RACE AND PERCEPTIONS OF POLICE: EXPERIMENTAL RESULTS ON THE IMPACT OF PROCEDURAL (IN)JUSTICE*

Forthcoming in *Justice Quarterly*

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Abstract

Procedural justice theory posits that people will view law and legal institutions as more legitimate and will be more willing to cooperate and comply with these institutions and their agents when treated in a procedurally just manner. While research supports this basic premise, questions remain about the influence of race on this process, especially in the wake of several recent highly publicized and controversial deadly force incidents involving white officers and black suspects. In this study, 546 participants were randomly assigned to view one of six videos depicting a simulated traffic stop. The videos featured three procedural justice conditions (positive, negative, and neutral) and two driver race conditions (white and African American). The findings showed that procedural justice improved encounter-specific assessments of police. Furthermore, black respondents assessed police less favorably than non-black respondents. In addition, the positive effect of procedural justice was larger when the driver was white.

Key words

procedural justice, police, race, experiment, traffic stops, attitudes

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RACE AND PERCEPTIONS OF POLICE: EXPERIMENTAL RESULTS ON THE IMPACT OF PROCEDURAL (IN)JUSTICE

Significant attention has been paid to police-community relations in the United States in recent years due to several highly-publicized use of force incidents involving white officers and black suspects. Fueled by social media, the resulting public outcry has led to nationwide protests against police. In response to this growing legitimacy crisis in policing, President Barack Obama established the President's Task Force on 21st Century Policing in December 2014. The Task Force's final report emphasized the importance of procedural justice in building community trust and improving police legitimacy. As noted in the report: "law enforcement agencies should adopt procedural justice as the guiding principle for internal and external policies and practices to guide their interactions with rank and file officers and with the citizens they serve" (President's Task Force on 21st Century Policing, 2015, p. 9). The recommendations of the President's Task Force are grounded in decades of scholarly inquiry about the role of procedural justice in policing, the impact of police-citizen interactions on perceptions of police, and variation in the quality of police-citizen relationships across different racial/ethnic communities.

The present study examines both the influence of procedural justice and the race of a citizen interacting with an officer on people's trust and confidence in police, willingness to cooperate with police, and obligation to obey the police and the law. As part of the study, participants were randomly assigned to view one of six videos depicting a simulated police traffic stop with three procedural justice conditions (positive, negative, and neutral), and two driver race conditions (black and white). Respondents were 546 undergraduate students at two universities. We test the effects of procedural justice and driver race on the outcomes, and we also seek to determine whether these effects are moderated by the race of the respondent.

Background

Procedural Justice in Policing

According to procedural justice theory, people's perceptions of the extent to which authority figures behave in a fair and just manner influence their perception of, and cooperation and compliance with, these authorities and the institutions they represent. Much of the work in this area is based on the process-based model of procedural justice developed by Tyler and his colleagues (e.g., Sunshine & Tyler, 2003; Tyler, 2006; Tyler & Huo, 2002). When applied to policing, the model suggests that people's perceptions of the extent to which police behave in a procedurally just manner shape their assessments of the institutional legitimacy of the police. These legitimacy assessments, in turn, influence people's willingness to comply or cooperate with the police and to obey the law. Research based on procedural justice theory has found that people are more likely to view the police as legitimate when they are treated fairly and with respect, and are given a chance to voice their concerns (Mazerolle, Bennett, Davis, Sargeant, & Manning, 2013). Moreover, scholars have found that perceptions of police legitimacy influence people's willingness to obey the law and comply with the directives of legal authorities (Fagan & Tyler, 2004; Hinds & Murphy, 2007; Hough, Jackson & Bradford, 2013; Jackson et al., 2012; Mazerolle, Bennett, Davis, Sargeant, & Manning 2013; Sunshine & Tyler, 2003; Tyler, 2006; Tyler & Fagan, 2008; Tyler & Huo, 2002). In addition, previous research has discovered that positive and negative experiences with police have asymmetrical effects, such that negative (procedurally unjust) interactions may have a greater impact on perceptions of police legitimacy and other outcomes than positive (procedurally just) interactions (Bradford, Jackson, & Stanko, 2009); Maguire, Lowrey, & Johnson, 2016; Myhill & Bradford, 2011; Skogan, 2006).

Although there are numerous empirical studies on procedural justice, most of this research uses cross-sectional data and does not rely on methodologies that allow for rigorous assessment of cause and effect. However, several recent studies have employed randomized experimental designs to discern the effects of procedural justice in the context of police traffic stops.[1] The first such study was the Queensland Community Engagement Trial in Australia, in which drivers were stopped by police officers for random breath tests (Mazerolle, Bennett, Antrobus, & Eggins, 2012; Mazerolle, Antrobus, Bennett, & Tyler, 2013). In the experimental condition, officers followed a procedural justice script during their interactions with drivers. In the control condition, officers were instructed to follow standard police procedure. The procedural justice intervention improved levels of satisfaction with police, perceptions of police fairness, and perceptions of police respect at both the encounter-specific and general levels, as well as trust in police, confidence in police and compliance with police directives at the encounter-specific level (but not more globally). Further analyses indicated that the intervention had a direct effect on encounter-specific trust and confidence and indirect effects (through trust and confidence) on willingness to cooperate and obligation to obey (Murphy, Mazerolle, & Bennett, 2014). A randomized experimental design was also used to examine the effects of a procedural justice intervention during routine traffic stops for speeding in Adana, Turkey (Sahin, 2014). The study found that incorporating the principles of procedural justice into a traffic stop improved citizen trust in, and satisfaction with, the police officer in the traffic stop. The procedural justice intervention also increased the extent to which citizens perceived the officer as behaving in a respectful manner.

[1] Two recent studies have also used experimental or quasi-experimental designs to test the effects of procedural justice training. Both studies concluded that the training generated benefits across several outcome measures (Skogan, Van Craen, & Hennessy, 2015; Wheller et al., 2013).

A similar randomized experiment tested the effects of a procedural justice intervention during police traffic stops in Scotland (MacQueen & Bradford, 2015). The experimental protocol required officers to incorporate key elements of procedural justice into their interactions with drivers and to provide drivers with a leaflet that reinforced these same themes. In the control condition, officers were supposed to rely on standard "business as usual" procedures. However, a manipulation check conducted by the researchers revealed that the procedural justice intervention did not improve perceptions of procedural justice among drivers. As a result, the effects of the intervention on several outcome measures were opposite to those predicted. A later study revealed that the experiment failed due to implementation challenges in getting officers to comply with the experimental protocol and possible backfire effects linked to the organizational context of the department (MacQueen & Bradford, 2016).

In addition to these field trials, three laboratory-style experiments have focused on the effects of procedural justice in the context of policing. Barkworth and Murphy (2015) randomly assigned participants to read a vignette describing a procedurally just or unjust police traffic stop. Participants were instructed to "imagine themselves being stopped by a police officer for exceeding the speed limit by 5km per hour" (p. 265). The study found that participants exposed to the procedural injustice condition were significantly more likely to experience negative affect (including feelings of frustration, anger, and anxiety) and less likely to comply with the law.

Lowrey, Maguire, and Bennett (2016) conducted a randomized experiment that examined the effects of procedural justice in the context of a simulated traffic stop. Participants were randomly assigned to view a video depicting a traffic stop featuring one of three experimental conditions, only two of which are relevant here: procedurally just and neutral (the third condition was based on the concept of "overaccommodation" from the study of linguistics and

communications). After watching the video, participants answered survey questions about their perceptions of the specific encounter as well as their general perceptions of police. Participants exposed to the procedural justice condition reported a greater feeling of obligation to obey the officer in the video than did those exposed to the neutral condition. They also reported greater trust and confidence in the officer in the procedural justice video than in the neutral video. However, the procedural justice condition did not exert significant effects on more global perceptions of police relative to the neutral condition.

Maguire, Lowrey, and Johnson (2016) conducted a similar randomized experiment based on a simulated traffic stop. This study featured three conditions: positive (procedurally just), negative (procedurally unjust), and neutral. The authors found that observing positive interactions with police enhanced people's willingness to cooperate with police, obligation to obey police and the law, and trust and confidence in police. On the other hand, observing negative interactions undermined these outcomes. The effects of these interactions were much stronger for encounter-specific outcomes than for more global outcomes. While positive interactions had weaker effects than negative interactions, the authors found little support for the idea that only negative experiences shape people's views about the police.

In sum, previous research indicates that procedural justice during traffic stops has a positive effect on public attitudes toward police and the law, whereas procedural *in*justice has a negative effect on these attitudes. However, it is not yet clear whether this pattern is universal across social groups. Given the profound racial divide in perceptions of the police in the United States, with African Americans and other people of color reporting more negative views of the police than do whites, it is possible that the effects of procedural justice interventions on perceptions of police may differ significantly by race/ethnicity. Moreover, in light of

longstanding concerns about the differential treatment of people of color by police, it is possible that the race of the driver involved in a police stop may affect attitudes as well.

Race and Policing

The existence, causes, and consequences of racially-biased policing in the United States have long been a concern for civil rights leaders, law enforcement officials, policymakers, scholars, and citizens. Research has documented racial and ethnic disparities across a variety of policing outcomes, including pedestrian stops, vehicle stops, discretionary searches, arrests, and uses of force (Smith, Rojek, Petrocelli, & Withrow, 2017). Using stop-and-frisk data from the New York City Police Department, for example, Gelman, Fagan and Kiss (2007, p. 813) found that African American and Hispanic pedestrians were more likely than whites to be stopped, "even after controlling for precinct variability and race-specific estimates of crime participation." In addition, in a meta-analysis of 27 independent data sets, Kochel, Wilson, and Mastrofski (2011) found that minorities are more likely to be arrested than whites. Further, a recent study using data from seven U.S. police departments found that white officers used more coercive force against black suspects than against white suspects (Paoline, Gau, and Terrill, 2016).

In recent decades, police racial bias in the context of traffic stops has been a prominent focus of researchers. This emphasis emerged in response to debates about racial profiling and "driving while black" that developed in the early 1990s and reflects the fact that police-citizen contacts occur most often within the context of traffic stops (Eith & Durose, 2011). Analyses of police data, observational studies, and surveys of drivers have found that minority drivers are disproportionately subject to traffic stops (e.g. Alpert, Dunham, & Smith, 2007; Epp, Maynard-Moody & Haider-Markel, 2014; Novak, 204; Smith & Petrocelli, 2001; Warren, Tomaskovic-

Devey, Smith, Zingraff & Mason, 2006). Moreover, a number of studies have found that minority drivers are more likely to be subjected to vehicle searches than are white drivers (Engel & Johnson, 2006; Gains, 2006; Schafer, Carter, & Katz-Bannister, 2004; Withrow, 2007), with young African American drivers under age 30 particularly at risk (Rosenfeld, Rojek, & Decker, 2011).

In addition to research evidence of racial bias in objective measures of police outcomes, there is also a robust body of research on subjective perceptions of racial and other forms of bias in policing. Research shows that African Americans and Hispanics consistently perceive the police as being more racially biased than do whites (Hagan & Albonetti, 1982; Hagan, Shedd, & Payne, 2006; Weitzer & Tuch, 1999, 2005, 2006; Wortley, Hagan, & Macmillan, 1997). For instance, in comparison to whites, African Americans perceive police use of force as more common (Weitzer, 2002), as more of a problem (Huang & Vaughn, 1996), and report greater personal and vicarious experiences of police abuse (Weitzer & Tuch, 2004, 2006). In addition, blacks and Hispanics are more likely than whites to perceive police misbehavior and negative treatment during traffic stops (Engel 2005; Epp, Maynard-Moody, & Haider-Markel, 2014; Lundman & Kauffman, 2003). Studies show that racial differences in perceptions of police may also differ by class, although the direction of class effects has been mixed (Henderson, Cullen, Cao, Browning, & Kopache, 1997; Weitzer & Tuch, 1999).

Negative views of the police are common among young minorities. For example, Brunson (2007) found that young black men perceive significant police harassment and tend to view the police as impolite and difficult to talk to. Evidence suggests that experiences with police procedural injustice are more common among black youth than white youth (Brunson & Weitzer, 2009; Gau & Brunson, 2010). Moreover, black youths' perceptions of police

discrimination may be particularly prevalent for those who live in white neighborhoods with growing black populations, more affluent neighborhoods, and communities with more violence (Stewart, Baumer, Brunson, & Simons, 2009).

While direct contacts with police may be partly responsible for negative perceptions of police, vicarious contacts with officers have also been found to influence citizens' perceptions of law enforcement. For example, "learning about the police through the experiences of others" was found to have a detrimental effect on African Americans' attitudes toward the police (especially when the vicarious contacts were negative), while direct contacts with the police (regardless of whether they were negative or positive) did not influence blacks' views (Rosenbaum, Schuck, Costello, Hawkins, & Ring, 2005, p. 346). Information about other people's experiences with police may come from family and friends, or from media accounts of police-citizen encounters, including highly publicized instances of police brutality. For instance, Weitzer (2002) found that African Americans' and Hispanics' perceptions of the police suffered after events such as the beating of Rodney King and the fatal shooting of Amadou Diallo, while whites' perceptions of police did not similarly decline. Watching reality crime television may be another source of vicarious experiences that differentially impact minorities' attitudes toward police (Eschholz, Blackwell, Gertz, & Chiricos, 2002). Other studies have come to similar conclusions regarding the importance of indirect or accumulated experiences with police on minority perceptions of law enforcement (Browning, Cullen, Cao, Kopache, & Stevenson, 1994; Desmond, Papachristos & Kirk, 2016; Lasley, 1992; Warren, 2011; Weitzer & Tuch, 2006).

Finally, perceptions of injustice in the criminal justice system may influence (and be influenced by) citizens' interpretations of individual events (Unah & Wright, 2015). Using a video of a controversial violent arrest, Jefferis et al. (1997; p. 381) found that "the videotaped

arrest had a negative impact on citizens' perceptions of force used by police during arrest situations, but that the effect was substantially greater among non-Caucasians." Levin and Thomas (1997) filmed videos that simulated the arrest of an African American male and varied the race of the officers making the arrest. They found that African American participants were more likely to perceive the officer as having acted violently and illegally compared to white participants, regardless of the officers' race. They conclude that African Americans who hold negative views of the criminal justice system "are much more suspicious of the police in confrontations with black civilians" (Levin & Thomas, 1997, p. 762). Moreover, experimental studies conducted by Hurwitz and Peffley (2005) and Johnson and Kuhns (2009) show that African American participants respond to police–citizen interactions differently depending on the race of the citizen and their views about racial fairness in the criminal justice system.

The Present Study

Most police-citizen contacts occur as a result of a traffic stop (Eith & Durose, 2011), and research on procedural justice suggests that a brief procedural justice intervention implemented during a traffic stop can produce meaningful differences in public attitudes toward the police and the law. Considered together, experimental studies suggest that procedural justice interventions have much more robust effects on encounter-specific outcomes than on more generalized global outcomes, though the findings are not consistent across studies. The question about the relative effects of positive and negative encounters with police also remains unsettled, with research using different methods and in different settings producing inconsistent findings. Finally, although a long line of research has documented significant racial disparities in perceptions of the police, the effects of race have not yet been considered in the context of a randomized experiment testing the effects of procedural justice.

In an effort to address some of these issues, the present study seeks to answer four research questions. First, what are the relative effects of procedural justice and injustice on three encounter-specific and three global outcomes (specifically: cooperation with police, trust and confidence in police, and obligation to obey police)? Second, what effect does the race of the driver have on these outcomes? Third, do the effects of procedural justice and injustice on these outcomes vary based on the race of the driver? Finally, are the effects outlined in the first three research questions moderated by the race of the respondent?

Methodology

Design

To address our research questions, we relied on a 3 x 2 randomized factorial design in which 546 participants viewed a brief video of a simulated traffic stop with three procedural justice conditions: positive (procedurally just), neutral, and negative (procedurally unjust), and two driver race conditions (a white and an African American driver). Following the video simulation, participants answered questions about their attitudes toward the police and the law.

Participants

Participants were college students (from various majors) enrolled in undergraduate criminology and criminal justice classes at two universities in a major U.S. metropolitan area [university names removed for external review]. Respondents received credit toward their class participation grade for participating in the study. The experiment was administered in November and December, 2015. In total, 546 students participated (178 from university 1 and 368 from

university 2).[2] However, after viewing the video, only 523 students completed the survey. The 23 students who did not attempt the survey were dropped from further consideration.

Table 1 summarizes the demographic characteristics of the samples from both universities as well as the full sample, including age, sex, race, and ethnicity. Most participants were between 18 and 22 years of age, as expected. Both samples were disproportionately female (70% and 59% for university 1 and 2, respectively). The university 2 sample was more racially diverse than the university 1 sample. Whites made up 56% of the university 2 sample and 75% of the university 1 sample, and roughly 60% of the total sample. Overall, 13% of the sample identified as African American, either as their only racial identity or along with another racial category, and this was higher for university 2 than university 1 (15% versus 9%). Approximately 16% of the total sample identified as Hispanic (of any racial background).

[Insert Table 1 about here]

Procedures

Within the context of an online survey, participants were randomly assigned to watch one of the six video clips based on the 3 x 2 factorial design. Thus, a participant was exposed to a positive (procedurally just) condition, a negative (procedurally unjust) condition, or a neutral (control) interaction, and either the white or African American driver condition. Each video was

[2] Based on preliminary power analyses, we estimated that, for the main effects in the model, a minimum sample size of 64 would be necessary to detect a large effect (f=.40), 158 to detect a medium-sized effect (f=.25), and 967 to detect a small effect (f=.10). We also determined that an achieved sample size of 450 would enable us to detect a small main effect with power of .590, a medium main effect with power of .982, and a large main effect with power of .999. These estimates suggest that our study is sufficiently powered to detect medium and large main effects but may be underpowered to detect small main effects. The statistical power for testing the two- and three-way interactions is lower.

shot from the perspective of a body-worn camera, showing the driver but not the officer.[3] The role of the officer was played by a researcher with previous experience working as a police officer. Qualtrics survey software handled the random assignment of participants to one of the six conditions after they agreed to the informed consent. Because this was on a rolling basis, the randomization did not ensure an equal number of persons across conditions. Implementing a balanced block-randomized design, blocking on participant race/ethnicity, would have statistical advantages and should be considered in future studies but cannot easily be implemented within the Qualtrics system.

The sample sizes for each of the six conditions are shown in Table 2. These ranged from 81 to 92 participants, with 176, 173, and 172 for the three procedural justice conditions (positive, neutral, and negative, respectively), and 254 and 269 for the white and black driver conditions.

[Insert Table 2 about here]

Procedural Justice Condition

The basic procedure for each traffic stop video was the same. Each scenario began with the officer approaching a stopped vehicle, speaking to the driver, obtaining the driver's license and registration, and then walking back toward his own vehicle. The video then cut to the officer returning from his vehicle and issuing the driver a citation for speeding. Both the infraction (48

[3] The role of the officer was played by a white male. Because the video was shot from the perspective of a body-worn camera, the officer cannot be seen. However, when the officer is exchanging paperwork with the driver, the officer's hand can be seen briefly which may have allowed respondents to infer his race. Also, to the extent that race can be inferred from speech patterns, the videos may have provided respondents with cues about his race (Massey and Lundy, 2001; Purnell, Idsardi, and Baugh, 1999). In this case, the officer in the videos spoke with a distinct New England accent. In response to an open-ended question inviting respondents to provide comments, only two made comments about the officer's race. One noted that the officer was white and another wrote: "I do appreciate that the officer's race was not disclosed."

miles per hour in a 30 mile per hour zone) and the punishment (a citation) were held constant across the six conditions.

The officer's script and tone differed across the three procedural justice conditions.[4] In the neutral (control) video, the procedure was intentionally brief, with the officer merely telling the driver that he was speeding, requesting the driver's documentation, and then telling the driver he is being issued a ticket for speeding. The goal in designing the neutral video was to strip away any overt forms of procedural justice or injustice on the part of the officer. For this reason, the dialogue was intentionally minimal.

The negative (procedurally unjust) condition featured the same basic ingredients as the neutral video, but the officer spoke rudely to the driver. The officer began by admonishing the driver for exceeding the speed limit ("Are you out of your damned mind driving like that? You were going 48 in a 30. What, are you trying to kill somebody?"). The officer then demanded the driver's documents ("Give me your license and registration!"). When the officer returns, he issued the citation and told the driver "You're lucky I don't arrest you for reckless driving!" The officer then ordered the driver to sign the citation and the officer closed by saying: "Now get out of here, I better never see you driving in this neighborhood like that again."

The positive (procedurally justice) condition incorporated key aspects of procedural justice (Sunshine & Tyler 2003). Upon approaching the vehicle, the officer greeted the driver, introduced himself by name, asked the driver politely to provide his license and registration, and thanked the driver for providing these documents. After returning from his vehicle, the officer issued a citation, explained that the instructions were on the back of the citation, warned the

[4] After consulting previous research that relied on similar methodologies, we designed a custom script for the three procedural justice conditions used in this study (see Lowrey, Maguire, & Bennett, 2016; Mazerolle, et al., 2012; Sahin, 2014).

driver that the fine will double if it is not paid within 30 days, and asked the driver if he had any questions. The officer closed by calmly explaining the importance of road safety, thanking the driver for his time and attention, and asking the driver to drive carefully in a friendly tone: "Listen, every year, people die on these roads from speeding and we're just trying to keep that from happening. Our goal is to keep the roads safe by making sure people drive the speed limit." The interaction involved several elements of procedural justice, including polite language and demeanor (respect/fair treatment), an opportunity for the driver to ask questions (citizen voice/fair treatment), and an explanation for why the officer decided to issue a citation (fair decision-making, trustworthy motives).[5]

Driver Race Condition

The study featured two 18-year-old male drivers of roughly the same physical build, one white and one African American. They both wore casual clothes and were filmed driving the same vehicle in the same lighting conditions. To keep the driver's behavior and demeanor constant across the conditions, the drivers were instructed to speak as little as possible during the interaction, to avoid visible reactions to the officer's behavior, and to keep their movements consistent across the three procedural justice conditions.

[5] Manipulation checks conducted for this study (Maguire, Lowrey, & Johnson, 2016) and for the previous studies from which our script was partially derived (Lowrey, Maguire, & Bennett, 2016; Mazerolle, et al., 2012; Sahin, 2014) confirm that the treatment conditions influenced respondents' perceptions of procedural justice during the encounter in the expected directions.

Measures

The survey focused on respondents' perceptions of the degree of respect, bias, and citizen voice in the traffic stop encounter; their trust, obligation to obey, and willingness to cooperate with the officer in the video (encounter-specific attitudes); and their trust, obligation to obey, and willingness to cooperate with the police and the law more generally (global attitudes). In addition, participants answered questions regarding their demographic characteristics and were given an opportunity to respond to an open-ended question regarding any further thoughts about the survey or the video that they wished to share.

Twenty Likert items measured six dimensions of respondents' views toward police and the law, including three at the encounter-specific level and three at the global level. The specific items grouped by each of the six dimensions are provided in Appendix A. The Likert response options were "Strongly Disagree," "Disagree," "Neither Agree nor Disagree," "Agree," and "Strongly Agree." The encounter-specific measures focused on respondents' views about the officer in the video they watched, including their willingness to cooperate with the officer, obligation to obey the officer, and trust and confidence in the officer. The global questions focused on respondents' broader views toward police and the law, including their willingness to cooperate with police, obligation to obey the police and the law, and trust and confidence in the police. Each of these six outcomes were measured using an additive index of the individual Likert items making up the scale. The measures were previously validated using confirmatory factor analysis (Maguire, Lowrey, & Johnson, 2016). Cronbach's alpha values for each outcome measure are uniformly strong. The three encounter-specific outcomes – willingness to cooperate, obligation to obey, and trust and confidence – had alpha coefficients of 0.93, 0.94,

and 0.94, respectively. The three global outcomes – willingness to cooperate, obligation to obey, and trust and confidence – had alpha coefficients of 0.87, 0.85, and 0.87, respectively. The means and standard deviations for each outcome by each condition are shown in Appendix B.

Results

The research questions were tested through 3-way analysis-of-variance (ANOVA) models testing for the main effects of the two experimental factors (procedural justice condition and driver condition) and a blocking factor reflecting the respondent race (identified as African American or other). Two-way interactions between these conditions were also examined, as well as the three-way interaction between all three. Because samples were drawn from two universities, school was also included as a factor in the model to adjust for any mean difference between the schools. The results of all six of these ANOVA models are shown in Table 3 and the encounter-specific results are displayed graphically in Figures 1 through 3.

[Insert Table 3 and Figures 1-3 about here]

To help control the Type I error rate given the number of statistical tests being run, we relied on two MANOVA models – one for the three encounter-specific outcomes and one for the three global outcomes – to test for pooled effects across each set of outcomes. This approach takes advantage of the high intercorrelations among the three encounter-specific outcomes and the three global outcomes, providing an omnibus test for the hypotheses. Only effects that were significant in the MANOVA models at an alpha level of .01 were considered in the individual ANOVA models; that is, an effect must have been significant at $p < .01$ in the MANOVA model as well as significant at $p < .01$ in an individual ANOVA model to be interpreted as statistically significant. However, effects statistically significant at the more conventional .05 level in any

ANOVA model will be noted in the discussion below, although these effects are considered equivocal and are therefore treated cautiously.

The first research question was the degree to which the procedural justice condition affects the encounter-specific and global outcomes. We observed a strong linear effect of the procedural justice condition for the encounter-specific outcomes but not the global outcomes. For all three encounter-specific outcomes there was a linear effect from the positive to negative condition. Table 4 presents these effects as Cohen's *d* standardized mean difference effect sizes. These effect sizes were based on adjusted mean differences from the ANOVA models, adjusting for any effect of school, respondent race (black versus non-black) and any imbalance in the factorial design. The effect size for "positive versus negative" reflects the main effect of the procedural justice condition computed as the standardized difference between the mean for the positive condition minus the mean for the negative condition. As a result, this effect size ignores the neutral condition, whereas the *F*-value tests for differences across all three means. For all three encounter-specific outcomes these effects were large (0.87 or greater) and in the expected direction. Procedural justice treatment by the officer increases respondents' willingness to cooperate with, obligation to obey, and trust and confidence in the police officer involved in the encounter. For the global measures, these effect sizes were small (all below 0.20) and statistically nonsignificant.

[Insert Table 4 about here]

Based on previous research (Skogan, 2006), we expected there would be an asymmetrical effect for the positive and negative treatment, whereby the negative treatment would have a much stronger effect on the outcomes than would the positive treatment. We tested this by comparing the ratio of the mean differences between the effects sizes for the positive and neutral

conditions versus the effect sizes for the neutral and negative conditions for the three encounter-specific variables (these are not shown in Table 4). In all cases, the effect of the negative condition was larger, albeit by a smaller degree than expected and the difference was only significant for the trust and confidence effect. The ratios were 1.33, 1.07, and 1.77 for the willingness to cooperate, obligation to obey, and trust and confidence outcomes, respectively (note that a ratio of 1 would indicate that the two effects were equal). The expectation was that the effect of negative treatment would be orders of magnitude larger than the effect of positive treatment (Skogan, 2006), which is clearly not the case. Positive treatment appears to improve perceptions and negative treatment appears to worsen perceptions. The magnitude of these effects may well depend on the severity of the unjust treatment, rather than simply that it is unjust.

The second research question was the effect of the driver's race (white or African America) on the encounter-specific and global outcomes. We did not anticipate a main effect of the driver's race but rather an interaction between this factor and the procedural justice condition, which will be explored below. In neither of the two MANOVA models nor in any of the six ANOVA models was the main effect of the driver's race statistically significant. Examining the effect sizes for this main effect shows small effect sizes ranging from -.11 to +.02. Thus, the race of the driver appeared to have no overall effect on the ratings of the respondents.

The third research question was whether the treatment condition interacted with driver race. We anticipated that the effect of positive versus negative treatment by the officer would be greater when the driver was white than African American. This interaction was not statistically significant at the .01 alpha level for either MANOVA model. However, there was a statistically significant interaction (p = .0011) for the global outcome of willingness to cooperate. Examining

the effect sizes for this interaction (this is a difference in differences effect size comparing the difference in the positive versus negative conditions for the white versus African American drivers) shows that across all six outcomes the effect of the police officer's treatment was larger in the expected direction for the white driver condition than the African American condition. These effect sizes range from small (0.22) to moderately large (0.72). Given that the test of this effect was not significant at our a priori alpha level in the MANOVA model, this interaction effect should be treated cautiously but as a potentially interesting effect for further study.[6]

The final research question was whether any of the above effects are moderated by the race of the respondent. First, however, is the issue of a main effect of the respondent's race. Given the recent highly publicized incidents involving deadly shootings of African Americans by white police officers and research evidence which demonstrates that blacks have more negative views of the police than other racial and ethnic groups (e.g. Weitzer & Tuch, 2006), we chose to examine the responses of those who identify as African American versus all others. This main effect was statistically significant in both MANOVA models and in three of the six ANOVA models at a .01 alpha level. At an alpha level of .05, this effect was significant in five of the six models. Examining the effect sizes shows that for all outcomes, African Americans were less positive in their assessments of the police than whites or members of other racial groups. These effect sizes ranged from a low of -0.09 to a high of -0.78 with five of the six effect sizes larger than -0.31 in absolute magnitude. Thus, African American respondents had more negative perceptions of the police and this was true both for encounter-specific and global outcomes.[7]

[6] Note that the test of the interaction in Table 4 is based on all three procedural justice conditions whereas the effect size for this interaction is based only on the positive and negative treatment conditions.

[7] We also ran the analyses with a dummy variable comparing black or Hispanic respondents to all others. The effects sizes were all very similar to those reported here, although one was slightly smaller. In sum, the results were

Of greater interest, however, is whether the effects of the procedural justice condition and the driver race condition interact with respondent race, particularly for the encounter-specific outcomes. Here the results are less clear. Although there were 68 respondents who identified as African American, these respondents were not evenly distributed across the six conditions, with sample sizes ranging from a low of 8 African Americans for the positive treatment/white driver condition to 15 African Americans for the positive treatment/black driver condition. As a result, the statistical power for the test of the 3-way interaction is very low. Therefore it is not surprising that none of the effects were statistically significant at the .01 alpha level. However, for the encounter-specific outcomes, the 3-way interaction for the MANOVA model was significant at a more liberal alpha level (p = .048) and significant for the trust and confidence ANOVA model (p = .026). The 3-way interaction effect sizes (Table 4) for this effect were very large (-1.52) and moderately large for the other two encounter-specific outcomes (-0.62 for both the willingness to cooperate and obligation to obey models). The interpretation for this effect is that for black respondents, there is a larger treatment effect when the driver was white than when the driver was African American. Given the small sample size and that this effect was not significant at our a priori alpha level, the effect must be interpreted cautiously and is only suggestive of a possible effect worthy of exploration in future studies.

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substantively unchanged. To further explore variations by race and ethnicity, we examined the means across the experimental conditions for the following three groups: non-Hispanic whites, non-Hispanic blacks, and non-black Hispanics. Generally, but not always, the Hispanic group mean was between the white and black group means. This is consistent with other research that has found a racial/ethnic gradient in attitudes toward the police and in perceptions of justice (e.g. Gabbidon & Jordan, 2013; Hagan, Shedd, & Payne 2005; Unah & Wright, 2015; Weitzer & Tuch, 2006). There was no clear pattern in terms of whether Hispanic respondents more closely resembled their white or their black peers. Due to insufficient statistical power, a more formal test of these patterns would not be meaningful.

Discussion

The aim of this study was to examine how race and perceptions of procedural justice shape people's views of the police and the law. Our results show that procedural justice exerted powerful effects on all three encounter-specific outcomes. People exposed to the procedural justice condition indicated more willingness to cooperate with, a stronger feeling of obligation to obey, and a greater sense of trust and confidence in the officer than those exposed to the neutral or negative condition. Moreover, these effects were essentially linear; the mean scores for these three outcomes decreased in the expected direction from the positive to the neutral to the negative treatment condition. These same effects were not observed for the global outcomes, where the results were roughly similar across the procedural justice conditions. Thus observing a single encounter like the one featured here may not be sufficient to alter people's global views about the police and the law. Much remains to be learned about how such views develop in response to direct encounters with police as well as vicarious exposure to police through the mainstream media, social media, and the experiences of others (Augustyn, 2016; Rosenbaum, et al., 2005; Weitzer & Brunson, 2009). One possibility that is consistent with research on attitude formation in social psychology is that people's global views may not change easily in response to new information (e.g., Eagly & Chaiken, 1995; Lord, Ross, & Lepper, 1979).

Previous research on the relative effects of positive and negative treatment by police has found that negative encounters with police have a much stronger influence than positive encounters on people's assessments of the police (Skogan, 2006). However, other studies on this issue have generated more equivocal findings (Maguire, Lowrey, & Johnson, 2016; Bradford, Jackson, & Stanko, 2009; Myhill & Bradford, 2011). Moreover, with one exception (Maguire, Lowrey, & Johnson, 2016), all of the research comparing the effects of positive versus negative

treatment has been based on correlational research rather than experimental or quasi-experimental designs, thus raising concerns about internal validity.[8] The present study is well-suited to contribute to this debate since the effects of the positive and negative treatment conditions can be compared directly within the framework of our randomized experimental design. For all three encounter-specific outcomes, the effects of a negative encounter were larger than the effects of a positive encounter, though the ratios (which ranged from approximately 1.1 to 1.8) are smaller than those previously reported in the literature (Skogan, 2006). This finding is consistent with the idea of a "negativity bias" in how people form impressions (Baumeister, et al., 2001; Peeters & Czapiniski, 1990). Negative information may weigh more heavily in people's evaluations of the police and the law than positive information, though the nature and magnitude of these effects are still being debated (Bradford, Jackson, & Stanko, 2009; Maguire, Lowrey, & Johnson, 2016; Myhill & Bradford, 2011; Skogan, 2006).

A key contribution of this study is its focus on race. We found that *driver* race did not exert an effect on any of the encounter-specific or global outcomes. However, the race of the *respondent* had significant effects on five of the six outcomes. Beyond these main effects, we examined the two-way and three-way interactions between procedural justice, driver race, and respondent race. Our findings showed that neither the interaction of driver race and respondent race, nor the interaction of respondent race and procedural justice, had a significant effect on the outcomes. The interaction of driver race and procedural justice only exerted a significant effect for one of the six outcomes (the global effect of the interaction on willingness to cooperate with police). The effect of the procedural justice condition on the global measure of willingness to

[8] Previous field experiments have compared positive (procedurally just) treatment to neutral or "business as usual" treatment (MacQueen & Bradford, 2015; Mazerolle, et al., 2012, 2013; Sahin, 2014).

cooperate with police was larger when the driver was white than when the driver was black. We can only speculate about why the interaction of driver race and procedural justice influenced this specific outcome and none of the others.

The three-way interaction between procedural justice, driver race, and respondent race exerted a significant effect on only one of the six outcomes (the encounter-specific measure of trust and confidence in the officer). However, we caution that our statistical power to detect effects for the three-way interaction was admittedly low. Detecting such effects reliably would require a much larger sample size. In spite of this concern, the three-way interaction produced some of the largest effect sizes in this study (see Table 4). Some of these effects are intriguing. For instance, as shown in the top panes of Figures 1-3, driver race does not appear to influence the encounter-specific outcomes when the respondent is not black (as evidenced by the heavily overlapping lines for white and black drivers). However, as shown in the bottom panes of Figures 1-3, driver race *does* appear to influence the outcomes when the respondent is black. For black respondents, the lines for white and black drivers are not parallel for all three encounter-specific outcomes. Put differently, in vicarious encounters with police, the judgments of black observers may be influenced more heavily by driver race than are the judgments of non-black observers. This inference must be considered tentative due to the small sample size of black respondents and the attendant concerns about statistical power. A sample stratified by race would make it easier to detect these types of complex three-way interaction effects. The findings are sufficiently intriguing to warrant further research on this issue.

While race dominates public discourse about the police, our findings suggest that the effects of race are complex. Driver race did not have a significant effect on any of the outcomes. Respondent race had mixed effects, with three significant at $p<.01$, two at $p<.05$, and one non-

significant. Our study was underpowered to detect interaction effects, particularly for the three-way interaction of driver race, respondent race, and procedural justice. However, a review of the effect sizes in Table 4 suggests that these interactions may have an influence on the outcomes. As shown in Figures 1-3, these effects are somewhat complicated and they challenge the overly simplistic portrayals of racialized views of the police that appear in the media. As noted by Gau and Brunson (2012: 250), the influence of race on public views of the police is a "complex, nuanced phenomenon." While our findings with regard to these views are suggestive, unlocking this nuance will require a larger sample of black respondents and a design that is able to test the effects of multiplicative effects more reliably than we were able to accomplish here.

While the effects of race appear to be complex and nuanced, our findings with regard to the relative effects of procedural justice and injustice are much clearer. At the encounter-specific level, the effects of procedural justice and injustice are strong and in the expected direction. Police officers who treat people in a procedurally just manner encourage greater cooperation, obligation to obey, and trust and confidence among observers of that specific encounter. Police officers who treat people in a procedurally unjust manner undermine these outcomes. Moreover, the effect sizes for the procedural justice treatment condition outweighed the effect sizes for driver race, respondent race, and all of the two-way and three-way interaction effects we examined (at the encounter-specific level). During an era in which racial considerations have taken center stage in policy debates about police reform, procedural justice still plays a key role in how observers judge an individual police officer, regardless of race. However, procedural justice and injustice exerted much less powerful effects on the global outcomes. Here, the race of the respondent and some of the interaction terms had larger effect sizes than the procedural justice condition. Understanding the forces that shape these global views of the police and the

law – including the effects of both direct and vicarious exposure to police – represents a vital area for future research (Brandl, et al., 1994). In particular, research that seeks to illuminate the effects of cumulative exposure to the police is sorely needed (Augustyn, 2016; Brunson, 2007; Brunson & Weitzer, 2009). One key question is under what conditions exceedingly negative or cynical views of the police and the law can be altered. Race figures prominently into these concerns about global views of the police and the law.

Limitations

One of the challenges with laboratory-style experiments like this one is the artificial nature of the experience. The participants are third-party observers to a mock traffic stop and are not directly experiencing the treatment by the officer. For this reason, we are examining vicarious effects under artificial conditions and not the direct effects of personally interacting with a police officer. As a result, the study maximizes internal validity at the cost of construct validity: we can draw strong causal inferences but we are less able to establish that the causal effect of procedural justice on the outcomes would be the same in a natural setting. We sought to make the videos as realistic as possible. Using video footage of actual encounters would reduce concerns with artificiality, but would also compromise the level of control over the content of the videos. However, the perceived legitimacy of the police derives not only from direct contact with the police but also from vicarious contact, much of which occurs through the news media and social media (Augustyn, 2016; Rosenbaum, et al., 2005; Weitzer & Brunson, 2009). The vicarious nature of this study is a reasonable analog for this natural phenomenon.

Relying on a sample composed entirely of college students limits external validity. We do not know if a sample of the general population would respond similarly. However, the focus here

is on establishing the causal effect of two factors – the way police officers treat drivers, and driver race – on the attitudes of participants. This study clearly establishes that both of these factors *can* affect an individual's attitudes about the police, at least at the encounter level. Note that we are not interested in the absolute levels of these attitudes, but rather the differences across conditions. As such, what matters in thinking about generalizing to a more general population is not whether attitudes would be higher or lower in the general population but rather whether the relationship across conditions would change. While this is an empirical question, we believe it is reasonable to hypothesize that this relationship would hold. What is less clear is whether the effect of the respondent's race would hold as well. The lived experiences of black college students may be closer to those of their white college student peers than the differences between the general population of white and black persons. If this is true, it would magnify the observed effect, not dampen it. Future studies should explore these generalizability issues by relying on random samples of the population.

Another limitation of this work is that while our design had sufficient power to detect medium-sized main effects, its power to detect interaction effects (particularly three-way interaction effects) was lower. Consequently, our study may have missed genuine interaction effects and the interaction effects we did find may not replicate well in other studies.

Conclusion

The findings in this study have useful implications for theory, research, and policy. In terms of theory, the findings are useful for thinking about the relative role of negative and positive experiences in shaping people's encounter-specific and global views of police and the law. The findings are also useful for thinking about how race might interact with procedural

justice in shaping these views. In terms of research, the findings from this study raise a number of useful possibilities for future research that will help fill existing gaps in the knowledge base on the factors that influence public views of the police and the law. In terms of policy, the findings emphasize the major importance of procedural justice in shaping people's views, as well as the importance of understanding the many complex and nuanced pathways through which race influences these views.

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Table 1: Participant Characteristics

	Frequency			Percent		
Characteristic	Univ. 1	Univ. 2	Total	Univ. 1	Univ. 2	Total
Age Category						
10-17	0	2	2	0.0	0.6	0.4
18-19	93	144	237	54.4	41.1	45.5
20-21	64	120	184	37.4	34.3	35.3
22-23	11	46	57	6.4	13.1	10.9
24-25	1	11	12	0.6	3.1	2.3
26-27	1	11	12	0.6	3.1	2.3
28-29	1	5	6	0.6	1.4	1.2
30+	0	11	11	0.0	3.1	2.1
Total	171	350	521			
Sex						
Male	51	141	192	29.7	40.3	36.8
Female	120	208	328	69.8	59.4	62.8
Intersex	1	1	2	0.6	0.3	0.4
Total	172	350	522			
Race						
White Only	129	195	324	75.0	55.9	62.2
Asian/Pacific Islander	10	49	59	5.8	14.0	11.3
Other	13	37	50	7.6	10.6	9.6
Black Only	10	39	49	5.8	11.2	9.4
Multiracial	9	28	37	5.2	8.0	7.1
Native American Only	1	1	2	0.6	0.3	0.4
Total	172	349	521			
Black (Only or Multiracial)						
Yes	16	52	68	9.2	14.9	13.0
No	157	298	455	90.8	85.1	87.0
Total	173	350	523			
Hispanic Ethnicity						
Yes	23	58	81	13.4	16.6	15.5
No	149	292	441	86.6	83.4	84.5
Total	172	350	522			

Notes: Two respondents did not answer the age question and two respondents did not answer any of the yes/no race questions. One respondent did not indicate their sex and one respondent did not indicate whether they identified as Hispanic. For the Black (Only or Multiracial) yes/no dichotomous variable, we assumed “no” for the two respondents who provided no information on race.

Table 2: Sample Sizes with each Cell of the Factorial Design

	Driver Condition		
Procedural Justice Condition	White	Black	Total
Positive	88	88	176
Negative	81	92	173
Neutral	85	89	174
Total	254	269	523

Table 3: Summary of ANOVAs for each of the six dependent variables

	Encounter-Specific			Global		
Effect	*df*	*F*	*p*	*df*	*F*	*p*
Willingness to cooperate						
Procedural justice	2	62.14	.0001	2	1.29	.2771
Driver race	1	0.05	.8289	1	0.03	.8576
Black respondent	1	5.58	.0186	1	12.55	.0004
School	1	0.17	.6833	1	3.64	.0571
Procedural justice x Black respondent	2	0.00	.9976	2	0.10	.9025
Driver race x Black respondent	1	0.14	.7104	1	0.20	.6544
Procedural justice x Driver race	2	1.60	.2038	2	6.94	.0011
Procedural justice x Driver race x Black respondent	2	0.56	.5711	2	1.57	.2099
Obligation to obey						
Procedural justice	2	32.84	.0001	2	1.53	.2172
Driver race	1	1.14	.2857	1	1.74	.1882
Black respondent	1	0.34	.5576	1	5.79	.0165
School	1	0.01	.9040	1	21.83	.0001
Procedural justice x Black respondent	2	0.71	.4914	2	0.18	.8339
Driver race x Black respondent	1	0.20	.6553	1	0.06	.8147
Procedural justice x Driver race	2	1.35	.2599	2	1.42	.2415
Procedural justice x Driver race x Black respondent	2	0.44	.6459	2	0.39	.6766
Trust and confidence						
Procedural justice	2	159.48	.0001	2	0.73	.4837
Driver race	1	0.20	.6547	1	1.691	.2049
Black respondent	1	10.64	.0012	1	38.96	.0001
School	1	1.55	.2138	1	6.01	.0145
Procedural justice x Black respondent	2	0.42	.6543	2	0.52	.5945
Driver race x Black respondent	1	0.01	.9370	1	0.07	.7927
Procedural justice x Driver race	2	1.02	.3624	2	2.90	.0561
Procedural justice x Driver race x Black respondent	2	3.66	.0264	2	1.46	.2323

Note: Two MANOVA models were also estimated, one for the encounter-specific outcomes and one for the global outcomes. For the encounter-specific outcomes, the main effect for black respondent, and the procedural justice factor were significant (approximate F = 4.498, 42,082, p = .0040, .0001, respectively). For the global outcomes, the main effect for school and black respondent were significant (approximate F = 7.596. 13.529, p = .0001, .0001, respectively).

Table 4: Cohen's *d* effect sizes and 99% confidence intervals

	Encounter-Specific			Global		
Effect	*lower*	*d*	*upper*	*lower*	*d*	*Upper*
Willingness to cooperate						
Positive versus negative	0.91	1.19	1.46	-0.11	0.17	0.44
Driver race (white versus black)	-0.21	0.02	0.24	-0.24	-0.02	0.21
Black respondent	-0.67	-0.33	0.01	-0.79	-0.46	-0.12
Positive versus negative x driver race	-0.15	0.40	0.95	0.16	0.72	1.27
Positive versus negative x black respondent	-0.85	-0.02	0.82	-0.89	-0.06	0.78
Positive versus negative x driver race x black respondent	-2.34	-0.62	1.09	-1.64	0.05	1.75
Obligation to obey						
Positive versus negative	0.59	0.87	1.15	-0.09	0.18	0.45
Driver race (white versus black)	-0.32	-0.09	0.13	-0.33	-0.11	0.11
Black respondent	-0.43	-0.09	0.25	-0.64	-0.31	0.02
Positive versus negative x driver race	-0.21	0.34	0.90	-0.32	0.22	0.77
Positive versus negative x black respondent	-0.98	-0.14	0.70	-0.86	-0.05	0.77
Positive versus negative x driver race x black respondent	-2.34	-0.62	1.10	-2.14	-0.46	1.22
Trust and confidence						
Positive versus negative	1.59	1.86	2.13	-0.17	0.10	0.36
Driver race (white versus black)	-0.26	-0.04	0.19	-0.33	-0.11	0.11
Black respondent	-0.79	-0.46	-0.12	-1.11	-0.78	-0.45
Positive versus negative x driver race	-0.24	0.32	0.87	-0.03	0.52	1.07
Positive versus negative x black respondent	-0.68	0.14	0.97	-0.97	-0.16	0.64
Positive versus negative x driver race x black respondent	-3.21	-1.52	0.17	-0.60	1.05	2.70

Notes: Cohen's *d* based on the relevant mean difference divided by the pooled standard deviation. The latter was computed from the MS error from an ANOVA model that included the procedural justice and driver factors only. Thus, these pooled standard deviations have any experimentally introduced variability in the dependent variables removed. These pooled standard deviations were 0.866, 0.897, 0.881, for the encounter-specific outcomes of cooperate, obey, and trust and confidence, respectively; and 0.652, 0.731, and 0.836 for the global outcomes cooperate, obey, and trust and confidence, respectively.

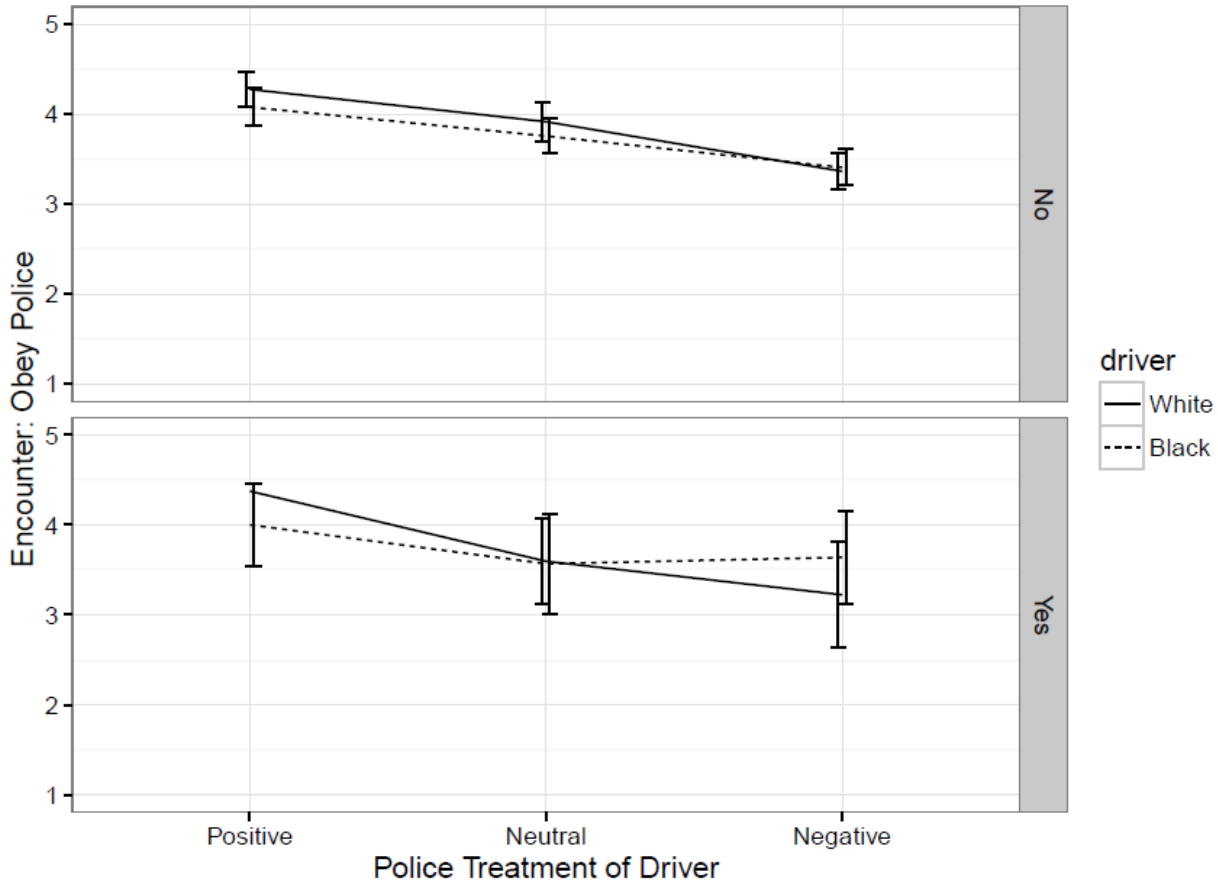

Figure 1: Means and 95% Confidence Intervals for Encounter-level Obey Police Outcome by Condition and Whether Respondent Was Black (Yes/No)

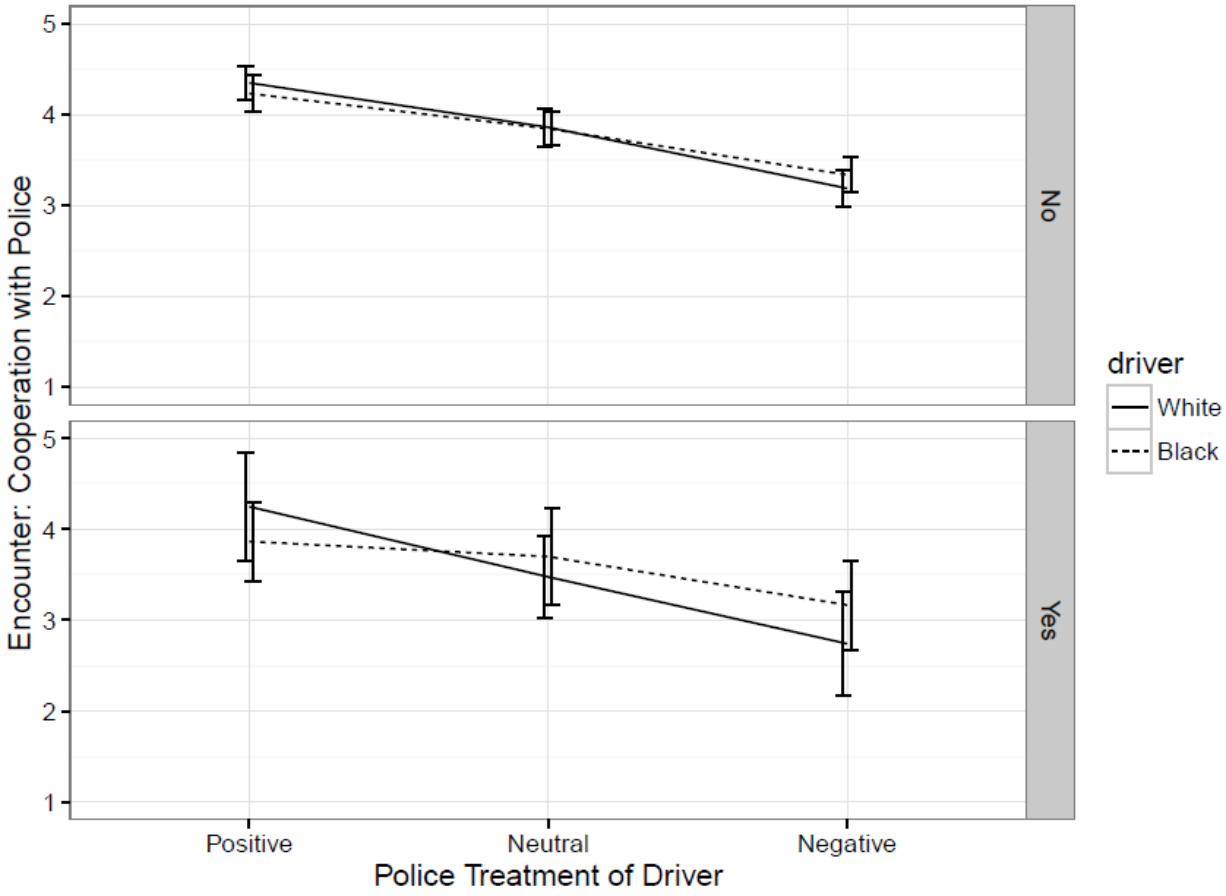

Figure 2: Means and 95% Confidence Intervals for Encounter-level Cooperate with Police Outcome by Condition and Whether Respondent Was Black (Yes/No)

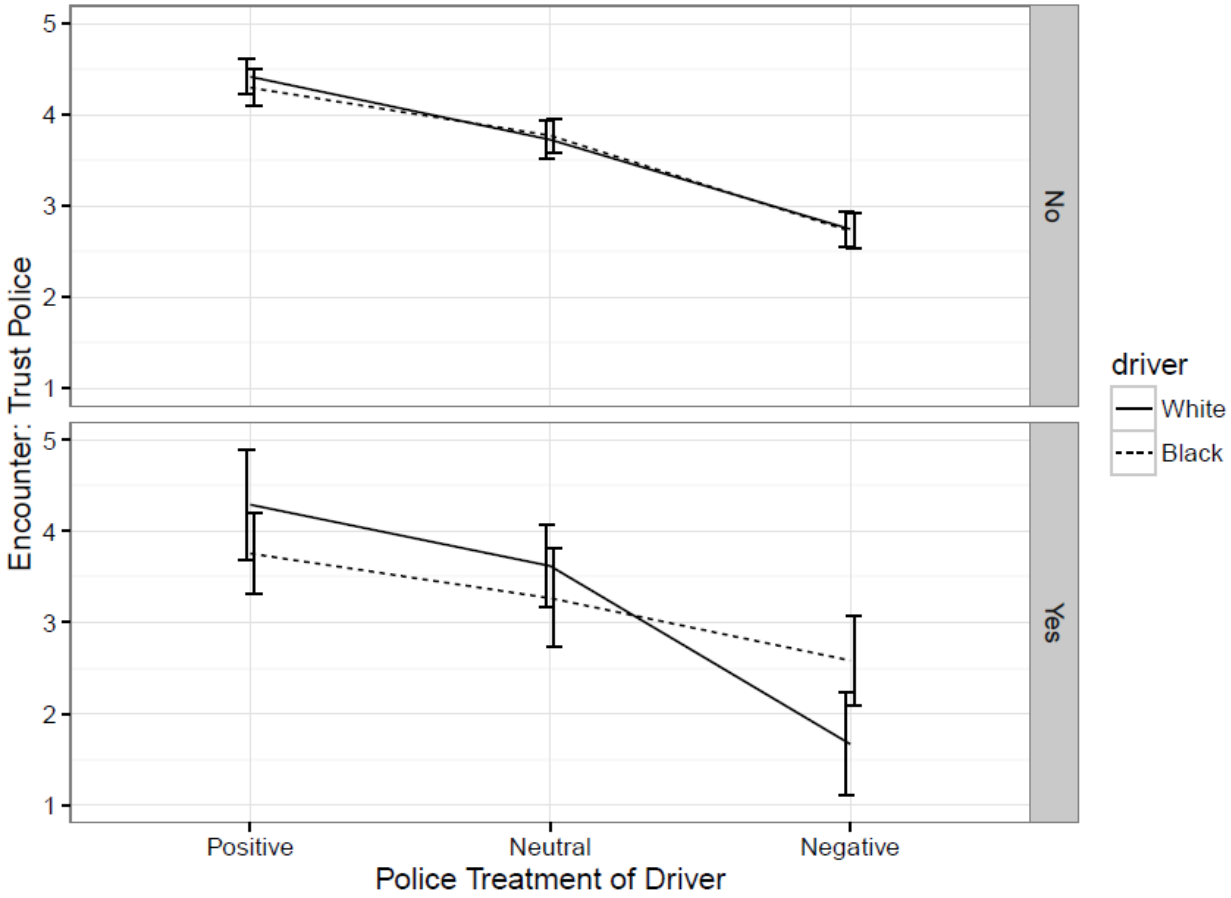

Figure 3: Means and 95% Confidence Intervals for Encounter-level Trust Police Outcome by Condition and Whether Respondent Was Black (Yes/No)

Appendix A: Survey Items and Corresponding Composite Scales

Encounter-Specific Items

Willingness to cooperate

I would provide information to help this officer solve a crime.
I would provide information to help this officer find a suspect.
I would report suspicious activity to this officer.

Obligation to obey

I would feel a moral obligation to obey this officer's commands.
I would feel a moral obligation to do what this officer told me to do.
I would feel a moral obligation to follow this officer's instructions.

Trust and confidence

I would have confidence in this officer.
I would count on this officer to do his job well.
I would trust this officer.

Global Items

Willingness to cooperate

I would help the police if asked.
I would call the police to report a crime.
I would provide information to the police to help solve a crime.
I would report suspicious activities to the police.

Obligation to obey

I feel a moral obligation to follow the law, even if I don't agree with it.
I feel a moral duty to obey the law.
I feel a moral obligation to do what the police tell me to do, even if I disagree.
I feel a moral duty to follow police orders.

Trust and confidence

I have confidence in police
Police are trustworthy
Most police officers do their job well

All items had the following response options: 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree

Appendix B: Means and Standard Deviations by Condition and Respondent Race

Treatment	Driver	African American	Mean (Standard Deviation)			Sample Size
			Cooperate	Obey	Trust	
Encounter						
Positive	White	No	4.35 (0.74)	4.28 (0.86)	4.42 (0.63)	80
Neutral	White	No	3.86 (0.84)	3.92 (0.83)	3.73 (0.84)	67
Negative	White	No	3.19 (0.99)	3.36 (1.06)	2.75 (1.02)	76
Positive	Black	No	4.23 (0.83)	4.08 (0.89)	4.30 (0.74)	73
Neutral	Black	No	3.85 (0.83)	3.76 (0.79)	3.77 (0.87)	82
Negative	Black	No	3.34 (0.93)	3.41 (0.97)	2.72 (1.03)	77
Positive	White	Yes	4.25 (0.61)	4.38 (0.74)	4.29 (0.65)	8
Neutral	White	Yes	3.48 (0.94)	3.60 (0.79)	3.62 (0.64)	14
Negative	White	Yes	2.74 (0.95)	3.22 (0.96)	1.67 (0.90)	9
Positive	Black	Yes	3.87 (0.81)	4.00 (0.85)	3.76 (0.92)	15
Neutral	Black	Yes	3.70 (0.85)	3.57 (0.88)	3.27 (0.72)	10
Negative	Black	Yes	3.17 (0.96)	3.64 (0.98)	2.58 (1.25)	12
Global						
Positive	White	No	4.39 (0.63)	4.10 (0.65)	4.04 (0.78)	80
Neutral	White	No	4.25 (0.59)	4.06 (0.62)	3.81 (0.77)	67
Negative	White	No	4.04 (0.68)	3.89 (0.72)	3.68 (0.74)	76
Positive	Black	No	4.20 (0.66)	3.99 (0.74)	3.73 (0.77)	72
Neutral	Black	No	4.17 (0.62)	3.90 (0.70)	3.68 (0.93)	82
Negative	Black	No	4.32 (0.60)	3.93 (0.85)	3.90 (0.79)	77
Positive	White	Yes	3.97 (0.70)	4.00 (0.72)	3.00 (0.87)	8
Neutral	White	Yes	4.21 (0.56)	3.89 (0.68)	3.40 (0.83)	14
Negative	White	Yes	3.67 (0.99)	3.67 (1.05)	3.30 (1.11)	9
Positive	Black	Yes	3.97 (0.85)	3.80 (1.02)	3.18 (0.97)	15
Neutral	Black	Yes	3.62 (0.83)	3.48 (0.57)	3.03 (0.73)	10
Negative	Black	Yes	4.06 (0.43)	3.85 (0.76)	3.06 (0.75)	12