

**Natural Disasters in Black and White:**  
**How Racial Cues Influenced Public Response to Hurricane Katrina**

Shanto Iyengar, Stanford University

Kyu S. Hahn, University of California, Los Angeles

Draft version: June 10, 2007

## **Abstract**

This paper extends findings on implicit racial bias to public opinion concerning natural disasters. Using an online experiment, we show that racial cues embedded in news coverage of Hurricane Katrina influenced public support for governmental disaster assistance. First, exposure to a white rather than African-American hurricane victim made participants more likely to cite the federal government than private relief organizations or individual victims as the appropriate source of assistance. Second, participants awarded higher levels of disaster assistance and for longer periods of time after reading about the white victim. We obtained parallel effects, although on a smaller scale, by substituting a news report about crime and looting in New Orleans during the immediate aftermath of the hurricane for one that focused exclusively on the scope of the destruction.

Although nearly fifty years have passed since the legal repudiation of racial segregation in the United States, Americans nevertheless continue to discriminate against others on the basis of their race. Consider the following examples:

Job applicants with white-sounding first names were 50 percent more likely to be selected for an interview than applicants with identical resumes, but African-American-sounding names (Bertrand and Mullainathan, 2004).

A television news report on hungry black children was significantly more likely than a similar report on white children to evoke individual rather than societal explanations of poverty (Iyengar, 1991).

A thirty millisecond exposure to a black male face increased the speed with which whites identified a blurry sequence of images as a man with a gun. A comparable exposure to a white face had no such effect (Eberhardt et al., 2004).

Despite being given no information concerning an alleged suspect, nearly forty percent of study participants who watched a television news report on crime later mistakenly recalled that the suspect was non-white (Gilliam and Iyengar, 2000).

These examples represent the tip of the iceberg on what has come to be known as implicit racial bias. Racial bias is no longer explicit because most Americans, having been socialized in the post-civil rights era, accept the norm of racial equality and are unwilling to express overt racial prejudice. Thus, the percentage of survey respondents who use derogatory terms such as “stupid” and “ignorant” to describe African-Americans is indistinguishable from zero (Gaertner and Dovidio, 2005; Virtanen and Huddy, 1998).

In the case of voting, large majorities of whites report they would support an African-American presidential candidate (Astor, 1997) and their actual voting preferences are only weakly influenced by a candidate's race (Citrin, Green, and Sears, 1990; Highton, 2004).

Beneath the surface of Americans' expressed egalitarianism, however, lurk more subtle, implicit forms of racial prejudice (Correll et al., 2002; Dovidio and Gaertner, 1997; Sears and Henry, 2005; Mendelberg, 2007; Kang, 2005). When people do not clearly recognize that they are violating the norm of racial equality, they often express views that are prejudicial to minorities. In the case of crime, for instance, support for punitive policies such as the death penalty increases significantly when whites learn that the criminal perpetrator is non-white rather than white (Gilliam and Iyengar, 2000).

The critical difference between implicit and explicit racial bias is that the transgression of egalitarian norms is less apparent to the perceiver in the case of the former. When whites are asked about their preferences on matters of civil rights or race relations, it is obvious to them what they should say. As noted above, they express willingness to vote for minority candidates and support civil liberties such as freedom of expression for black and white groups alike. But when the policy debate does not directly relate to questions of equality, whites' preferences reveal clear evidence of racial bias. They are more apt to endorse harsh treatment of criminal suspects when the crime in question involves a non-white suspect, favor white job applicants over equally qualified minority candidates, and support more generous social welfare programs after having been exposed to poor people who are white. In short, racial cues are less relevant

to preferences when the policy domain is racial equality, but more relevant in other, less “racialized” domains.

Stated more generally, racial bias is more likely to emerge when the racial content of the triggering stimulus is latent (implicit) rather than manifest (explicit). In field studies of employment bias, for instance, instead of providing study participants with photographs of prospective job applicants, researchers use either black (Jamal) or white (James) names as proxies for race. Analogously, laboratory studies of implicit bias typically impede subjects’ conscious recognition of the racial stimulus either by disguising the stimulus or providing only momentary exposure.

The newer, more implicit forms of bias are no less ingrained than “old-fashioned” racism. In fact, the laboratory evidence demonstrates that implicit bias is effortless and even “automatic” in the sense that the expression of the bias is not under the individual’s conscious control (Bargh, 1999). Moreover, racial cues evoke negative associations even among those who are motivated to resist making such associations (Devine, 1989).

In sum, racial prejudice in America has evolved from explicit to implicit discourse. Not wishing to appear racist, individuals disguise rather than exhibit their racial attitudes. In policy arenas that do not directly address the relationship between whites and blacks, whites respond favorably to policies that harm racial minorities.

### **Hurricane Katrina as a Racial Stimulus**

We set out to detect the presence of implicit racial bias in a relatively unusual context -- the immediate aftermath of Hurricane Katrina. Natural disasters are typically

occasions for political unity; after witnessing widespread death and destruction Americans typically reach for their wallets rather than engage in rancorous debates over fixing responsibility and blame. In the case of Hurricane Katrina, however, it was quickly apparent that officials at all levels were utterly unprepared. Their feeble relief efforts not only raised questions about the government's responsibility to deal with large-scale flooding, but also rekindled longstanding debates concerning poverty and the standing of African-Americans. The residents of New Orleans left behind to suffer the brunt of the hurricane's consequences were disproportionately poor and black. Post-hurricane news coverage, although generally sympathetic to victims, also included well-publicized instances of crime and looting. Quite unexpectedly, Katrina became a metaphor for the state of race relations in America.

Given the disproportionate number of African-Americans among the stricken population and the inevitable tendency of market-driven media to sensationalize news coverage by focusing on violence and the breakdown of social order in New Orleans, we suspected that public reactions to the disaster would in fact be "racialized." We designed a study to investigate whether public willingness to aid the victims of Hurricane Katrina depended upon the presence of both explicit and more subtle racial cues in news reports. In the case of the former, we presented study participants with an identical episodic news report focusing on the efforts of an individual hurricane victim to rebuild his/her life, but which systematically varied the ethnicity of the victim (in addition to other attributes). Our first test of the implicit bias hypothesis compared participants' reactions to the white and black hurricane victims; we anticipated that they would support more aggressive disaster relief efforts after reading about a white rather than black victim. This effect

attempts to replicate the first characteristic of implicit bias noted above, namely, that the policy in question (hurricane relief) be somewhat removed from discussions of race per se.

Our second test of the implicit bias hypothesis compared participants' responses to a thematic (impersonal) news report on the post-Katrina situation in New Orleans that either focused on the magnitude of the destruction or on outbreaks of criminal activity. On the assumption that crime is a proxy for race, we expected that exposure to the story on crime would make participants more disinclined to support large-scale relief efforts.

Our results generally confirmed the presence of implicit bias. Participants were less apt to hold the federal government responsible for disaster relief and would have awarded hurricane victims significantly lower levels of financial assistance for significantly shorter periods of time after reading about the travails of a non-white rather than white displaced person. Participants also tended to be less generous after reading about looting and crime rather than the scope of the damage and destruction.

### **Experimental Design**

We administered an online experiment in collaboration with Washingtonpost.com ([www.washingtonpost.com](http://www.washingtonpost.com)) the online version of the *Washington Post*. The editors of the website agreed to insert a link (in the politics section) inviting their readers to participate in "social science experiments." Study participants first read a news report describing the impact of Hurricane Katrina and then completed a brief opinion survey. Between May 6 and May 24, 2,274 visitors to Washingtonpost.com completed the study.

Although obviously a self-selected sample, study participants were fairly well balanced in terms of basic demographic characteristics such as age, gender, and ethnicity (See Table 1). A majority of them were between 30 and 59 years of age, male (55 %) and white (85%).

[Table 1 about here]

As an “elite” news outlet, *Washingtonpost.com* caters to a relatively educated audience -- 84% of study participants had at least a bachelor’s degree. It is also well-known that *Washington Post* readers are heavily democratic or left-leaning in political orientation. In fact, our participants were drawn disproportionately from the ranks of Democrats and liberals. Only 12 % of the study participants identified as Republican, and 86% were critical of President Bush’s handling of Katrina.

These distinctive features of our sample -- at least in terms of education and partisanship -- are especially important in light of the results we describe below. First, there is considerable evidence that liberals in general and educated liberals in particular are characterized by higher tolerance of racial out-groups (see, for instance, Gomez and Wilson, 2006; Bobo and Licari, 1989) and greater support for government policies that benefit racial minorities (see Glaser, 2001; Schuman et al., 1997). Second, there is growing evidence that the political predispositions underlying racial attitudes also predict implicit bias; people who express less hostile racial attitudes also exhibit lower levels of implicit bias (Wittenbrink, Judd, and Park, 1997; Lepore and Brown, 1997). Thus, this particular sample of well-educated liberal Democrats provides a particularly stringent test of implicit racial bias.

## Manipulations

The design manipulated two key features of news coverage. First, we varied the manner in which the news framed the situation in New Orleans following Katrina. The majority of study participants encountered an *episodic* news story about a particular individual left homeless by the hurricane.<sup>1</sup> The story focused on Terry Miller (or Terry Medina), who was described, depending upon the condition, either as the father/mother of two children, as married/single, and who worked as either a school custodian, factory worker, or real estate agent. (We append all the news reports in the Appendix.)

In addition to varying the target victim's gender, marital status and occupation, we manipulated his/her ethnicity by inserting a small headshot photograph into the body of the news report. We selected eighteen photographs from the Productive Aging Laboratory's facial image database (for a description of the database, see Miner and Park 2004).<sup>2</sup> The photographs all showed neutral (non-smiling) faces. Based on the database classification of the racial identity of each face (a classification based on self-report), we sampled 8 whites, 7 African-Americans, 1 Hispanic and 2 South Asians.<sup>3</sup>

After selecting the photographs, we strengthened the ethnicity manipulation by creating dark and light-skinned versions of each target face. The photo editing was done

---

<sup>1</sup> The researchers compiled the story from actual news sources (other than the Washington Post).

<sup>2</sup> These faces may be acquired for research purposes from <http://agingmind.cns.uiuc.edu/facedb/>. The database contains of photographic images of 575 individual faces ranging from ages 18 to 93 with a total of 1,142 individual images. The participants consisted of paid volunteers. All photos were taken under natural lighting in front of a neutral gray background provided by a portable projection screen. The database included one to three pictures of each person. Neutral expression forward-facing pictures were taken of all 576 individuals, and we selected our photos among these images. Additionally, the database includes 308 participants' right-facing profile images and 258 participants' smiling (happy) expression. The database was developed to be representative of age groups across the lifespan, and the resulting database has faces of 218 adults age 18–29, 76 adults age 30–49, 123 adults age 50–69, and 158 adults age 70 and older. Although the majority of the faces were Caucasian (76%), there was significant minority participation, with 89 African-American photographs in the database (16%).

<sup>3</sup> The faces included eight men and eight women.

with Magic-Morph, a software application that enables digital blending of photographic images. As a manipulation check, we asked a sample of university undergraduates to identify the race/ethnicity of all 36 faces. In 34 of 36 cases (94.4%), a clear majority of the students identified the target face's race "correctly" (consistently with the database classification).

Although our sample of photographs is too small to entirely eliminate face-specific attributes that might potentially influence survey responses, we believe that the use of multiple white and African-American faces reduces the effects of idiosyncratic features that might compete with race as an explanation of any observed differences. We display all 36 photos used in the episodic conditions in the Appendix.

Taking into account the target victim's ethnicity skin complexion, gender, marital status, and occupation, there were 96 different episodic frame conditions.<sup>4</sup> At the level of thematic news coverage, we relied on two different reports. The first focused exclusively on the scope of the destruction in different areas of New Orleans. The second added implicit racial cues to the coverage by describing the breakdown of law and order in different sections of New Orleans.

## **Indicators**

Our online survey included several questions focusing on governmental responsibility for helping the victims of Hurricane Katrina. As a measure of the perceived locus of treatment responsibility -- either governmental or private -- we asked respondents, "In your opinion, which of the following should be most responsible for

---

<sup>4</sup> The surname (Miller vs Medina) manipulation proved irrelevant and we pooled across the two levels in the subsequent analyses.

providing financial assistance to victims of natural disasters?” Respondents could select from the federal government, state government, local government, private charitable organizations, and individual victims themselves. After excluding those who opted out of the question (by selecting “can’t say”), we rank ordered responses to range between 1 (individual victims or charitable groups) and 3 (federal government).

We next asked participants to indicate the appropriate level of financial support for Katrina victims in the form of assistance for (1) housing and (2) general living expenses. For each, respondents could award a minimum of \$200 per month and a maximum of \$1200 per month.<sup>5</sup> Participants were also asked to indicate the time period -- ranging from a minimum of three months to a maximum of eighteen months -- during which individuals would be eligible for financial assistance. Based on the amount and duration of recommended financial assistance, we created a composite measure of the total amount awarded for housing and living expenses by multiplying the monthly amount by the number of months. Finally, we summed the two measures to create an indicator of the *total* amount of financial assistance. This measure can range from \$1200 (\$200 x 3 months x 2 forms of assistance) to \$43,200 (\$1,200 × 18 x 2).

Both the locus of responsibility and total amount of assistance indicators can be treated as indicators of support for societal (rather than individual) responsibility for the victims of natural disasters. The question at hand is the extent to which study participants assign responsibility to society conditional upon the presence of racial cues. If support for the notion of societal responsibility is “principled,” our manipulations should have little impact on the amount awarded. On the other hand, if attributions of societal

---

<sup>5</sup> In both cases, the response options began at \$200 and raised the level of support by \$200 increments to the highest level of \$1200 per month.

responsibility reflect beliefs about the deservingness of individual victims, we would expect lower levels of support both when the news report highlighted a non-white victim and when the news associated the disaster with crime.

### **Analysis**

Our design permits two levels of analysis corresponding to the episodic and thematic news frames respectively. In the case of the former, we estimate the relative effects of the target victim's race on the two indicators of societal responsibility while taking into account the effects of our other manipulations of individual attributes (skin color, gender, marital status, and occupation). In this multivariate analysis, we treat the married, female, real estate agent and light-skinned condition as the baseline. This condition represents the profile of a relatively deserving victim at least in terms of the cultural markers of ethnicity, complexion, gender, marital status, and occupation. Thus, we anticipated significant deviations from this baseline condition in both attributions of societal responsibility and amount of assistance as study participants were exposed to victims who were non-white, unmarried, male, or of lower occupational status.

Each of the attribute manipulations was denoted by a dummy (binary) variable. For instance, the variables BLACK, HISPANIC, and ASIAN indicated whether the respondent was assigned to the condition featuring an African-American, Hispanic, or Asian victim. The remaining variables were DARK (for skin complexion), MALE, SINGLE, and LOWSES (defined as factory worker/school custodian versus real estate agent).

Our second test of implicit bias compares the effects of the two thematic conditions. We constructed dummy variables corresponding to each of the thematic conditions -- the report that referred to crime (CRIME) and the report that focused exclusively on hurricane damage (DAMAGE) -- and formally tested the hypothesis that exposure to the former would dampen support for more extensive relief efforts.

While estimating the effects of the various experimental manipulations, we controlled for a variety of individual difference factors known to be associated with attributions of societal responsibility for natural disasters. These included the participants' party affiliation,<sup>6</sup> education,<sup>7</sup> gender, and ethnicity.<sup>8</sup>

## **Results**

### **Locus of Responsibility**

We begin by assessing the effects of racial cues on respondents' beliefs about the appropriate source of financial assistance for Katrina victims. We asked respondents to rate the importance of various sources of assistance from different levels of government to the individual victims themselves. We expected greater support for federal involvement when victims were seen as more deserving or less capable of fending for themselves.

---

<sup>6</sup> We asked respondents to place themselves on a five point scale ranging from "strong Democrat" to "strong Republican." Responses were rescaled on a five-point scale between -2 (strong Democrats) and +2 (strong Republicans).

<sup>7</sup> Education was dichotomized – respondents with some college or less education were contrasted with college graduates.

<sup>8</sup> Gender was scored 1 for women and 0 for men. Responses to the ethnicity question were collapsed into four separate dummy variables—Caucasians, African-Americans, Hispanics, and Asians.

The locus of responsibility question provides respondents with an “ordered” choice -- they could assign more or less of a role to government with those nominating charitable organizations and individual victims as major sources of relief at the lowest end, those selecting state and local governments at some intermediate point, and those nominating the federal government at the highest level of governmental responsibility. Since the interval between these levels is unknown, the appropriate analytic tool is an ordered logit equation (see Agresti, 1996; Maddala, 1983). We present the results of this analysis in Table 2.

[Insert Table 2 about here]

Table 2 reveals considerable evidence of racial bias. The very same victim elicited varying levels of prescribed governmental responsibility depending upon his or her race. After reading about an African-American victim, respondents were significantly less likely to call for federal intervention ( $b = -.238$ ,  $p < .01$ ) and more likely to suggest private charitable relief or for victims to help themselves. In terms of the predicted probabilities (King et al., 2000),<sup>9</sup> respondents who encountered an African-American victim were on average roughly six percent less likely to nominate the federal government and three percent more likely to suggest charities and individual victims as the major source of disaster relief when compared with those who encountered a white victim (see Table 3). All told, these results suggest that public support for large-scale governmental relief efforts is weakened when hurricane victims are disproportionately African-American.

[Insert Table 3 about here]

---

<sup>9</sup> We employed the CLARIFY simulation technique to derive the expected values of our dependent variable (see King, *et al.* 2000).

Respondents also became less likely to call for federal intervention when the target victim was Hispanic ( $b=-.130$ ,  $p<.05$ ). In the case of South Asian faces, the effect was consistent (a lowered level of governmental responsibility), but the coefficient was borderline significant ( $b=-.278$ ,  $p<.10$ ).

The victim's ethnicity was the only experimental factor to condition beliefs about governmental responsibility. That is, participants' responses to the locus of responsibility indicator proved invariant across the gender, skin complexion, marital status, and occupation manipulations. Although not shown in Table 2, the interaction terms between different attributes of victims also proved non-significant.

Next, we turn to assessing the role of crime as an implicit racial cue. As shown in Table 3, exposure to the crime story significantly decreased respondents' propensity to cite the federal government as the principal source of relief ( $b=-.258$ ,  $p<.05$ ). In terms of the predicted probability of supporting governmental responsibility, roughly 57% of participants in the crime condition attributed the primary responsibility to the federal government, as compared with 64% in the damage condition (see Table 4). When formally comparing the estimated coefficients of CRIME and DAMAGE, the null hypothesis  $H_0: \beta_{\text{CRIME}} = \beta_{\text{DAMAGE}}$  was clearly rejected at the  $p=.05$  level.

As expected, respondents' beliefs about responsibility for hurricane relief varied with their political affiliation. Republicans were more likely to hold individual victims and charities responsible ( $b=-.763$ ,  $p<.01$ ). In terms of predicted probabilities, 89 percent of those identifying as strong Democrats thought the federal government should assume the principal responsibility as compared with only 28 percent of those calling themselves strong Republicans.

There were also clear traces of an “in-group” bias in responses to the locus of responsibility question. African-American respondents were significantly more likely to call for a major federal role ( $b=.676$ ,  $p<.01$ ; for similar findings, see Huddy and Feldman, 2006; Harris-Lacewell, Imai, and Yamamoto, 2007; Fong and Luttmer, 2006). Thus, after accounting for other factors, roughly 78 percent of African-American participants cited the federal government as the major source of relief as compared with 64 percent of white participants.

### **Amount of Financial Assistance**

Next we turn to examining the impact of racial cues on the amount and duration of recommended financial assistance for Katrina victims.<sup>10</sup> As shown in Table 4, when the news report featured a white, female, married, professional, light-skinned victim, the average level of financial support was roughly \$19,000. Against this baseline, several of the attribute manipulations produced significant deviations. Those who encountered the African-American victim awarded a significantly reduced amount of assistance ( $b=-991.490$ ,  $p<.01$ ). On average, the difference between the African-American and the white victim conditions was estimated to be roughly \$1,000.

[Insert Table 4 about here]

---

<sup>10</sup> It is important to note that many respondents responded “can’t say” to at least one of the four questions used to create the composite amount of disaster assistance measure. We have excluded these respondents in the analyses reported here. Relying on an ordered logit equation, we replicated the analyses of financial assistance after re-specifying the indicator as a trichotomy with those in the top and bottom one-third of the distribution placed at the two extremes and all others (including those who responded “can’t say”) in the middle category. This analysis (available from the authors) reproduced the pattern of results reported here.

Respondents tended to award even lower levels of assistance when they encountered the Hispanic victim ( $b=1959.748$ ,  $p<.10$ ). Since our sample of faces included only one Hispanic, we must treat this effect with caution; some other feature of the victim's face may well have contributed to the difference. In the case of Asian victims, the average level of assistance was virtually the same as that awarded to whites ( $b=223.601$ , n.s.). Overall, these data show that people are more predisposed to assist white than African-American victims of natural disasters.

Participants were not only sensitive to the race of the victim, but they were also affected -- and to a significant degree -- by the victim's gender. They awarded considerably lower levels of assistance after reading about Terry Miller the father ( $b=-775.680$ ,  $p<.01$ ). After taking into account the victim's ethnicity, dark-skinned victims actually tended to elicit more generous treatment ( $b=830.044$ ,  $p<.10$ ). The victim's marital status and occupation proved irrelevant to the level of recommended support.

As earlier, virtually all the interaction effects involving the experimental manipulations proved non-significant and were dropped from Table 5. However, there was one significant interaction effect: the effects of the skin color manipulation differed significantly across white and non-white victims ( $b=-1716.891$ ,  $p<.01$ ). When the photograph depicted a dark-complexion white, participants awarded more assistance, but when the victim was a dark-skinned African-American, they awarded less. Clearly skin complexion is a distinct cue for whites and blacks. Relatively dark-skinned whites may be perceived as tanned, vigorous and attractive, while dark-skinned blacks may be seen as more prototypical, thus encouraging the use of racial stereotypes when assessing the victim's deservingness.

As in the case of locus of responsibility, we were able to detect a parallel difference between the two thematic conditions. That is, in comparison with the damage condition, the crime condition significantly lowered the amount of recommended assistance. When formally comparing the crime and damage conditions, we could reject the null hypothesis  $H_0: \beta_{\text{CRIME}} = \beta_{\text{DAMAGE}}$  at least at the  $p=.10$  level. Participants in the crime condition also awarded significantly less assistance ( $b=-2268.472$ ,  $p<.05$ ) than participants assigned to the white victim condition. All told, exposure to news coverage of crime made participants more inclined to recommend less relief.

Once again, the analysis revealed significant individual differences. Most notably, African American respondents awarded roughly \$5,000 more in assistance than other respondents ( $b=5458.128$ ,  $p<.01$ ). Given the racial composition of the areas of New Orleans most affected by Katrina, this appears to be another instance of “in-group” favoritism. This racial gap in the amount of recommended relief converges with national survey data showing that African-Americans viewed Katrina victims in a more sympathetic light than whites (Huddy and Feldman, 2006; Hassis-Lacewell, Imai and Yamamoto, 2007).

In keeping with their beliefs about the locus of responsibility for disaster relief, Republicans recommended lower levels of assistance; in dollar terms, the difference between strong Republicans and strong Democrats was nearly \$9,500 when gauged by predicted values after accounting for the effects of other covariates included in the analysis. Somewhat surprisingly, after controlling for party identification, education reduced the level of recommended assistance ( $b=-716.944$ ,  $p<.01$ ). After accounting for other background factors, college graduates awarded \$1,400 less than high school

graduates. Overall, the presence of significant individual differences suggests considerable heterogeneity in perceptions of Katrina victims' deservingness.

### **Conclusion**

Previous work has documented the presence of implicit racial bias in policy areas associated with race such as crime and poverty. Our results suggest that the bias extends to disaster relief when the victim population is heavily non-white. Just as public enthusiasm for punitive criminal justice policies increases when the alleged perpetrator is non-white, so too does willingness to support more extensive, taxpayer-funded disaster relief depend on the ethnicity of the victim population.

Our results suggest that individuals stereotype on the basis of ethnicity despite their best efforts to act unbiased and egalitarian. As we noted at the outset, our study sample consisted of highly educated individuals who located themselves at the liberal end of the political spectrum. We suspect that this group would score at or very near the top of most measures of support for civil rights and racial equality. Despite this psychological "drag," their responses to Hurricane Katrina shifted depending on the inclusion of racial cues in news media coverage. Had we assembled a more representative group of participants, whose attitudes on racial issues were more varied, it is likely that our estimates of the effects of implicit bias would have been enlarged.

Not all forms of news coverage are equally likely to elicit implicit racial bias. Thematic coverage of hurricane damage generally elicited the most unbiased responses to questions of disaster relief. Thematic coverage of crime and episodic coverage of non-white hurricane victims both served to inject racial bias into beliefs about disaster

assistance. Although devoid of any reference to individual criminals, the thematic crime condition nonetheless proved functionally equivalent to the episodic conditions featuring flesh-and-blood non-white victims of Katrina. Crime is a powerful racial cue.

Thematic coverage of the destruction caused by natural disasters may be the type of reporting that is most likely to encourage race-neutral reasoning about disaster relief, but episodic coverage is in fact the dominant genre (see Iyengar, 1991). Facing an increasingly competitive market, news organizations across the media spectrum now invariably resort to personalized and “soft” styles of reporting in an attempt to strengthen their market position (see Iyengar and McGrady, 2007). These same market forces also promote the newsworthiness of crime. Forty-eight hours after Katrina hit New Orleans, news organizations began to feature reports (mainly unsubstantiated) of violence, looting, and crime. In fact, between August 31 and September 2, fifteen percent of all broadcast and print news reports on Katrina made some reference to crime.<sup>11</sup>

One of the implications of market-based journalism is that in the aftermath of natural disasters, the ethnicity of the affected population is conveyed to the news audience on a regular basis. Those paying attention to the news can hardly ignore questions of race. In this sense, contemporary media discourse only encourages the public to rely on racial stereotypes when they consider matters of public policy.

---

<sup>11</sup> This figure is derived from a content analysis of 41 major national newspapers and the ABC, CBS, and NBC national newscasts (see Iyengar, 2007).

## References

- Agresti, A. 1996. An Introduction to Categorical Data Analysis. New York: Wiley.
- Astor, C. 1997. Gallup Poll: Progress in Black/White relations, but race is still an issue. US Society and Values, 2: 1-3.  
(<http://usinfo.state.gov/journals/itsv/0897/ijse/gallup.htm>.)
- Bargh, J. A. 1999. The cognitive monster: The case against the controllability of automatic stereotype effects, pp. 361-82 in S. Chaiken and Y Trope eds., Dual Process Theories in Social Psychology. NY: Guilford Press.
- Bertrand, M., and S. Mullainathan. 2004. Are Emily and Greg more employable than Lakisha and Jamal? Evidence on racial discrimination in the labor market from a large randomized experiment. American Economic Review, 90: 715-41.
- Bobo, L., and F. C. Licari. 1989. Education and political tolerance: Testing the effects of cognitive sophistication and target group affect. Public Opinion Quarterly, 53: 285-308.
- Citrin, J., Green, D. P., and D. O. Sears. 1990. White reactions to black candidates: when does race matter? Public Opinion Quarterly, 54: 74-96.
- Correll, J., Park, B., Judd, C. M., and B. Wittenbrink. 2002. The police officer's dilemma: Using ethnicity to disambiguate potentially hostile individuals. Journal of Personality and Social Psychology, 83: 1314-1329.
- Devine, P. G. 1989. Stereotypes and prejudice: Their automatic and controlled components. Journal of Personality and Social Psychology, 56: 5-18.
- Dovidio, J. F., and S. C. Gaertner. 1997. Aversive racism and selection decisions: 1988 and 1999. Psychological Science, 11: 315-19.

- Eberhardt, J. L., Goff, P. A., Purdie, V. J., and P. G. Davies. 2004. Seeing black: Race, crime, and visual processing. Journal of Personality and Social Psychology, 87: 876-93.
- Fong, C. F., and E. F. P. Luttmer. 2006. Race and giving to Katrina victims: Experimental evidence. Unpublished paper, Department of Psychology, Carnegie-Mellon University.
- Gaertner, S. L., and J. F. Dovidio. 2005. Understanding and Addressing Contemporary Racism: From Aversive Racism to the Common In-group Identity Model. Journal of Social Issues, 6: 615-39.
- Gilliam, F. D. and Iyengar, S. 2000. Prime suspects: The influence of local television news on the viewing public. American Journal of Political Science 44: 560–573.
- Glaser, J. M. 2001. The preference puzzle: Educational differences in racial political attitudes. Political Behavior, 23: 313-34.
- Gomez, B. T., and J. M. Wilson. 2006. Rethinking symbolic racism: Evidence of attribution bias. Journal of Politics, 68: 611–625.
- Harris-Lacewell, M., Imai, K., and T. Yamamoto. 2007. Racial gaps in the responses to Hurricane Katrina: An experimental study. Unpublished paper, Department of Political Science, Princeton University.
- Highton, B. 2004. White voters and African-American candidates for Congress. Political Behavior, 26: 1-25.
- Huddy, L., and S. Feldman. 2006. Worlds Apart: Blacks and Whites React to Hurricane Katrina. Du Bois Review, 3, 1-17.

- Iyengar, S. 1991. Is Anyone Responsible? How Television Frames Political Issues. Chicago: University of Chicago Press.
- \_\_\_\_\_. 2007. Absence of diversity: Market-based Journalism, vote-seeking candidates, and racial Cues in media programming, in H. Markus and P. Moya eds. Contemporary Issues in Race and Ethnicity. New York: W. W. Norton, forthcoming.
- Iyengar, S., and J. McGrady. 2007. Media Politics: A Citizen's Guide. New York: W. W. Norton.
- Kang, J. 2005. Trojan Horses of Race. Harvard Law Review, 118: 1489-1593.
- King, G., Tomz, M., and J. Wittenberg. 2000. Making the most of statistical analyses: Improving interpretation and presentation. American Journal of Political Science, 44: 347-361.
- Lepore L. and R. Brown. 1997. Category and stereotype activation: Is prejudice inevitable? Journal of Personality and Social Psychology, 72: 275-87.
- Maddala, G. S. 1983. Limited-dependent and Qualitative Variables in Econometrics. New York: Cambridge University Press.
- Mendelberg, T. 2007. Racial priming revived. P.S., in press.
- Miner, M. and D. C. Park. 2004. A lifespan database of adult facial stimuli, Behavior Research Methods, Instruments, and Computers, 36: 630-633.
- Schuman, H., Steeh, C., Bobo, L., and M Krysan. 1997. Racial Attitudes in America: Trends and Interpretations. Cambridge, MA: Harvard University Press.
- Sears, D. O., and P. J. Henry. 2005. Over thirty years later: A contemporary look at symbolic racism, pp. 95-149 in M. P. Zanna ed., Advances in Experimental Social Psychology, Vol. 37. NY: Academic Press.

Virtanen, S., and L. Huddy. 1998. Old-fashioned racism and new forms of racial prejudice. Journal of Politics, 60: 311-32.

Wittenbrink, W., Judd, C. M., and B. Park. 1997. Evidence for racial prejudice at the implicit level and its relationship with questionnaire measures. Journal of Personality and Social Psychology, 72: 262-74

**Table 1: Demographic Profile of Study Participants**

	<u>N</u>	Percentage (%)
<b>Age</b>		
19 >	46	1.86
20-29	442	17.83
30-39	483	19.48
40-49	485	19.56
50-59	610	24.61
60-69	308	12.42
70 <	105	4.24
Total	2,479	100
<b>Gender</b>		
Female	1,109	44.81
Male	1,366	55.19
Total	2,475	100
<b>Education</b>		
Some High School	15	.6
High School	45	1.81
Some College	351	14.1
College	725	29.1
Post College	1,353	54.4
Total	2,489	100
<b>Ethnicity</b>		
White	2,078	85.1
Black	176	7.2
Hispanic	60	2.5
Asian	59	2.4
Other	68	2.8
Total	2,441	100
<b>Party ID</b>		
Strong Democrat	977	39.7
Weak Democrats	410	16.7
Independent	772	31.4
Weak Republican	174	7.0
Strong Republican	127	5.1
Total	2,460	100

**Table 2: Locus of Responsibility for Hurricane Relief**

	b	s.e.
Crime Condition	-.258	(.118)**
Damage Condition	.056	(.116)
Black Victim Condition	-.238	(.083)***
Hispanic Victim Condition	-.130	(.058)**
Asian Victim Condition	-.278	(.154)*
Dark Skin Condition	-.041	(.118)
Male Condition	.014	(.078)
Unmarried Condition	-.044	(.103)
Blue Collar Condition	.151	(.115)+
PID	-.763	(.038)***
Education	-.028	(.065)
Age	-.008	(.035)
Women	.013	(.108)
Black	.676	(.168)***
Hispanic	.232	(.299)
Asian	.433	(.214)**
Cut 1	-1.964	(.158)
Cut 2	-.559	(.159)
Pseudo R <sup>2</sup>	.112	
Wald-Statistic	393.56	
N. of obs.	2,438	

Note. Cell entries are ordered logit estimates with their standard errors in parenthesis.  
+p<.15; \*p<.10; \*\*p<.05; \*\*\*p<.01.

**Table 3: Predicted Probabilities of Responses to Locus of Responsibility Question**

	Individuals/ Charitable Organizations	State-Local Government	Federal Government
Damage Condition	12.3%	23.8%	63.9%
Crime Condition	16.0%	27.5%	56.5%
White Victim Condition	12.8%	24.5%	62.7%
Black Victim Condition	15.8%	27.2%	57.0%
Hispanic Victim Condition	14.6%	26.0%	59.4%
Asian Victim Condition	16.4%	27.6%	56.0%

Note. Cell entries are predicted probabilities based on simulated coefficients (see King et al. 2000).

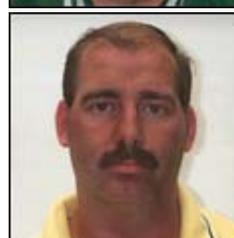
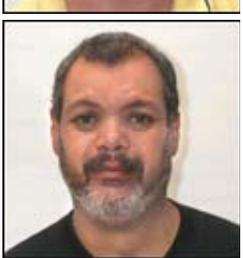
**Table 4: Amount of Financial Assistance**

	B	s.e.
Cons.	18846.680	(672.852)***
Crime Condition	-2268.472	(951.337)**
Damage Condition	-1217.138	(1193.708)
Black Victim Condition	-991.490	(290.048)***
Hispanic Victim Condition	-1959.748	(947.864)*
Asian Victim Condition	223.601	(550.136)
Dark Skin Condition	830.044	(450.208)*
Male Condition	-775.680	(243.328)***
Unmarried Condition	154.093	(280.529)
Blue Collar Condition	-2.461	(698.974)
PID	-2369.165	(178.246)***
Education	-716.944	(236.775)***
Age	905.461	(57.254)***
Women	-355.082	(714.849)
Black	5458.128	(1795.787)***
Hispanic	3722.716	(1844.777)*
Asian	600.398	(1183.122)
Adj. R <sup>2</sup>	.096	
N. of obs.	1,508	

Note. Cell entries are OLS estimates with their standard errors in parenthesis.  
+p<.15; \*p<.10; \*\*p<.05; \*\*\*p<.01.

**Appendix A.**

**Photos Used in Episodic Stories**

Race	Lightened	Original Photo	Darkened
Caucasian			
Caucasian			
Caucasian			
Caucasian			
African American			

African American			
African American			
African American			
Asian			
Caucasian			
Caucasian			
Caucasian			

Caucasian			
African American			
African American			
African American			
Hispanic			
Asian			

## Appendix B1: The Episodic Story

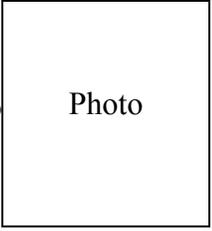
September 1, 2005 Thursday

### Katrina victims adjusting to new lives

By Bill Walsh, Katherine Lewis, and John McQuaid, Washington bureau

LOUISVILLE - To ease their sense of homesickness, **Medina/Miller** fixes Cajun favorites for **her/his** children in **her/his** new Kentucky home.

“I’m going to make some of my jumbalaya and my gumbo to make it feel like home,” said **Medina/Miller**, a **real estate agent/factory worker/custodian** who lost everything after Hurricane Katrina slammed into New Orleans.



Photo

**Medina/Miller**, **his/her husband/wife** and **his/her** two children were among about 3,000 Katrina evacuees who migrated from the Gulf Coast to Louisville, where many are settling into new lives.

The **Medinas/Millers** lived in Lakeshore, on the south shore of Lake Pontchartrain. In the days following the hurricane, **she/he** could only reach the house by boat, as the flood waters in the neighborhood were 10 to 12 feet.

**Medina's/Miller's** 11-year-old son and 6-year-daughter are enrolled in school and have made new friends. They have settled, at least temporarily, into a three-bedroom house. **Medina's/Miller** has no car or job, and gets by on unemployment benefits, food stamps and the kindness of others.

“It feels like my life’s been turned up in the air and I have to catch all the pieces to it now,” Terry said recently. “But I’m glad I have my **husband/wife** and my kids and we’re safe.”

The **Medina/Miller** family were among Katrina victims who gathered recently at a Salvation Army center to nibble on treats and pick up quilts, school supplies, stuffed animals and toiletries.

“We’re trying to get through day by day,” Terry said.

## **Appendix B2: The Thematic Damage Story**

September 1, 2005 Thursday

### **“Reconstruction effort to cost tens of billions”**

By Bill Walsh, Katherine Lewis, and John McQuaid, Washington bureau

New Orleans - The floodwaters swamping New Orleans ultimately will recede, but Hurricane Katrina's destructive legacy is certain to be felt for years to come as the city contemplates rebuilding after one of the worst natural disasters in the nation's history.

The city faces a massive reconstruction estimated to be in the tens of billions of dollars.

Housing will be a long-term problem - especially for New Orleans' sizable low-income population, which will find it harder to secure resources to rebuild. Apartments are always the last to be rebuilt and low-income housing lags behind that. The result could be an explosion in the homeless population.

Neighborhoods submerged to the rooftops may have to be rebuilt from the ground up. If floodwaters prove to be a polluted "toxic stew" that some fear, those areas could be rendered uninhabitable.

An immediate challenge will be a shortage of contractors, some of whom fled the city along with the rest of the population. If past experience in Florida is any judge, some residents may simply throw up their hands.

Once the city is dried out and infrastructure rebuilding begins, officials will have a better idea of the magnitude of the job ahead.

## **Appendix B3: The Thematic Crime Story**

September 1, 2005 Thursday

### **New Orleans mayor orders looting crackdown**

By Bill Walsh, Katherine Lewis, and John McQuaid, Washington bureau

New Orleans - Mayor Ray Nagin ordered 1,500 police officers to leave their search-and-rescue mission Wednesday night and return to the streets of the beleaguered city to stop looting that has turned increasingly hostile.

“They are starting to get closer to heavily populated areas — hotels, hospitals and we’re going to stop it right now,” Nagin said in a statement to The Associated Press.

Looters swarmed the Wal-Mart on Tchoupitoulas Street, often bypassing the food and drink section to steal wide-screen TVs, jewelry, bicycles and computers. Police regained control at about 3 p.m., after clearing the store with armed patrol. One shotgun-toting Third District detective described the looting as "ferocious."

Looters used garbage cans and inflatable mattresses to float away with food, blue jeans, tennis shoes, TV sets — even guns. Outside one pharmacy, thieves commandeered a forklift and used it to push up the storm shutters and break through the glass. The driver of a nursing-home bus surrendered the vehicle to thugs after being threatened.

Police were asking residents to give up any firearms before they evacuated neighborhoods because officers desperately needed the firepower: Some officers who had been stranded on the roof of a hotel said they were shot at.

Police said their first priority remained saving lives, and mostly just stood by and watched the looting. But Nagin later said the looting had gotten so bad that stopping the thieves became the top priority for the police department.