Not Yet Human: Implicit Knowledge, Historical Dehumanization, and Contemporary Consequences

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Historical representations explicitly depicting Blacks as apelike have largely disappeared in the United States, yet a mental association between Blacks and apes remains. Here, the authors demonstrate that U.S. citizens implicitly associate Blacks and apes. In a series of laboratory studies, the authors reveal how this association influences study participants' basic cognitive processes and significantly alters their judgments in criminal justice contexts. Specifically, this Black–ape association alters visual perception and attention, and it increases endorsement of violence against Black suspects. In an archival study of actual criminal cases, the authors show that news articles written about Blacks who are convicted of capital crimes are more likely to contain ape-relevant language than news articles written about White convicts. Moreover, those who are implicitly portrayed as more apelike in these articles are more likely to be executed by the state than those who are not. The authors argue that examining the subtle persistence of specific historical representations such as these may not only enhance contemporary research on dehumanization, stereotyping, and implicit processes but also highlight common forms of discrimination that previously have gone unrecognized.

Keywords: dehumanization, racial bias, historical representations, implicit knowledge, stereotyping

The Black man has no rights which the White man is bound to respect. . . . He may justly and lawfully be reduced to slavery . . . and treated as an ordinary article of traffic and merchandise.—Chief Justice, Roger Brooke Taney (*Dred Scott v. Sandford*, 1856)

The United States has a shameful history of dehumanizing Black Americans. As quoted above, Chief Justice Taney states clearly what many 19th century U.S. citizens believed: that Blacks were inherently inferior to Whites and therefore could be justifiably subjugated. In fact, the very first article of the U. S. Constitution declares that, when determining state populations, "all other persons"—by which it meant enslaved Africans—should be counted as three fifths of a human being. The formal dehumanizing

language used in the laws of this developing nation reflected the biases present in the majority population.

Contemporary approaches to racial prejudice suggest that these more egregious forms of racial bias have been relegated to the past. It is commonly thought that old-fashioned prejudice has given way to a modern bias that is implicit, subtle, and often unintended. This new understanding of racial bias may have led researchers and laypeople alike to believe that the dehumanization and subjugation of Blacks was primarily a historical phenomenon. However, as recently as the early 1990s, California state police euphemistically referred to cases involving young Black men as N.H.I.—No Humans Involved (Wynter, 1992). One of the officers who participated in the Rodney King beating of 1991 had just come from another incident in which he referred to a domestic dispute involving a Black couple as "something right out of *Gorillas in the Mist*" (Kennedy, 1998). Assuming that these incidents are not confined to police officers, is it possible that, at the same time that contemporary racial bias has become more subtle, these extreme forms of dehumanization nonetheless remain? The present research studies were designed to investigate this possibility.

The Peculiar History of the "Negro-Ape Metaphor"

Dehumanizing representations of African peoples are nearly as old as Europeans' first contact with West Africa (Ovington, 1929). Early European maritime writings described primitive people who seemed more closely related to apes than to White explorers (Dapper, 1688). As theories of race moved from theological to biological, the rationale for racial hierarchy relied even more

heavily on the "Negro-ape metaphor," as Lott (1999) described it. Although this linkage predates scientific racism, it drew increased interest and popularity when Franz Boas, the preeminent anthropologist of his time, and even Charles Darwin, speculated that there might be an evolutionary spectrum among primates (Lott, 1999) containing monkeys and apes at the least evolved end, continuing through savage and/or deformed anthropoids, and culminating with Whites at the other end (as most evolved; Jahoda, 1999). Peoples of African descent, therefore, were theorized to reside somewhere between the deformed and the simian.

The "scientistic" grounding for this representation was used to bolster growing stereotypes that peoples of African descent were innately lazy, aggressive, dim, hypersexual, and in need of benevolent control. It is not surprising, then, that the portrayal of African peoples as apelike became an iconographic representation rivaling even minstrelsy for popularity in visual culture during the 19th and early 20th centuries (Dyer, 1997). In fact, many of the U.S.'s first blockbuster movies played on this iconography. For instance, though it is frequently referenced in popular culture as the classic story of "Beauty and the Beast," the 1933 movie *King Kong* (Selznick, Cooper, & Schoedsack, 1933) also has other allegorical undertones. From Kong's association with the caricatured Black savages on the "Island of Skulls," to his "Negro features," many film scholars argue that "King Kong" permanently inscribed a racist cautionary tale about interracial romance into U.S. cinematic iconography. The film's "carrier of blackness is not a human being, but an ape" that, after attempts to contain him fail, "makes off with not just any woman, but a *white* woman" (Snead, 1994, p. 8). In other words, "Beauty" was White and "the Beast" was Black. The popularity of this and other movies with similar themes mirrored racial tensions in the United States during the early part of the 20th century.

As anti-African hostilities have gentled across the globe, this representation has fallen out of favor among popular audiences. However, given that the stereotypes that have been supported by this Black–ape linkage remain in U.S. culture (e.g., Devine & Elliot, 1995), has this representation really disappeared? That is, do people still associate Blacks and apes? And, if so, then might this association influence perception and judgment in important ways?

Dehumanization Research in Social Psychology

Historians, linguists, and philosophers have engaged in scholarship on dehumanization for the better part of two centuries. From this scholarship, we know that associations between humans and nonhuman animals have been used to justify slavery in the United States, the Jewish Holocaust of World War II, and widespread violence against immigrants around the world (Chalk & Jonassohn, 1990; Lott, 1999; O'Brien, 2003; Santa Ana, 2002). Dehumanization is viewed as a central component to intergroup violence because it is frequently the most important precursor to moral exclusion, the process by which stigmatized groups are placed "outside the boundary in which moral values, rules, and considerations of fairness apply" (Opotow, 1990, p. 1). Groups that are morally excluded do not count in a moral sense. Consequently, anything that is done to someone who is morally excluded is permissible, no matter how heinous the action.

Though psychologists are not entirely new to this conversation, the contributions of psychologists to the literature of dehumanization have been relatively scant. For instance, Allport's classic treatise on the nature of prejudice makes numerous references to dehumanization but scant references to empirical work on the matter (see, e.g., Allport, 1954, p. 414). Similarly, Staub and colleagues discuss dehumanization (Staub, 1989; Staub & Bar-Tal, 2003), yet their treatment of dehumanization, like Allport's, is mostly descriptive. Staub and his colleagues document the prevalence of dehumanization in group-violence contexts, asserting that it seems to be a necessary precursor to genocide (e.g., Bar-Tal & Teichman, 2005). However, there was little empirical research to cite.

Only recently have social psychological researchers begun to investigate empirically how people attribute "humanness" to others. Leyens and his colleagues, for instance, have examined the attribution of secondary—more human—emotions (Demoulin et al., 2004, 2005; Gaunt, Leyens, & Demoulin, 2002; Leyens et al., 2001, 2003; Vaes, Paladino, Castelli, Leyens, & Giovanazzi, 2003; Vaes, Paladino, & Leyens, 2004, 2006). Their research suggests that emotions such as jealousy, sympathy, or hope are routinely denied to out-groups and preferentially attributed to in-group members. Research by Vaes, Paladino, and Leyens (2002) provides evidence that associating an individual with secondary emotions—rather than primary emotions—can lead to increased altruism and empathy. This feeling of superior "humanity," then, contributes to feelings of intergroup antipathy and in-group bias while simultaneously obstructing attempts at intergroup empathy and prejudice reduction (Vaes et al., 2003). Because secondary emotions are an important part of what makes us "human," this denial constitutes a form of dehumanization.[1]

Research by Haslam and his colleagues suggests that the intergroup process documented by Leyens and colleagues (2001) may also occur interpersonally (Haslam, 2006). Haslam argued that the social cognitive underpinnings of dehumanization have been largely ignored and that, much like stereotyping, dehumanization may be an uncontrolled, perhaps even unavoidable form of social cognition. Rather than focusing on the role of emotion in intergroup processes, Haslam and his colleagues focus on spontaneous trait attributions relevant to interpersonal contexts (Haslam, 2006; Haslam, Bain, Douge, Lee, & Bastian, 2005; Loughnan & Haslam, 2007). This reflects Haslam's conception of "humanness" as constituted by typically human traits (e.g., curious, selfish) as opposed to Leyens' conception of "humanness" as constituted by uniquely human emotions—or secondary emotions (e.g., contemplative, ambitious, and moral). Haslam argued that people attribute more typically human traits to the self than they do to others and that this attributional bias occurs despite differences in self-enhancement motivations.

There is emerging neuroscientific evidence for dehumanization as well. For instance, in a recent neuroimaging study, Harris and Fiske (2006) demonstrated that members of extreme out-groups

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[1] It is interesting that Leyens and his colleagues (Leyens et al., 2001) refer to this process as "infrahumanization" rather than "dehumanization." This is, perhaps, intended to foreground the fact that, in their research, out-groups are not likened to nonhumans but rather are denied a preferred human "essence." Given the morally loaded history of the word *dehumanization*, use of the term *infrahumanization* may also make the quotidian and cognitive aspects of the phenomenon more salient. For the purposes of the present research, however, processes associated with stripping groups or individuals of human "essence" and processes that compare groups or individuals with nonhumans are both referred to as *dehumanization*.

are so dehumanized that they may not even be encoded as social beings. When participants viewed targets from highly stigmatized social groups (e.g., homeless people and drug addicts) who elicit disgust, the region of the brain typically recruited for social perception (the medial prefrontal cortex) was not recruited. Those who are the least valued in the culture were not deemed worthy of social consideration on a neurological level. Given that Harris and Fiske used groups that are traditionally represented in a dehumanizing fashion, it is reasonable to believe, as they conclude, that there is a neurological correlate to extreme social devaluation and moral exclusion (Opotow, 1990).

When taken together, contemporary research on dehumanization suggests that privileging the "humanity" of one's own group is a common occurrence. This recent experimental research has primarily been devoted to understanding the processes of dehumanization by focusing on intergroup and interpersonal processes without regard to specific targeted individuals or groups. And, although some have begun to empirically investigate the dehumanization of those from various extreme out-groups, dehumanization researchers have been slow to measure the more extreme behavioral consequences of dehumanization. Indeed, with few exceptions (e.g., Vaes et al., 2002), they have been slow to measure any behavioral consequences at all.

The present research, therefore, departs from the previous literature in two important ways. First, we examine dehumanization processes by focusing on a particular case study of a group that has been represented as less than human. Specifically, we consider the implicit association between Blacks and apes. Consequently, our research is aided by examining the specific history of this cultural representation. Second, in the present research, we not only focus on how basic cognitive processes are altered by dehumanization but also focus on how bias in criminal justice contexts can be linked to dehumanization. Specifically, we demonstrate that a Black–ape association influences the extent to which people condone and justify violence against Black suspects, and we link this association to the death-sentencing decisions of jurors. Thus, the present research addresses some of the more extreme, negative outcomes of dehumanization that have captivated social justice research throughout history.

Cultural Memory and Implicit Knowledge

A casual perusal of contemporary representational culture will reveal that the ugly history of explicitly depicting Blacks as apes seems to have disappeared both from the general media and from the cultural memory of the United States. As is detailed below, most college undergraduates in the United States seem to have forgotten the unpalatable history of Blacks depicted as apes—if they ever knew it to begin with—and print media seems to have substituted ape-relevant words and coded language for explicit Black–ape analogies. However, this raises an important question, namely: Is it possible to hold an implicit association between apes and Blacks if one is unaware that such an association ever existed?

Contemporary wisdom suggests that explicit knowledge is the precursor to implicit racial associations. Indeed, the vast majority of social psychological research on stereotyping assumes people have explicit knowledge of the stereotypes about a group, even as those stereotypes may be triggered implicitly in specific situations (for a review, see Fiske, 1998). Researchers have documented people's

explicit knowledge of the societal stereotypes about Blacks in particular (e.g., Devine, 1989; Devine & Elliot, 1995; Dovidio & Gaertner, 1998; Judd, Park, Ryan, Brauer, & Kraus, 1995; Lepore & Brown, 1997; Levy, Stroessner, & Dweck, 1998). In the United States, for example, Blacks are construed as violent, threatening, criminal, unintelligent, uneducated, lazy, poor, athletic, and musical. People can very easily list the stereotypes of Black Americans, and because these stereotypes are so strong and well rehearsed, they come to influence perception and behavior—even when people do not personally endorse them and are motivated to be racially egalitarian (e.g., Correll, Park, Judd, & Wittenbrink, 2002; Devine, 1989; Dovidio, Evans, & Tyler, 1986; Dovidio & Gaertner, 1998; Eberhardt, Goff, Purdie, & Davies, 2004; Gaertner & McLaughlin, 1983; Wittenbrink, Judd, & Park, 1997).

Here, we argue that *implicit* knowledge of racial associations can be equally strong. "Apelike" is not a stereotype that people typically list as associated with Blacks. It is not an association that immediately springs to mind. It is not an association that is deliberately contemplated and openly discussed. People deny explicit awareness of this association, yet because the association is maintained in metaphors, visual tropes, and through the convergence of other related stereotypes, these factors alone—without the aid of explicit awareness—could perpetuate a Black–ape association. Thus, although social conventions may have rendered extinct the explicit representation of Blacks as apelike, we hypothesize that the association has persisted in the minds of Whites and non-Whites alike and has come to influence their perception and behavior. The notion that "implicit knowledge" may inform people's mental associations and that these associations may have dire consequences organized the present investigation.

Overview of the Present Studies

In Study 1, we tested the principal hypothesis, namely that there exists an implicit association between Blacks and apes. We also examined the extent to which this association is broadly held (i.e., by both Whites and non-Whites). In Studies 2 and 3, we tested the bidirectional strength of this Black–ape association and investigated whether apes might also be associated with other non-White groups (i.e., Asians). In Study 4, we argued that the Black–ape association is maintained through implicit knowledge. We documented participants' lack of explicit awareness of a Black–ape association and demonstrated that implicit attitudes about Blacks do not predict the strength of the association. Finally, in Studies 5 and 6, we demonstrated that this dehumanizing association is linked to dire outcomes in criminal justice contexts.

Study 1

Do people associate Blacks with apes in contemporary U.S. society? And, if so, is this an association held by Whites and non-Whites alike? Borrowing a "degraded objects" paradigm used by Eberhardt and colleagues (Eberhardt et al., 2004), we examined the Black–ape association in Study 1 by measuring whether the mere presence of Black male faces facilitates identification of ape images. Participants were subliminally primed with Black faces, White faces, or a nonface control image. Next, they were presented with degraded images of animals (line drawings of apes and non-apes), which they were asked to identify as quickly as possible. For each animal, image quality was

improved in small increments (frame by frame), making the animal increasingly easy to identify. For both White and non-White study participants, we predicted that exposure to the Black male faces would facilitate identification of the ape images, whereas exposure to the White male faces would not.

Method

Participants

One hundred twenty-one male undergraduates (60 White, 61 non-White) at Stanford University participated in this study in exchange for partial course credit or $10. Participants ranged in age from 18 to 20 ($M = 18.64$). Of the 61 non-White participants, 7 identified as Black or African American, 39 identified as Asian or Asian American, 5 identified as Latino/a or Hispanic, and 10 identified as mixed-race.

Design

Study 1 took the form of a 3 (race of prime: Black prime vs. White prime vs. no prime) $\times$ 2 (race of participant: White vs. non-White) $\times$ 2 (animal type: apes vs. non-apes) mixed-model design, with animal type serving as the within-subject factor. The picture frame at which participants could accurately identify the animal served as the principal dependent variable.

Materials

Face stimuli. Participants were subliminally exposed to color photographs of either 50 Black adult male faces with neutral expressions, 50 White adult male faces with neutral expressions, or a no-prime control image that was an uninterpretable line drawing created using Adobe Photoshop software. The faces were of Stanford students or employees. The height, weight, age, and attractiveness of the persons photographed did not vary as a function of race. The backgrounds on the photographs were standardized using Adobe Photoshop software.

Object stimuli. Participants saw movies of four apes and eight non-apes. Non-apes were chosen from pretesting. Twenty-five participants were asked "What animals are least associated with people?" The following eight animals were most often mentioned and therefore used in the study: alligator, dolphin, duck, elephant, fish, kangaroo, seagull, and squirrel. For all 12 animals, a black-and-white line drawing was created, and pixelated "noise" was then added to that image using Adobe Photoshop software. This caused the images to look as if they were on a television with "snow" or bad reception. Noise was added in equal increments 40 times, creating 41 picture frames of each animal ranging from an extremely degraded image of the animal to a clear image of the animal with no degradation added. These picture frames were then shown in a sequence from most degraded (Frame 1) to least (Frame 41). Each frame was presented for 500 ms. Pretesting revealed that the ape movies were as easy to detect as the non-ape movies.

Procedure

Participants completed the study individually. Participants were greeted by one of several White experimenters who told them they would be engaging in two unrelated tasks. The first task was an "attentional vigilance task," as per previous research (Eberhardt et al., 2004). Participants were told they would see a focus dot at the center of the screen and were instructed to keep their eyes on it. Participants were told that a pattern of light would flash on the computer screen to the left or right of the focus dot. For each flash, participants were instructed to "press the *k* button if the flash appeared on the right-hand side of the screen and the *d* button if the flash appeared on the left-hand side of the screen" and to do so as quickly as possible. The participants were seated such that each flash of light appeared in a quadrant of the screen at an average of 6° from the focus dot. Each flash of light consisted of a premask (composed of a composite of blurred faces) displayed for 100 ms, then a Black face, White face, or uninterpretable neutral image displayed for 30 ms, and finally, a postmask (that was identical to the premask) displayed until the participant hit the response key. Detection latency was measured from the onset of the postmask to the moment the participant hit the response key to indicate that the flash of light occurred on the left or right of the focus dot. One third of the participants were subliminally primed with Black faces during this task, one third were primed with White faces, and one third were primed with the neutral image. Participants completed 10 practice trials followed by four blocks of 25 experimental trials, after which the experimenter set up the computer to run the object identification program.

Participants were told that the second portion of the experimental session would involve an unrelated study designed to test the speed at which people can identify objects. Participants were told that they would see a series of short "movie-like segments" of objects that would start off "fuzzy" and become increasingly easier to identify, as per previous research (Eberhardt et al., 2004). They were told to push (as quickly as possible) a computer keyboard key to indicate the point at which they could identify what the object was and to then write down the name of the object identified. The number of frames that the participants viewed before accurately identifying the objects (which were always animals, both apes and non-apes) served as our primary dependent measure. After completing the object identification task, participants completed the Modern Racism Scale (MRS; McConahay, 1986) and the Motivation to Control Prejudice Scale (MCP; Dunton & Fazio, 1997). Administering these scales allowed us to test the hypothesis that a Black–ape association exists independent of individual differences in explicit anti-Black prejudice or attitudes about prejudice. Finally, participants were probed for suspicion, fully debriefed, and thanked for their participation.

Results

Data Reduction

Debriefing responses confirmed that participants were not aware of the race primes.[2] Trials in which participants misidentified an animal were removed. This represented a relatively small number of trials (fewer than 10%) and no more than one error per group per participant. Therefore, analyses were conducted on participants' correct responses. There was no effect of race prime or of participant race on the number or type of errors made ($F < 1$).

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[2] Participants reported no knowledge of subliminal primes in all subsequent studies as well.

Effects of Race Priming on Animal Identification

The principal dependent variable was the number of frames needed to accurately identify the animals. We expected that participants primed with Black faces would identify ape images after viewing fewer frames than participants who were not primed. We did not expect race of the participant to be a significant predictor of the principal dependent variable.

After determining that the distribution of our principal dependent variable was not statistically skewed, we submitted the frame data to a 3 (race of prime: Black prime vs. White prime vs. no prime) × 2 (race of participant: non-White vs. White) × 2 (animal type: apes vs. non-apes) mixed-model analysis of variance (ANOVA), with animal type serving as the within-subject factor. As suspected, this analysis revealed no effect of race of participant, $F(2, 118) < 1$, ns. There was no main effect of animal type, $F(2, 118) < 1$, ns. And consistent with our pretesting, participants in the control condition did not differ in the number of frames required to identify apes and non-apes, $F(1, 118) < 1$, ns. There was a significant main effect of prime condition, $F(2, 118) = 4.87$, $p < .01$, $\eta^2 = .08$. However, this was qualified by the predicted two-way interaction, $F(2, 118) = 8.49$, $p < .001$, $\eta^2 = .13$ (see Figure 1).

Consistent with our primary hypothesis, simple effects tests revealed that participants required fewer frames to identify the ape images when primed with Black male faces ($M = 20.16$, $SD = 3.59$) than when not primed ($M = 22.76$, $SD = 3.04$), $F(1, 118) = 5.44$, $p < .05$, $\eta^2 = .04$. Moreover, participants required more frames to identify the ape images when primed with White male faces ($M = 26.23$, $SD = 10.28$) than when not primed ($M = 22.76$,

$SD = 3.04$), $F(1, 118) = 9.32$, $p < .01$, $\eta^2 = .07$. Thus, participants' ability to identify apes was both facilitated by Black male faces and inhibited by White male faces. This conclusion is bolstered by the fact that participants primed with Black male faces required fewer frames to identify apes ($M = 20.16$, $SD = 3.59$) than non-apes ($M = 23.35$, $SD = 4.16$), $F(1, 118) = 8.72$, $p < .01$, $\eta^2 = .07$, whereas participants primed with White male faces required more frames to identify apes ($M = 26.23$, $SD = 10.28$) than non-apes ($M = 22.91$, $SD = 5.57$), $F(1, 118) = 8.74$, $p < .01$, $\eta^2 = .07$.

These effects were not moderated by participants' MRS or MCP scores when participant scores were included as covariates, $Fs(1, 117) < 2$, ns.

Discussion

Though explicit representations of Blacks as apes may be relegated to history, the mental association lingers and appears to exert some influence on visual perception. Simple exposure to Black faces reduced the number of frames participants required to accurately identify ape images. This Black–ape facilitation effect was observed among White and non-White participants alike. And this effect was not moderated by participants' explicit racial attitudes or their motivation to control prejudice. Surprisingly, participants not only exhibited a Black–ape facilitation effect but also exhibited a White–ape inhibition effect as well. This unanticipated White–ape inhibition effect may have resulted from a negative association between Whites and apes. That is, if Blacks are mentally represented as less evolved (and therefore closer to apes), then Whites
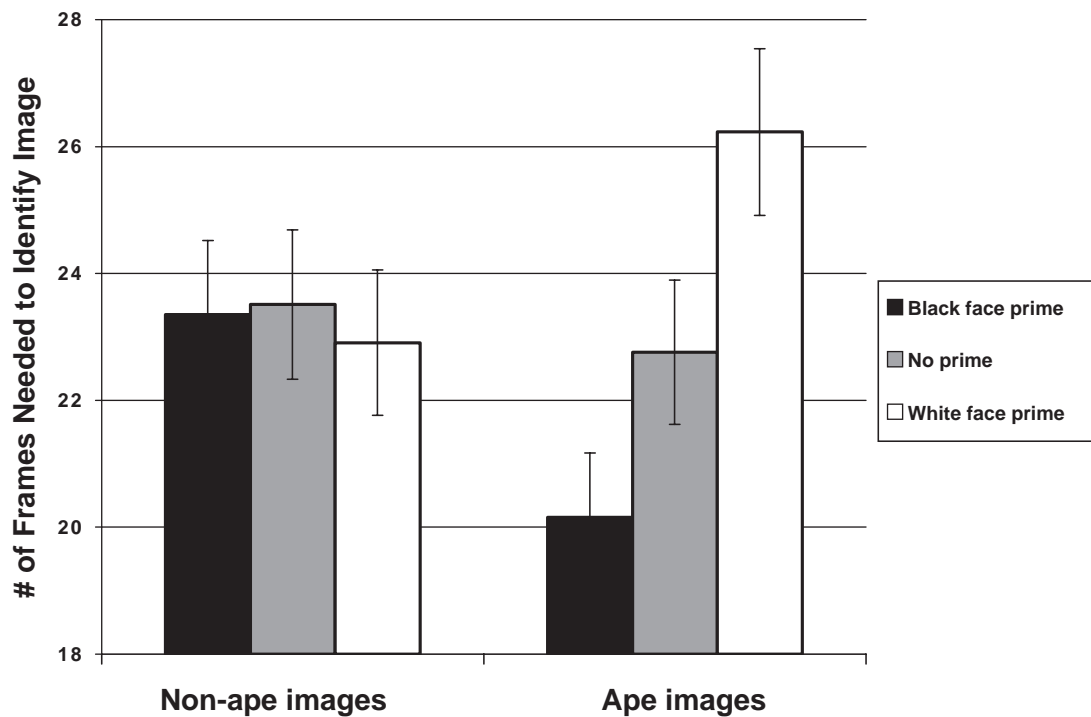

Figure 1. Mean frame number at which the animal could be detected as a function of animal type and race prime (Study 1). Error bars represent the average standard error for each condition.

may be represented as most evolved (and therefore, farthest removed from apes).

Having established that a Black–ape association is present, next, we tested the strength of the association. In previous research (Eberhardt et al., 2004), we have argued that strong mental associations tend to be bidirectionally associated. Study 2, therefore, was designed to test the strength of the Black–ape association by empirically testing the bidirectionality of it. We primed study participants with images of apes (or not) and examined the extent to which exposure to these images directed their attention to Black faces. Just as exposure to Black faces may lead people to think about apes (as we found in Study 1), exposure to apes may lead people to think about Blacks.

Study 2

In Study 2, we hypothesized that participants primed with apes would exhibit an attentional bias toward Black faces. A finding that Blacks and apes are bidirectionally associated would indicate that this association is not only present in contemporary society but also strong and well rehearsed. To examine this issue, we used a modified dot-probe paradigm (originally introduced by MacLeod, Mattews, & Tata, 1986, to examine the extent to which clinically anxious patients exhibited an attentional bias toward threat-relevant stimuli). In the present study, we presented participants with two faces on the computer screen simultaneously (one Black and one White face). These faces disappeared, and a dot probe appeared in the place where one of the faces used to be. The participant was asked to locate the dot probe as quickly as possible on the computer and to use one of two response keys to indicate whether it was on the left or the right of a centered focus dot. As is traditional in dot-probe studies, we used the time it took participants to locate the dot probe as a proxy for visual attention. We predicted the participants would be especially fast at finding the dot probe when it was in the location of the Black face and they had been primed with apes. In other words, we expected that exposure to apes would activate an association with Blacks and therefore lead participants to look at the Black face.

Method

Participants

Sixty-three White male Stanford University students participated in this study in exchange for partial course credit or $10. Participants ranged in age from 18 to 23 ($M = 19.28$). Data for the first 5 participants were lost due to a computer malfunction. All analyses are, therefore, run on the remaining 58.

Design

Participants were randomly assigned to a 2 (prime type: apes vs. no prime) $\times$ 2 (dot-probe position: Black face position vs. White face position) between-subjects design. Dot-detection latency served as the primary dependent variable.

Materials

Face stimuli. Four faces (two Black and two White) from the original set of 100 used in Study 1 were chosen as targets in Study

2. All 4 faces were matched on attractiveness and stereotypicality in a pretest.

Object stimuli. The four ape line drawings from Study 1 were used for Study 2. A jumbled line drawing was used for the "no prime" condition.

Vigilance task. The "vigilance task" used to prime participants was nearly identical to the task used in Study 1. However, instead of subliminally priming participants with Black or White male faces, participants were subliminally primed with the four ape line drawings or the jumbled line drawing. The pre- and postmasks were jumbled line drawings as well.

Dot-probe task. Consistent with previous research, participants were told that they would participate in a "facial interference" task as the second part of the study (Eberhardt et al., 2004). They were told that the task was intended to measure whether a delay is produced when faces "distract participants" from their task of attentional vigilance. Actually, this was a dot-probe task, intended to measure attentional bias toward Black or White faces. After two practice trials in which no faces were displayed, but, instead, the word *FACE* appeared to the left or right of the focus dot, participants were again presented with a focus dot for a randomly determined interval (between 2 and 6 s). One of the Black and one of the White male faces then simultaneously appeared. One face appeared 6° to the right of the focus dot, whereas the other face appeared 6° to the left. The computer randomly determined which faces would be displayed (between the two for each race). Faces were presented for 450 ms, after which a faint gray dot probe appeared where one of the two faces had appeared previously. The computer, again, randomly determined the location of the dot probe. Participants were instructed to "press the *k* button if the dot appeared on the right-hand side of the screen and the *d* button if the dot appeared on the left-hand side of the screen." They were also instructed to ignore the faces and to press either the *k* or the *d* button as quickly as possible. Dot-detection latency was measured from the time the target gray dot probe was displayed to the point at which participants indicated their responses. As in previous research on attention and social representations (Eberhardt et al., 2004), participants completed a single "dot-probe" trial.

Procedure

Participants completed the study individually. Participants were greeted by one of several White experimenters and told that they would take part in two unrelated tasks. The first was a simple vigilance task (the priming task), and the second was a "facial interference" task designed to gauge how distracted participants would become when presented with faces before a crucial attentional task (the dot-probe task). After completing the two computer tasks, participants completed the MRS, MCP, and the Attitude Towards Blacks scale (ATB; Brigham, 1993). Participants were then probed for suspicion, thoroughly debriefed, and thanked for their participation.

Results

Data Transformation

The skewness statistic of the reaction time data was more than twice the standard error of the skewness statistic ($M = 2.44$, $SE =$

.31). After natural log and square root transformations failed to reduce the skewness of dot-detection latencies, the data were submitted to a reciprocal transformation ($M = 0.35$, $SE = .31$), as recommend by Bargh and Chartrand and consistent with previous research (Bargh & Chartrand, 2000; Eberhardt et al., 2004). All subsequent analyses were performed on the transformed data. Because the pattern of means was nearly identical, however, we present the raw detection latencies in Figure 2 for ease of interpretation.

Effects of Animal Priming on Visual Attention

We submitted the transformed dot-detection latencies to a 2 (prime type: apes vs. no prime) $\times$ 2 (dot-probe position: Black face position vs. White face position) between-subjects ANOVA. As anticipated, the two-way interaction was significant, $F(1, 54) = 31.55$, $p < .001$, $\eta^2 = .37$. This interaction was not moderated by participants' MRS, MCP, or ATB scores, $Fs(1, 53) < 2$, ns. Simple effects tests revealed that participants in the no-prime condition were faster to detect the dot probe when it was placed near the White face ($M = 1.10 \text{ E} -3$, $SD = 3.60 \text{ E} -4$) than when it was placed near the Black face ($M = 5.00 \text{ E} -4$, $SD = 4.10 \text{ E} -4$), $F(1, 54) = 15.43$, $p < .001$, $\eta^2 = .22$. That is, when there was no prime at all, White participants directed their eyes toward White faces. However, participants primed with apes were faster to detect the dot probe in the Black face position ($M = 1.20 \text{ E} -3$, $SD = 4.90 \text{ E} -4$) than the White face position ($M = 6.00 \text{ E} -4$, $SD = 3.40 \text{ E} -4$), $F(1, 54) = 16.14$, $p < .001$, $\eta^2 = .23$. This suggests that activating the concept of apes directed participants'

attention away from White male faces and toward Black male faces.

Participants who saw the dot probe in the Black face position were faster to detect it when primed with apes than when not primed, $F(1, 54) = 14.30$, $p < .001$, $\eta^2 = .21$. Conversely, participants who saw the dot probe in the White face position were slower to detect it when primed with apes than when not primed, $F(1, 54) = 17.28$, $p < .001$, $\eta^2 = .24$.

Discussion

The results of Study 2 are consistent with our prediction that activating the concept of apes would activate the concept of Blacks and thus produce an attentional bias toward Black male faces. When White participants were not primed, they appeared to display an in-group preference—that is, their attention was directed to White faces more so than Black faces. When subliminally primed with ape images, however, Black faces captured their attention. Although we believe this attentional bias toward Black faces is due to participants' specific associations of Blacks with apes, it is also possible that activating the concept of apes simply produces an attentional bias toward the face of any out-group member. Out-group members, in general, may be considered less human than in-group members. Indeed, an in-group/out-group explanation for the above results would be consistent with much of the contemporary social psychological research on dehumanization (Haslam, 2006). Study 3 was designed to test the possible role of a generalized out-group bias by replacing the White male face with an Asian male face. White participants in Study 3, then, saw faces of
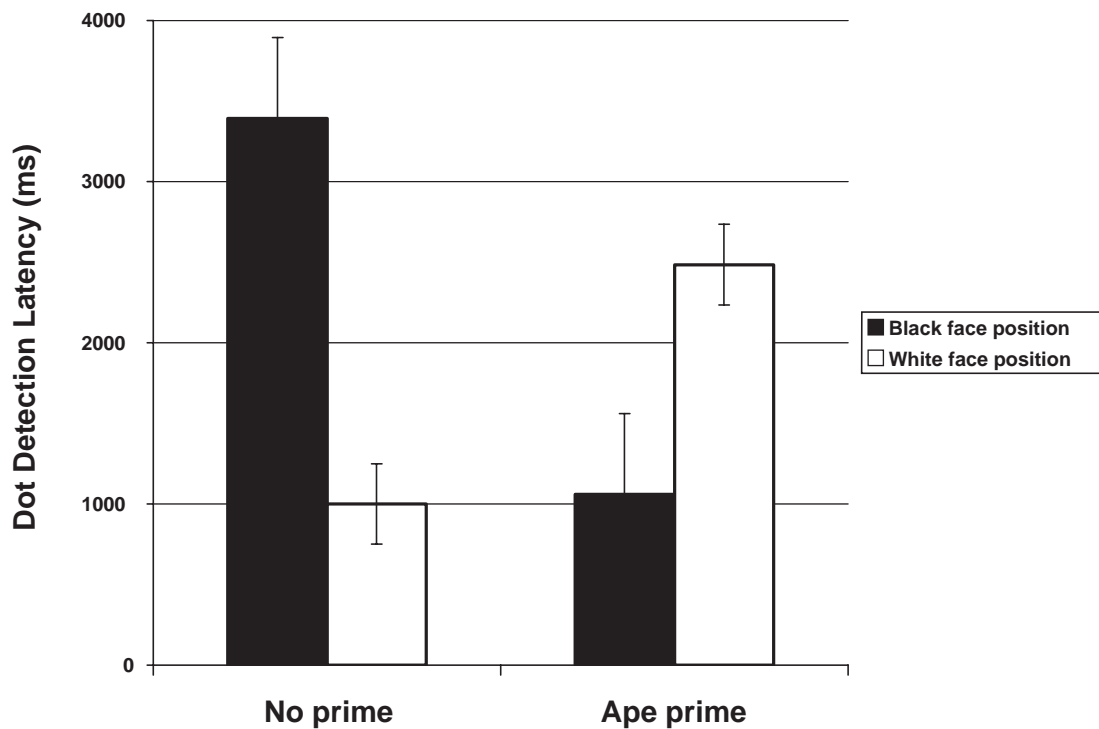

Figure 2. Mean dot-detection latency as a function of prime and dot-probe location (Study 2). Error bars represent the average standard error for each condition.

out-group members only. We predicted that, even under these conditions, participants would direct their eyes toward the Black male face when primed with apes.

Study 3

In Study 3, participants were presented with the same dot-probe task as in Study 2. They were presented, however, with a Black male face and an Asian male face (rather than Black and White faces). Second, to ensure that any arresting properties of color were removed, the faces were converted to line drawings. Again, it was hypothesized that participants' attention would be diverted to the Black male face when primed with apes. However, in the absence of an ape prime, given the lack of an in-group member, it was hypothesized that participants' attention would be equally distributed.

Method

Participants

Forty-nine White male Stanford University students participated in this study in exchange for partial course credit or $10. Participants ranged in age from 18 to 21 ($M = 18.70$).

Design

Participants were randomly assigned in a 2 (prime type: apes vs. no prime) $\times$ 2 (dot-probe position: Black face position vs. Asian face position) between-subjects design. Again, dot-detection latency served as the primary dependent variable.

Materials

Object stimuli.   The same object stimuli used in Study 2 were used in Study 3.

Face stimuli.   Four faces, two Black and two Asian, were chosen as targets in this study. All four faces were matched on attractiveness and stereotypicality in a pretest. These faces were then transformed into black-and-white line drawings.

Procedure

The procedure for Study 3 was identical to Study 2 with the exception that participants saw one Black face and one Asian face, displayed simultaneously as line drawings.

Results

Data Transformation

Data transformation followed the protocol for Study 2. The skewness statistic of the reaction time data was more than twice the standard error of the skewness statistic ($M = 1.54$, $SE = .34$). After natural log and square root transformations failed to reduce the skewness of dot-detection latencies, the data were submitted to a reciprocal transformation ($M = 0.42$, $SE = .34$). All subsequent analyses were performed on reciprocally transformed data. Because the pattern of means was nearly identical, we present the raw detection latencies in Figure 3 for ease of interpretation.

Effects of Animal Priming on Visual Attention

We submitted the transformed detection latencies to a 2 (prime type: apes vs. no prime) $\times$ 2 (dot-probe position: Black face
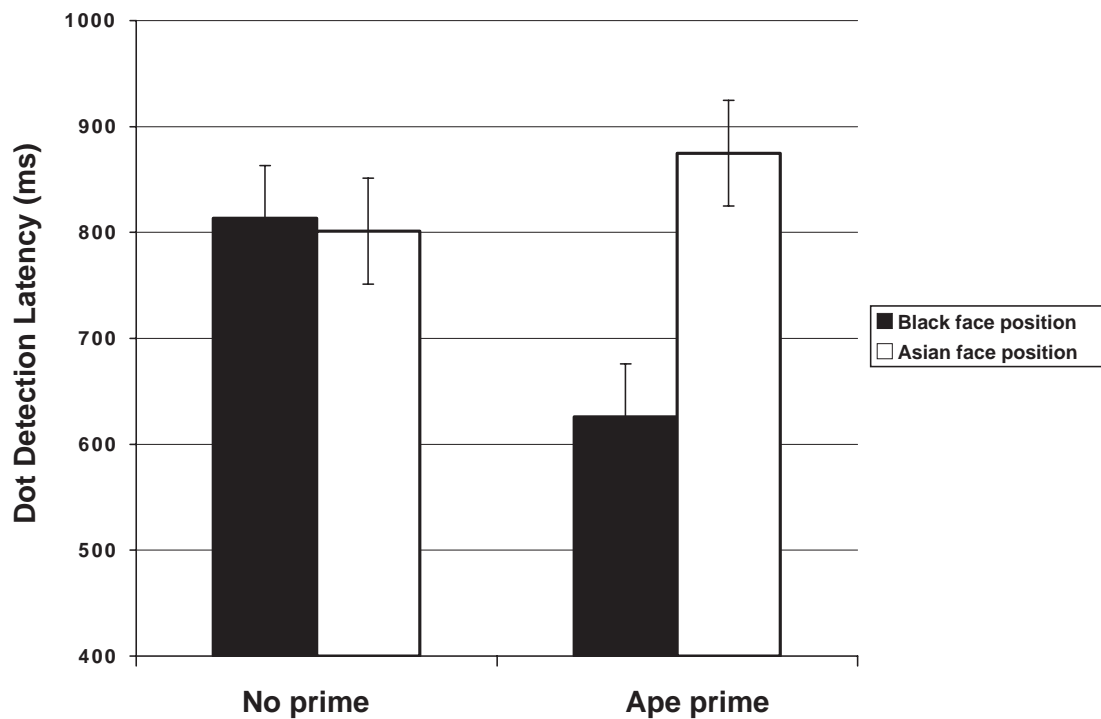

Figure 3.   Mean dot-detection latency as a function of prime and dot-probe location (Study 3). Error bars represent the average standard error for each condition.

position vs. Asian face position) between-subjects ANOVA. There was a main effect of dot-probe position, such that participants were generally faster to find the dot probe in the Black face position than in the Asian face position, $F(1, 45) = 7.99$, $p < .01$, $\eta^2 = .15$. This was qualified, however, by the anticipated two-way interaction, $F(1, 45) = 4.22$, $p < .05$, $\eta^2 = .09$, which was not moderated by participants' MRS, MCP, or ATB scores, $Fs(1, 44) < 2.5$, ns. Simple effects tests confirmed that, when participants were primed with apes, they were faster to detect the dot probe in the Black face position ($M = 1.67$ E -3, $SD = 3.45$ E -4) than in the Asian face position ($M = 1.22$ E -3, $SD = 2.94$ E -4), $F(1, 45) = 12.64$, $p < .001$, $\eta^2 = .22$. However, there was no difference between detection latencies when participants were not primed, $F(1, 45) < 1$, ns. Moreover, consistent with the findings of Study 2, participants who saw the dot probe in the Black face position were faster to see it when primed with apes ($M = 1.67$ E -3, $SD = 3.45$ E -4) than when not primed ($M = 1.33$ E -3, $SD = 3.98$ E-4), $F(1, 45) = 6.87$, $p = .01$, $\eta^2 = .13$. In contrast, prime type did not influence dot-detection latency for participants who saw the dot in the Asian face position, $F(1, 45) < 1$, ns.

Discussion

The attentional bias toward Black faces observed in the ape-prime condition does not appear to be driven by a generalized out-group bias. Rather, there appears to be an association between Blacks in particular and apes that is determining where people look.

We have clear evidence now that a Black–ape association is present and strong—exerting influence on both visual perception and attention; yet, to what might the association be attributed? We argue that the association can be driven by implicit knowledge—even in the absence of strong, anti-Black prejudice. Across three studies, in fact, we have already demonstrated that individual differences in explicit anti-Black attitudes are not significantly related to the existence and strength of the Black–ape association. In Study 4, we demonstrate that this association can exist even in the absence of implicit anti-Black attitudes and explicit knowledge of the association.

Study 4

The primary purpose of Study 4 was to examine possible causes of the Black–ape association. Specifically, we tested the hypotheses that the Black–ape association is driven by implicit anti-Black attitudes or explicit knowledge of the association rather than by implicit knowledge.

To test the possibility that the Black–ape association is driven by implicit anti-Black attitudes, participants took two modified Implicit Association Tests (IAT; Greenwald, McGhee, & Schwartz, 1998). Half the participants were randomly assigned to first take a personalized IAT (Olson & Fazio, 2004). The other half first took an IAT that required them to categorize stereotypically Black and White names by race at the same time they categorized animal names as either great apes or big cats. After completing one or the other IAT, participants left the lab and returned no less than 24 hr later to complete the second IAT (i.e., whichever IAT they had not taken previously).

The personalized IAT required participants to categorize names as stereotypically Black or White and to indicate whether they like or dislike various objects about which there is no agreed upon cultural norm for evaluating (e.g., peanuts). In one version of this personalized IAT, participants indicate that they like an item with the same response key that they use to indicate that a name is White, and they indicate that they dislike an item with the same response key that they use to indicate that a name is Black. In a second version, these pairings are reversed (Black and like, White and dislike). By asking participants to indicate personal opinions about culturally neutral words (e.g., peanuts or football) rather than asking them to categorize culturally valued (e.g., *birthdays* or *flowers*) and devalued (e.g., *vomit* or *garbage*) words, the personalized IAT attempts to measure an individual's personal association between *Black* and *bad* without including any "extra-personal knowledge" that Blacks are associated with *bad* in the larger society (Olson & Fazio, 2004). The faster participants are at responding when the Black names and disliked items share the same response key, and the slower they are at responding when the Black names and liked items share the same response key, the more personal implicit bias they are thought to harbor against Blacks. The personalized IAT, then, was our measure of pure implicit anti-Black attitudes, "uncontaminated" by societal values and norms (Olson & Fazio, 2004).

The second IAT was a "dehumanization IAT" that we developed. For this IAT, participants again categorized stereotypically Black and White names by race, yet they also simultaneously categorized animals as either great apes or big cats. We predicted that participants would be faster to associate stereotypically Black names and apes than they would be to associate stereotypically Black names and big cats. Moreover, we reasoned that if participants associated Blacks with apes as a result of omnibus negative attitudes, then there should be no "dehumanizing IAT" effect after controlling for the personalized IAT. If, however, the personalized IAT did not reduce the size of the dehumanizing IAT effect, then this result would be consistent with our implicit knowledge hypothesis. To further test the implicit knowledge hypothesis, participants were asked explicitly about their awareness of the stereotype of Blacks as apes.

Study 4 was also designed to test two alternative explanations for the findings obtained in Studies 1–3, namely that the association of Blacks and apes is due either to an association of apes with violence or to an association of apes with Africa. With this in mind, we designed our dehumanization IAT so that it contained words associated with big cats—a group of animals that is seen as both more violent and more closely associated with Africa than apes. Thus, it was possible to determine whether participants associated Blacks with apes per se or merely associated Blacks with violent aggression and/or Africa.

Method

Participants

Sixty-nine White male Pennsylvania State University undergraduates participated in this study for partial course credit. Participants ranged in age from 18 to 26 ($M = 19.27$). Due to researcher error, 4 participants became aware of the study's hypothesis and were, therefore, eliminated from analysis. All analyses were conducted on the remaining 65 participants.

Materials

Names and words for the personalized IAT were taken from Olson and Fazio (2004). The same names were used again for the "dehumanization IAT." In addition to these names, eight big cat and eight ape words were chosen. Pretesting revealed that the big-cat words included in Study 4 were more strongly associated with aggression and violence on a 7-point Likert scale ($M = 5.43$) than were ape words ($M = 3.79$), $t(23) = 6.36$, $p < .001$, $\eta^2 = .64$. Pretesting also revealed that the big-cat words were more strongly associated with Africa on a 7-point Likert scale ($M = 4.57$) than were ape words ($M = 3.94$), $t(23) = 2.10$, $p < .05$, $\eta^2 = .16$. The ape words were *ape*, *monkey*, *baboon*, *chimp*, *chimpanzee*, *orangutan*, *gorilla*, and *primate*.[3] The big-cat words were *lion*, *tiger*, *panther*, *puma*, *cheetah*, *cougar*, *leopard*, and *feline*. All stimuli were presented as words, rather than pictorially.

Procedure

Participants completed the study in groups of up to 7 people. In the first session, half the participants were randomly assigned to take the personalized IAT, and the remaining half took the dehumanization IAT. Participants were then asked to come back for a second session, no less than 24 hr later. (All but 3 participants returned within 3 days, and all participants returned within 7 days.) Participants then completed whichever IAT they had not completed previously.

After completing both IATs, participants completed a brief "stereotype knowledge" questionnaire. The questionnaire included six statements: three about African Americans and three about European Americans. The statements were (a) "I am aware of the stereotype that African Americans are violent"; (b) "I am aware of the stereotype that African Americans like to whisper"; (c) "I am aware of the stereotype that African Americans are like apes"; (d) "I am aware of the stereotype that European Americans are tall"; (e) "I am aware of the stereotype that European Americans are rich"; and (f) "I am aware of the stereotype that European Americans are culturally insensitive." Participants responded by simply circling yes or no. This questionnaire was designed to allow respondents to answer honestly about their awareness of historically dehumanizing representations of Blacks. Participants were then probed for suspicion, thoroughly debriefed, and thanked for their participation.

Results

Data Reduction

Data reduction followed the protocol outlined by Greenwald, Nosek, and Banaji (2003).

IAT Effects

Submitting the personalized IAT responses to a one-way ANOVA revealed that participants were faster to categorize words in the Black–bad condition than in the Black–good condition, $F(1, 64) = 15.34$, $p < .001$, $\eta^2 = .19$. Similarly, submitting the dehumanization IAT responses to a one-way ANOVA revealed that participants were faster to categorize words in the Black–ape condition than in the Black–big-cat condition, $F(1, 64) = 43.00$,

$p < .001$, $\eta^2 = .40$. More important, as predicted, this effect held even when covarying for effects of the personalized IAT, $F(1, 63) = 30.46$, $p < .001$, $\eta^2 = .32$, while the personalized IAT was, itself, not a significant covariate, $F(1, 63) < 1$, *ns*, in this ANOVA.

Stereotype Knowledge

Only 9% of all respondents indicated knowledge of the stereotype that Blacks are apelike. This was similar to the percentage who indicated knowledge that Blacks like to whisper (6%), a nonstereotype. These findings are in stark contrast to previous findings that document a high degree of explicit knowledge of cultural stereotypes about Blacks (e.g., Devine & Elliot, 1995). These findings are also in stark contrast to the 94% of present respondents who indicated being aware of the stereotype that Blacks are violent, and the 89% of respondents who indicated being aware of the stereotypes that Whites are rich and culturally insensitive.

Discussion

As predicted, participants were faster to categorize target words when *Black* was paired with *ape* than when *Black* was paired with *feline*. Thus, across four studies, we have shown that participants associate Blacks and apes.[4] In Study 4, we also demonstrated that participants were not simply associating *Black* with violent aggression or Africa, as the big cats were seen as more violent and African than were the apes. This bias toward pairing *Black* and *ape* was virtually unchanged when covarying for participants' scores on the personalized IAT, indicating that individuals' implicit anti-Black bias was not responsible for the Black–ape association. In addition, few participants indicated knowledge of the historical representation of Blacks as apes, further supporting the hypothesis that the Black–ape association functions without the benefit of explicit cultural knowledge of the association.

Study 5

What are the material consequences of the Black–ape association? Historically, the "Negro-ape metaphor" was used to justify subjugation of and violence against Black people (Fredrickson, 2002; Lott, 1999). Despite our demonstrations of the continued presence and strength of the Negro-ape metaphor, the function of this metaphor in contemporary society is unclear. Can the activation of this association in contemporary society lead people to condone violence against Black targets, despite individual differences in anti-Black prejudice? Study 5 was designed to examine this question. Specifically, we subliminally primed participants

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[3] Though not all of the "ape" words can correctly be called *apes*, these words were found to be strongly associated with the concept "ape" among lay people.

[4] One might argue that although these data demonstrate participants' willingness to associate Blacks with apes, the data do not demonstrate that participants are more willing to associate Blacks with apes than with humans. Even early anthropologists who explicitly likened Africans to apes, however, would not argue that Africans were categorically nonhuman—merely that they were not yet as human as Whites (Lott, 1999). And it is this sentiment, we argue, that is reflected in our findings.

with words associated with apes or big cats, and we asked them to view a videotape of a group of police officers beating a suspect whom the participants were led to believe was Black or White. We predicted that the participants primed with the ape words would be the most likely to condone violence directed at the suspect, but only when they thought the suspect was Black.

Method

Participants

One hundred twenty-one White male undergraduates at The Pennsylvania State University participated in this study in exchange for partial course credit. Participants ranged in age from 18 to 25 ($M = 19.04$). Three did not wish to view violent videos and were excused from the study before participation began. Two participants' data were lost due to computer failure. One participant was suspicious of the experimental hypothesis as a result of conversations with a previous participant. All analyses were therefore run on the remaining 115 participants.

Design

Participants were randomly assigned in a 2 (animal prime type: apes vs. big cats) $\times$ 2 (race of target: Black vs. White) between-subjects design. Violence justification served as our primary dependent variable.

Materials

Personalized IAT. The personalized IAT was administered using the identical protocol as that used in Study 4.

Vigilance task. The vigilance task was identical to the priming task used in Studies 1–3, with the exception that the primes in Study 5 were animal words, and the masks were letter strings. The same animal words used in Study 4 were used in Study 5.

Video. A 2-min video clip included footage of a number of police officers violently subduing a single suspect. We made the race of the suspect clear by displaying a mug shot photo of either a Black or White suspect (matched on attractiveness and stereotypicality) at the beginning of the video clip. The video informed participants that the suspect, although described by his family as "a loving husband and father," had a serious criminal record and may have been high on "a mind-altering substance—possibly PCP—at the time of the arrest." The video also indicated that the suspect had been wanted for some time and that the footage of the police beating followed a lengthy pursuit on foot.

Video questionnaire. The video questionnaire consisted of the following four questions rated on a Likert scale ranging from 1 (*not at all*) to 7 (*extremely*): "How violently did the suspect resist?" "How justified were the police in using the amount of force they used?" "How much did the suspect deserve the treatment he received?" and "How much did the suspect's behavior make violence necessary?" These four items combined to form a highly reliable scale indicating participants' ideas about how justifiable the police violence was ($\alpha = .90$).

Procedure

Participants were greeted by one of several White experimenters who informed them that they would be taking part in a two-part

study. The first part would be a categorization task (which was actually the personalized IAT). The second part would be completed no less than 24 hr later and would be a video-rating task.

Participants completed the personalized IAT in the first session and returned for a second session no less than 24 hr later but no more than 1 week after their initial session. Upon returning for their second session, participants were told that they would complete two unrelated tasks. The first was the "vigilance task" from Studies 1–3, containing either ape words or big-cat words as subliminal primes.

After completing the "vigilance task," participants were shown a video clip of a police beating—ostensibly from a television show similar to the show *COPS*. After watching the video clip and completing the questionnaire, participants were asked questions about how justified the police violence was in the video. Finally, participants were probed for suspicion, thoroughly debriefed, and thanked for their participation.

Results

We submitted participants' ratings of how justified the beating was to the planned 2 (animal prime type: apes vs. big cats) $\times$ 2 (race of suspect: Black vs. White) between-subjects ANOVA. This revealed the anticipated two-way interaction (see Figure 4), $F(1, 111) = 7.13$, $p < .01$, $\eta^2 = .06$, and was not moderated by the personalized IAT, $F(1, 110) < 1$, *ns*. Simple effects tests revealed that participants who believed the suspect to be White perceived the police as no more justified in using violence when primed with apes ($M = 2.86$, $SD = 1.29$) than when primed with big cats ($M = 3.13$, $SD = 1.69$), $F(1, 111) < 2$, *ns*. However, participants who believed the suspect to be Black perceived the police as more justified in using violence when they had been primed with apes ($M = 3.88$, $SD = 1.46$) than when they had been primed with big cats ($M = 2.90$, $SD = 1.51$), $F(1, 111) = 5.85$, $p < .05$, $\eta^2 = .05$. Similarly, whereas participants who had been primed with big cats did not think the police more justified in beating the White or the Black suspect, $F(1, 111) < 2$, *ns*, participants who were primed with apes thought that the police were more justified in beating the Black suspect than the White suspect, $F(1, 111) = 6.47$, $p = .01$, $\eta^2 = .06$.

Discussion

Study 5 demonstrates that the Black–ape association can alter participants' judgments about violence against a Black target. Participants were more likely to believe that the beating the Black suspect received was justified when primed with apes than with big cats. Moreover, these findings were not attenuated by individual differences in implicit anti-Black bias. Taken together, this suggests that implicit knowledge of a Black–ape association led to marked differences in participants' judgments of Black criminal suspects.

In Study 5, we demonstrated that the Black–ape association can alter judgments of criminal suspects when activated; yet, how likely is the association to become spontaneously activated outside of the laboratory context? In the final study, we looked for the presence of the association in actual criminal cases in which jurors were instructed to render judgments of life or death.
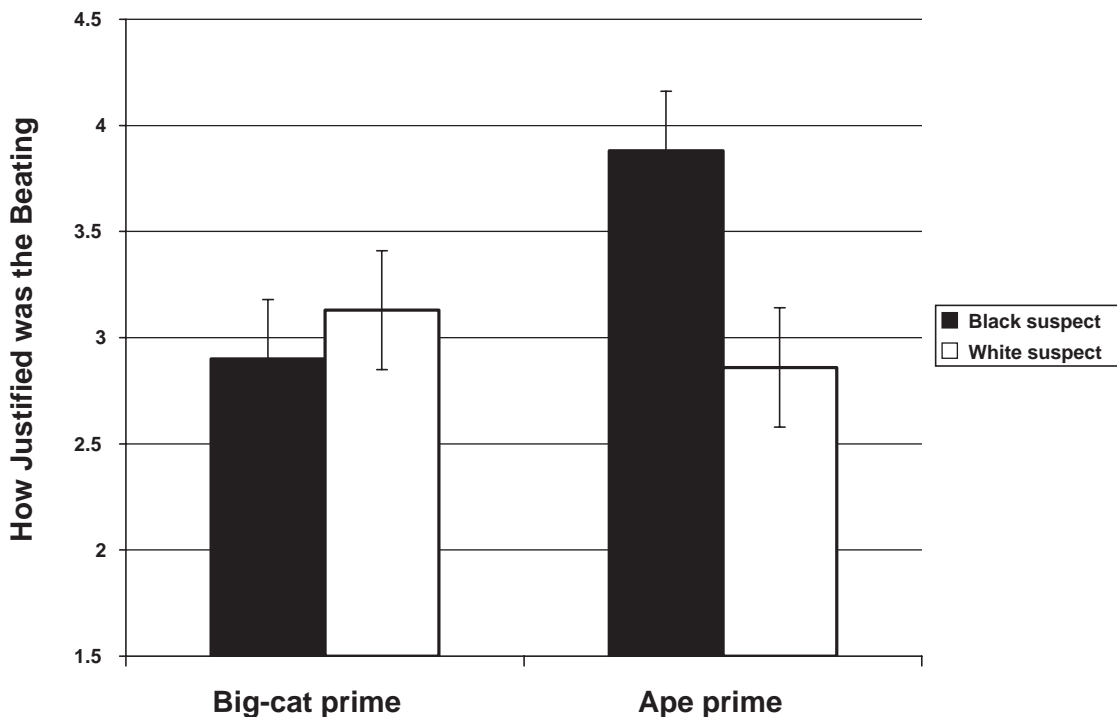
Figure 4. Mean violence justification rating as a function of prime and race of suspect (Study 5). Error bars represent the average standard error for each condition.

We also explored one possible mechanism for the maintenance of this dehumanizing association between Blacks and apes: metaphorical representations. Though the explicit likening of Blacks to apes has all but disappeared in popular U.S. media, the representation may persist in coded language. Is it possible that newspaper coverage of stereotypical African Americans—such as Black criminals—is still replete with words that conjure simian images to mind? Perhaps subtle metaphors that go largely unnoticed in media continue to have great effect—and can even be linked to life-and-death decisions.

Study 6

In his landmark book on metaphorical representations in popular media, Otto Santa Ana (2002) argued that media outlets tacitly compare Mexican immigrants to insects, among other things. Santa Ana argued that in newspapers, this happens when words such as *swarm* or *crawl* are used to describe Mexican immigrants. Santa Ana further argued that these words, linking Mexican immigrants to insects, create an implicit metaphor that, although hidden to casual readers, powerfully impacts the ways in which they conceive of Mexican immigrants and issues surrounding immigration. In Study 6, we extended Santa Ana's hypothesis to the representation of Blacks as apelike.

Using a large data set compiled by death penalty researchers, David Baldus and colleagues (Baldus, Woodworth, Zuckerman, Weiner, & Broffitt, 1998), we examined death-eligible cases between 1979 and 1999 in Philadelphia, Pennsylvania. From this data set, we extracted 153 cases for which we had both mug shots of the defendant and press coverage of the case in the *Philadelphia*

Inquirer. The *Inquirer* has not only a strong national reputation but also nearly exclusive responsibility for handling Philadelphia's local news in print. We predicted that the news coverage of Black death-eligible defendants would be more likely to contain apelike representations than the news coverage of death-eligible White defendants and that these representations would be related to death-sentencing judgments.

Method

Death-Eligible Cases

Data on 153 death-eligible cases (15 with White defendants, 138 with Black defendants) were taken from the Baldus data set (Baldus et al., 1998), a comprehensive database of over 600 death-eligible cases that advanced to the penalty phase in Philadelphia, Pennsylvania from 1979 to 1999. Cases were selected if the defendant was Black or White, if the mug shot of the defendant was available, and if the case received coverage in the *Philadelphia Inquirer*. For each case, the Baldus data set contained demographic information for the defendant and victim (e.g., race and socioeconomic status) as well as factors related to the criminal case, including aggravating circumstances, mitigating circumstances, and crime severity. We used these factors as covariates in the present data analyses.

Newspaper Articles

Developing a coding list. Four coders searched electronic copies of the *Philadelphia Inquirer* from 1979 to 1999 for mentions of

defendants in the Baldus database (Baldus et al., 1998). Each article that contained a mention of a defendant was then compiled into an article database. The article database contained 788 articles. Each article was then coded for the presence of 54 words that connoted bestial or subhuman qualities. Words were chosen from a random sampling of 5% of the total articles. Next, the words were presented to 24 naïve raters who read each word in context (taken from sentences in the newspaper articles). Raters were asked to "think of an animal" that was associated with the target word in each sentence. Thirty-five words[5] elicited *ape*, *monkey*, or *gorilla* from more than 12 respondents (50%). Finally, to further confirm that these words elicited the concept "ape," all 35 words were then presented to a new group of 24 naïve raters, again in context. This time, the raters were asked to "think of an animal" that was called to mind after reading all 35 sentences. Of the 24 respondents, 17 answered *ape*, *monkey*, or *gorilla*. Thus, we established that the words in the coding list, both individually and as a set, were associated with apes.

Scoring the news articles. Different raters searched the collection of articles for each ape-relevant word on the coding list. Raters were given instructions borrowed from work by the sociolinguist Otto Santa Ana (2002) in his book on metaphor and racial representations. Each time a word from the coding list was found, it was read in context to ensure it was being used appropriately (i.e., that *spring* was being used as a verb rather than in reference to a season). Each death-eligible case was then given a score for the total number of ape words used to describe it in the press and a score for the total number of articles that covered the case.

Results

We submitted the data to an analysis of covariance, controlling for the total number of articles on each case. As predicted, we found that Black defendants (8.53 mentions, $SD = 12.35$) were described in the press with more ape-relevant words than were White defendants (2.2 mentions, $SD = 2.34$), $F(1, 151) = 4.61$, $p < .05$, $\eta^2 = .03$.

We next tested the relationship between ape portrayals in the press and defendants being put to death. When controlling for the total number of articles, defendant socioeconomic status, victim socioeconomic status, aggravating circumstances, mitigating circumstances, and crime severity, Black defendants who were put to death were more likely to have apelike representations in the press (12.69 mentions, $SD = 16.66$) than were those whose lives were spared (6.22 mentions, $SD = 8.43$), $F(1, 130) = 4.88$, $p < .05$, $\eta^2 = .04$. Though a similar trend was found for Whites, with those sentenced to death more likely to receive apelike representations in the press (2.57 mentions, $SD = 2.82$) than those whose lives were spared (1.88 mentions, $SD = 1.96$)—perhaps because of the paucity of White death-eligible cases—this pattern was not statistically significant for Whites, $F(1, 7) < 1$, *ns*. Taken together, the results of Study 6 suggest that Black defendants are more likely to be portrayed as apelike in news coverage than White defendants and that this portrayal is associated with a higher probability of state-sponsored executions.

Discussion

Though Study 6 was not a controlled experiment, the observed pattern of data suggests that apelike representations of Black Americans persist in the press—though hidden in metaphor rather than explicitly rendered. Moreover, despite the fact that we controlled for a substantial number of factors that are known to influence criminal sentencing, these apelike representations were associated with the most profound outcome of intergroup dehumanization: death.

General Discussion

A series of six studies provide evidence of a bidirectional association between Blacks and apes that can operate beneath conscious awareness yet significantly influence perception and judgments. In Studies 1–3, we demonstrated a strong bidirectional association between Blacks and apes that directs visual perception and attention. These studies established that neither explicit prejudice nor in-group status moderate this association. Studies 1 and 2 also demonstrated that there was a bidirectional White–ape inhibition effect. This is consistent with prior research by Eberhardt and colleagues (Eberhardt et al., 2004) showing that, whereas Blacks and crime were positively associated, Whites and crime were negatively associated. That Whites and apes are negatively associated is also consistent with early biologically racist accounts of evolution that rendered Blacks as least evolved (ergo closest to apes) and Whites as most evolved (ergo farthest from apes) (Jahoda, 1999; Lott, 1999). This apparent interrelatedness of Black and White images in cultural representations and mental representations deserves further study.

After having established that individuals mentally associate Blacks and apes, Study 4 demonstrated that this implicit association is not due to personalized, implicit attitudes and can operate beneath conscious awareness. In Study 5, we demonstrated that, even controlling for implicit anti-Black prejudice, the implicit association between Blacks and apes can lead to greater endorsement of violence against a Black suspect than against a White suspect. Finally, in Study 6, we demonstrated that subtle media representations of Blacks as apelike are associated with jury decisions to execute Black defendants.

We used broad stimulus sampling procedures to ensure that our results were not due to stimulus artifacts. In Study 1, we subliminally primed participants with a broad range of Black faces and White faces (50 of each group) to ensure that the ape facilitation effect produced by exposure to the Black faces was not due to a small number of specific Black faces that just happened to appear as more "apelike." Our results also were not due to mere color matching. In Studies 1–3, we removed the color from our animal stimuli entirely by exposing participants to line drawings of animals. In Study 3, we removed the color from our face stimuli entirely by presenting line drawings of faces. In Studies 4 and 5, we removed the images of the animals entirely by presenting words associated with the animals rather than pictorial representations. And in Study 4, we removed the images of Blacks and Whites entirely by presenting stereotypical first names associated with Blacks and Whites rather than faces. Lastly, our results were

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[5] The final list of words was *animal*, *ape*, *barbaric*, *beast*, *bellow*, *brute*, *claw*, *collar*, *crawl*, *crouch*, *flush*, *hairy*, *howl*, *hunt*, *husky*, *jungle*, *monster*, *net*, *pack*, *pounce*, *predator*, *prey*, *prowl*, *savage*, *scamper*, *scratch*, *slaughter*, *spring*, *stalk*, *stampede*, *swarm*, *tail*, *tame*, *trap*, and *wild*.

not due simply to apes being represented as aggressive or from Africa. Big cats were rated as more aggressive and more closely associated with Africa, yet participants still showed a bias toward associating Blacks with apes and not big cats, indicating a specific representational matching of Blacks and apes.

The present research, however, is not without limitations. Though Study 1 demonstrated that the Black–ape association was held by Whites and non-Whites alike, difficulty recruiting a racially diverse participant sample did not permit a more precise examination of racial variation in the Black–ape association. Due to recruitment difficulties, there were few Black participants in Study 1 and no Black participants in subsequent studies. Though one could argue that Blacks might share the implicit knowledge structures responsible for the Black–ape association, this implicit knowledge may have different consequences for Blacks put in the position of making judgments about targets who are in-group members (as in Study 5, for example). The possible moderating role of group identity should be included in future directions of this research.

These findings expand the growing literature on dehumanization by suggesting that historically rooted representations may differ from general intergroup processes. For instance, although Leyens and colleagues (Leyens et al., 2001) found that in-groups privilege their human "essences" but that nonhuman animals are not a necessary contrast, examining the "Negro-ape metaphor" highlights the significance of likening certain groups to nonhuman animals. Studies 1 and 2 also expand the literature on dehumanization by moving beyond an in-group/out-group model. Whereas previous research has focused on in-group bias, Study 1 demonstrated that specific dehumanizing representations of particular stigmatized groups may be widely held—regardless of one's group affiliation—within a given culture.

Additionally, with the exception of recent work by Vaes and colleagues (Vaes et al., 2003, 2002), few empirical studies highlight the behavioral consequences of dehumanization. Though the word *dehumanization* invokes notions of bias and discrimination, previous research has largely been confined to preferential ascriptions of emotions and character traits. The present research foregrounds dehumanization as a factor in producing implicit racial bias, and we associate it with deadly outcomes—thereby connecting the literatures of stereotyping, implicit processes, and dehumanization with real-world social injustices.

That implicit knowledge may contribute to these injustices also deserves strong consideration. Whereas contemporary research paradigms typically assume that explicit knowledge of a stereotype is necessary before that stereotype can be implicitly activated or applied, the present research offers evidence to the contrary. In Study 4, participants did not indicate explicit knowledge of the Black–ape association, despite their strong willingness to express knowledge of another negative stereotype of Blacks (i.e., they are violent). This suggests that historical representations are associated with contemporary outcomes in ways that are even more subtle than had previously been suspected. When paired with a knowledge of this country's history of racial oppression, this is a troubling notion that we hope will occasion researchers to investigate the precise mechanisms by which implicit knowledge functions.

Beyond each of these specific theoretical contributions, however, is a broader contribution we hope this research will make. Dehumanization is about consequences as much as mechanisms.

Though researching the mechanisms that undergird dehumanization is an important mandate for psychologists, it is essential that researchers not lose sight of the reason that dehumanization warrants attention in the first place. Dehumanization is a method by which individuals and social groups are targeted for cruelty, social degradation, and state-sanctioned violence. This research demonstrates that studying these outcomes need not be beyond the scope of social psychological analysis. Rather, examining specific historical representations, investigating the mechanisms of implicit knowledge, and exploring the cognitive antecedents of human–animal associations can all be in the service of remedying dehumanization's savage consequences.

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