

The Face of Crime: Viewers' Memory of Race-Related Facial Features of Individuals Pictured in the News

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This study examined news readers' memories of race-related facial features of an individual pictured in the news. Participants were presented with a series of news stories, including one of four different versions of the news story of interest: nonstereotyped, stereotyped/noncrime, nonviolent crime, violent crime. Each of the four versions contained a photograph of an individual who was the focus of the story, with the same photograph appearing across news story conditions. Subsequently, participants reconstructed the photograph of the individual by selecting from a series of facial features (i.e., noses, mouths, skin tones) presented on a computer screen. Although selected features did not differ from the actual photograph in the nonstereotyped and stereotyped/noncrime conditions, selected facial features for the crime stories featured more Afrocentric than Eurocentric features, particularly for the story concerning violent crime.

If asked to imagine a “prototypical” criminal, what characteristics would most people bring to mind? Perhaps they would picture characteristics reflecting actual arrest statistics, with images reflecting a larger proportion of males than females, for example. Undoubtedly, many characteristics would also reflect stereotypes of criminality and common depictions, including media portrayals of criminals. Given the considerable amount of research that reports that news stories associate criminality with African Americans, coupled with research reporting people’s greater fear of and assumed guilt of Blacks compared to Whites, it follows that many people would likely envision a Black rather than a White criminal (Bodenhausen, 1990; Chiricos, Hogan, & Gertz, 1997; Gordon, Michels, & Nelson, 1996; Hurwitz & Peffley, 1997; St. John & Heald-Moore, 1995).

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However, prototypes include more information than categorical membership; they include a host of additional attributes and abstracted features that “fill in” cognitive representations of “typical” members (Kunda, 1999). Applied to the issue of race and crime, research concerning perceptions of race-related physical features (Maddox & Gray, 2002) and incidents such as the “darkening” of O. J. Simpson’s skin tone in his mug shot on the cover of *Time* magazine (“Same mug gets new look in *Time*,” 1994) suggest that people’s prototypes of criminal suspects are not simply more likely to be African American, but are also likely to have facial features (e.g., skin tone, noses, mouths) that are more closely associated with Afrocentric rather than Eurocentric phenotypes.¹ In other words, prior research suggests that the image of the “typical” criminal may go beyond categorical information and reflect a certain “look” that accentuates Afrocentric features. If this reasoning is correct, concerns about stereotypes of criminality not only should consider basic demographic membership, but also acknowledge variations in physical appearance typically associated with different racial groups. This focus is particularly important given the significant role that physical appearance plays in a variety of settings, including racial profiling, witness identification, and tragic police shootings of innocent persons assumed, based on stereotypes, to be dangerous or criminal.

How might news depictions of crime contribute to these cognitive representations? On the one hand, content-analytic studies of news stories have suggested that media may contribute to the prototype of the “Black criminal” by providing viewers with a host of examples of crime and particularly salient, violent crime, in which Blacks are more likely than Whites to be portrayed as criminal (Dixon & Linz, 2000a, 2000b; Entman & Rojecki, 2000; Oliver, 1994).

However, it is important to keep in mind that media consumption is an active process, with viewers’ existing attitudes and beliefs playing a large role in how images are attended to, interpreted, and remembered. A considerable amount of scholarship pertaining to news specifically has recognized the importance of viewers’ active processing and has explored a wide variety of ways in which activity affects responses, including how existing attitudes affect perceptions of news bias (e.g., Gunther, Christen, Liebhart, & Chia, 2001; Vallone, Ross, & Lepper, 1985), how processing strategies and motivations for news use affect memory and evaluations of news content (e.g., Eveland, 2002; Tewksbury, 1999), and how affective dispositions toward public figures affect enjoyment of news stories (e.g., Zillmann, Taylor, & Lewis, 1998). The present research approaches the question of race and news media from this perspective, suggesting that, in addition to exploring stereotypical content per se and the effects of such content on viewers, it is also important to examine how viewers’ responses to content can reflect existing stereotypes in ways that may ultimately serve to maintain or intensify racial prejudice (Oliver & Fonash, 2002; Peffley, Shields, & Williams, 1996). That is, if viewers rely on news stories to get information about crime (Russell, 1995), yet their memories of

¹ We use the term “Afrocentric” to refer to facial features commonly associated with African Americans (e.g., wider nose, darker skin tone, fuller lips) and the term “Eurocentric” to refer to facial features commonly associated with Whites (e.g., sharper nose, lighter skin tone, thinner lips).

news reflect systematic biases, it is important to be aware of these biases in understanding how stereotypes are sustained. Consequently, the purpose of this research is to explore whether or not viewers' memory of news stories reflects prototypes of race and crime by examining the extent to which memory of race-related facial features of individuals pictured in news stories varies as a function of the type of news story presented.

Racial Stereotypes and Physical Features

The notion of systematic biological distinctions between races is an idea that has created a great deal of discussion, with some researchers arguing that race is biological, and other researchers suggesting that race is merely socially manufactured (Appiah & Gutmann, 1996). In the study reported here, we took the position that race, regardless of any biological differences, is physiognomically cued and that it holds psychological reality for many people, with cultural identities and social perceptions reflecting categorizations of individuals along race-related lines (Hecht, Jackson, & Ribeau, 2003; Jackson & Dangerfield, 2003).

Consistent with our position, much of the research on stereotyping has assumed that physical appearance provides information that results in the categorization of an individual into a given social group (e.g., White, Black, male, female), with the stereotypes associated with the category then applied (Brewer, 1996; Fiske, 1998; Macrae & Bodenhausen, 2000; Stangor, Lynch, Duan, & Glass, 1992; Taylor & Falcone, 1982). In this sense, physical features, in and of themselves, are not necessarily the source of stereotypes, but rather function as cues that a given person is a member of a stereotyped group. From this perspective, variations between the nature of cues should make little difference if the cues lead to the same categorization.

In contrast, research from a variety of disciplines suggests that variations in physical features are also associated with variations in stereotyping and prejudice. In particular, numerous researchers have pointed to the importance of skin tone on perceptions, suggesting that the association of darker skin tones with negative stereotypes dates back to slavery (Russell, Wilson, & Hall, 1992). The importance of skin tone on stereotyping in contemporary society has received support from a variety of perspectives and disciplines. For example, Hill (2000) examined occupational and family records of African American males who had participated in the 1920 U.S. census and found that men who had been classified as "mulatto" rather than as Black enjoyed higher socioeconomic attainments, even when accounting for factors such as their parents' income and educational levels (see also Klonoff & Landrine, 2000). These results are consistent with Maddox and Gray's (2002) research that reported that darker skin tones were associated with greater perceived criminality and aggressiveness for judgments of male targets and with greater poverty and laziness among judgments of female targets (Hill, 2002).

Although the issue of skin tone has likely received the greatest attention in terms of research concerning physical features and stereotyping, other studies have explored additional physical characteristics such as facial features. Specifically, Blair, Judd, Sadler, and Jenkins (2002) examined the extent to which stereotypes of African Americans were associated with more pronounced Afrocentric

facial features (e.g., fuller lips, wider noses, etc.). These authors found that more Afrocentric, rather than Eurocentric, features were significantly associated with negative stereotypes such as being criminal, poor, and aggressive and were negatively associated with favorable counterstereotypes such as being smart, responsible, and successful. Importantly, the effects of facial features were observed for photographs of individuals who were unambiguously identified as Black and for photographs that were unambiguously identified as White. In other words, Afrocentric features appeared to trigger racial stereotypes, above and beyond how they functioned to categorize individuals into race-related groups. These authors suggested that, although physical traits may serve as cues for identifying a stereotyped group, they also may become a direct cue for stereotypes after repeated pairing (Livingston & Brewer, 2002). Blair et al. (2002) concluded, "By recognizing the influence of stereotypes on the basis of both categories and attributes, we also recognize that some members of the stereotyped group will be targeted to a greater extent than others, simply because they have more extreme group-related physical features" (p. 22).

To summarize, although the preponderance of research on stereotyping has tended to treat physical features as cues that are used to identify and classify individuals as members of stereotyped groups, additional research suggests that the physical features themselves can become a cue for stereotyped judgments. Applied to stereotypes of African Americans specifically, this research generally implies that there is a greater likelihood that individuals with more Afrocentric features will be associated with negative stereotypes such as being criminal, dangerous, or violent, among others.

Viewers' Responses to Race and Crime in the Media

The idea that stereotypes play a role in viewers' reactions to media portrayals of race has received support in a variety of contexts. Although the majority of scholarship in this area has examined race in terms of social categories (rather than in terms of variations in physical traits), this research supports the idea that viewers tend to interpret media content as consistent with their attitudes, to enjoy content that is confirming of existing beliefs, and to recall content in ways that are schema consistent (Vidmar & Rokeach, 1974).

For example, in terms of viewers' enjoyment, Oliver and Armstrong's (1995) telephone survey of White respondents in Wisconsin and Virginia found that more negative racial attitudes were associated with greater enjoyment of reality-based police shows that frequently feature African Americans as criminal suspects who are typically arrested by White police officers through the use of force. These authors interpreted their findings as suggesting that the patterns of racial portrayals commonly depicted in this genre may be particularly enjoyed by prejudiced viewers who might take delight in seeing African Americans caught, and presumably punished, for criminal behaviors (see also Raney & Bryant, 2002).

The importance of stereotyping and racial attitudes is also evident in terms of viewers' interpretation or understanding of media portrayals of race and crime. For example, Peffley et al. (1996) found that among the White participants in their study, negative stereotypes of African Americans were associated with greater

perceived guilt and more harsh recommendations of punishment for a Black suspect featured in a television news story, but with lower perceived guilt and more lenient recommendations for a White suspect shown in the same circumstances.

Proctor and Snyder (2000) reported similar effects of media portrayals on perceptions of criminal guilt, though their study focused on the issue of skin tone specifically rather than racial categories. In their study, participants read a news story about the arrest of a person charged with the murder of three individuals. Two of the three conditions featured a photograph of an African American man as the individual arrested, with digital editing employed to alter the skin tone (i.e., lighter or darker). As predicted, a larger percent of the respondents judged the accused as guilty when he was pictured with darker skin (64%) than with lighter skin (44%).

Finally, and of particular relevance to the present study, research also suggests racial stereotypes play an important role in terms of what viewers recall from media portrayals. For example, in Oliver and Fonash's (2002) research, White participants viewed a series of brief newspaper stories featuring nonviolent and violent crime that featured both Black and White suspects. Later, when given a memory task concerning who had been featured, participants were more likely to misidentify photographs of Black individuals, but specifically as the individuals who had appeared in violent rather than nonviolent stories. Interestingly, this pattern of misidentification did not vary as a function of participants' self-reported racial attitudes. Oliver and Fonash (2002) interpreted this finding as illustrating the distinction between controlled processing of stereotypes (stereotype application) versus implicit stereotyping or stereotype activation (Bargh, 1999; Devine, 1989; Devine & Monteith, 1999; Fazio, Jackson, Dunton, & Williams, 1995). Specifically, these authors argued that the misidentification of African American males as violent criminal suspects featured in the news likely reflected implicit stereotyping that was largely beyond the participants' awareness or control, and which was therefore distinct from their self-reported racial attitudes (Oliver, 1999).

To summarize, research on individuals' responses to media illustrates a variety of ways in which stereotypes of African Americans and racial attitudes coalesce to play important roles in individuals' responses to criminal portrayals. In general, this research suggests that viewers' responses appear to operate in ways that likely maintain, if not reinforce, stereotypes associating African Americans with criminality. In addition, research on viewers' memory of crime news suggests that, under some circumstances, these responses may not necessarily reflect controlled or deliberate processing of racial information, but may instead reflect the activation of stereotypes that are not necessarily within the viewers' cognitive awareness or control.

Present Research

The stereotyping of African Americans as dangerous or criminal is manifested in a variety of ways, including greater fear and assumed guilt of African Americans and systematic biases in responses to media portrayals of race and crime. In addition, research concerning visual cues suggests that physical features associated with

race play important roles in stereotyping, with more Afrocentric features being linked to stereotypes of aggression, criminality, and violence. Consequently, the purpose of this research was to examine the extent to which individuals' memories of photographs in news reports reflect this feature-stereotype association or prototype of the typical criminal that exaggerates Afrocentric features. Specifically, this research explored the extent to which individuals recall Afrocentric features of a person pictured as a function of the extent to which the news story pertains to (a) a nonstereotyped topic, (b) a stereotyped topic unrelated to crime, or to topics pertaining to (c) nonviolent crime or (d) violent crime. Based on prior research concerning both stereotyping and physical cues and viewers' responses to media portrayals, we examined the following hypothesis:

H1: Memory of Afrocentric features will be most pronounced for news stories pertaining to stereotyped topics, with Afrocentric features most pronounced for news stories pertaining to crime and to violent crime in particular.

In addition, this research explored the role of racial attitudes in memory of facial features. Although some prior research has suggested that racial attitudes moderate viewers' responses to media portrayals of race (Peffley et al., 1996), other research has suggested that some responses may reflect stereotype activation not necessarily associated with self-reported racial attitudes (Oliver & Fonash, 2002). Consequently, this research examined the following question:

RQ1: Is there an interaction between participants' racial attitudes and story type on memory of Afrocentric features?

Method

Participants

Participants in this study were 163 undergraduate students (58 males, 105 females; median age = 20) at a large northeastern U.S. university. The majority of the participants ($N = 147$, 90.2%) were White, with African American participants representing a small proportion of the sample ($N = 5$, 3.1%). Participants were awarded a nominal amount of extra credit.

Design

This study employed a four-way, between-subjects experimental design in which participants read one of four types of news stories: nonstereotyped (a story about a college professor winning an award), stereotyped/noncrime (a story about a basketball player), nonviolent crime (a story about embezzlement from a union), and violent crime (a story about a burglary-murder). Embedded in the story was a photograph of an individual (named Michael Rolle in each story), with the photograph identical across experimental conditions (types of news stories). Subsequent to reading the story, participants employed a web-based task to reconstruct the photograph of the individual who had been featured in the story.

Procedures

Phase one. Testing was conducted in two phases. During phase one, background questionnaires were distributed to participants during class time, with participants instructed to complete the questionnaires on their own and to bring the completed questionnaires with them to the testing sessions. Included in this questionnaire were variables pertaining to demographic characteristics (gender, age, and race) and variables pertaining to news exposure (television news viewing, newspaper reading, etc.). Television news viewing was operationalized as the sum of the average number of days per week participants reported watching local television news and national television news ($M = 3.14$, $SD = 2.95$), and newspaper reading was operationalized as the average number of days per week that the participant reported reading a newspaper ($M = 3.73$, $SD = 1.94$).

Also included in this questionnaire was a 10-item Anti-Black Attitude Scale developed by Katz and Hass (1988). Items included in this scale reflect a general tendency to blame Blacks' social problems on perceived shortcomings of Blacks, such as lack of respect, laziness, and family instability. Prior research employing this measure has reported positive correlations between scores on the Anti-Black Attitude Scale and measures of modern racism (Monteith, 1996) and negative correlations between anti-Black attitude scores and perceived seriousness of discrimination and support for ethnic diversity (Wittenbrink, Judd, & Park, 1997). In this study, scores for each item ranged from 1 (*strongly disagree*) to 7 (*strongly agree*), with the average response computed after reverse coding negatively worded items ($M = 3.12$; $SD = 0.86$). Consequently, higher scores on the resulting measure reflected a greater endorsement of anti-Black attitudes (Cronbach's $\alpha = .82$).

Phase two. Approximately 1 week after completing the background questionnaire, participants completed the actual study session in a university computer laboratory in groups ranging in size from 4 to 10 people. Participants were told that the study pertained to perceptions of newspaper "briefs" (short news stories) and were given a packet of photocopied newspaper stories. Participants were instructed to look through all of the materials for 5 minutes, with the experimenter announcing when there were 2 minutes remaining so that participants could ensure that they were able to examine all of the materials. At the end of the 5-minute period, participants were instructed to place the newspaper briefs in an envelope, and the experimenter explained that the remaining questionnaires pertained to memory: memory of the news stories, recognition memory of a person pictured in a news story, and reconstructive memory of a person pictured in a news story. The first two questionnaires were not of interest to the present research, but were employed so as to disguise the purpose of the study. The first questionnaire simply listed newspaper headlines and asked participants to indicate whether each headline was among the newspaper briefs that they had seen. Three participants indicated no memory of the manipulated story of interest and were therefore excluded from subsequent analyses. The second questionnaire asked participants to identify a photograph of a White, female entertainer featured in one of the newspaper briefs.

The final questionnaire, administered on computer, asked participants to recall the individual featured in the news story of interest (nonstereotyped, stereotyped/noncrime, nonviolent crime, violent crime) and to reconstruct the photograph of the featured individual by selecting facial features from an array presented on the screen. After the participant made an initial selection of facial features, a photograph of the individual was displayed that included the selected features. Participants could then continue to modify their selections until a final decision was made, at which point they scrolled to the bottom of the screen where an identification number was displayed, they recorded this number on their questionnaires, and exited the task.

Newspaper Stimulus Materials

The packet of newspaper briefs included five pages corresponding to five different sections: city news, national news, sports, crime, and entertainment. Each photocopied page included three brief stories, each one paragraph in length. Across all conditions, the first page in the packet included the entertainment section, and the last page included the national news section. The second, third, and fourth pages in the packet varied as a function of story-type condition, with the second page featuring the story including the embedded photograph, and the third and fourth pages featuring the remaining sections, counterbalanced. Across all conditions, the story featuring the embedded photograph was the first of the three stories presented in the section. The nonstereotyped story was featured in the city news section (with sports and crime sections following, counterbalanced), the stereotyped/noncrime story was featured in the sports section (with city news and crime following, counterbalanced), and the crime stories were presented in the crime section (with city news and sports following, counterbalanced).

Measures of Facial Features

The photograph included in the manipulated news story and the facial features used in the photograph-reconstruction task were created using *Faces* software, a composite picture software that employs morphing technology. This software produces photographs that are black-and-white and that do not allow for the manipulation of skin tone. Rather, the photographs are monochrome, with manipulations associated with race and ethnicity achieved through the selection and placement of facial features. Manipulations of skin tone can be achieved by exporting the composite photographs to a compatible photo-editing software program.

Pretest of facial features. The facial features included in the facial reconstruction task included nose, mouth, and skin tone. A pretest was conducted in the selection of the noses and mouths to feature in the photograph reconstruction task. In this pretest, 48 undergraduate students were presented with a series of 20 photographs featuring human heads, 10 featuring noses and 10 featuring mouths, with all other features blurred except for the feature under consideration.² Partici-

² Although not of interest to this study, hair was an additional feature that participants could select, and it was included among the features as a distracter. All selections featured very short, dark hair that was

pants rated each feature on scales ranging from 1, *very characteristic of African Americans*, to 7, *very characteristic of Caucasians*, with the midpoint on the scale labeled very characteristic of both races.

On the basis of these pretest scores, a total of five noses and five mouths were selected for inclusion in the photograph reconstruction task. To examine the extent to which these five nose features could be assigned values representing equidistant changes, features were first ordered from most Afrocentric to most Eurocentric (nose 1: $M = 1.69$, $SD = 1.08$; nose 2: $M = 2.88$, $SD = 1.32$; nose 3: $M = 3.75$, $SD = 1.18$; nose 4: $M = 4.46$, $SD = 1.27$; nose 5: $M = 5.71$, $SD = 1.13$). Subsequently, we conducted two sets of analyses. First, paired t -tests on each adjacent pair of features examined whether each feature differed significantly from the adjacent features. This analysis revealed significant differences for all adjacent pairs, Pair 1, 2, $t = 7.58$, $p < .001$; Pair 2, 3, $t = 4.45$, $p < .001$; Pair 3, 4, $t = 3.86$, $p < .001$; Pair 4, 5, $t = 6.86$, $p < .001$. The second analysis computed differences in scores between adjacent pairs and subsequently conducted paired t -tests on all difference scores to examine if the differences between adjacent features were equidistant. No significant differences in difference scores were obtained, suggesting that the features were equidistant, difference 1, 2 vs. difference 2, 3, $t = 1.05$, $p = .30$; difference 1, 2 vs. difference 3, 4, $t = 1.74$, $p = .09$; difference 1, 2 vs. difference 4, 5, $t = 0.29$, $p = .77$; difference 2, 3 vs. difference 3, 4, $t = 0.56$, $p = .58$; difference 2, 3 vs. difference 4, 5, $t = 1.41$, $p = .17$; difference 3, 4 vs. difference 4, 5, $t = 1.70$, $p = .10$.

Similar analyses were conducted on the mouths selected for inclusion. First, these features were ordered from most Afrocentric to most Eurocentric, mouth 1: $M = 1.58$, $SD = 0.79$; mouth 2: $M = 2.31$, $SD = 1.11$; mouth 3: $M = 3.13$, $SD = 1.44$; mouth 4: $M = 4.29$, $SD = 1.01$; mouth 5: $M = 5.00$, $SD = 1.26$). Subsequently, paired t -tests were conducted on each adjacent pair of features to examine whether each feature differed significantly from the adjacent features. This analysis revealed significant differences for all adjacent pairs, Pair 1, 2, $t = 5.03$, $p < .001$; Pair 2, 3, $t = 3.63$, $p < .001$; Pair 3, 4, $t = 4.64$, $p < .001$; Pair 4, 5, $t = 3.85$, $p < .001$. Finally, we computed differences in scores between all adjacent pairs, with paired t -tests employed to examine if the differences between adjacent features were equidistant. This analysis revealed no significant differences in difference scores, difference 1, 2 vs. difference 2, 3, $t = 0.26$, $p = .80$; difference 1, 2 vs. difference 3, 4, $t = 1.54$, $p = .13$; difference 1, 2 vs. difference 4, 5, $t = 0.08$, $p = .94$; difference 2, 3 vs. difference 3, 4, $t = 0.82$, $p = .42$; difference 2, 3 vs. difference 4, 5, $t = .56$, $p = .58$; difference 3, 4 vs. difference 4, 5, $t = 1.23$, $p = .26$. Given that the pretests resulted in five different features in each category, each of which was significantly different from its adjacent feature and which demonstrated equidistant points between features, values were assigned for each feature ranging from 1, *most Afrocentric*, to 5, *most Eurocentric*. To manipulate the skin tone of the photographs, Paint Shop Pro v. 5.01 was employed to alter gamma correction. The default monochrome tone was employed as the neutral point, with two darker tones achieved

not easily distinguishable. Five different versions of the pretest were created that varied the order in which the features were presented. In no analyses were there any main effects or interactions for version.

by subtracting in increments of .3, and two lighter tones achieved by adding increments of .3. As with the nose and mouth features, these skin tones were assigned values ranging from 1, *most Afrocentric*, to 5, *most Eurocentric*.

The pretest of these facial features was also used in the creation of the photograph for inclusion in the news story. This photograph was composed of the features and skin tone of the midpoints on each of the three scales. Given that these midpoints were all assigned a value of 3, this composite photograph is represented by this average value.

It is important to point out that although the resulting facial features selected represented equidistant points ranging from *most Afrocentric* to *most Eurocentric*, single-sample *t*-tests on the pretest scores of the nose and mouth features representing the midpoint of the scales showed that these features were rated as more Afrocentric than Eurocentric, nose: $t(47) = 1.47, p < .10$; mouth: $t(47) = 4.21, p < .001$. Consequently, the photograph appearing in the news stories appeared to be an African American, although not possessing pronounced Afrocentric features. Consequently, variations in participants' selection of facial features are more likely to reflect variations in remembered features within a given race (African Americans) rather than to reflect variations in memory of one race versus another (Blair et al., 2002). In other words, variations in memory were likely to reflect stereotypes of race-related physical features rather than only stereotypes of African Americans per se.

Reconstruction measure. Within the reconstruction task, participants were first presented with a series of facial features from which they could select: five different noses, five different mouths, and five different skin tones.³ On the basis of the pretest, values for these features could range from 1, *most Afrocentric*, to 5, *most Eurocentric*, with these scores averaged into one reconstruction score based on the participants' final composite photograph ($M = 2.70, SD = .99$; Cronbach's $\alpha = .62$). An exploratory factor analysis of these three items using principal components extraction with varimax rotation revealed only one factor with an eigenvalue greater than 1. This factor explained 56.65% of the variance, with all items showing acceptable factor loadings (nose, .80; mouth, .78; skin tone, .67).

Results

The hypothesis of interest in this study predicted that Afrocentric features would be more pronounced for news stories pertaining to stereotyped topics, with Afrocentric features most pronounced for news stories pertaining to crime and to violent crime in particular. An additional research question asked whether there would be an interaction between racial attitudes and story type on feature selection. To explore the hypothesis and the research question, we employed hierar-

³ In all versions of the task, mouths were presented in the first row, noses were presented on the second row, skin tones were presented on the third row, and hair was presented on the final row. Within rows, the order of the presentation of the features was randomly determined, with two different orders employed. No significant effects of order of presentation were obtained.

Table 1. Predictors of Features in Photograph Reconstruction

	β	R ²	R ² change	F
Step 1: Demographics and controls				
Gender	.01	.03	—	0.78
Age	.13			
Anti-Black attitudes	-.03			
Newspaper reading	-.02			
Television news viewing	-.10			
Step 2: Newspaper story conditions				
Stereotyped	-.08	.07	.04	2.25 ⁺
Nonviolent crime	-.17 ⁺			
Violent crime	-.23 [*]			
Step 3: Attitude X Story interactions				
Attitude X Stereotyped story	.06	.07	.00	0.11
Attitude X Nonviolent crime story	.01			
Attitude X Violent crime story	.06			
F(11, 149) = 0.99, p > .05, R ² = .07				

Note: Gender was coded as Males = 0, Females = 1. Higher scores on features in photograph reconstruction indicate greater inclusion of Eurocentric features.

⁺p < .10. ^{*}p < .05.

chical multiple regression to analyze differences in photograph reconstruction scores as a function of news story and respondents' racial attitudes. The first step of the analysis entered anti-Black attitude scores and several additional control variables, including gender, age, newspaper reading, and television news viewing.⁴ The second step included three dummy variables representing the newspaper story conditions, with the nonstereotyped story employed as the indicator variable. The final step included the product of anti-Black attitude scores with the dummy variables as a test of interactions (Cohen, Cohen, West, & Aiken, 2003).

Table 1 reports the results of this analysis and shows that although none of the control variables were significant predictors of photograph reconstruction scores, the violent crime story was associated with significantly lower scores than the nonstereotyped story, and the nonviolent crime story was associated with marginally lower scores. Although the noncrime stereotyped story was associated with lower scores than the nonstereotyped story, this difference was not significant. None of the Story x Anti-Black Attitudes interactions were significant.

Follow-up analyses were conducted to explore the extent to which photograph reconstruction scores differed from the "accurate" score of 3 (the midpoint indicating the features used in the actual newspaper photograph). Single-sample *t*-tests employed for each story condition revealed that reconstruction scores did

⁴ The largest correlation between any two variables entered in the first step of the analysis was -.28 (gender and anti-Black attitudes), with all tolerance statistics great than .90, suggesting that multicollinearity was not a problem in this analysis (Tabachnick & Fidell, 2001).

not differ from a score of 3 for photographs in the nonstereotyped ($M = 2.90$, $SD = 0.83$) or the stereotyped conditions ($M = 2.80$, $SD = 1.02$), nonstereotyped: $t(39) = 0.76$, $p = .45$; stereotyped: $t(41) = 1.26$, $p = .22$. In contrast, reconstruction scores were significantly more Afrocentric for photographs in the nonviolent crime ($M = 2.64$, $SD = 1.02$) and particularly the violent crime conditions ($M = 2.47$, $SD = 0.83$), nonviolent $t(38) = 2.21$, $p < .05$; violent $t(40) = 3.88$, $p < .001$.

Discussion

This study explored the extent to which memories of photographs depicted in news stories reflect stereotypes of race-related physical features. These results showed that readers' memories of Afrocentric features are significantly more pronounced when the news stories concern crime, particularly violent crime, than when they are nonstereotyped or stereotypic but not crime-related. Furthermore, these patterns of reconstruction memory were obtained because when the stories pertained to crime, Afrocentric features were significantly more pronounced than the actual photograph depicted, whereas when the stories were unrelated to crime, the selected features did not differ significantly from the photograph actually seen. Finally, an examination of self-reported racial attitudes showed no moderating effect of attitudes on the relationship between story type and feature selection.

Although the effect sizes observed in this study are admittedly small, suggesting that this type of bias may be somewhat subtle, the results obtained here are consistent with prior research pointing to the importance of the stereotyping of physical traits associated with African Americans. In addition, the fact that Afrocentric features were significantly more prominent for crime stories only and not for noncrime stories suggests that variations in memory judgments reflect more than stereotypes per se, but rather one form of negative stereotype in particular. On the one hand, these findings may suggest that more Afrocentric features may be particularly stereotyped as an indicator of criminality or violence, the focus of investigation in this research. In contrast, given that the stereotyped/noncrime story was not negatively valenced, these results may suggest that more Afrocentric features are associated with negative stereotypes in general, with crime being but one example. Given prior research illustrating the preponderance of media stereotypes associating African Americans with issues such as poverty and welfare (Gilens, 1999), future research would benefit from exploring how race-related features function in memory of additional types of news stories, in addition to stories about crime in particular.

Although participants' memories of Afrocentric features were consistent with hypothesized variations, this study obtained no evidence that participants' racial attitudes function as a moderating variable. At first glance, this finding may seem at odds with prior research on viewers' responses to media portrayals of race and crime that have reported that racial attitudes play important roles in viewers' perceived guilt of criminal suspects featured in the news (Peffley et al., 1996). However, the results obtained in this study are consistent with prior research on viewers' memory of race and crime in the media (Oliver & Fonash, 2002).

How might these seemingly divergent findings be interpreted in this context? On the one hand, prior studies that have obtained support for the importance of racial attitudes on responses to portrayals of race have examined perceptions (such as guilt ratings), whereas studies that have shown no moderating influence have examined memory. In this regard, racial attitudes may play different roles depending on the nature of the dependent variable of interest (stated perceptions versus memories). On the other hand, these differences may reflect differences in stereotype activation versus more controlled responding (stereotype application). Prior research has suggested that more controlled responding will likely occur when ability to engage in deliberative processing is present, when participants are aware that stereotypes have been activated, or when the task at hand seems relevant to activated stereotypes (Devine & Monteith, 1999; Fazio & Towles-Schwen, 1999). Given that respondents were unaware that they would be tested on their memory of the photograph when reading the news story, and given that special care was taken to disguise the purpose of the study so as to avoid drawing attention to issues of race, it seems likely that the memory measures assessed in this research reflect stereotype activation rather than more controlled responding. Although this interpretation was not directly assessed in the present study, future research should consider exploring the extent to which memories of race and race-related features in the news reflect stereotype activation and may result in systematic biases, even among readers who report more egalitarian attitudes in other contexts.

In addition to exploring issues of stereotype activation, future research would benefit from addressing two additional issues that arise from limitations present in this research. First, this study employed college students as participants and may therefore not generalize well to other populations. Although the use of a college student sample likely presented a particularly conservative test of the hypothesis of interest, exploring different populations would undoubtedly increase the generalizability of these results. A second limitation related to the sample is that the majority of the individuals identified themselves as White. Although some previous research on perceptions of skin tone has suggested that Black and White participants may respond in similar ways (Maddox & Gray, 2002), other research on race differences in stereotype activation (Fazio et al., 1995) has implied that explorations that employ a more diverse sample may reveal interesting differences in terms of viewers' memories of race-related features.

Finally, although the purpose of this research was not to explore how the stereotyping of race-related traits becomes established, an important direction for future research in this area concerns the media's role in both contributing to stereotypes related to appearance and in priming racial stereotypes via systematic patterns in which appearance traits are portrayed. Dixon and Linz's (2000a; 2000b) research showing that local news overrepresents African Americans as criminal perpetrators suggests that news media may contribute to the association of Afrocentric features with thoughts of danger and criminality. However, this research, as with most studies of media portrayals of race, focused on racial groups per se rather than on variations in physical appearance. Consequently, future studies of media portrayals of race and crime would likely benefit by systemati-

cally examining physical appearance variables that may contribute to prototypes of criminals that emphasize Afrocentric features. George Bush, Sr.'s now infamous Willie Horton ad concerning prison furloughs is one example of such a portrayal.

In this regard, some relevant studies that have examined appearance variables suggest systematic patterns of portrayals of race-related physical features that have implications for the present research. For example, Adegbola's (2000) content analysis of the facial features of African American women in mainstream magazine advertisements revealed that the majority of women possess more Eurocentric than Afrocentric features. Similarly, Keenan's (1996) content analysis of magazine photographs revealed that African American models in advertisements possess lighter skin and more Eurocentric features than African American individuals pictured in editorial content. Although both of these studies provide evidence for the stereotyping of physical features in terms of cultural standards of beauty or attractiveness, similar explorations pertaining to additional stereotypes such as criminal behavior or aggression would contribute to the argument that media images play a role in individuals' prototypes of crime. This direction of study seems particularly relevant given prior research reporting that physical cues such as skin tone likely play important roles in crime-related judgments of individuals portrayed in the media (Proctor & Snyder, 2000).

If asked to imagine a "prototypical" criminal, what characteristics would come to mind for most people? This research on people's memories of news suggests that the prototype would not only be African American, but would also possess a certain "look." Specifically, this study implies that what people remember from news reports of crime reflects stereotypic associations of Afrocentric features with perceptions of criminality. Importantly, these associations appear to be unrelated to self-reported racial attitudes. The implications of these associations on related prejudicial attitudes and discriminatory behaviors awaits further study, as does the role that media portrayals play in contributing to the formation of this stereotype.

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