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Defendant Stereotypicality Moderates the Effect of Confession Evidence on Judgments of Guilt

Laura Smalarz
Williams College

Stephanie Madon
Iowa State University

Anna Turosak
Wichita State University

This research examined whether criminal stereotypes—i.e., beliefs about the typical characteristics of crime perpetrators—influence mock jurors' judgments of guilt in cases involving confession evidence. Mock jurors (N = 450) read a trial transcript that manipulated whether a defendant's ethnicity was stereotypic or counterstereotypic of a crime, and whether the defendant had confessed to the crime or not. When a confession was present, the transcript varied whether the confession had been obtained using high-pressure or low-pressure interrogation tactics. Consistent with the hypothesis, the presence of a confession (relative to no confession) increased perceptions of the defendant's guilt when the defendant was stereotypic of the crime, regardless of the interrogation tactics that had been used to obtain it. When the defendant was counterstereotypic of the crime, however, the presence of a confession did not significantly increase perceptions of guilt, even when the confession was obtained using low-pressure interrogation tactics. These findings demonstrate the potentially powerful effects of criminal stereotypes on legal judgments and suggest that individuals who fit a criminal stereotype may be disadvantaged over the course of the criminal justice process.

Public Significance Statement
This research provided the strongest test to date of the notion that criminal stereotypes bias legal judgments by examining whether confession evidence differentially affects perceptions of guilt for stereotypic and counterstereotypic defendants. Results indicated that the presence of a confession increased perceptions of guilt when a defendant was stereotypic, regardless of the interrogation tactics used to secure the confession. However, the presence of a confession did not increase perceptions of guilt when a defendant was counterstereotypic, even when it was obtained using low-pressure interrogation tactics. These results underscore the potential for criminal stereotypes to bias legal judgments and suggest that individuals who fit a criminal stereotype may be at increased risk of wrongful conviction.

Keywords: criminal stereotypes, confirmation bias, contextual bias, interrogation, confession

In June of 2003, Moroccan immigrants Abdel-Ilah Elmardoudi and Karim Koubriti were tried and convicted in U.S. federal court for supporting terrorist activities associated with the September 11th attacks on New York City and Washington, D.C. At their trial, Elmardoudi and Koubriti were called "Islamic extremists" as circumstantial evidence was brought against them in a case that later crumbled under the scrutiny of a Justice Department investigation. In a published analysis of the case, the Department of Justice reported that the prosecution had "created a record filled with misleading inferences" and that multiple pieces of exculpatory evidence had been withheld from the defense (Hakim & Lichtblau, 2004, para. 63). Elmardoudi's and Koubriti's convictions were set aside and the charges against them were dismissed (National Registry of Exonerations, 2018).

Recent research on criminal stereotypes suggests that the prosecutions of Elmardoudi and Koubriti might have been propelled by the fact that they "fit the stereotype" of a terrorist. Consistent with the intimations of current sociopolitical relations in the United States, a recent study found that Americans tend to think of terrorists as being Middle Eastern, Muslim, male immigrants—all traits that characterized both Elmardoudi and Koubriti (Smalarz, Madon, Yang, Guyll, & Buck, 2016). Moreover, the extent to which an individual fits a criminal stereotype has been shown to bias legal decision making. For example, research has shown that mock jurors selectively attend to and remember trial information in

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Laura Smalarz, Department of Psychology, Williams College; Stephanie Madon, Department of Psychology, Iowa State University; Anna Turosak, Department of Psychology, Wichita State University.

Correspondence concerning this article should be addressed to Laura Smalarz, Department of Psychology, Williams College, 25 Stetson Court, Williamstown, MA 01267. E-mail: laura.smalarz@williams.edu

a manner consistent with their stereotypes, thereby producing different guilt judgments for stereotypic versus nonstereotypic defendants (Bodenhausen, 1988; Bodenhausen & Lichtenstein, 1987; McKimmie, Masters, Masser, Schuller, & Terry, 2013). People tend to recommend harsher punishment for individuals who commit stereotypic transgressions than for individuals who commit nonstereotypic transgressions (Bodenhausen & Wyer, 1985). And people's perceptions of the outcomes of criminal trials have been shown to vary as a function of the extent to which a defendant fits a criminal stereotype (Bodenhausen, 1990).

Little research, however, has examined the extent to which criminal stereotypes influence evaluations of criminal evidence. Some early research in this domain suggested that stereotypes serve as a central theme around which case evidence is organized, such that stereotype-consistent evidence is processed more thoroughly and remembered better than is stereotype-inconsistent evidence (e.g., Bodenhausen, 1988; Bodenhausen & Lichtenstein, 1987). More recent research has demonstrated clear effects of criminal stereotypes on evidence evaluations. Drawing from the body of work that has demonstrated the powerful effects of contextual information on interpretations of forensic evidence (i.e., the *forensic confirmation bias*; see Kassin, Dror, & Kukucka, 2013), Smalarz and colleagues (2016) tested whether criminal stereotypes influenced evaluations of forensic fingerprint evidence. In their experiment, mock fingerprint examiners viewed a pair of fingerprints and made judgments about whether or not the prints matched. The prints had supposedly been obtained from a fingerprint database, and the suspect in question either matched or did not match a criminal stereotype associated with the crime. The results showed a clear bias against the stereotypic suspect: The mock fingerprint examiners were nearly twice as likely to judge the prints as a match when the suspect fit a criminal stereotype than when the suspect did not fit a criminal stereotype.

On the basis of their results, Smalarz and colleagues (2016) speculated that criminal stereotypes operate as a source of bias throughout the criminal justice process. To date, however, research on the effects of criminal stereotypes on evaluations of evidence is limited. Moreover, Smalarz and colleagues' demonstration of criminal-stereotype effects on evidence evaluation was in the domain of forensic fingerprint analysis, which might be particularly susceptible to biases arising from criminal stereotypes because forensic analyses are often open to interpretation and subjectivity (National Academy of Sciences, 2009). The question remains, therefore, as to whether criminal stereotypes have the potential to bias evaluations of other less subjective forms of criminal evidence. The goal of the current research was to conduct the strongest test to date of the idea that criminal stereotypes bias evaluations of evidence by examining whether criminal stereotypes influence legal judgments in cases involving one of the most powerful forms of incriminating evidence: criminal confessions.

The Powerful Nature of Confession Evidence

It is undisputed that confessions are a powerful form of evidence (e.g., Kassin, 2012; Leo, 2008). The notion that someone would confess to a crime that he or she did not commit defies common sense; hence, confessions are inherently persuasive (Kassin et al., 2010; Kassin & Gudjonsson, 2004). Experimental research has shown that the presence of a confession can taint other evidence in a case, including eyewitness identification evidence (Hasel & Kassin, 2009), forensic fingerprint and handwriting evidence (Dror, Charlton, & Péron, 2006; Kukucka & Kassin, 2014), polygraph evidence (Elaad, Ginton, & Ben-Shakhar, 1994), and alibi evidence (Marion, Kukucka, Collins, Kassin, & Burke, 2016). Archival analyses of DNA-exoneration cases confirm the idea that confessions can corrupt evidence obtained subsequent to the confession: Proven wrongful conviction cases that involved a false confession were particularly likely to also have involved invalid forensic evidence, eyewitness errors, and informant or "snitch" testimony (Kassin, Bogart, & Kerner, 2012). Recent research even suggests that confession evidence is so powerful that it can trump exculpatory DNA evidence under some conditions (Appleby & Kassin, 2016; Garrett, 2015).

The incriminating power of confession evidence has also been documented in research examining jurors' and judges' evaluations of confessions at trial. Kassin and Sukel (1997) conducted a seminal investigation of the extent to which jurors' verdicts are influenced by confession evidence that was obtained through the use of high-pressure interrogation methods. In their study, mock jurors read a transcript of a murder trial containing a confession that had been elicited using either high-pressure or low-pressure interrogation tactics. In the high-pressure interrogation, the defendant reported having been in physical pain because of his handcuffs and that the officer had waved his gun threateningly in the defendant's face. In the low-pressure interrogation, the defendant was said to have confessed immediately upon questioning. A no-confession control condition was also included in which the defendant was said to have denied culpability during the interrogation.

Although the mock jurors appropriately perceived the confession as less voluntary when it was obtained using high-pressure than low-pressure tactics, they did not correspondingly adjust their verdicts. Instead, participants rendered guilty verdicts at a significantly higher rate when the defendant confessed following a high-pressure interrogation than when the defendant had not confessed. Moreover, the mock jurors inaccurately reported that their verdicts had not been influenced by the confession evidence when it was obtained using high-pressure tactics. These results have been replicated with real trial judges (Wallace & Kassin, 2012). Like the mock jurors in Kassin and Sukel's (1997) study, the judges acknowledged that the confession obtained using high-pressure tactics was coerced, but their verdicts were nonetheless influenced by its presence.

Taken together, the results of these studies suggest an inability of triers of fact to appropriately discount confession evidence that was obtained through the use of coercive interrogation methods. This finding is an important one because the legal system assumes that triers of fact are capable of accounting for the potentially coercive effects of high-pressure interrogation tactics on suspects' confession decisions. For example, in *Lego v. Twomey* (1972), the U.S. Supreme Court stated that jurors could disregard a confession if they judged it to be uncorroborated or otherwise unworthy of belief based on testimony regarding "the circumstances that attend the taking of [the] confession, including facts bearing upon its weight and voluntariness" (p. 486). And in the case of *Arizona v. Fulminante* (1991), the Supreme Court ruled that coerced confession evidence that is erroneously admitted into evidence at trial does not constitute a structural defect but may be regarded as a

harmless error, which does not necessitate a retrial. Hence, in both of these cases, the Supreme Court endorsed the assumption that triers of fact can be relied upon to make rational judgments about confession evidence that was elicited using coercive interrogation tactics. As the research suggests, however, faith in the ability of triers of fact to appropriately discount coerced confession evidence may be misplaced.

The predominant theory of why coerced confessions influence judgments of guilt is based on a well-established social psychological phenomenon called the *fundamental attribution error*. The fundamental attribution error is the tendency for people to make dispositional inferences for others' behavior without sufficiently accounting for situational influences (E. E. Jones & Harris, 1967; Gilbert & Malone, 1995; Ross, 1977). As applied to confessions, it has been theorized that the presence of a confession leads triers of fact to infer guilt (a dispositional inference) despite recognizing the coerciveness of the interrogation (a situational influence; e.g., Kassin & Sukel, 1997; Wallace & Kassin, 2012). In other words, the predominant theory has been that triers of fact have difficulty avoiding the fundamental attribution error when evaluating coerced confession evidence. Although the research supporting this theoretical interpretation is persuasive, the complexity of social judgments suggests that the powerful effects of confession evidence on guilt judgments may be multiply determined.

Criminal Stereotypicality as a Moderator of Confession Evidence Effects

In the current work, we considered the possibility that the power of confession evidence in influencing jurors' guilt judgments depends on the extent to which a defendant fits a criminal stereotype. Criminal stereotypes are people's beliefs about the types of individuals who commit certain crimes (Smalarz et al., 2016). For example, people associate burglary, robbery, and auto theft with African Americans, and embezzlement, fraud, and tax evasion with European Americans (e.g., Esqueda, 1997; Gordon, Bindrim, McNicholas, & Walden, 1988; Sunnafrank & Fontes, 1983). Recent research has documented criminal stereotypes associated with a wide variety of personal characteristics, including ethnicity, sex, age, socioeconomic status, education level, employment status, mental health status, marital status, and others (Skorinko & Spellman, 2013; Smalarz et al., 2016).

A widely established concept in psychology is the idea that people interpret information in a way that is consistent with their prior beliefs (e.g., Nickerson, 1998). Indeed, a sizable body of literature has documented the powerful biasing effects of people's preexisting beliefs and expectations on their interpretations of crime evidence (Kassin et al., 2013). Moreover, research in the stereotyping domain shows that people process criminal evidence in ways that are consistent with their stereotypes and, more generally, that stereotypes serve as a central theme around which people organize and process case evidence (Bodenhausen, 1988; Bodenhausen & Lichtenstein, 1987). To the extent that criminal stereotypes reflect preexisting beliefs about the likely guilt of a defendant, they might also influence evaluations of confession evidence in a manner akin to a confirmation bias process. In fact, early on in the fundamental attribution error literature, researchers theorized that the tendency for people to make dispositional inferences for others' behavior might depend on the degree to which the behavior is judged as being consistent with other information about the person (e.g., Ajzen, Dalto, & Blyth, 1979). Subsequent research provided some support for this idea by showing that observers were more likely to commit the fundamental attribution error when they believed that a target's behavior was consistent with the target's attitude (Miller, Ashton, & Mishal, 1990).

Applying this idea to criminal stereotypes, C. S. Jones and Kaplan (2003) found that mock jurors were more likely to make internal attributions for crimes committed by racially stereotypic defendants than for crimes committed by racially counterstereotypic defendants (see also Gordon, 1990; Gordon & Anderson, 1995). The mock jurors also attributed greater criminal responsibility to racially stereotypic defendants and perceived them as being more likely to commit crimes in the future. These findings suggest that in cases involving defendants who are stereotypic of a crime, triers of fact might be more likely to commit the fundamental attribution error when evaluating coerced confession evidence. Put differently, jurors might be less likely to appropriately discount coerced confession evidence when the confessor is stereotypic as opposed to counterstereotypic of a crime.

Research Overview

The goal of this research was to assess the influence of criminal stereotypes on jurors' perceptions of guilt in cases involving confession evidence. Consistent with past research on evaluations of confessions (e.g., Kassin & Sukel, 1997; Wallace & Kassin, 2012), we examined how confessions obtained using high-pressure and low-pressure interrogation tactics influenced perceptions of guilt relative to a condition in which no confession was present. If defendant stereotypicality moderates the effect of confession evidence on perceptions of guilt, then the presence of a confession should increase perceptions of guilt (relative to the no-confession control) to a greater extent for a stereotypic than for a counterstereotypic defendant.

We examined the potential moderating effect of defendant stereotypicality on evaluations of confession evidence using mock-trial transcripts for two crimes shown to be associated with criminal stereotypes: terrorism and drive-by shooting. Whereas terrorism tends to be associated with Middle Eastern men, gang activity and drive-by shootings tend to be associated with African American men (e.g., Skorinko & Spellman, 2013; Smalarz et al., 2016). Accordingly, we manipulated whether an Arab American man or an African American man was accused of either terrorism or a gang-related drive-by shooting. In half of the conditions, therefore, the defendant was stereotypic of the crime (Arab American accused of terrorism; African American accused of drive-by shooting), whereas in the other half of the conditions, the defendant was counterstereotypic of the crime (Arab American accused of drive-by-shooting; African American accused of terrorism). In each of the trial transcripts, the defendant was said to have confessed during either a high-pressure or a low-pressure interrogation, or, in the control condition, no mention was made of an interrogation or confession. Our predictions regarding the effects of defendant stereotypicality on guilt judgments in cases involving confessions obtained using high-pressure and low-pressure interrogation tactics are described in turn.

Hypotheses

A large body of literature on the phenomenon of confirmation bias indicates that the tendency to evaluate information in a manner consistent with one's preexisting beliefs is ubiquitous (e.g., Darley & Gross, 1983; Lord, Ross, & Lepper, 1979). Moreover, the attributional literature suggests that perceivers are more likely to commit the fundamental attribution error when a person's behavior is perceived as being consistent with other information about the person, and, further, that people are more likely to make internal attributions for crimes committed by racially stereotypic defendants than for crimes committed by racially counterstereotypic defendants (e.g., Ajzen et al., 1979; C. S. Jones & Kaplan, 2003; Miller et al., 1990). Accordingly, we expected jurors to be more likely to infer guilt based on a confession when a defendant is stereotypic as opposed to counterstereotypic of a crime.

In particular, we hypothesized that when a defendant is stereotypic, the presence of a confession increases perceptions of guilt, regardless of the interrogation tactics used to obtain it—a prediction consistent with findings from prior confession research (i.e., Kassin & Sukel, 1997; Wallace & Kassin, 2012). In other words, we expected jurors to commit the fundamental attribution error when evaluating a stereotypic defendant's confession, attributing the confession to the defendant's guilt even when it was obtained using high-pressure interrogation tactics. When a defendant is counterstereotypic, however, we expected jurors to be less likely to infer guilt on the basis of a confession that was obtained using high-pressure interrogation tactics. In other words, we expected jurors to be less likely to commit the fundamental attribution error when evaluating a counterstereotypic defendant's confession. Accordingly, we hypothesized that confession evidence obtained using high-pressure tactics does not as strongly increase perceptions of guilt when a defendant is counterstereotypic as opposed to stereotypic.

With regard to the effect of a confession obtained using low-pressure tactics on perceptions of a counterstereotypic defendant's guilt, the extant literature suggests two possibilities. On the one hand, a confession offered in the absence of external coercion is arguably best attributed to dispositional causes and may, therefore, be perceived as diagnostic of guilt even for a counterstereotypic defendant. On the other hand, research on the phenomenon of confirmation bias (Nickerson, 1998), as well as recent research showing that people evaluate confession evidence in a manner that allows them to maintain consistency with their preferred verdict (Greenspan & Scurich, 2016), suggests that even a confession elicited using low-pressure interrogation tactics might be viewed through the lens of jurors' preexisting beliefs about the defendant's guilt. Hence, it is possible that a confession secured using low-pressure tactics does not as strongly increase perceptions of guilt when a defendant is counterstereotypic as opposed to stereotypic. In light of these two theoretically based alternatives, we withheld making a definitive prediction regarding the effects of confession evidence secured using low-pressure tactics on perceptions of a counterstereotypic defendant's guilt.

Predicted Data Patterns

If defendant stereotypicality moderates the effect of confession evidence on perceptions of guilt, then we would expect to observe a significant three-way interaction between crime type, defendant ethnicity, and confession evidence on perceptions of guilt. Specifically, we predicted that the presence of a confession secured using high-pressure interrogation tactics (relative to a no-confession control) increases perceptions of guilt to a greater extent for a stereotypic defendant than for a counterstereotypic defendant. We predicted that the presence of a confession secured using low-pressure interrogation tactics (relative to a no-confession control) increases perceptions of guilt for a stereotypic defendant; however, whether it similarly increases perceptions of guilt for a counterstereotypic defendant remained an open question.

Method

Participants

Participants were 515 undergraduates at a large Midwestern university (316 women, 199 men) with a mean age of 19.5 years. Participants were native English speakers and included 25 African Americans, 12 Asians/Pacific Islanders, 439 Caucasians, two Indians, 16 Latinos, 20 participants who self-described as multiethnic, and one participant who did not indicate her ethnicity. The research was approved by the Institutional Review Board at Iowa State University.

Design and Materials

Participants were randomly assigned to a 2 (defendant ethnicity: Arab American vs. African American) × 2 (crime: terrorism vs. drive-by shooting) × 3 (confession evidence: high-pressure vs. low-pressure vs. no confession) fully crossed, between-subjects factorial design. We manipulated these factors using 12 different versions of a mock-trial transcript, as described below.

Defendant ethnicity. To manipulate the defendant's ethnicity, each transcript included a profile of the defendant. In the Arab American conditions ($n = 268$), the profile identified the defendant as Abdul-Ahad Al Farouqi and a photo of a young man who appeared to be Arab American was shown above the defendant's name. In the African American conditions ($n = 247$), the profile identified the defendant as Tyrone Jackson and a photo of a young man who appeared to be African American was shown above the defendant's name. Throughout the mock-trial transcripts, the appropriate name was used whenever the defendant was referenced.

Crime. In the terrorism transcript ($n = 242$), a Detroit office building was said to have been bombed by a van filled with explosives, leading to the collapse of the building and the death of over half of the building's 500 employees. The prosecution presented evidence that the defendant was identified by an eyewitness as the driver of the van and that the defendant's computer search history revealed searches of information regarding terrorist attacks and anti-American rhetoric. The defense argued that the computer searches were among many searches relevant to the defendant's college classes and that the defendant was at home with his mother at the time of the bombing. The transcripts were 31 (no-confession control condition) to 34 (confession evidence conditions) pages long and included opening statements, closing arguments, and testimony from five individuals: three who testified on behalf of the prosecution (a parking lot attendant from the office building, an office employee, and the police investigator) and two who testified on behalf of the defense (the defendant's mother and the defen-

dant). The transcripts concluded with a judge's instruction on the presumption of innocence, burden of proof, and reasonable doubt.

In the drive-by shooting transcript ($n = 273$), a drive-by shooting was said to have occurred in Detroit, killing one young man and injuring two others. The prosecution alleged that the defendant was a member of a gang and presented evidence that the defendant was identified by an eyewitness and was found to be in possession of clothing similar to the clothing worn by the shooter. The defense argued that the defendant did not belong to a gang, that many people owned such clothing, and that the defendant was at home with his mother at the time of the shooting. The transcripts were 27 (no-confession control condition) to 30 (confession evidence conditions) pages long and included opening statements, closing arguments, and testimony from five individuals: three who testified on behalf of the prosecution (the manager of a convenience store near the site of the shooting, an eyewitness to the shooting, and the police investigator) and two who testified on behalf of the defense (the defendant's mother and the defendant). The transcripts concluded with a judge's instruction on the presumption of innocence, burden of proof, and reasonable doubt. All transcripts are available upon request.

Confession evidence. In both the high-pressure and the low-pressure conditions, the testifying police officer reported that the defendant confessed during interrogation. In the high-pressure conditions ($n = 182$), the defendant testified that he had been handcuffed during the interrogation, berated by the police officer, and threatened with a gun and with a harsh treatment. He later claimed that he confessed only because he was scared. In the low-pressure conditions ($n = 160$), the defendant testified that he confessed only because he was nervous. The specific details regarding the high- and low-pressure interrogations were presented through the testimony of the interrogating police officer and the defendant, as described in the next sections. In the no-confession control conditions ($n = 173$), no mention was made of an interrogation or a confession.

High-pressure conditions. In the high-pressure interrogation conditions, the interrogating officer testified that he told the defendant "that if he did not confess to the [bombing/shooting], he would be treated very poorly during his detention and that the judge would surely be very hard on him—maybe even the maximum sentence," after which the defendant confessed. When asked about his confession, the defendant testified he had also been physically threatened by police:

> They kept questioning me about it for a long time. They had me handcuffed, the officer berated me and he kept waving his gun at me. I was scared, so I said I did it. I mean, I didn't know what else they might do to me. I later took it back; I didn't do it.

When the interrogating officer was cross-examined about the interrogation, he said that he did not remember whether such events had taken place and that the interrogation had not been videotaped.

Low-pressure conditions. In the low-pressure interrogation conditions, the interrogating officer testified that as soon as he mentioned the charges and described the evidence against the suspect, "[the suspect] immediately confessed that he did the [bombing/shooting]." When asked about the confession, the defendant stated the following:

> Well, I did [confess]. But I later took that back. See I was just real nervous about all this stuff happening—the arrest and all. And I couldn't see a way out after they arrested me and all. They made it seem like if I admitted it, then things wouldn't work out as bad for me. But I didn't do it.

When the interrogating officer was cross-examined about the interrogation, the officer claimed that although no videotape was made of the interrogation, the (relatively short) duration of the interrogation could be verified by his notes in the police log.

Dependent Variables

Guilt-relevant judgments. Participants made two guilt-relevant judgments. First, participants rendered a verdict of "guilty" or "not guilty." Participants then provided an estimate of the probability that the defendant committed the crime (0% to 100%).

Standard of proof judgment. To assess whether mock jurors' beliefs about the standard of proof necessary for rendering a guilty verdict varied as a function of defendant stereotypicality, participants completed the following measure: "The defendant should be found guilty if there is at least a ____% chance that he committed the crime."

Perceptions of impartiality. To assess perceived impartiality, participants indicated the extent to which they felt that they were able to render fair and impartial judgments in the case on a 10-point scale with anchors 1 (*not at all able*) and 10 (*completely able*).

Attention check. To ensure that participants had attended sufficiently to the content of the mock-trial transcripts, they reported whether or not the defendant had confessed to the crime.

Perceptions of the confession. Participants whose transcript involved a confession evaluated the confession evidence along two dimensions. To assess whether perceptions of interrogation pressure varied as a function of the use of high-pressure or low-pressure interrogation tactics, participants indicated how much pressure they believed the police exerted on the defendant to confess on a 10-point scale with anchors 1 (*no pressure*) and 10 (*extreme pressure*). To examine whether defendant stereotypicality influenced evaluations of the voluntariness of the confession, participants indicated whether they believed the confession had been offered voluntarily or involuntarily.

Defendant stereotypicality. Participants answered eight questions (presented in the Appendix) that assessed the extent to which they perceived the defendant as stereotypic of the crime (e.g., "How typical is the defendant of somebody you think would commit this crime?"; "How much does the defendant fit your expectations about who would commit this crime?"). Participants responded to these questions on a 10-point scale (anchors shown in the Appendix; $\alpha = .89$). We reverse scored the items as necessary and then averaged participants' responses to create one score per participant. Higher values corresponded to greater perceived stereotypicality.

Procedure

Participants were run in groups of up to 10 at a time. After obtaining informed consent, an experimenter told participants that they would read a transcript from a criminal trial and then answer

questions about it. Participants were instructed to imagine that they were real jurors in the case and were informed that they would be asked to make a determination about the defendant's guilt or innocence after reading the trial transcript. At this point, each participant received one of 12 mock-trial transcripts, which took approximately 30 min to read. After reading the transcript, participants reported their guilt-relevant judgments, standard-of-proof judgment, and perceived impartiality. All participants then answered the attention-check question, and participants whose transcript involved a confession also reported their perceptions of the confession evidence. Finally, all participants reported their perceptions of the defendant's criminal stereotypicality, after which they were fully debriefed.

Results

Attention Check

To assess whether participants had paid sufficient attention to the trial transcript, we examined the frequency with which they correctly reported whether the defendant had confessed. The results indicated that 65 participants (12.6%) incorrectly reported this information. Therefore, we excluded these participants from the subsequent analyses, leaving 450 participants in the final sample.

Manipulation Checks

Defendant stereotypicality. To examine whether the experimental manipulations effectively varied the perceived stereotypicality of the defendant, we performed a 2 × 2 × 3 (Defendant Ethnicity × Crime × Confession Evidence) ANOVA in which the dependent variable was participants' judgments of the defendant's criminal stereotypicality. The results showed a significant main effect of defendant ethnicity, $F(1, 432) = 12.22$, $p = .001$, such that participants judged the Arab American defendant as being more stereotypic of both terrorism ($M = 7.27$, $SD = 1.45$) and drive-by-shooting ($M = 6.07$, $SD = 1.44$) than the African American defendant ($M_{\text{terrorism}} = 5.40$, $SD = 1.82$; $M_{\text{drive-by-shooting}} = 6.93$, $SD = 1.24$). Importantly, however, this main effect was qualified by a Defendant Ethnicity × Crime interaction, $F(1, 432) = 94.59$, $p < .001$. Follow-up Least Significant Difference (LSD) contrasts indicated that participants judged the Arab American defendant as significantly more stereotypic of the crime of terrorism than of the crime of drive-by shooting (Ms = 7.27 vs. 6.07), $F(1, 432) = 36.75$, $p < .001$, $d = .81$, 95% confidence interval (CI) [.54, 1.08], and judged the African American defendant as significantly more stereotypic of the crime of drive-by shooting than of the crime of terrorism (Ms = 6.93 vs. 5.40), $F(1, 432) = 59.18$, $p < .001$, $d = 1.04$, 95% CI [.76, 1.31]. Hence, the experimental manipulations of defendant ethnicity and crime were effective in varying participants' perceptions of both defendants' stereotypicality. None of the other main effects or interactions was significant, Fs(1, 432) ≤ 1.93, ps ≥ .146.

Interrogation pressure. To confirm the effectiveness of the high-versus low-pressure interrogation tactics manipulation in the conditions involving a confession, we performed a 2 × 2 × 2 (Defendant Ethnicity × Crime × Confession Evidence) ANOVA in which the dependent variable was participants' ratings of the extent to which the police pressured the defendant to confess. As expected, the pressure ratings were significantly higher for the high-pressure ($M = 8.02$, $SD = 1.68$) than for the low-pressure ($M = 5.11$, $SD = 2.30$) conditions, $F(1, 270) = 146.17$, $p < .001$, $d = 1.45$, 95% CI [1.19, 1.72]. Hence, the manipulation of interrogation pressure was effective. None of the other main effects or interactions was significant, Fs(1, 270) ≤ 2.04, ps ≥ .154.

Perceptions of Guilt

We hypothesized that confession evidence has a stronger effect on perceptions of guilt when a defendant is stereotypic of a crime as opposed to counterstereotypic of a crime. Support for this hypothesis would be evidenced by a three-way interaction between defendant ethnicity, crime, and confession evidence on participants' perceptions of guilt. As noted earlier, participants provided two guilt-relevant judgments: They rendered a verdict of "guilty" or "not guilty" and estimated the probability that the defendant committed the crime. Verdicts are displayed in Figure 1, and the probability-of-guilt judgments are displayed in Figure 2.

Verdicts. We conducted a logistic regression analysis using reference (i.e., dummy) coding on participants' verdicts using SAS PROC LOGISTIC, including as categorical predictors the three experimental manipulations of defendant ethnicity, crime, and confession evidence and each of the corresponding two- and three-way interactions. Because we used the no-confession control as the reference group for the confession factor, this analysis compared both the high-pressure and low-pressure confession evidence conditions with the no-confession control condition. The full set of results is presented in Table 1. Here, we focus on the hypothesized three-way interaction.

The three-way interaction between defendant ethnicity, crime, and confession evidence did not reach significance, Wald $\chi^2 = 3.90$, $p = .142$. However, as shown in Figure 1, the pattern of results is consistent with the hypothesis that defendant stereotypicality moderates the effects of confession evidence on verdicts. Specifically, in the stereotypic-defendant conditions, the presence of a confession tended to increase guilty verdicts (relative to the no-confession control condition), regardless of whether the confession was obtained using high- or low-pressure interrogation tactics. In the counterstereotypic-defendant conditions, by contrast, the presence of a confession did not tend to increase guilty verdicts when the confession was obtained using high-pressure interrogation tactics; in fact, a confession obtained using high-pressure tactics tended to decrease guilty verdicts for the counterstereotypic defendants relative to the no-confession control condition. It is possible that our sample size of 450 had insufficient power to detect the three-way interaction on the dichotomous measure of verdict. Indeed, the results of a power analysis conducted using simulations that treated the observed proportions across the 12 conditions as the true population proportions indicated that we would need a sample size of at least 1,200 participants to obtain sufficient power (80%) for detecting a three-way interaction of the size we observed in our data. Accordingly, we next analyzed the effects of our manipulations on the more sensitive continuous measure of probability-of-guilt judgments.

Probability of guilt. The results of a 2 × 2 × 3 (Defendant Ethnicity × Crime × Confession Evidence) ANOVA on the probability-of-guilt judgments yielded a statistically significant

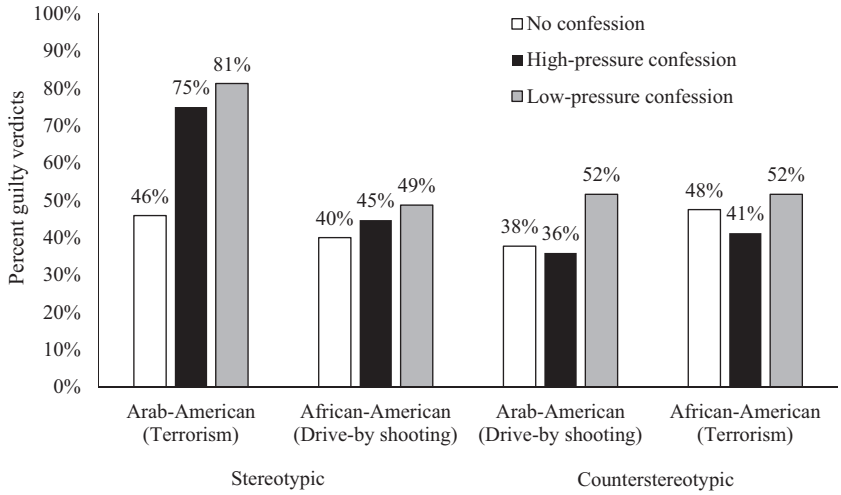

Figure 1. Percent of participants who rendered a guilty verdict in each of the 12 conditions.

three-way interaction that was analogous to the pattern obtained with the verdict measure, $F(2, 431) = 3.66$, $p = .027$. Table 2 shows the full set of results; here, we focus on the follow-up analyses for the three-way interaction that pertain to the hypotheses under investigation.

Stereotypic defendants. As predicted, when the defendant was stereotypic of the crime, the presence of a confession tended to increase perceptions of guilt, regardless of the interrogation tactics used to obtain it. For the Arab American defendant accused of terrorism, the presence of a confession significantly influenced probability-of-guilt judgments, $F(2, 431) = 6.33$, $p = .002$. LSD contrasts indicated that a confession obtained using high-pressure tactics ($M = 71.31$, $SD = 24.98$) or low-pressure tactics ($M = 77.65$, $SD = 24.20$) significantly increased probability-of-guilt judgments relative to the no-confession control ($M = 55.19$, $SD = 32.85$) for the Arab American defendant accused of terrorism: high pressure, $t(431) = 2.54$, $p = .012$, $d = .29$, 95% CI [.06, .51]; low pressure, $t(431) = 3.40$, $p = .001$, $d = .40$, 95% CI [.17, .63]. This same pattern was observed for the African American defendant accused of drive-by shooting, though the overall effect of the confession evidence was not significant, $F(2, 431) = .425$, $p = .654$.

Although the presence of a confession did not significantly influence participants' probability-of-guilt judgments for the stereotypic African American defendant, the pattern of results mirrored those of the stereotypic Arab American defendant. To further explore these patterns, we investigated whether the effect of confession evidence on perceptions of guilt for the stereotypic defendants varied significantly as a function of defendant ethnicity. We conducted a 2 × 3 (Defendant Ethnicity × Confession Evidence) ANOVA that examined the effects of defendant ethnicity, confession evidence, and their interaction on probability-of-guilt judgments for the two stereotypic defendants. Not only did the effects of the confession evidence for the stereotypic defendants not vary significantly as a function of defendant ethnicity, $F(2, 212) = 2.03$, $p = .134$, but the confession-evidence effects remained

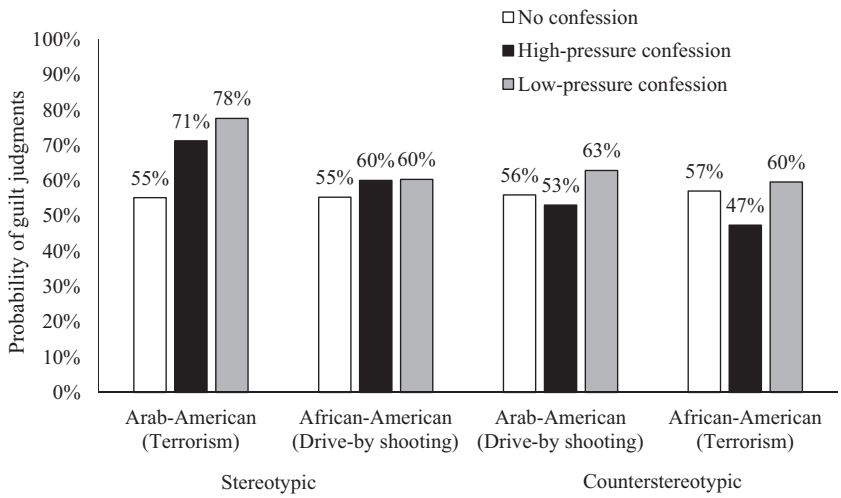

Figure 2. Probability-of-guilt judgments in each of the 12 conditions.

Table 1
Logistic Regression Results for Guilty Verdicts

Effect	B (SE_b)	Wald χ^2	p	OR	95% CI (OR)
Intercept	−.41 (.32)	1.58	.209	.67	
Defendant ethnicity	−.10 (.43)	.05	.824	.91	[.39, 2.11]
Crime	.31 (.45)	.46	.499	1.36	[.56, 3.29]
Confession evidence					
High pressure	.19 (.46)	.18	.672	1.21	[.49, 2.99]
Low pressure	.35 (.45)	.61	.436	1.43	[.58, 3.48]
Defendant Ethnicity × Crime	.03 (.63)	.00	.958	1.03	[.30, 3.53]
Defendant Ethnicity × Confession Evidence					
Defendant Ethnicity × High Pressure	−.27 (.63)	.19	.667	.76	[.22, 2.64]
Defendant Ethnicity × Low Pressure	.21 (.65)	.11	.744	1.24	[.35, 4.37]
Crime × Confession Evidence					
Crime × High Pressure	−.45 (.66)	.47	.493	.64	[.18, 2.31]
Crime × Low Pressure	−.19 (.66)	.08	.774	.83	[.23, 3.02]
Defendant Ethnicity × Crime × Confession Evidence					
Defendant Ethnicity × Crime × High Pressure	1.79 (.94)	3.64	.056	6.00	[.95, 37.74]
Defendant Ethnicity × Crime × Low Pressure	1.25 (.98)	1.64	.201	3.50	[.51, 23.88]

Note. Degrees of freedom = 1. Defendant ethnicity reflects the effect of Arab American defendant compared to African American defendant. Crime reflects the effect of terrorism compared to drive-by shooting. High pressure reflects effect of high-pressure confession evidence compared to no confession. Low pressure reflects effect of low-pressure confession evidence compared to no confession. SE = standard error; OR = odds ratio; CI = confidence interval.

significant across both stereotypic defendants, regardless of whether the confession was obtained using high-pressure or low-pressure interrogation tactics, ts(212) ≥ 2.40, ps ≤ .017. These findings indicate that although the effects of the confession evidence on probability-of-guilt judgments were muted for the stereotypic African American defendant, they did not differ significantly from those observed in the stereotypic Arab American defendant conditions. This result provides further support for the hypothesis that the presence of a confession secured using high- or low-pressure interrogation tactics increases perceptions of a stereotypic defendant's guilt.

Counterstereotypic defendants. When the defendant was counterstereotypic of the crime, the presence of a confession did not significantly increase participants' perceptions of guilt. For both the Arab American defendant accused of drive-by shooting and the African American defendant accused of terrorism, the presence of a confession did not significantly influence probability-of-guilt judgments, Fs(2, 431) ≤ 1.89, ps ≥ .153. Note that the confession effect that was closest to attaining significance for the counterstereotypic defendants was in the cell in which the African American defendant was accused of terrorism. This effect was driven by the tendency of a confession secured using high-pressure interrogation tactics to *decrease* participants' probability-of-guilt judgments relative to the no-confession control condition, $t(431) = 1.51$, $p = .132$. These findings provide support for the hypothesis that fact finders are more likely to discount coerced confessions when the defendant is counterstereotypic as opposed to stereotypic of a crime. Further, they suggest that even when a confession is obtained using low-pressure interrogation tactics, it is less likely to increase perceptions of guilt for a counterstereotypic than for a stereotypic defendant.

Standard of proof. To assess whether defendant stereotypicality influenced participants' beliefs about the probability of guilt necessary to find the defendant guilty, we analyzed participants' standard-of-proof judgments using a 2 × 2 × 3 (Defendant Ethnicity × Crime × Confession Evidence) ANOVA. The results revealed a significant main effect of defendant ethnicity such that participants reported that a lower standard of proof was required to find the Arab American defendant guilty ($M = 80.23$, $SD = 20.10$) than to find the African American defendant guilty ($M = 83.61$, $SD = 16.32$), $F(1, 436) = 4.63$, $p = .032$, $d = .20$, 95% CI [.02,

Table 2
ANOVA Results for Perceptions of Guilt

Effect	df	F	p	η_p^2	90% CI
Defendant ethnicity	1	5.37	.021	.012	[.00, .04]
Crime	1	1.73	.189	.004	[.00, .02]
Confession evidence	2	4.48	.012	.020	[.00, .04]
Defendant Ethnicity × Crime	1	7.87	.005	.018	[.00, .04]
Defendant Ethnicity × Confession Evidence	2	1.76	.173	.008	[.00, .02]
Crime × Confession Evidence	2	.53	.590	.002	[.00, .01]
Defendant Ethnicity × Crime × Confession Evidence	2	3.66	.027	.017	[.00, .04]

Note. CIs for η_p^2 were computed using scripts developed by Wuensch (2012) and, as explained by Steiger (2004) and Lakens (2014), reflect a 90% CI. df = degrees of freedom; CI = confidence interval.

.39]. None of the other main effects or interactions was significant, indicating that participants did not endorse a lower standard-of-proof requirement for a stereotypic than for a counterstereotypic defendant, Fs(1, 436) $\leq$ 3.30, ps $\geq$ .070.

Perceptions of confession voluntariness. Overall, 57.2% of participants whose transcript involved a confession perceived the defendant's confession to be voluntary. Figure 3 shows the rate of judging the confession evidence as voluntary separately by condition. To statistically evaluate these patterns, we performed a 2 × 2 × 2 (Defendant Ethnicity × Crime × Confession Evidence) logistic regression analysis using reference coding on participants' voluntariness judgments in the conditions that included a confession. The results of the analysis revealed a significant main effect of confession evidence such that participants were more likely to judge the confession as voluntary when it was obtained using low-pressure (76.7%) versus high-pressure (39.3%), interrogation tactics, Wald χ^2 = 15.56, p < .001, odds ratio = 7.88, 95% CI [2.83, 21.97]. None of the other main effects or interactions was significant, Wald χ^2s $\leq$ 1.79, ps $\geq$ .182. Hence, participants' perceptions of the voluntariness of the confession did not depend on the defendant's criminal stereotypicality.

Perceived fairness and impartiality. Participants' perceptions of the extent to which they rendered fair and impartial judgments were analyzed using a 2 × 2 × 3 (Defendant Ethnicity × Crime × Confession Evidence) ANOVA. None of the main effects or interactions was significant, indicating that participants' beliefs about the extent to which they were able to make fair and impartial decisions did not vary as a function of defendant stereotypicality, Fs $\leq$ 1.64, ps $\geq$ .196. This finding is consistent with prior work showing that people are unaware of the extent to which criminal stereotypes bias their judgments (e.g., Smalarz et al., 2016).

Discussion

The goal of this research was to investigate whether criminal stereotypes have the potential to bias legal judgments in cases involving one of the most powerful forms of criminal evidence: confessions. A large body of literature has shown that confessions are highly persuasive and can corrupt other case evidence or simply trump the evidence altogether (Appleby & Kassin, 2016; Dror et al., 2006; Elaad et al., 1994; Hasel & Kassin, 2009; Kukucka & Kassin, 2014). Past research on coerced confessions has led researchers to conclude that triers of fact have difficulty appropriately discounting confession evidence that was elicited using high-pressure interrogation tactics (e.g., Kassin & Sukel, 1997; Wallace & Kassin, 2012). In the current work, however, the influence of confession evidence on mock jurors' perceptions of guilt was moderated by a defendant's stereotypicality. For defendants who fit a criminal stereotype, the presence of a confession significantly increased perceptions of guilt, regardless of whether the confession was obtained using high- or low-pressure interrogation tactics—a finding consistent with past research. For counterstereotypic defendants, however, the presence of a confession did not significantly increase perceptions of guilt no matter the interrogation tactics used to obtain it.

The idea that criminal stereotypes might be powerful enough to override the impact of confession evidence on jurors' judgments of guilt is alarming given that the stereotypicality of a criminal defendant is an extraevidentiary factor—a factor that is irrelevant to the nature, quality, and quantity of evidence presented at trial but that nevertheless influences juror decision making (e.g., Devine, Buddenbaum, Houp, Studebaker, & Stolle, 2009; Kerr, MacCoun, & Kramer, 1996; Levett, Danielsen, Kovera, & Cutler, 2005). It has been theorized that extraevidentiary factors influence legal judgments only to the extent that evidence in the case is ambiguous and the judgment is not clear-cut (i.e., the liberation hypothesis; Devine et al., 2009; Kalven & Zeisel, 1966). However, in the current research, criminal stereotypes influenced mock jurors' perceptions of guilt even when the confession evidence unambiguously implied guilt (i.e., when the confession was obtained using low-pressure interrogation tactics). This finding is concerning because confession evidence obtained without the use of coercion *should* increase the probability of conviction, regardless of the stereotypicality of the person who offered the confession. Though both legally and logically surprising, this finding is

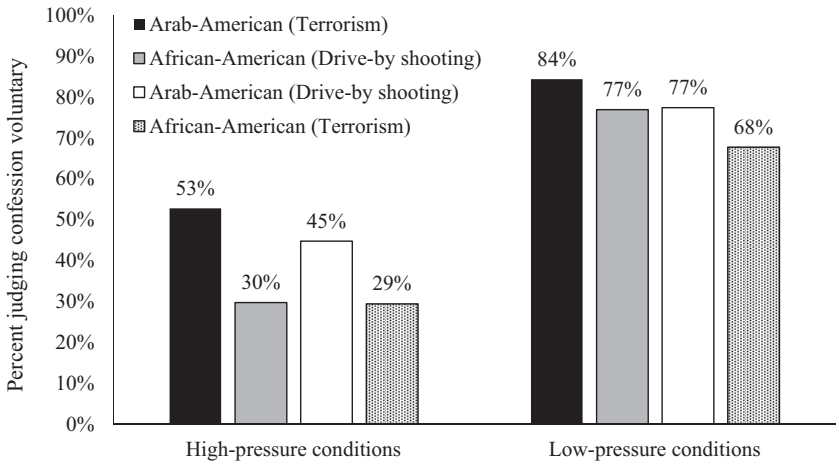

Figure 3. Percent of participants judging a confession obtained using high-pressure and low-pressure tactics as voluntary in each of the four defendant ethnicity and crime type conditions.

consistent with social-psychological theory and research on biased information processing (Nickerson, 1998), and with research on the influence of stereotypes on evaluations of case evidence (e.g., Bodenhausen, 1988; Bodenhausen & Lichtenstein, 1987).

It is important to note, however, that the confession evidence in the current research was weak in the sense that it was presented via the secondhand accounts of the police officer and defendant. In real criminal cases, police are trained to elicit not only admissions of guilt but also full narrative statements from criminal suspects (see Inbau, Reid, Buckley, & Jayne, 2015). Future research should investigate the boundary conditions of the extraevidentiary effects observed in the current research—in particular, whether criminal stereotypes are powerful enough to override the influence of more detailed narrative confessions or videotaped confessions on jurors' legal judgments. Although the confession evidence manipulation we used was similar to manipulations used in past research (e.g., Kassin & Sukel, 1997), it will be important to investigate whether different types of confession evidence (e.g., a simple admission; a full narrative confession that was later retracted; a full narrative confession that was not retracted) are differentially susceptible to the extraevidentiary influence of criminal stereotypes.

To what extent might it be rational for triers of fact to rely on criminal stereotypes when making legal judgments? Although stereotypes are sometimes accurate in the sense that they reflect real differences between groups (Jussim, Crawford, & Rubinstein, 2015; Madon et al., 1998), their application to individuals will frequently lead to errors. To illustrate, consider Davis and Follette's (2002) analysis of the extent to which "intuitive profiles" (i.e., stereotypes) regarding the types of people who tend to commit certain crimes provide probative evidence of guilt. Using Bayesian analysis, Davis and Follette showed that relying on group stereotypes to make inferences about a given group member's guilt can lead to unacceptably high rates of false-positives, particularly when the characteristics used as evidence (e.g., demographic characteristics) are common in the population and the act in question (e.g., terrorist attack) is rare in the population. Davis and Follette argued that intuitive profiles are simply another instantiation of the *representativeness heuristic* (Kahneman & Tversky, 1972), which has long been known to lead to errors in judgment (Kahneman & Tversky, 1973). Hence, they gravely cautioned against the use of intuitive profiling in criminal cases (but see Friedman & Park, 2003, and Kaye & Koehler, 2003). Future research might explore whether judicial remedies such as judges' instructions to disregard the stereotypicality of a defendant or closing statements by defense attorneys that establish criminal stereotypicality as a possible source of bias might make jurors less likely to rely on criminal stereotypes in forming legal judgments. Moreover, it will be useful to investigate the extent to which criminal stereotypes exacerbate confession effects for stereotypic defendants versus buffer counterstereotypic defendants from confession effects on guilt judgments. Because the current research did not include a condition in which no criminal stereotype was present, it remains to be determined whether confession effects are stronger for stereotypic defendants, weaker for counterstereotypic defendants, or both.

A concerning finding in the current research was that participants indicated that a lower standard of proof was required to find the Arab American defendant guilty than to find the African American defendant guilty. This finding may be related to the current tendency for people in the United States to link Muslims with violence (e.g., Pew Research Center, 2013) and support harsh civil restrictions for Arabs and Muslims (e.g., Nisbet, Ostman, & Shanahan, 2009). Even so, it provides evidence of a problematic extraevidentiary bias. Key tasks of a jury are to evaluate the probability of a defendant's guilt and apply that estimate to a standard legal threshold of proof required to render a conviction. The legal threshold itself should remain invariant and not fluctuate according to the characteristics of the defendant. The finding that participants applied a lower standard of proof to the Arab American defendant than to the African American defendant may have dire real-world consequences for Arab Americans charged with criminal offenses.

Another concerning finding in the current work was that participants appeared to be unaware of the extent to which a criminal stereotype had influenced their judgments. Specifically, participants' reports of the extent to which they were able to be fair and impartial jurors did not vary as a function of the stereotypicality of the defendant, despite that their judgments differed significantly across the defendant stereotypicality conditions. These findings mirror those observed by Smalarz et al. (2016) and suggest that jurors are unaware of the extent to which their judgments are influenced by extralegal factors such as criminal stereotypes.

In the current study, the effect of defendant stereotypicality on mock jurors' evaluations of confession evidence was stronger for the Arab American defendant than for the African American defendant. That is, although the confession evidence manipulations yielded the same pattern of results for both defendants (and those patterns did not differ significantly from one another), the effects in the African American defendant conditions were not statistically significant on their own. What might account for these muted results? One possibility is that participants felt more comfortable exhibiting bias toward the Arab American defendant than toward the African American defendant. In the United States, African Americans are a socially protected group, and hence participants may have been particularly conscious of inhibiting their criminal stereotypes when the defendant was African American (e.g., Crandall, Eshleman, & O'Brien, 2002). Indeed, research shows that mock jurors tend to suppress their racial biases against Blacks when race is a salient issue at trial (e.g., Sommers & Ellsworth, 2000, 2001), and that White individuals tend to judge Black targets more favorably than White targets in the context of deception detection—an effect that is predicted by Whites' motivation to respond without prejudice (Lloyd, Hugenberg, McConnell, Kunstman, & Deska, 2017). By contrast, Arab Americans do not hold the same socially protected status in the United States. Research shows that Americans are more willing to blatantly dehumanize Arabs and Muslims than other groups (Kteily, Bruneau, Waytz, & Cotterill, 2015). Hence, mock jurors in our research may have more freely applied their stereotypes of Arab Americans to the case at hand, whereas they may have tried to inhibit their stereotypes of African Americans. Future research should seek to replicate defendant stereotypicality effects in cases in which defendants are stereotypic but are unlikely to invoke stereotype-suppression efforts among participants.

An alternative explanation for the muted effects of confession evidence on perceptions of the stereotypic African American's guilt is that the crime to which the stereotypic African American defendant confessed was less severe than the crime to which the stereotypic Arab American defendant confessed. Specifically,

whereas the drive-by shooting crime resulted in one death and injuries to two other victims, the terrorist attack resulted in more than 250 deaths. Research has shown that people make stronger attributions of responsibility for an accident the greater its perceived severity (Burger, 1981). Accordingly, one might reason that the effect of the confession evidence was stronger for the stereotypic Arab American defendant than for the stereotypic African American defendant in part because the crime of terrorism was more severe. For two reasons, we believe that this interpretation is an unlikely explanation for the result.

First, there is little evidence in our data to suggest that participants attributed greater responsibility to the defendant in the terrorism case. There was no main effect of crime type on participants' probability of guilt judgments or on their evaluations of confession voluntariness. Some evidence in support of this interpretation might be present in the verdict data, which yielded a significant main effect of crime type, with participants rendering more guilty verdicts in the terrorism case than in the drive-by shooting case. Importantly, however, an inspection of the verdict data (see Figure 1) suggests that this main effect was driven by the increase in guilty verdicts when the Arab American defendant confessed to terrorism—a pattern consistent with the interaction effect observed in the probability-of-guilt data. The crime-severity interpretation fails to explain why the severity of the crime would interact with defendant ethnicity, leading participants to increase their perceptions of guilt only when the crime was severe *and* the defendant was Arab American. By contrast, the hypothesis we posed—that confession evidence has a stronger effect on guilt judgments when a defendant is stereotypic—provides a parsimonious explanation of this interaction.

Second, the empirical literature on evaluations of confessions suggests that the crime-severity interpretation provides an unsatisfactory account of the muted effects of confession evidence on perceptions of guilt for the stereotypic African American defendant. In the two published studies showing that people do not appropriately discount coerced confession evidence, the crimes used by the researchers were quite similar in severity to our drive-by shooting crime. Kassin and Sukel (1997) used a case in which the defendant was charged with "the murder of his wife and male neighbor in a fit of jealous rage after finding them together" (p. 31). Wallace and Kassin (2012) also used a murder case in which a woman was found bludgeoned to death in her home, her jewelry and credit cards missing. Yet in both of these studies, the presence of a confession significantly increased perceptions of the defendants' guilt. Hence, the interpretation that the weaker confession effects for the stereotypic African American defendant in our study were due to the fact that his crime was less severe is at odds with past research that has found significant confession effects using crimes of similar severity. It is, however, consistent with the interpretation that participants attempted to suppress their racial biases when the defendant was African American.

A potential limitation of this work involves the ecological validity of the research methodology. In particular, our experiment used written stimulus materials and an undergraduate student sample that did not deliberate prior to rendering their verdicts. Although the results of a recent meta-analysis help to assuage some concerns about the generalizability of student samples (Bornstein et al., 2017), future research would benefit from the use of a more representative sample of community members. Future research might also examine whether the observed findings vary as a function of whether the trial is presented in written or videotaped format. Although research suggests that trial medium does not have clear or uniform effects on legal judgments (Bornstein, 1999), it may be the case that defendant stereotypicality effects are even more pronounced when the defendant is visible throughout the trial, especially if the defendant is perceived as being highly physically stereotypic (see Kleider-Offutt, Bond, & Hegerty, 2017). There may also be value in investigating whether the current findings are attenuated or exacerbated by the process of jury deliberation. The U.S. Supreme Court recently reversed a defendant's conviction after finding that one of the jurors had expressed racial stereotypes during the process of jury deliberation (*Pena-Rodriguez v. Colorado*, 2017). Thus, there is some reason to expect that jury deliberation might not eliminate extraevidentiary biases derived from criminal stereotypes.

Conclusion

In criminal cases, defendants standing trial have already passed through multiple investigatory and litigation phases of the criminal-justice process: the collection and evaluation of evidence by law enforcement and prosecutors, plea-bargaining negotiations, pretrial evidentiary hearings, and so forth. The current research provides the strongest evidence to date that criminal defendants' status as either stereotypic or counterstereotypic operates as a source of bias throughout the criminal justice trajectory. The current research findings combined with those of past research (Smalarz et al., 2016) converge to suggest that individuals who fit a criminal stereotype may be at a cumulative disadvantage over the course of the criminal justice process, putting them at an increased risk of wrongful conviction.

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(*Appendix follows*)

Appendix

Stereotypicality Questionnaire

1. How *typical* is the defendant of somebody you think would commit this crime?									
1	2	3	4	5	6	7	8	9	10
Not at all typical									Very typical
2. How much does the defendant *fit your expectations* about who would commit this crime?									
1	2	3	4	5	6	7	8	9	10
Not at all									Totally
3. How *stereotypic* is the defendant of somebody who would commit this crime?									
1	2	3	4	5	6	7	8	9	10
Not at all stereotypic									Completely stereotypic
4. How much would *people in general* perceive the defendant to be a typical perpetrator of this crime?									
1	2	3	4	5	6	7	8	9	10
Not at all									Very much
5. How *counterstereotypic* is this the defendant of this crime?*									
1	2	3	4	5	6	7	8	9	10
Not at all counterstereotypic									Completely counterstereotypic
6. How much would it *violate your expectations* to find out that the defendant committed this crime?*									
1	2	3	4	5	6	7	8	9	10
Not at all									Very much
7. How much does the defendant *match your idea* of a typical perpetrator of this crime?									
1	2	3	4	5	6	7	8	9	10
Not at all									Very much
8. How well does the defendant *fit your beliefs about the type of person* that would commit this crime?									
1	2	3	4	5	6	7	8	9	10
Not at all									Very much

Note. Reverse-scored items marked with asterisk.

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