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CRIME ALERT!

How Thinking about a Single Suspect Automatically Shifts Stereotypes toward an Entire Group[1]

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Abstract

Crime alerts are meant to raise community awareness and identify individual criminal suspects; they are not expected to affect attitudes and beliefs toward the social group to which an individual suspect belongs. However, psychological principles of learning, categorization, and memory predict that what is learned about an instance can color perception of an entire category. At the intersection of psychology, criminal justice, sociology, and media studies, two experiments were conducted to test the effect that providing individual racial identity in crime alerts has on racial group stereotypes. In Experiment 1, participants visualized four scenarios involving Black or White would-be criminals. Results revealed that in the case where Black would-be criminals were made salient in memory, participants demonstrated significantly more negative implicit stereotypes toward Blacks as a group compared with a condition in which White would-be criminals were more salient in memory. In Experiment 2, participants read a written description of a crime scene with a suspect who was either depicted as White or Black, and then imagined the suspect. On both implicit and explicit measures of group stereotypes obtained afterward, participants who read about a Black criminal reported and revealed more anti-Black/pro-White stereotypes than did those who read about a White criminal. Crime alerts that mention racial identity, whatever their benefit, come with the burden of shifting stereotypes of social groups. In this context, the value of racial identification in crime alerts warrants reconsideration.

Keywords: Stereotypes, Implicit Attitudes, Crime, IAT, Social Cognition, Imagery

INTRODUCTION

Community crime alerts are attempts to prevent burglaries, assaults, rapes, and murders. One cannot help but encounter such notices on an almost daily basis; frequently they take the form of posted flyers, listserv e-mails, or media announcements. What they generally have in common is a vague description of a suspect and a summary of the crime that he or she allegedly committed at a nearby location. Actually apprehending the suspect based on such a vague description is impossible in many cases, and so the primary purpose is often to raise awareness with the hope of reducing the number of future victims.

The underlying assumption behind community crime alerts seems to be that people will encode a description of a suspect in order to recall it in relevant situations, such as the next time they are walking in the area of the original crime and are approached by a person who closely resembles the suspect description. Although this assumption seems reasonable on its face, researchers have yet to evaluate directly whether people will remember and use crime alert information in this way, and whether such vigilance will prevent future crimes. Of more immediate interest here, however, is the investigation of a potential cost of crime alerts.

RACE, CRIME, AND THE MEDIA

Blacks are overrepresented in crime alerts, and the same is true in the media in general. However, unlike the effects of crime alerts (which have not been previously studied), numerous researchers have studied the effects of negative depictions of Blacks in the media.

To begin, researchers have documented the overrepresentation of Blacks as perpetrators in news stories (Entman 1990, 1992). Underlining the potential consequences of such overrepresentation, Travis Dixon (2008) uncovered a striking association: exposure to network news correlates with endorsement of Black stereotypes (e.g., more hours spent watching the news tends to equate with a stronger view of Blacks as intimidating). Dixon also found that exposure to network news was associated with lowered estimates of Black income and higher racism scores.

Mary Beth Oliver and Dana Fonash (2002) explored this intersection of media and race experimentally. They had participants read news articles about Black and White men committing crimes and found that participants were more likely later to misidentify Black men as having committed violent crimes.

In brief, research on the depiction of race and crime in the media has shown that an overrepresentation of Black criminals in today's media has fostered negative stereotypes and beliefs about Blacks as a group. Given a similar overrepresentation of Blacks in community crime alerts, it makes sense to examine the nature and magnitude of the effect that these alerts may have on the perception of Blacks.

PSYCHOLOGY OF LEARNING, CATEGORIZATION, AND MEMORY

Psychological research predicts that crime alerts, although certainly not intended to do anyone harm, may nonetheless propagate negative stereotypes regarding the entire social group to which an individual suspect belongs. Research on learning, categorization, and memory suggests that information about individuals often affects perception of whole groups, and research on attitudes and beliefs suggests that stereotypes can be easily shifted by even subtle and logically irrelevant information.

Together, such research points to the possibility that crime alert information may not be used sparingly and responsibly, but with reckless application to entire groups of people sharing only very general resemblance to the suspect, even in situations unlikely to involve crime.

A sizeable psychological literature suggests that information about individuals can affect how entire social groups are viewed. Such effects can arise via different paths. One such path occurs when learning about instances generalizes to knowledge about a category; another path unfolds when memory of an individual biases reasoning about a category.

The psychologist Gordon Allport once said, "Given a thimbleful of facts we rush to make generalizations as large as a tub," and, indeed, numerous findings suggest that the behavior of one individual can color perceptions of an entire group (1954, p. 8). For example, Pawel Lewicki (1985) had an experimenter insult participants, and then asked them to turn in their experimental materials to one of two assistants; the participants chose the assistant whose hairstyle least resembled that of the experimenter. Similarly, Myron Rothbart and Scott Lewis (1988) demonstrated that learning about a single fraternity member's vote in a presidential election shifted participants' views of the political orientation of his entire fraternity (whether toward liberal or conservative). And, most germane to the present paper, Eaaron Henderson-King and Richard Nisbett (1996) performed a set of experiments in which they found that negative exposure to a single Black confederate resulted in less subsequent contact with a different Black person and generalized negative attitudes toward Blacks.

People are also susceptible to using readily available information about a single individual when reasoning about a group. Amos Tversky and Daniel Kahneman (1973) persuasively documented that people often use an "availability heuristic" during reasoning—they infer the frequency of a behavior or attribute among a group, such as criminality among Blacks, on the basis of how easily they can access that attribute in memories of group members. As a consequence, one might predict that people's perceptions of criminal conduct among Blacks as a whole would be exaggerated immediately after learning about a single Black criminal when the Black-crime association is readily available in memory.

PSYCHOLOGY OF IMPLICIT AND EXPLICIT ATTITUDES AND BELIEFS

Research in recent decades has highlighted how people may not only be unwilling to admit that they harbor stereotypes and prejudices, but they may also be unaware of all their stereotypes and prejudices. That is, one of the largest advancements in this field has been the distinction between explicit and implicit forms of attitudes/beliefs. Instances of the latter form are considered to be "introspectively unidentified traces of past experience that mediate favorable or unfavorable feeling, thought, or action toward social objects" (Greenwald and Banaji, 1995, p. 8), and are measured with more indirect methods than self-report, such as the reaction-time-based categorization task known as the Implicit Association Test (IAT) (Greenwald et al., 1998). Such implicit attitudes and beliefs lack the element of conscious endorsement that is the hallmark of explicit attitudes and beliefs. This distinction between conscious, deliberate, explicit attitudes/beliefs and less conscious, automatic, implicit attitudes/beliefs is important for determining when attitudes and stereotypes may predict behavior and also when attitudes and stereotypes may themselves shift.

When it comes to predicting behavior during race-relevant interactions, implicit attitudes and stereotypes may be more important than their explicit counterparts (for

a review, see Greenwald et al., forthcoming). Given the widespread existence of implicit stereotypes linking Blacks with crime (Nosek et al., 2007), implicit stereotypes may play an important role in interactions with Black individuals where the presence of a criminal threat is ambiguous. The cases of Amadou Diallo and, more recently, Sean Bell have raised the possibility that implicit bias may have fatal consequences when active among law enforcement officers confronted with ambiguous situations. Far from isolated incidents, wrongful shootings of Black suspects have also been consistently documented in experimental simulations (Correll et al., 2002; Greenwald et al., 2003b; Payne, 2001; Plant et al., 2005). Thus, it is crucial to understand how the implicit attitudes and stereotypes that may affect these troubling behavioral patterns can be shifted, both for better and for worse.

Malleability of Implicit Social Cognition

Much recent research on implicit attitudes and stereotypes has documented how implicit biases can shift from moment to moment, depending upon the context. Irene Blair (2002) provided a review that underlines the view that implicit attitudes and stereotypes are highly malleable and depend on the specific situation, an understanding supported in a number of ways (see Logan 1989) and compatible with models of how information is represented in the brain (see Barsalou 1999; Smith 1998). The favorability of implicit attitudes toward Black faces has been shown to vary even in different situations, such as when the faces are presented in front of a background of a graffiti-covered wall versus a church (Wittenbrink et al., 2001; see also Barden et al., 2004). Similarly, Jason Mitchell et al. (2003) found that shifting attention from one group membership to another can affect implicit attitudes—eliciting more positive attitudes for Black females when they are categorized by gender as compared with race.

Two particular findings are most relevant to the focus of the present research. First, Nilanjana Dasgupta and Anthony Greenwald (2001) demonstrated that implicit attitudes toward a disfavored social group can improve after exposing participants to positive members of that group—the opposite of the effect that may result from crime alerts. Second, Blair et al. (2001) showed how mental imagery can induce shifts in implicit stereotypes. Research suggests that people often engage in mental imagery when thinking about the past, present, and future (e.g., Kosslyn et al., 1990), and, indeed, mental imagery would seem to be a natural response to reading a community crime alert. In their work, Blair et al. gave participants five minutes to imagine what a strong woman is like and to describe that mental image in a written paragraph. Participants were then given an IAT, during which they were instructed to keep this mental image in mind. Blair et al. found that imagining and writing about a counterstereotypic person, in this case a strong woman, significantly reduced implicit gender stereotypes.

Blair et al. (2001) provided evidence that implicit stereotypes toward a social group can be reduced following mental imagery (in conjunction with writing). However, Blair et al. offered only mixed evidence for whether imagining and writing about a stereotypic person strengthened implicit stereotypes, just as imagining and writing about a counterstereotypic figure had reduced implicit stereotypes. Furthermore, it is not clear whether these results would extend to the case of reading and visualizing a community crime alert when no later writing or visualization is required. To determine more precisely the effect that a community crime alert describing individual suspects might have on stereotypes toward an entire group, two experiments were conducted.

OVERVIEW OF EXPERIMENTS

In both of the present experiments, written descriptions of Black or White criminal suspects were read and briefly imagined by participants, after which participants' levels of crime-related stereotypes toward Blacks and Whites were assessed. In Experiment 1, participants read and visualized separate fictional crime scenarios involving Black or White would-be criminals. We manipulated whether the Black or White would-be criminals were salient by their position in the visualization episodes, and then measured the resulting effect on implicit stereotypes. In Experiment 2, participants read a written description of a crime scene and then took a few moments to imagine the suspect, who was either depicted as White or Black. We then measured both implicit and explicit stereotypes to determine whether the levels of negative stereotypes that participants held toward entire racial groups had been significantly affected by the racial identity of the single suspect about whom they had read. We designed these two experiments to document the effect that a community crime alert describing the race of a single individual may have on subsequent stereotypes toward that entire racial group.

EXPERIMENT 1

In the first experiment, we did not describe a real crime in an effort to create minimal conditions under which to test how information about an individual can generalize to a social group. Instead of mentioning real dates, victims, or police, we focused on the response that people might have to learning about a recent crime—namely, to imagine the same thing happening to themselves. We gave participants detailed instructions to imagine, first-hand, that they were in a situation that might make them vulnerable to being the victim of a crime. Although participants visualized two situations involving Black actors and two situations involving White actors, we varied which situations were salient. Of the four scenarios participants visualized, we predicted that primacy and recency effects (Ebbinghaus 1913; Wright et al., 1985) would make the two scenarios in the first and last positions in the procedure more salient than the two scenarios in between.

In this way, the design of Experiment 1 directly tested a key assumption that underlies the hypothesis that crime alerts might alter stereotypes. To suggest an effect of crime alerts on group stereotypes, we would need evidence that stereotypes can change when fictional scenarios involving a few Black would-be criminals or a few White would-be criminals were salient in the participant's memory. We expected that the mere imagining of fictional actors in a potential criminal situation would generalize to implicit stereotypes regarding the actors' group when those actors remained salient in the participant's memory. Such a pattern of results would underline the sensitivity of implicit group stereotypes, both in terms of the ease with which they can be affected by visualizing even brief, fictional scenarios about individuals and the degree to which that effect depends on the saliency of the visualizations.

Method

Participants and design

Thirty-three undergraduates of White or Asian background participated for course credit. All participants imagined four scenarios in succession, consisting of White suspect and Black suspect versions of each of two core scenarios. A simple between-

groups design varied whether participants imagined the two White scenarios in the first and fourth positions and the Black scenarios in the second and third positions (*White suspects salient*) or vice versa (*Black suspects salient*).

Materials

The two fictional would-be crime scenarios described two different situations: walking in a dark alley and awaking to suspicious sounds in the middle of the night (see Appendix A). The two versions of each scenario differed in terms of whether the suspicious actors were described as "black teenagers wearing dirty t-shirts and droopy pants" or "white men in suits" in the walking-in-a-dark-alley scenario, and "white" or "black" in the suspicious-sounds scenario.

We used IATs to measure implicit stereotypes. The IAT consists of seven distinct blocks of trials, four of which are scored and three of which are designed to familiarize participants with the stimuli-category memberships and category-key pairings (Greenwald et al., 2003a). In the scored blocks of each IAT, participants saw two categories listed in the top left corner of their computer screen and two categories listed in the top right corner of their screen. Each trial consisted of the presentation of a stimulus in the center of the screen, to which participants were instructed to respond as quickly as possible by categorizing it with the left key ("d") on the keyboard if the stimulus belonged to either of the top left categories on the screen, or the right key ("k") on the keyboard if the stimulus belonged to either of the top right categories. Incorrect categorizations produced a red *X* underneath the center stimulus and required participants to make the correct categorization before moving on to the next trial; thus, errors resulted in longer response latencies.

Such categorization tasks are more difficult to perform, and thus result in slower response times, when the two categories paired together in each corner are incompatible or are highly disassociated. In contrast, participants encounter little interference and respond quickly when the two categories paired together in each corner are compatible or are highly associated.

We administered three IATs in this experiment in order to measure the extent to which participants associated White and Black racial groups with criminal attributes. In all three IATs, the categories "Whites" and "Blacks" were in the top corners of the screen. Below them was one of three different pairs of attribute categories: friendly/hostile, law/crime, and safe/dangerous. The stimuli for the Whites and Blacks categories consisted of four head-shot photographs of members of each racial group and the stimuli for the attribute categories consisted of four words related to each attribute (see Appendix B). Note that the photographs used to depict the Whites and Blacks categories were half male and half female; thus, observed differences in implicit stereotypes as a result of the crime scenarios would indicate the degree to which the scenarios involving individual males generalized to stereotypes of both genders of the suspect's racial group.

To give a concrete example, we will take the friendly/hostile version of the IAT. This IAT measured the extent to which participants automatically associated Blacks with "hostile" and Whites with "friendly," relative to the reverse pairing. In the first two of the four scored blocks within the IAT, participants categorized stimuli as either Whites/"friendly" (the two were paired, although only one dimension was relevant for each response) or Blacks/"hostile." In the last two of the four scored blocks, participants performed the reverse categorization, classifying stimuli as either Blacks/"friendly" or Whites/"hostile." To the extent that participants held an implicit stereotype associating Blacks with hostility and Whites with friendliness, they would

more easily complete the trials in the former, compatible categorization blocks (resulting in relatively shorter response latencies) than in the latter, incompatible blocks (resulting in relatively longer response latencies). The law/crime and safe/dangerous IATs were constructed analogously.

The IAT score (D) is calculated in three steps:[2] First, we calculated the difference between the mean latencies of trials in the compatible and incompatible practice blocks (the first and third scored blocks) and divided this by the pooled standard deviation of all the trial latencies in those two blocks; following this, we divided the difference between the mean latencies of trials in the compatible and incompatible test blocks (the second and fourth scored blocks) by the pooled standard deviation of all the trial latencies in those two blocks; finally, we averaged the two resulting quotients to arrive at the IAT score (Greenwald et al., 2003a). Returning to the friendly/hostile IAT example, a participant with a large D score (indicating a strong association between Blacks/hostility and Whites/friendliness) will have categorized stimuli much more quickly when the dual categories were Whites/friendly, on the one hand, and Blacks/hostile, on the other hand, than when the dual categories were Blacks/friendly, on the one hand, and Whites/hostile, on the other hand.

Procedure

Participants began the experiment by reading the four fictional crime scenarios in the order determined by their condition (either the White version or the Black version of the scenarios was first and last, with the other version in between). Participants always read and imagined the two versions of the dark-alley scenario in the first and third positions and the two versions of the late-night-sounds scenario in the second and fourth positions. After each paragraph of each scenario, participants were told to pause for a moment to imagine what had happened and to rate their anxiety.[3]

After reading and visualizing all four scenarios, participants next completed the three IATs in counterbalanced order. Finally, participants were debriefed and thanked for their time.

Results

On average, participants showed implicit stereotypes reflecting a far greater association of Blacks than Whites with hostility ($D = 0.41$, $SD = 0.36$), $t(32) = 6.52$, $p < 0.001$; criminality ($D = 0.34$, $SD = 0.34$), $t(32) = 5.72$, $p < 0.001$; and danger ($D = 0.42$, $SD = 0.34$), $t(32) = 7.20$, $p < 0.001$. These three implicit stereotypes did not differ among each other in magnitude, $F(2,62) = 0.86$, $p < 0.43$.

As predicted, we found that the race of the fictional suspects that were imagined first and last affected the three IATs, indicating that participants had a greater implicit association of Blacks than Whites with hostility, criminality, and danger in the Black suspects salient condition ($D = 0.49$, $SD = 0.21$) than in the White suspects salient condition ($D = 0.31$, $SD = 0.27$), $F(1,31) = 4.84$, $p < 0.05$ (see Figure 1). In other words, simply imaging a fictional scenario in which there were Black would-be criminals led to significantly worse implicit stereotypes toward Blacks when those scenarios were salient, compared with when those same scenarios were not.

Finally, there was no evidence that the fictional scenarios affected some implicit stereotypes more than others, as evident by a nonsignificant interaction between the scenarios and the specific IATs, $F(2,62) = 0.08$, $p < 0.92$.
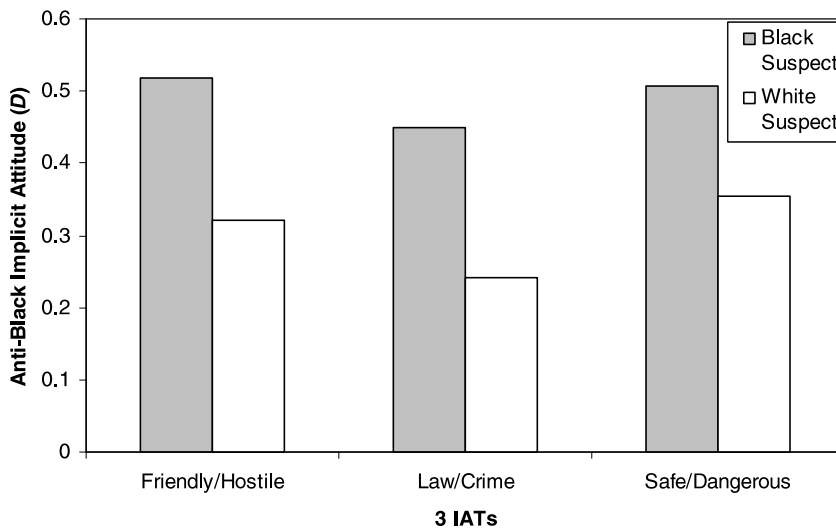
Fig. 1. Implicit racial stereotypes for Black ($n = 15$) and White ($n = 18$) fictional suspects that were imagined first and last. Higher values (D) represent greater implicit associations of Blacks than Whites with hostility/criminality/danger.

Discussion

The results of Experiment 1 illustrate that even something as minimal as imagining a couple members of a racial group in a fictional scenario that involves the possibility of crime can be sufficient to make implicit stereotypes worse toward that racial group when the visualizations are salient in memory.

It cannot be argued that it was only rational to incorporate these new data points by adjusting stereotypes concerning the suspect and people like him. After all, participants knew they were merely visualizing a fictional scenario. Moreover, even if participants had interpreted these fictional scenario exercises as if they provided real-world information, participants in both conditions read very similar scenarios featuring the same number of members from each racial group; all that varied were the relative positions of the specific actors. Thus, there remains no rational reason why participants in the two conditions of Experiment 1 would hold different implicit stereotypes afterward.

Although Experiment 1 demonstrated that even minimal information about individuals can shift implicit stereotypes toward entire social groups, these results needed to be replicated and extended. Furthermore, these findings set the stage for a more direct test of the effects of community crime alerts.

EXPERIMENT 2

The most straightforward test of the effect that crime alerts have on prejudice toward the suspect's group would be to have people read and digest a more realistic crime alert and then measure their resulting stereotypes both implicitly and explicitly. Experiment 2 was designed to do exactly this. A realistic community crime alert with a minimal description of the alleged suspect was read and visualized by participants. For some of the participants, the suspect was described as White; for other participants, the suspect was described as Black. After this, we measured, both implicitly

and explicitly, the extent to which participants associated Whites and Blacks with the same attributes measured implicitly in Experiment 1 (hostile/friendly, crime/law, and dangerous/safe). If a minimal description of an alleged criminal suspect indeed affects stereotypes toward that suspect's entire racial group, then this experiment would again document it, and the need to consider the potential costs of community crime alerts would be further highlighted.

Method

Participants and Design

Ninety-nine undergraduates and community members completed the experiment for course credit or pay. Although possible interactions between the participant's racial identity and the manipulation in this experiment remain an interesting future direction, Black participants (9) were excluded from data analysis here, leaving only White and Asian participants. In addition, six participants who committed errors on more than 30% of IAT trials were excluded in accordance with the guidelines of the improved IAT scoring algorithm (Greenwald et al., 2003a). A simple between-groups design varied the racial identity of the suspect (White or Black) in the community crime alert read by participants.

Materials

The community crime alert described a violent robbery in detail (see Appendix C). Crucially, the two conditions varied in only a single word: whether the suspect was described as *White* or *Black*. There was no visual sketch or any other element of the crime alert that varied between conditions. The same three IATs used in Experiment 1 were used in this study.

Finally, participants' explicit stereotypes toward these two racial groups were assessed in this experiment by posing three questions: "Who's more hostile?" "Who's more criminal?" and "Who's more dangerous?" The nine-point response scales for these items were anchored with *Whites* and *Blacks*.

Procedure

Participants began by learning the cover story: that the study was about crime scene memories, a popular topic on the successful television show *CSI* (Crime Scene Investigation) at that time.

Participants then read the community crime alert and were given five minutes to imagine the crime; half the participants whose data we analyzed received the "White" version and half received the "Black" version. Next, participants completed the three IATs in the following order: friendly/hostile, law/crime, and safe/dangerous. Finally, participants finished by completing the explicit attitude counterparts to the IATs, after which they were debriefed and thanked for their time.

Results

On average, participants associated Blacks more strongly than Whites with hostility ($D = 0.49$, $SD = 0.35$), $t(83) = 12.97$, $p < 0.001$; criminality ($D = 0.26$, $SD = 0.33$), $t(83) = 7.13$, $p < 0.001$; and danger ($D = 0.24$, $SD = 0.33$), $t(83) = 6.85$, $p < 0.001$.

Given that the order of the IATs was not counterbalanced, it is not surprising that the first IAT, friendly/hostile, showed the largest effect, and, therefore, not much should be read into the difference in magnitude among the IAT effects,

$F(2,164) = 24.43$, $p < 0.001$. After all, no such difference was found when the same IATs were administered in a counterbalanced order in Experiment 1.

As predicted, we found that participants associated Blacks more than Whites with hostility, criminality, and danger when preceded by a Black suspect crime alert ($D = 0.39$, $SD = 0.24$) than when preceded by a White suspect crime alert ($D = 0.27$, $SD = 0.26$), $F(1,82) = 4.16$, $p < 0.05$ (see Figure 2). The difference between Black and White crime alerts was comparable for the three IATs, as indicated by not even a hint of an interaction between suspect race and the specific IAT, $F(2,164) = 0.65$, $p < 0.53$.

On average, participants also showed explicit stereotypes reflecting a greater association of Blacks with hostility ($M\text{-}midpt^4 = 0.38$, $SD = 1.10$), $t(83) = 3.18$, $p < 0.005$, and danger ($M\text{-}midpt = 0.38$, $SD = 1.07$), $t(83) = 3.25$, $p < 0.005$, and a suggestion of a trend toward the same for criminality ($M\text{-}midpt = 0.20$, $SD = 1.19$), $t(83) = 1.56$, $p < 0.13$. These explicit attitudes were not significantly different from each other, $F(2,164) = 1.69$, $p < 0.19$.

Not only did implicit stereotypes reflect the influence of the crime alert but also explicit stereotypes reflected a greater association of Blacks with hostility/criminality/danger than Whites when measured after encountering a crime alert about a Black suspect ($M\text{-}midpt = 0.58$, $SD = 1.09$), compared with after encountering a crime alert about a White suspect ($M\text{-}midpt = 0.05$, $SD = 0.69$), $F(1,82) = 7.10$, $p < 0.01$ (see Figure 3). That is, participants were more likely to say that Blacks, as a group, are more hostile/criminal/dangerous after they had read a single community crime alert about a single Black suspect than when the alert mentioned a White suspect. This difference between Black and White crime alerts was comparable for the three explicit items, as indicated by a nonsignificant interaction between suspect race and the specific item, $F(2,164) = 0.50$, $p < 0.61$.

Discussion

The results of Experiment 2 illustrate how a single word, indicating the racial identity of an alleged crime suspect, can shift implicit and explicit stereotypes toward
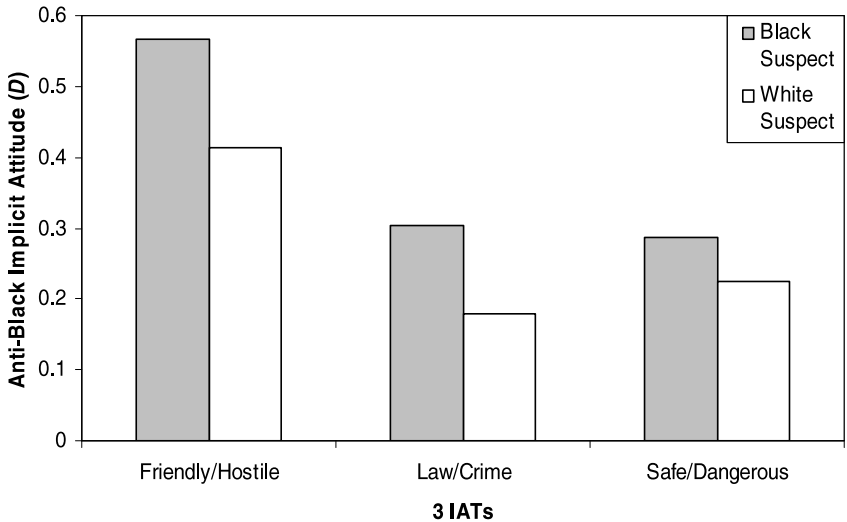

Fig. 2. Implicit racial stereotypes for Black ($n = 43$) and White ($n = 41$) crime alert suspects. Higher values (D) represent greater implicit associations of Blacks than Whites with hostility/criminality/danger.
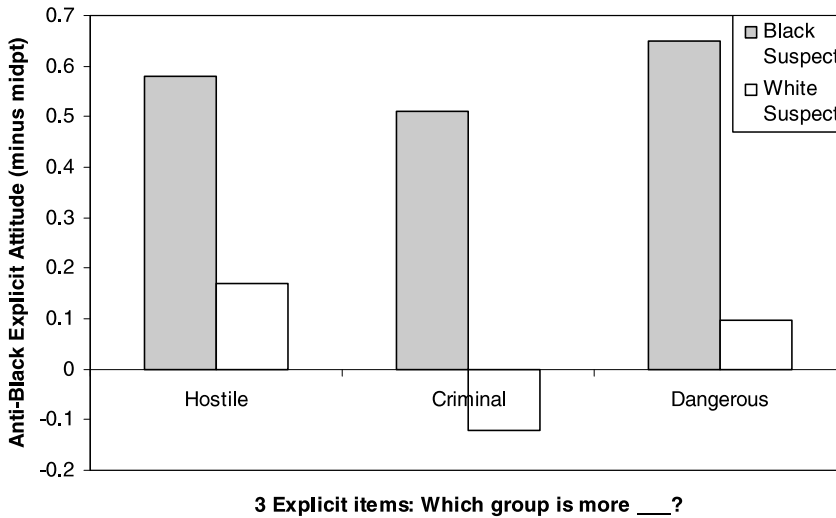
Fig. 3. Explicit racial stereotypes for Blacks ($n = 43$) and Whites ($n = 41$). Higher values represent greater explicit associations of Blacks than Whites with hostility/criminality/danger.

entire racial groups. Just as irrational as the effect observed in Experiment 1, where fictional scenarios involving would-be criminals affected participants' stereotypes, in this experiment we found that a crime alert shifted participants' stereotypes toward an entire racial group—despite the fact that the alert described a nonlocal incident involving a single individual. This makes the finding of a difference in not only implicit but also explicit stereotypes all the more striking.

The findings of Experiment 2 underline the need to consider the costs of community crime alerts and other such information that, in the interest of alerting the public to the identity of an alleged criminal suspect, may exacerbate prejudice against a whole group of innocent people.

GENERAL DISCUSSION

Both of the present experiments underscore the potential effect that community crime alerts can have on stereotypes toward entire groups of people who share a feature of their identity with the suspect. The human mind's tendency to generalize from instances to sets is an essential feature of learning and categorization, but this feature may produce unanticipated problems when the characteristics of individual people are generalized to their social groups.

Experiment 1 demonstrated how even a fictional, would-be crime scenario can shift implicit stereotypes toward racial groups. When scenarios involving a few Black suspects were salient in participants' memory, they showed more negative implicit stereotypes of Blacks relative to Whites than when a few White suspects were salient in memory.

Experiment 2 showed how a single word, *Black* or *White*, in an otherwise identical community crime alert, shifted implicit and explicit stereotypes regarding the degree to which Blacks/Whites, as entire social groups, were associated with hostility, criminality, and danger.

The results of both experiments should be viewed in the context of the fact that no visual stimuli were provided in the imagery scenarios of Experiment 1 or the

crime alert of Experiment 2, and yet the IATs paired verbal stimuli with photographs of various White and Black faces of both genders. This feature of the experimental procedure thus underlines the extent to which participants generalized attributes of individual suspects to racial group members of different appearances and genders.

The present findings have clear applicability to the debate over the representation of crime and race in a variety of outlets: law enforcement, the news media, and popular culture, to name a few. Within law enforcement, awareness may be growing of the innocent victims of misguided arrests and shootings by police officers; however, the current results suggest that there may be many more, lower-profile wrongs resulting from law enforcement's use of an ill-informed public communication tool. Whereas attorneys can champion wrongful arrest suits, it is in large part up to social scientists to bring awareness to the more subtle harm that community crime alerts may do to countless social group members.

Based on the range of behaviors that implicit attitudes have been shown to predict (Greenwald et al., forthcoming), one can begin to bring awareness to the tangible costs of community crime alerts by constructing an everyday example of how an alert may translate into discriminatory behavior. Take the commonplace instance of a crime alert posted inside a city bus. Given the present results, we know that reading an alert about a Black suspect will often engender more negative implicit attitudes toward Blacks in the mind of the passenger; in turn, previous research suggests that such attitudes may cause the passenger to sit farther away (Amodio and Devine, 2006; Rydell and McConnell, 2006) and act less friendly (Sekaquaptewa et al., 2003) toward a fellow passenger whose only crime is being Black.

In addition to highlighting the negative consequences of community crime alerts, the present two experiments also indirectly point to the power that the news media and popular culture hold when it comes to shaping perceptions of social groups. If a brief reading of a momentary visualization of a fictional crime scenario or a text-only crime alert can measurably shift implicit attitudes, imagine the effect that a two-hour motion picture or a graphic news clip could have on the minds of an audience. Further exploring the impact of media and pop culture on implicit attitudes appears to be a very fruitful area for future research.

Limitations and Future Directions

Relativity

Because the effects of visualizing White or Black suspects were always manipulated and evaluated on a relative basis, a limitation of both experiments lies in their inability to determine whether the stereotype difference between conditions was driven by one condition over the other. For instance, it could be that the White suspect conditions resulted in little implicit stereotype departure from baseline, whereas the Black suspect conditions had a dramatic effect on stereotypes, or the converse. Previous research by George Quattrone and Edward Jones (1980) suggests that the effect of information about a single individual is generally greater on perceptions of outgroups, which are viewed as more homogenous, but the designs of the present experiments provide no way to tell whether the Black suspect conditions were responsible for the majority of stereotype change.

Similarly, because the IAT is a relative measure, what appears to be a shift toward more anti-Black implicit stereotypes could just as easily be a shift toward more pro-White implicit stereotypes. Future research could disentangle these possibilities

with the help of a neutral control condition and IATs that pit one racial group at a time against a neutral category or an unrelated racial group.

Malleability

The increasingly vast literature on the malleability of implicit social cognition suggests that implicit attitudes and stereotypes are context-dependent constructions, and thus the effect of a single crime alert, while tangible, is unlikely to persist indefinitely as contexts change. Experiment 1 is a prime example: visualizing Black would-be criminals resulted in greater anti-Black stereotypes only when those visualizations were salient in memory. The resulting picture is one wherein crime alerts and imagined crime scenarios can cause significant shifts in established stereotypes toward a suspect's group, but that impact may persist only so long as the perceptual landscape itself does not shift.[5]

CONCLUSION

In a time of widespread government initiatives to increase public awareness and vigilance against criminals and terrorists, the costs of such initiatives, in terms of increased prejudice against groups of innocent people that share features of their identity with the suspects, must be considered. In two experiments, we have demonstrated how stereotypes toward an entire group—both stereotypes of which we are aware and of which we are unaware—can be shifted by not only reading and visualizing information about a single criminal member of that group, but even by something as minimal and seemingly irrelevant as the act of imagining hypothetical criminal activity by members of that group. Group stereotypes are sensitive enough to shift in response to information about individual group members' actions, whether real or fictional.

Community crime alerts serve the purpose of making the public aware of criminal activity; however, we also need to be aware of the potentially unintended effects of such information in terms of more negative stereotypes toward entire portions of the community.

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NOTES

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2. In addition, data from participants who committed errors on more than 30% of trials or who responded in under 300 ms for more than 10% of the trials are typically excluded, as are any individual trials with latencies greater than 10000 ms. Fortunately, none of the data in this experiment qualified for exclusion.
3. These anxiety ratings were of interest for a different research project and not analyzed in the context of the present investigation.
4. *M-midpt* refers to the mean absolute difference between participants' ratings and the midpoint of the nine-point scale on which *Whites* and *Blacks* were anchors. So, if participants thought that Whites and Blacks are equally hostile, their *M-midpt* would be 0, whereas if they thought that Blacks are maximally more hostile than Whites, their *M-midpt* would be 4.

5. Dasgupta and Greenwald (2001) demonstrated that the effect of their positive exemplar manipulation was still present in implicit attitudes twenty-four hours later. However, it is not clear whether the same results would have been obtained had the measurement been delayed even longer or had more of the contextual features present in the original exemplar presentation been missing from the delayed measurement (e.g., if the location and experimenter were changed).

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APPENDIX A

Fictional Crime Scenarios

#1: Imagine it's dusk, the sun is setting, and the sky is darkening quite quickly. You are in a hurry because you are running late to meet an old friend for dinner. You know that there is a shortcut through an alley that will save you a few minutes. You think about it, and decide that you will take the shortcut. You approach the narrow alley.

At the mouth of the alley you see three figures standing together. As you approach, you see that they are three *black teenagers wearing dirty t-shirts and droopy pants (white men in suits)*. They are smoking and talking in hushed tones. Your shoes sound loudly against the pavement with every step you take. As soon as the three catch sight of you they fall silent. The three heads turn and alertly track you as you approach.

You slip by the trio as quickly as you can and begin making your way down the dark alley. Suddenly, you hear the sound of another set of footsteps. The sound is coming from behind you.

You continue walking down the alley, a little faster now. You can still hear the footsteps behind you, also quickening, and now they are getting closer to you.

#2: Imagine that you are fast asleep, dreaming peacefully. The pleasant dream state suddenly fades away and you open your eyes in bed, glancing at your clock. It is

3:00 AM. You close your eyes, and try to go back to sleep, but a rustling noise coming from outdoors keeps you awake. After a minute, you hear the noise again, get out of bed, and slowly walk over to your window to check it out.

You see two older men in sweaters outside the window. Their faces are obscured in the darkness, but you can see that they are both *black (white)*. They are walking around your backyard, and appear to be inspecting your house—looking for unlocked windows? They walk slowly around your house, passing from view. But after a moment, they return, walking in your direction.
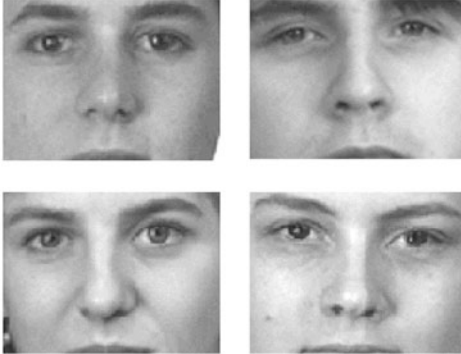
As they approach, you hear that they are having a muted argument, although you can make out only a few of the slang words they are speaking. The argument escalates, and one man pulls out a knife from his pocket, which he points directly at the other one. You pull back from the window, hoping that they haven't noticed your movement.

You are alone at home, so you decide to lock your doors and windows. When you return to your bedroom, the men are no longer outside your window. You hesitantly return to bed and stare at the ceiling. Then you hear pounding at your front door, followed by the sound of a window being smashed.

APPENDIX B

IAT Stimuli

Whites   Blacks

Friendly   *Hostile*
Warm   Aggressive
Happy   Violent
Social   Angry
Nice   Menacing

Law   *Crime*
Legal   Felon
Attorney   Assault
Lawyer   Burglar
Judge   Murderer

Safe   *Dangerous*
Benign   Fatal
Secure   Threatening
Protected   Deadly
Snug   Harmful

APPENDIX C

Community Crime Alert

Please read and visualize the following crime description:

On Wednesday, June 14, 2006, at approximately 11:00 PM, a female undergraduate student reported to the Kentwood Police Department that she was robbed by gunpoint while walking on Park Street. The victim heard an unknown person running up behind her.

The victim described the suspect as a *Black (White)* male, in his late twenties, approximately 6′1″, muscular build, shaved head, wearing baggy jeans and a green hooded sweatshirt with yellow lettering across the front.

As the person approached the victim he grabbed the victim's backpack and attempted to run off with it. The victim refused to give up the backpack and yelled for help. At this point, the suspect began striking the victim in the face and stomach with his fists. The victim attempted to kick the offender, at which point the suspect revealed a handgun and shouted a string of expletives. The victim then stopped resisting and gave her wallet to the offender. He took the victim's money, as well as her watch and cell phone, before fleeing the area on foot. Witnesses contacted the KPD, who searched the area but were unable to locate the offender in the vicinity.

[*Racial identity was not italicized in participant version.*]