analysis, it is important to once again consider the myriad of decision “steps” leading a person to incarceration. For the purposes of this analysis, we will focus on the commission of a crime, the police officer’s decision to arrest, the prosecutor’s decision to charge/offer a plea, the jury’s verdict, and the judge’s sentence. Although we did find a racial bias effect in White juror decisions, it appears too small to explain the large discrepancy in Black and White incarceration rates (e.g., Austin & Allen, 2000). Recent research has shown that Blacks and Whites commit some offences at equal rates (e.g., narcotics violations) (Human Rights Watch, 2000). This suggests that some of the discrepancy in incarceration must occur at other stages in the criminal justice process (i.e., in the decision to arrest, charge/offer of a plea, and/or sentence). We know of no studies that look at these three steps from an experimental paradigm. There is some experimental evidence, however, suggesting that race may influence decisions to shoot a suspect. Plant and Peruche (2005), for example, had law enforcement officers view simulations of Black and White males holding either a neutral object (i.e., wallet) or a gun. The law enforcement participants were asked to indicate whether they would shoot

or not shoot the person depicted. Plant and Peruche found that race influenced the likelihood of shooting in the early trials, with Black males being shot more often. There is also archival evidence suggesting that race does influence a judge's sentence. As discussed previously, Mustard (2001) found that race was a factor when federal judges' departed from the sentencing guidelines. Future research should begin to consider the possibility that racial bias may occur at a variety of points within the legal system.

CONCLUSIONS

Based upon the current meta-analysis, it appears that the effect of racial bias in juror decision-making is small, yet reliable. Furthermore, we found support for the conclusion that ecologically valid procedures (such as jury instructions and verdict scale properties) appear to reduce the effect of racial bias in verdict decisions (cf. Pfeifer, 1990). One caveat to these findings is the simulated nature of the studies. Although researchers attempt to design studies that can generalize to the real world, it is unclear if these findings reflect the behavior of actual jurors (see Bornstein, 1999). Although any evidence of racial bias in the legal system is discouraging, it is worth noting that these results are consistent with several archival studies of actual juries. Although it is impossible to ever fully compare simulated studies with real trial outcomes, the similarities across archival and empirical research suggest that these results may be generalizable.

This meta-analysis was also the first to consider the role of participant race, and to move beyond the inference that racial bias may only be displayed by White (or majority race) jurors. Rather, the current analysis proposed an inter-group definition of racial bias and found the opposite effect—namely, that Black participants were more likely to demonstrate racial bias in both verdict and sentencing decisions. Future research is warranted in examining the inter-group processes governing the racial bias effect in juror decision-making, particularly in the areas of victim race and the corollaries between socioeconomic status, crime stereotypes, and race of the defendant. Further attention should also be given to potential psychological processes that may moderate the racial bias effect, such as strength of jurors' racial group identity. Research in these areas will advance our understanding of both the theoretical basis of the effect and the ecological validity of conclusions that are drawn. Overall, the racial bias literature has advanced considerably in the last decade and we hope to see continued revision and progression in future research.

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*Asterisks denote studies included in meta-analysis.

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APPENDIX A: STUDY CHARACTERISTICS AND EFFECT SIZES FOR VERDICT DECISIONS

Study	Experiment			Instruction ^c	Race ^d	DV ^e	z ^f	
	No.	N	Status ^a					Sample ^b
Abwender & Hough (2001)		63	P	S	N	W	C	0.08
		89	P	S	N	B	C	0.23
Bagby et al. (1994)		243	P	S	M	W	D	0.17
Bottoms et al. (2004)	2	228	P	S	Y	W	D	0.03
Brown (2001)		261	U	S	N	W	C	0.03
		86	U	S	N	B	C	0.07
Fein et al. (1997)		79	P	S	Y	W	D	0.28
Foley & Chamblin (1982)		171	P	S	N	W	C	0.00
		20	P	S	N	B	C	0.00
Foley & Pigott (2002)		133	P	B	N	W	C	0.00
		44	P	B	N	B	C	0.00
Gordon (1993)		144	P	S	N	W	C	0.05
Hill & Pfeifer (1992)		125	P	S	Y	W	C	0.23
Hymes et al. (1993)		78	P	S	N	W	C	0.00
Jones & Kaplan (2003)		360	P	S	Y	W	D	0.02
Klein & Creech (1982)	2	133	P	S	Y	W	D	0.02
Marcus-Newhall et al. (2002)	1	133	P	S	N	W	C	0.16
	2	104	P	C	N	W	C	0.25
McGlynn et al. (1976)		208	P	S	Y	W	D	0.08
McGowen & King (1982)		360	P	S	Y	W	C	0.00
McGuire & Bermant (1977)		226	P	C	Y	W	D	0.00
Pfeifer & Bernstein (2003)		236	U	S	Y	W	C	-0.04
Pfeifer & Ogloff (1991)		61	P	S	Y	W	C	-0.02
		57	P	S	Y	W	D	0.11
		61	P	S	N	W	C	0.39
		65	P	S	N	W	D	0.22
Poulson (1990)		94	P	S	N	W	D	0.33
Rector et al. (1993)		245	P	S	M	W	D	0.00
Rickman (1988)		239	U	S	N	W	D	0.12
		248	U	S	N	B	D	0.07
Sargent & Bradfield (2004)	1	240	P	C	N	W	C	0.16
	2	147	P	C	N	W	C	0.00
Shaw & Skolnick (1995)		316	P	S	Y	W	D	0.11
Sommers & Ellsworth (2000)	1	33	P	S	Y	W	C	0.13
	1	29	P	S	Y	B	C	0.43
	2	156	P	C	Y	W	C	0.17
	2	55	P	C	Y	B	C	0.19
Sommers & Ellsworth (2001)		196	P	C	Y	W	D	0.09

APPENDIX A: Continued

Study	Experiment		Status ^a	Sample ^b	Instruction ^c	Race ^d	DVE ^e	z' ^f
	No.	N						
Sunnafrank & Fontes (1983)	2	50	P	S	Y	W	D	0.13
Ugwuegbu (1973)		244	P	S	N	W	C	0.21
		186	P	S	N	B	C	0.37
		244	P	S	N	W	C	0.22
		186	P	S	N	B	C	0.34
Wayne (1998)		408	U	S	N	W	C	0.01
Wuensch et al. (2002)	1	161	P	S	N	W	D	0.10
	2	152	P	S	N	B	D	0.26

^aPublication status: P: published; U: unpublished.

^bSample type: S: student; C: community; B: both.

^cInstructions: Y: yes; N: no; M: manipulated.

^dRace of participant: B: Black; W: White.

^eDependant variable: C: continuous; D: dichotomous.

^fOwn-group bias is indicated by positive scores.

APPENDIX B: STUDY CHARACTERISTICS AND EFFECT SIZES FOR SENTENCING DECISIONS

Study	Experiment No.	N	Status ^a	Sample ^b	Race ^c	z' ^d
Dovidio et al. (1997)		104	P	S	W	0.00
Dunn et al. (2004)		320	U	S	W	0.00
Field (1979)		843	P	C	W	-0.13
Gordon (1993)		144	P	S	W	0.07
Gordon et al. (1988)		28	P	S	W	0.00
		28	P	S	B	0.00
Gordon & Anderson (1995)		216	P	S	W	-0.05
Hymes et al. (1993)		78	P	S	W	0.00
Klein & Creech (1982)	2	133	P	S	W	-0.27
Marcus-Newhall et al. (2002)	1	103	P	S	W	0.04
	2	104	P	C	W	0.07
Nemeth & Sosis (1973)		80	P	S	W	-0.02
Rector & Bagby (1995)		42	P	S	W	0.00
		41	P	S	W	0.00
		41	P	S	W	0.00
Sommers & Ellsworth (2000)	1	33	P	S	W	-0.19
	1	29	P	S	B	-0.48
	2	156	P	C	W	-0.50
	2	55	P	C	B	-0.72
Wayne (1998)		408	U	S	W	0.18

^aPublication status: P: published; U: unpublished.

^bSample type: S: student; C: community; B: both.

^cRace of participant: B: Black; W: White.

^dOwn-group bias is indicated by positive scores.