What Determines Giving to Hurricane Katrina Victims? Experimental Evidence on Racial Group Loyalty*

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Abstract

We investigate the role of racial group loyalty on generosity in a broadly representative sample of the U.S. adult population. We use an audiovisual presentation to manipulate beliefs about the race, income, and worthiness of Hurricane Katrina victims. Respondents then decide how to divide $100 between themselves and Katrina victims. We find no effects of victims' race on giving on average. However, respondents who report feeling close to their racial or ethnic group give substantially more when victims are of the same race rather than another race, while respondents who do not feel close to their group give substantially less.

JEL: D63, D64, C93, J71.

Keywords: charitable giving, racial bias, racial group loyalty, discrimination, support for government spending.

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1. Introduction

Many scholars argue that race and racial group loyalty are important determinants of decisions concerning redistribution. This argument is supported by evidence that racial attitudes and the racial composition of cities and states are associated with redistributive attitudes and outcomes. Furthermore, in laboratory experiments, racial and ethnic biases have been found in trust games.[1] On the other hand, several studies have failed to find the expected effects of race and racial group loyalty. For instance, there is no consistent evidence of racial discrimination in dictator games and a recent experiment finds that respondents report a higher level of support for government job training and placement assistance for unemployed blacks than for unemployed whites.[2,3]

If objective racial group membership is not always a predictor of racial biases in behavior, might there be other easily measured concepts that are? There is a class of easily administered attitudinal measures of a concept known as explicit racism, including the widely used Modern Racism Scale (McConahay, Hardee, and Batts, 1981). However, these measures are likely to be prone to social desirability biases. It is typically obvious that they ask about views concerning racial discrimination, so respondents may censor their answers in order not to appear racist. At the other extreme are measures of implicit racial attitudes, including the widely used Implicit Association Test (Greenwald, McGhee and Schwartz, 1998). There is much debate among psychologists about what concepts these two types of measures capture, how the measures relate to each other, and what behaviors they should predict.[4] However, it seems clear that the measures

[1] See Alesina et al. (1999), Alesina et al. (2001) and Luttmer (2001) on the effect of the racial composition of cities and states and Gilens (1999), Lee and Roemer (2006), and Roemer et al. (2007) on the effect of racial attitudes in redistributive politics. Hungerman (forthcoming) finds that the charitable activity of all-white religious congregations decreases as the fraction of blacks in the community increases. See Fershtman and Gneezy (2001), Eckel and Wilson (2003), Bouckaert and Dhaene (2004), Burns (2006), and Haile et al. (2006) on racial or ethnic discrimination in trust games. Racial biases have also been documented in attitudes to Katrina victims (Iyengar and Hahn, 2007, Harris-Lacewell et al., 2007).

[2] See Fershtman and Gneezy (2001) and Burns (2004) on dictator games and Pager and Freese (2006) on unemployment benefits.

[3] There are also mixed findings from other economic settings, with many studies documenting racial biases and others finding none. See, for instance, Munnell et al. (1996) and Cutler, Glaeser and Vigdor (1999), Altonji and Blank (1999), Bertrand and Mullainathan (2004), and Pager et al. (2006) for evidence of discrimination in housing and labor markets. List (2004) finds statistical discrimination in field experiments on sports card markets. In the political process, racial heterogeneity has been linked to riots (DiPasquale and Glaeser, 1998), lower participation in social activities (Alesina and La Ferrara, 2000) and lower levels of trust (Alesina and La Ferrara, 2002). Individuals also prefer to form racially homogenous political jurisdictions (Alesina et al., 2004). Levitt (2004), Antonovics et al. (2005), and List (2006), find little evidence of racial discrimination in behavior on game shows.

[4] Much of the debate concerns the extent to which implicit and explicit attitudes represent distinct and unrelated constructs. Some relatively recent evidence suggests that implicit and explicit ethnocentrism are distinct concepts, but are more strongly correlated than previously thought (Cunningham, Nezlek and Banaji 2004). Related research

of explicit racism are typically more prone to social desirability bias but are easier to administer than the measures of implicit racism. We examine a third measure: an unusually simple question about subjective closeness to ones' racial or ethnic group, which we interpret as a measure of subjective racial identification. It is easy to administer and yet may be less prone to social desirability bias than measures of explicit racism, because one can feel close to one's racial or ethnic group without feeling animosity toward other racial groups.

We investigate whether this simple measure is predictive of racial biases in giving behavior, using a randomized experiment on giving to victims of Hurricane Katrina. Our experiment was administered by Knowledge Networks, a survey- and marketing research firm that maintains a nationally representative panel of respondents who participate by Computer or WebTV. The 1343 respondents who participated in our experiment viewed an audiovisual presentation about Katrina victims shown in their natural environments. We manipulate perceptions of the racial composition of victims by presenting respondents with photographs that were mostly of black victims in one treatment condition and mostly of white victims in the other. To increase the malleability of respondents' perceptions about the characteristics of victims, our presentation is about victims in cities (Slidell, LA and Biloxi, MS) that were demographically different from New Orleans, relatively small and unknown, and had less Katrina-related press coverage.[5] Our design also includes a control condition in which the race of the victims in the pictures is obscured, so that we can control for effects of the backgrounds in the pictures. We also manipulate perceptions of the income and 'moral worthiness' of the victims using the audio information in the presentation. We manipulate income by providing information about the city's income level relative to the national average in one condition and no information in another. We manipulate perceived moral worthiness by varying information that may change respondents' perceptions of how industrious the victims are and how individually responsible they are for their situation.

Our primary measure of generosity is the amount of money given to the chapter of Habitat for Humanity in the city described in the presentation. We give respondents a 10 percent chance

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has shown that the strength of the statistical association between measures of implicit and explicit racism depends on how they are measured, but appears to be stronger when researchers attempt to reduce social desirability biases in the explicit measures (Nier, 2005). Implicit Associating Tests might also be better at predicting bias in decisions taken in a split second (as in NBA refereeing, see Price and Wolfers, 2007) than for more deliberative decisions.

[5] In the 2000 Census, about 28 percent of the New Orleans population was white while the Slidell and Biloxi populations were, respectively, 83 percent and 71 percent white. The total populations of New Orleans, Slidell and Biloxi were about 485,000, 26,000, and 51,000, respectively.

of receiving $100. Prior to learning the outcome, they are asked to decide how much, if any, of this $100 they would like to donate to the city's local chapter of Habitat for Humanity.[6] The amount of money given to Habitat provides a behavior-based measure of how much various types of donors care about various types of victims. An advantage of this approach is that it allows us to estimate how generosity measured with monetary incentives responds to several tightly controlled and independently manipulated factors. Furthermore, since our sample is representative of the U.S. population, we measure the effects of racial group loyalty among average Americans rather than among a (self-) selected subpopulation.

A disadvantage of our experiment, however, is that the social context of giving differs from that of natural charitable giving. Among other things, respondents are aware that they are under study, which means that we must be careful to minimize effects of respondents' tendencies to behave in socially desirable ways when under observation. They are also giving money they just received from the experimenters rather than money they earned, which might affect their generosity levels.[7] Therefore, we focus on effects of treatment conditions relative to control conditions and infer little from the absolute magnitude of the amount given.

Our experiment yields two main findings. First, on average, the race of the Katrina victims does not significantly affect the amount given. Thus, we do not find evidence of a significant racial bias on average. Moreover, the amount given was generally insensitive to victims' characteristics except that respondents significantly increased their giving when victims were perceived to be living in a more economically disadvantaged city.

Second, while objective own race is not a significant predictor of racial bias, the simple question "How close do you feel to your ethnic or racial group?" is a strong predictor of racial bias. Whites who identify with their racial group bias their giving against blacks while whites who do not identify with their racial group bias their giving in favor of blacks. Similarly, blacks who identify with their racial group bias their giving in favor of blacks while blacks who do not identify with their racial group bias their giving in favor of whites. This result suggests that subjective identification with one's racial group is an important determinant of giving, and that

[6] It is critical to our design that the respondents make the donation decision *before* they learn whether their decision will be implemented. Thus decisions are not hypothetical because for each respondent there exists a state of the world in which the decision is pay-off relevant.

[7] Respondents may have a stronger sense of entitlement to money they earn by working. Indeed, respondents who earn their endowment through work or by winning a contest tend to play more selfishly than those who are simply given money (Hoffman et al., 1994; Rutström and Williams, 2000; List and Cherry, 2008). See Levitt and List (2007) for a more general discussion of the external validity of laboratory experiments.

objective race by itself is not as good a predictor of racial group loyalty.[8]

2. Experimental Design

We contracted with Knowledge Networks to administer our experiment and survey instrument to a sample of their respondents. Knowledge Networks maintains a panel of respondents that it recruits through random-digit dialing. These respondents agree to take a 15-20 minute survey once a week via the Internet using a PC or WebTV in exchange for free Internet and WebTV access. In addition, the panelists often receive incentive payments and rewards through a loyalty program. Knowledge Networks collects basic demographic characteristics for all its panelists, and its panelists are roughly representative of the adult U.S. population according to these characteristics. In addition to demographic characteristics, Knowledge Networks already collects certain additional variables (such as some racial attitudes), so we did not need to collect this information as part of our survey instrument.

Respondents participated in one of three variants of our survey instrument, which we describe in detail below. See Appendix A for the complete wording (the Appendices and Appendix tables are available on the journal's website). In Section 2.4, we describe how the race-salient and full-stakes variants of the instrument differ from the main instrument.

2.1. Experimental Manipulations

The instrument consists of four parts. Part I experimentally manipulates the perceived race, income and worthiness of Katrina victims using a brief audiovisual presentation about a small city (Slidell, LA or Biloxi, MS) that was hit by Katrina. The presentation consists of a slide show of eight photos of people after the hurricane accompanied by an audio story about the city's residents and Habitat for Humanity. Many photos showed devastation caused by Katrina, such as extensive flooding or demolished housing. Others showed residents receiving in-kind aid.

We manipulate perceptions of the racial composition of the Katrina victims by using photos

[8] Several other authors have argued that racial discrimination depends on subjective racial identification, and that racial loyalties can vary over time and social situations. See, for instance, Glaeser (2005) and Kurzban, Tooby and Cosmides (2001). Our findings are also consistent with findings from a recent study that manipulated perceptions of the race of portrayed Katrina victims and then surveyed respondents on their inferences about different types of emotions felt by the Katrina victims as well as their intentions to help the victims. Objective racial group membership had no significant effect on hypothetical willingness to help. However, respondents attributed higher levels of "uniquely human" emotions to racial ingroup members than racial outgroup members and these attributions predicted willingness to help (Cuddy et al., 2007).

mostly of white residents in one treatment condition and mostly of black residents in the other.[9] Across the black and the white picture manipulations, we match the gender, age and number of people shown, as well as the background and the emotional connotation of the photos as closely as possible. We reduce the resolution of the people in the photos so that their race shows through but their attractiveness and other features are obscured, and refer to these photos of white and black victims as our race-shown treatment conditions. We are primarily interested in estimating the difference in giving in these black and white race-shown conditions.

Because we use real photographs, the backgrounds shown in the photos vary with the race of the victims. To control for this, we create a condition that obscures the race of the people in the photos by filling in their images with blue coloring so they appear as solid blue shapes. We refer to these photos with black or white victims as the race-obscured control conditions. Figure 1 shows examples of the four types of photos used. When analyzing average giving, we can control for the backgrounds in the photos by subtracting the difference in giving in the black and white race-obscured conditions from the difference in giving in the black and white race-shown conditions. Alternatively, we perform conceptually the same estimation in a regression framework, allowing us to control for other experimental manipulations and for respondent characteristics.

We vary the audio information going with the pictures along eight characteristics that we judged to be (i) likely determinants of generosity and (ii) plausibly correlated in the public's mind with the racial composition of the city. These audio manipulations are: 1. Whether the city is economically disadvantaged, 2. Whether Republicans have a majority in the city, 3. Whether many city residents attend church, 4. Whether the city has been troubled by crime, 5. Whether many city residents helped other victims, 6. Whether many city residents received government benefits before Katrina hit (rather than working), 7. Whether recipients had to contribute labor to their home from Habitat, and 8. Whether many residents prepared for hurricanes. In addition, we varied the audio along a ninth dimension: Whether or not concerns about looting in the city were mentioned in the audio text. We did this to see whether mentioning a charged topic such as looting would bring out racial biases in giving (it did not).

[9] We did not use pictures of exclusively one race in order to reduce the chance that respondents would infer that our study is about race. Of the eight pictures, six pictures show Katrina victims of the race corresponding to the manipulation, but the third picture shows a Katrina victim of the other race and the sixth picture shows both black and white Katrina victims.

We took care never to provide incorrect information. Instead, by selectively providing or omitting certain information, we tried to influence respondents' perceptions of the city and of Katrina victims who receive housing from Habitat for Humanity in that city. Appendix A spells out the exact variations in the audio text that correspond to these nine audio manipulations. In total, the audiovisual presentation contains twelve randomly assigned experimental manipulations: two picture manipulations (race and whether race was shown or obscured), nine audio manipulations, and which city was shown. Details on the randomization procedure are provided in Appendix B.

2.2. Outcome Variables

Our outcome variables consist of four measures of generosity to Katrina victims and a set of questions designed to test whether or not our experimental manipulations worked. We summarize the generosity measures first, followed by the manipulation check measures.

Our primary measure of generosity is the amount of money that respondents give during the experiment to help Katrina victims. We ask the respondents how they would like to split $100 between themselves and a charity that benefits Katrina victims in the city about which they saw the presentation. The charity is the local chapter of Habitat for Humanity in the city in question. We implement the decision for 10 percent of the respondents. To credibly convey that each respondent has a 10 percent chance of getting his or her decision implemented, we assign each respondent a random number between 0 and 9, and tell respondents that their decision will be implemented if their number is equal to the first digit of the *Pick3* game of the Louisiana State Lottery on a specified future date. We also tell them that if their number equals the lottery number, Habitat will send them a note acknowledging how much they gave.

Next, we measure hypothetical giving by asking: "Suppose that you had not just given [the amount they just gave] to Habitat for Humanity. Instead, suppose that Habitat for Humanity in [city] had mailed a letter to your home describing the effects of Katrina on [city] and had asked you for a donation. How much, if anything, would you have given?" The external validity of this measure may be greater because of the natural social context in which the question is asked, but it has the drawback of measuring hypothetical rather than actual behavior. See Part II of our survey for the exact wording of our actual and hypothetical giving measures.

We also collect measures of attitudinal support for private and public transfers to the Katrina

victims in the city that was featured in the presentation. We ask respondents, on a 7-point scale, whether they think charities should spend more or less on Katrina victims in the city, and whether they think the government should spend more or less on Katrina victims in the city. See Part IV of the survey for the exact wording of these questions.

To test whether each of our experimental manipulations produced changes in the corresponding perceptions, we ask respondents about their perceptions of a number of characteristics of Katrina victims who receive housing from Habitat in that city. We ask most of these perceptions questions in Part III of the instrument. However, to avoid biasing responses to attitudinal questions in Part IV, we ask about perceptions of the racial composition of the relevant city's residents and the city's Habitat for Humanity recipients at the end of the survey.

2.3. Measures of Racial Attitudes and Other Respondent Characteristics

We have three measures of racial attitudes. The first is subjective racial identification, which is the answer to the question: "How close do you feel to your ethnic or racial group? Very close, close, not very close, not close at all." This measure has the advantage of having been asked by Knowledge Networks prior to our experiment. It is thus uncontaminated by information presented and decisions made in our experiment. It also seems likely that this measure is less prone to social desirability bias than measures of explicit racism. Causality between subjective racial identification and racially biased behavior can run in either direction. Identifying with blacks might cause people to discriminate less against them. Or, discriminating against blacks for some other reason might reduce subjective identification with them.

The second measure is the frequency of social contact with blacks minus the frequency of social contact with whites. This measure was taken at the end of our survey and thus may be contaminated by information presented and decisions made in our experiment (see Part IV of our survey for exact wording). The expected effect of social contact on racial discrimination is ambiguous. People who are sympathetic to blacks may both seek out more social contact with them and discriminate less against them. Alternatively, people may be put into social contact with blacks for exogenous reasons, and this may increase or decrease positive feelings or behavior toward them depending on the nature of the interactions.

The third measure is beliefs about the prevalence of economic opportunities for blacks compared to whites (see Part IV of our survey for exact wording). This measure was also taken

at the end of our survey and thus may be contaminated by our experiment. Of our three measures, this one is the most similar to the types of questions that are found in measures of explicit racism. It also may be the most susceptible to social desirability bias because respondents are reporting beliefs about a characteristic of blacks that may seem negative and thus socially undesirable to admit.

The respondent characteristics that we collect as control variables consist of prior charitable giving and prior giving to Katrina victims. The remaining respondent characteristics that we control for were collected by Knowledge Networks prior to our study.

2.4. Race Salient and Full-Stakes Instruments

While 80 percent of the respondents took the main instrument, the rest instead took either a race-salient or a full-stakes variant. Both variants are exactly like the main instrument except in the ways described below. Because we estimate the effect of our race manipulation in these alternative instruments relative to that in the main instrument, all pictures in the alternative instruments were race-shown. We administered the variants only to non-black respondents.

We administered the race-salient variant to investigate the concern that respondents who are more aware that the study is about race may be more likely to censor their behavior and discriminate less against blacks. We tried not to make it obvious to respondents in our main instrument that our study was about race, to the extent possible given media coverage that linked Katrina to race relations. We increased the salience of race in our race-salient instrument by altering our main instrument in two ways. First, in the opening screen, we told respondents that they were participating in a study on "Hurricane Katrina, race relations, and whether the race of Katrina victims mattered for how America responded to Katrina." To drive this point home, we moved our questions about race perceptions from the end of the instrument to immediately after the slide presentation and before they chose how much to give.

We conducted the full-stakes version of our instrument with the goal of increasing the reliability and validity of our measure of giving. Rather than having a 10 percent chance of having their giving decision implemented, respondents receiving the full-stakes variant had their decision implemented for sure. In order to make the $100 more "real" in the minds of the respondents, we gave them the $100 at the beginning of the instrument, before the slide show. After the slide show, we told them they could give away part of their $100 to Habitat for

Humanity to help Katrina victims.

3. Results

We fielded our experiment from June 6-19, 2006 and received 1530 completed surveys.[10] However, 182 respondents reported that they could not hear the audio component of the slide show. We did not administer the giving and perceptions parts of the survey to these respondents and do not use their data in this paper. An additional 5 respondents failed to report a decision on how much money to give, so we dropped these observations. This leaves a usable sample of 1343 respondents. The main instrument was completed by 1101 respondents, of which 247 are African American. The race-salient and full-stakes variants were completed by 118 and 124 non-black respondents, respectively. The median completion time was 22 minutes.

The respondents of the main instrument are roughly nationally representative except for an intentional over-sampling of black respondents.[11] We weight our results to correct for this over-sampling. We compared the means of the demographic variables in our data to the means for the same variables in the Current Population Survey and did not find substantial differences (unreported). Among other things, this implies that the demographic means of Knowledge Networks' non-respondents must also have been similar to the CPS demographic means. Finally, since the first screen of the race-salient variant of the instrument differed from that of the main and full-stakes variants, we note that the non-response rates were similar across all three variants.

Table 1 presents selected summary statistics (see Appendix Table A.1 for the full summary statistics). On average, respondents gave $65 to Habitat, with 44 percent of respondents giving the full hundred dollars, 20 percent giving half and 9 percent giving nothing.[12] Hypothetical

[10] Knowledge Networks invited a total of 2608 panelists to take the survey. The response rate was 65 percent, with 1700 respondents opening the survey. The completion rate was 90 percent, yielding 1530 completed surveys. Completion of the survey does not appear to depend on our experimental manipulations. The hypothesis that our experimental manipulations had no effect on completion of the survey cannot be rejected (p-value=0.27). We note that the response rate for non-blacks was roughly 75 percent, which is a typical response rate for Knowledge Networks studies, but the response rate for blacks was lower than usual for Knowledge Networks. This occurred because they sent out a large number of invitations to blacks in the last few days of the fielding period in order to achieve the promised number of completed surveys, resulting in less time for these invitees to respond and a low response rate.

[11] National representativeness is important because of growing concerns and recent evidence that giving in experiments using college student subjects misrepresents giving in the broader population. See, e.g., Carpenter et al. (2007).

[12] This level of giving is quite high compared to average offers in standard laboratory dictator games, which are often around 20 percent of the stakes (Camerer, 2003), but it is consistent with findings that offers in dictator games were three times higher to the American Red Cross than to anonymous recipients (Eckel and Grossman, 1996).

giving is notably lower, averaging about $20. Respondents' subjective support for government spending to help Katrina victims averages 5 on a 7-point scale, and the figure is similar for support for charity spending. The bottom panel presents the three measures of racial attitudes, which we collapse into dummy variables such that about half of the respondents in the overall sample fall in each category. On average, 63 percent of respondents report feeling close or very close to their ethnic or racial group. However, there is a large racial difference in the response to this question, with 90 percent of blacks but only 57 percent of whites reporting feeling close or very close to their own group. There are also large racial differences for the other two measures. Not surprisingly, social contact with blacks is much higher for black respondents than for whites. Finally, black respondents are much less likely to believe than white respondents that blacks have the same or more economic opportunities compared to other Americans.

In Table 2, we present mean offers in four subsamples defined by crossing the race of the victims in the pictures with whether race was shown or obscured. Here we use unweighted data from the main instrument. The first column presents mean offers in response to pictures with black and white victims, respectively, in the race-shown treatment condition. Respondents who saw race-shown pictures with black victims gave, on average, $66.3 to the local Habitat for Humanity chapter, while those who saw race-shown pictures with white victims gave on average $64.7. Thus, in the race-shown condition, respondents gave about $1.6 more in response to black pictures, but this difference is not statistically significant. The second column presents mean offers to pictures with black and white victims, respectively, in the race-obscured control condition. In this column, respondents gave $1.7 more in response to race-obscured photos of black victims. This difference, while not statistically significant, picks up any effect of different backgrounds in the pictures with black victims relative to those with white victims. Subtracting the effect of the backgrounds in the race-obscured condition from the combined effect of race and backgrounds in the race-shown condition yields the estimate of the effect of victim race on giving: -$0.1, which is not statistically significant.

Table 2 suggests that, on average, victim race has little effect on giving. Why might this be the case? One possibility is that the race manipulation failed to manipulate perceptions of the racial composition of the victims. We show in Section 3.1 that this is not the case. We also show,

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Furthermore, Viscusi and Zeckhauser (2006) present attitudinal data that show a great deal of support for governmental aid to disaster victims.

in Section 3.4, that the insignificant effect of race on giving is robust, persisting in a variety of samples and specifications. Most important, Section 3.5 shows that the race manipulation does have a significant effect on giving once we account for subjective racial identity, which provides further evidence that the race manipulation was strong enough to affect behavior.

3.1. Manipulation Check: Effects of Experimental Manipulations on Perception

Column 1 of Table 3 presents a regression of perceptions of the racial composition of victims on the picture manipulations, audio manipulations, dummies for the variants of the survey instrument, and demographic controls. We measure perceptions of the racial composition by the perceived percentage of Habitat for Humanity recipients in the city in question that are black minus the perceived percentage that are white. The variable *Pictures show black victims* is a dummy variable that equals one only for pictures with black victims in the race-shown treatment condition. The controls for picture backgrounds consist of a dummy variable for the race-obscured condition and a dummy variable for pictures with black victims (whether race was shown or obscured). The coefficient on *Pictures show black victims* therefore measures the causal effect of seeing black victims rather than white victims, controlling for any effect due to differences in picture backgrounds. We now weight observations to correct for the oversampling of black respondents. In order to maximize precision, we also include observations from the race-salient and full-stakes variants, controlling for their main effects on the outcome variable by including dummies for each of these alternative instruments. We show elsewhere that the race effect in these variants is not statistically different from that in the main instrument, so we feel comfortable pooling the main, race-salient, and full-stakes samples (Fong and Luttmer, 2007).

The first row of column 1 shows that the black race manipulation increases the perceived fraction of recipients who are black minus the perceived fraction who are white by 16.3 percentage points. This effect is significant at the one-percent level. The remaining rows show the effects of the audio manipulations. The audio manipulation stating that Republicans have a majority in the city decreases the perceived fraction of recipients who are black minus the perceived fraction who are white by seven percentage points (significant at the one-percent level). This result makes sense if respondents are Bayesian updaters, since blacks are less likely to be Republican. Similarly, when the audio manipulation suggests the city is relatively economically disadvantaged, the perceived fraction black minus the perceived fraction white

increases significantly. The effects of the other audio manipulations are smaller and insignificant at the five-percent level but, by and large, move the perceived racial composition in a fashion that is consistent with Bayesian updating. Finally, in the race-salient variant of the instrument, respondents estimate that fewer victims are black, which is what would be expected if respondents pay closer attention to the race of the people shown in the pictures.

In Appendix Table A.2, we present the effects of the picture and audio manipulations on respondents' perceptions of nine other characteristics of the Habitat recipients or the city they live in. In the large majority of cases, the audio manipulation changes the corresponding perception in the expected direction and is statistically significant at the five-percent level or better. For example, saying that the city is relatively economically advantaged raises the perceived median household income of Habitat recipients by about $6800 per year in the full sample.

3.2. Effects of Race Manipulation and Racial Group Loyalty on Giving

Column 2 of Table 3 presents a regression predicting giving to Katrina victims, using the weighted and pooled observations from the main, race-salient and full-stakes samples. As before, respondents do not significantly change the amount they give in response to seeing black pictures in which race is shown. The point estimate is -$2.2 or about 6 percent of a standard deviation of the amounts given, which suggests that there is little effect of victims' race on giving. However, the 95-percent confidence interval on this estimate ranges from about -$10 to $5 (or between -25 percent to 15 percent of a standard deviation), so we cannot rule out a moderately large racial bias in giving in the overall sample. This establishes our first main result, namely that we find no evidence that Americans *on average* give more or less depending on the race of the Katrina victims. However, this average result may mask reactions in opposite directions by subgroups of the population. Columns 3 and 4 test whether reactions to our race manipulation differ by objective and subjective racial identity.

In column 3, we estimate objective racial group loyalty by testing whether the effect of the race manipulation on giving differs by the race of the respondent. In this column, we use the sample of non-Hispanic black and non-Hispanic white respondents.[13] We find that blacks give

[13] From now on we will refer to non-Hispanic white respondents and non-Hispanic black respondents simply as white and black respondents, respectively.

about $9.6 more in response to black pictures than white respondents do, but this estimate is not statistically significant. In unreported analyses, we also tested for group loyalty along dimensions other than race, such as religiosity and political identification, and found no evidence of it (results available upon request).

In column 4, we test whether the effect of the race manipulation differs by subjective racial identity. In this column, for compactness of presentation, we use a simple coding of the measure of subjective racial identity. Respondents are coded as subjectively identifying with blacks if (i) they are black and report feeling close or very close to their racial or ethnic group or (ii) they are white and report feeling "not very close" or "not close at all" to their racial or ethnic group. The others – namely blacks who feel "not very close" or "not close at all" to their group and whites who feel "close" or "very close" to their group – are coded as not subjectively identifying with blacks. We will report additional results on subjective racial identity in Table 6.

Respondents who do not subjectively identify with blacks give $17 less after seeing pictures of black victims rather than of white victims. This effect is significant at the five-percent level. Respondents who subjectively identify with blacks react to the race manipulation significantly differently from those who do not, giving $30 more in reaction to seeing pictures of black victims compared to those who do not identify with blacks (significant at the one-percent level). This means that, overall, respondents who subjectively identify with blacks give $13 more in response to black pictures than in response to whites ones (significant at the five-percent level).

Columns 5 and 6 show the same regression as in column 4 but separately for white and black respondents. We find that, within each group of respondents, giving in response to seeing pictures of black victims is significantly higher when the respondent subjectively identifies with blacks. We note, however, that only 10 percent of black respondents do not subjectively identify with blacks. Thus, it should be kept in mind that only a small fraction of black respondents drive the effect of subjective identification on giving in the regression in column 6.

Columns 3 through 6 establish our second main result. The effect of the black picture manipulation on giving does not differ significantly by the objective race of the respondent, but the respondent's subjective identification with blacks has a large impact on the response to seeing black pictures. Thus, while we do not find significant evidence of objective racial group loyalty, we find strong evidence of what we call subjective racial group loyalty – those reporting not feeling close to blacks biasing their giving against blacks and those reporting feeling close to

blacks biasing their giving in favor of blacks. Moreover, we find that subjective racial group loyalty affects giving both among black respondents and among white respondents.

3.3. Effects of Other Experimental Manipulations on Giving

The effects of the audio manipulations are given by the coefficients on the dummy variables for these manipulations. In columns 2-4 of Table 3, none of the audio manipulations have significant effects, except for the manipulation of the economic situation of the city. Respondents give roughly $4 to $5 more when told that the city was relatively economically disadvantaged. This effect is significant at the five-percent level. Perhaps surprisingly, the manipulations intended to affect perceptions of worthiness, such as whether victims helped others in need or whether victims took reasonable precautions against hurricanes, do not have statistically significant effects on giving. Finally, we find that the full-stakes variant leads to significantly lower giving.

One might wonder if the lack of treatment effects on giving to Habitat for Humanity in our race and worthiness manipulations might be due to noise in our outcome measure. However, the findings that subjective identification with blacks and our income manipulation have significant effects on giving increases our confidence that giving in our experiment measures something other than pure noise. Furthermore, in unreported results, we find that a history of charitable giving significantly increases giving during the experiment, which gives us additional confidence that our outcome measure corresponds to generosity in the real world.[14]

3.4. Effects of Treatments on Other Measures of Generosity

Table 4 examines whether the findings from columns 2 and 3 from Table 3 carry over when we use alternative measures of generosity and when we use just white or just black respondents. (The findings from columns 4 though 6 will be analyzed further in Table 6). In particular, Table 4 examines the generalizability of the findings that (i) there is no significant average effect of victim race on giving, (ii) there is no significant objective racial group loyalty in giving, (iii) giving is higher for economically disadvantaged victims, and (iv) manipulations affecting perceptions of worthiness have no effect on giving.

[14] In addition, we investigated the external validity of our giving measure by comparing its sensitivity to respondent demographic variables against the sensitivity of prior charitable giving to the same demographic variables. We find that giving in our experiment is 55 percent to 85 percent as sensitive to demographic characteristics as self-reported prior charitable giving. See Fong and Luttmer (2007) for details.

Each row in Table 4 presents results from a single regression. The measure of generosity in panels A-D are, respectively, actual giving in the experiment, hypothetical giving to Habitat for Humanity in the city, subjective support for charitable giving to Katrina victims in the city in question, and subjective support for government spending to help Katrina victims in the city. Within each panel, there is a regression for the whole sample, the sample of white respondents, and the sample of black respondents.

The columns present, respectively, the estimated effects of the race manipulation, the income manipulation, and the degree to which the respondent was manipulated to perceive the victims as 'morally worthy.' This worthiness variable was constructed by adding the dummies for the audio manipulations intended to increase perceived worthiness (many city residents helped other victims, many city residents prepared for hurricanes, and Habitat recipients must contribute labor to house) and subtracting the dummy for the audio manipulation intended to decrease perceived worthiness (the city has been troubled by crime).[15] It is worth noting that the explanatory power for the regressions predicting actual giving is markedly higher than the explanatory power for any of the hypothetical or subjective measures of generosity. This suggests that actual giving behavior is a less noisy measure of generosity than our subjective or hypothetical measures.

In Panel A, the regression for the whole sample repeats the regression that was presented in column 2 of Table 3. The second and third rows show that the estimated response to pictures of black victims is -$4.0 among whites and $7.1 among blacks, but both estimates are statistically insignificant. Thus, also within the sample of whites (where one might have expected racial bias to be most likely), we find no significant evidence of racial bias. Moreover, the estimated response is not statistically significantly different between black and white respondents (p-value: 0.25), which confirms that we do not detect significant objective racial group loyalty. The second column of Panel A shows that the significant positive effect of economic disadvantage in the city is driven by white respondents. Column 3 shows a strikingly small and insignificant effect of the number of worthiness manipulations in all three samples. As we show in Table A.2, almost all of the worthiness manipulations have statistically significant effects on the perceptions that they

[15] In constructing this variable, we did not include our manipulations on church attendance, use of public assistance, or looting in the city. Church attendance may be seen as a positive or a negative trait, depending on the respondent's views. Use of public assistance confounds possible judgments of worthiness with judgments of need. Finally, we did not include the looting manipulation because we originally included it to prime respondents with a racially charged issue. Obviously, the looting manipulation may have affected perceptions of worthiness, so it is reassuring that our results are very similar if we include the looting manipulation in our measure of worthiness.

were designed to affect, so the weak effect of the worthiness manipulations on giving is not due to manipulation failures. Further, as we discuss shortly, the number of worthiness manipulations does have highly significant effects on support for public spending to help Katrina victims.

Panels B and C show no statistically significant treatment effects at the five-percent level or better on the measures of hypothetical giving to and subjective support for charitable spending on the Katrina victims in the city. This is not too surprising because the measurement reliability of these measures is probably lower than that of actual giving.

The results on subjective support for government spending on the Katrina victims differ from the results on private giving. Panel D shows a highly significant positive effect of perceived worthiness on subjective support for public assistance to Katrina victims in the city in question in the overall sample and sample of white respondents, but not among black respondents. We also find a significant negative effect (at the five-percent level) of the black picture manipulation among whites, but not in the whole sample or the sample of blacks. It is noteworthy that these significant results occur despite the fact that the dependent variable is an attitudinal measure and thus may have lower measurement reliability than the behavioral measure used in Panel A.

The results in Panel D are consistent with the literature on determinants of support for public redistribution, which has shown that both recipient race and perceptions of worthiness play important roles.[16] In view of the widely reported effects of race and worthiness in support for public assistance, the fact that they have no significant effects on private generosity may seem surprising. One possible explanation is that respondents believe that Habitat for Humanity chooses to help only worthy individuals, while the government cannot select its recipients. Some of the open-ended comments that we received hint at this. For example, one respondent wrote:

"*The people who receive help from Habitat are hard-working families, but the people on public assistance seem to be several hundred pounds overweight. I have trouble putting food on my table and [paying my] expenses. These people are living high on the hog at our expense.*"

If there is a difference in beliefs about the worthiness of recipients of charity and recipients of government assistance, it could also explain the presence of a race effect in public generosity to Katrina victims and its absence in private generosity. This could occur if the effect of race operates through perceptions of worthiness, as some have argued (Gilens 1999).

[16] See, for instance, Luttmer (2001) on racial group loyalty and Fong (2001) and Corneo and Grüner (2002) on fairness, and Alesina, Glaeser and Sacerdote (2001) for a review.

3.5. Robustness

Table 4 suggests four noteworthy main treatment results: no effect of the race manipulation on measures of private generosity presented in Panels A-C, a significant effect of the manipulation of the city's economic situation on giving (in Panel A), and significant effects of the worthiness and race manipulations on support for public aid to Katrina victims (in Panel D). In Table 5, we examine the robustness of these results for white respondents. We show the robustness for the sample of white respondents because (i) the absence of racial bias is more surprising in the sample of whites than in the overall sample and (ii) the negative effect of seeing black pictures on attitudinal support for government spending only shows up for whites. The results for the whole sample and the black subsample are also robust to the alternative specifications shown in Table 5 (results available on request).

The organization of Table 5 is similar to that of Table 4: there is one panel for each of the outcome measures of generosity and the columns present coefficients and standard errors for, respectively, the race manipulation, the manipulation of the city's economic situation, and the number of worthiness manipulations. Within each panel of Table 5, the first row repeats a baseline regression for the sample of whites from Table 4. Each subsequent row is like the first row except that either one aspect of the specification or one aspect of the sample is changed. Within each panel, row 2 excludes the race-salient and the full-stakes samples. Rows 3 and 4 only use the sample that was shown photos of Slidell or Biloxi, respectively. Rows 5 and 6, respectively, drop or add demographic controls relative to the baseline regression. Row 7 presents censored regressions when the outcome measure is dollars given and ordered probits when the outcome measure is a 1-7 scale. Row 8 presents the effect of the race manipulation using only the sub-sample of whites who saw race-shown pictures, thus dropping controls for the backgrounds of the pictures.

Panels A-C confirm that there is no significant effect of the race manipulation on the three measures of private generosity, except for a marginally significant effect in two specifications in Panel C. By and large, Panel A confirms that respondents give more money to victims in economically disadvantaged cities. Panel D confirms that the effect of the number of worthiness manipulations on support for public aid to Katrina victims is robust. The number of worthiness manipulations has significant effects at the one-percent level in six robustness checks and at the

five-percent level in the remaining two robustness checks. The effect of the race manipulation on support for public aid to Katrina victims is significant at the five-percent level or better in five of the eight robustness checks.

3.6. Effects of subjective racial attitudes on racial bias

In Table 3, we showed that subjective racial identification is a strong predictor of racial bias in giving. In this section, we present a more comprehensive investigation of heterogeneity in racial bias according to measures of racial attitudes. Table 6 presents effects of interactions between our race manipulation and the three measures of subjective racial attitudes described in Section 2 on our four measures of generosity.

Table 6 has four columns, each one explaining one of the four generosity measures. Panels A and B present the results for white and black respondents, respectively. The rows labeled A1 and B1 present the interaction results for the subjective racial identification dummy for whites and blacks, respectively. In both panels, there is a strong interaction between racial identification and our race manipulation in regressions explaining actual giving. The rows in A1 show that whites who report being "close" or "very close" to their ethnic or racial group give roughly $17 less when seeing pictures that show black victims rather than white ones. In contrast, whites who say they are "not very close" or "not close at all" give roughly $13 *more* in response to pictures showing black victims. These two coefficients are significantly different from each other at the one-percent level. The rows in B1 show that blacks who feel close to blacks give $16 more in response to pictures showing black victims. Blacks who do not feel close to blacks give $72 less in response to pictures showing black victims. These two coefficients are significantly different from each other at the one-percent level.

In unreported analyses, we find that the interaction between subjective racial identification and our race manipulation is very robust. For example, when we conduct four separate regressions for each response category of subjective racial identification, there is a clear pattern of heterogeneity. Among whites who are, respectively, "not close at all", "not very close" "close" and "very close" to their ethnic or racial group, the racial biases toward blacks are $26 (significant at the ten-percent level), -$4, -$9, and -$33 (significant at the five-percent level). Furthermore, when subjective racial identification is measured as a continuous variable, it has a highly significant (at the one-percent level) negative interaction with the race manipulation.

For the other measures of generosity, there are no interaction effects of subjective racial identification and the race manipulation that are significant at the five-percent level or better. Thus, we only find clear evidence of subjective racial group loyalty when we measure generosity by actual amount given, but find no significant evidence if we measure generosity by hypothetical giving or attitudes towards charity- or government spending on Katrina victims. Part of this difference might be explained by respondents' preferences for generosity depending on the means by which Katrina victims are helped (via Habitat for Humanity, via any charity spending, or via government spending). However, we also note that actual giving is the only measure of generosity that is behavior-based (i.e., not "cheap talk") and for which hiding any racial biases would be costly to the respondent. We therefore place the most weight on the results using actual giving as an outcome measure.

The rows A2 and B2 present the interaction results for the dummy variable measuring frequency of social contact with blacks relative to whites, in the white and black samples respectively. The first column of A2 shows that whites who report having equal or more social contact with blacks give about $18 less in response to pictures showing black victims while those who have less social contact with blacks give about $3 more in response to pictures showing black victims. These two effects are significantly different from each other at the five-percent level.[17] The remaining columns of A2 show no significant interaction effects between frequency of social contact and the race manipulation on the other outcome measures. Row B2 shows that for black respondents we find no significant interactions between social contact and the race manipulation on any of the outcome measures. Finally, the rows in A3 and B3 present interactions between the race manipulation and the belief that blacks get at least as many economic opportunities as whites on each outcome variable in the white and black samples, respectively. This interaction effect is insignificant in all cases. This implies that there are people who discriminate against blacks in their giving (namely, whites who feel close to their ethnic or racial group) but who do not appear to be biased against blacks in their response to the question about economic opportunities for blacks.

Table 6 shows that both black respondents and white respondents exhibit significant amounts

[17] Because social contact was collected after the respondents had decided how much to give to Katrina victims, it is possible that some white respondents, realizing that their giving decision might have been racially biased when questions involving race were asked in section IV of the survey, try to compensate for this behavior by reporting more social contact with blacks.

of subjective racial group loyalty in giving. Thus, the answer to the simple question "How close do you feel to your ethnic or racial group?" is a significant predictor of racial bias in giving. The other two measures of racial attitudes do not predict racial bias in giving as well. Beliefs about the economic opportunities of blacks has no predictive power whatsoever while social contact with blacks relative to whites is only predictive for white respondents but not for black respondents. The fact that only one of the three measures of racial attitudes is a clear predictor of racial bias in giving may seem surprising. We offer two potential explanations. First, the response to the question about closeness to one's ethnic or racial group was collected in an earlier survey by Knowledge Networks and can therefore not be contaminated by our experiment. The other two measures were asked in our survey after the respondents had made their giving decisions. Second, the racial identification question asks about closeness to the own ethnic or racial group, while the other two measures involve answers about other racial groups. The latter seems more likely to trigger social desirability biases.

4. Conclusion

In this paper, we examine the role of race and racial group loyalty in generosity towards Hurricane Katrina victims using a design with three important features. First, we used a behavior-based measure of generosity, namely gifts of money during the experiment. Second, we experimentally varied perceptions of the race and other characteristics of the Katrina victims in order to obtain causal estimates of the effect of victim's characteristics on giving. Third, we ran the experiment on a sample that is broadly representative of the U.S. adult population so that our estimates should reflect any racial bias and group loyalty present in the general population.

The experiment yields two main findings. First, in the overall population, we find no evidence that giving differs by race of the victim. Moreover, respondents also do not condition their giving on victim characteristics that may indicate worthiness, though they significantly increase the amount given when victims come from an economically disadvantaged area.

Second, we find very strong evidence of subjective racial group loyalty. Respondents who report feeling close to their ethnic or racial group give significantly more when they see pictures of victims of their own racial group, whereas we find the opposite effect for respondents who do not report feeling close to their group. In other words, we find that subjective identification with a racial group is a powerful predictor of bias in giving towards that group, and we refer to this

effect as subjective racial group loyalty. Interestingly, while the point estimates indicate some group loyalty based on the actual race of the respondent, these estimates are not statistically significant. Thus, we find that subjective racial identification is a stronger predictor of racial bias in giving than the objective race of the respondent. We do not find clear evidence that our two other and more explicit measures of racial attitudes predict racial bias in giving.

We speculate that the power of the simple question "How close do you feel to your ethnic or racial group?" in explaining racial bias in giving lies in two factors. First, the question does not ask the respondent to pass judgment on other groups, and therefore is less likely to suffer from social desirability effects. Second, subjective racial identity may matter more than objective race, which makes sense in view of the rich array of social experiences that accompany inter-racial and inter-ethnic families, educations, and neighborhoods. Since our evidence was gathered in the context of giving to Hurricane Katrina victims, more research on the roles of objective and subjective racial identity in different institutional settings would be valuable for a broader understanding of racial discrimination.

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Figure 1: The Picture Manipulations

	Pictures show race	Pictures obscure race
Pictures with black victims		
	"Pictures show black victims"	
Pictures with white victims		

Table 1: Selected Summary Statistics

	All respondents		White respondents		Black respondents	
	Mean (Std. dev.)	N	Mean (Std. dev.)	N	Mean (Std. dev.)	N
Outcome variables						
Giving to Habitat to help Katrina victims in city ($ out of $100)	65.0 (36.7)	1343	67.2 (36.8)	915	54.8 (33.9)	247
Hypothetical giving to Habitat to help Katrina victims in city (topcoded at $500)	20.1 (38.9)	1341	17.5 (34.0)	913	30.2 (53.1)	247
Subjective support for government spending to help Katrina victims in *city* (1-7 scale)	4.9 (1.4)	1338	4.7 (1.4)	913	5.5 (1.5)	245
Subjective support for charity spending to help Katrina victims in *city* (1-7 scale)	4.9 (1.2)	1333	4.8 (1.1)	907	5.2 (1.4)	246
Racial attitude variables						
Very close or close to own ethnic or racial group	0.63 (0.48)	1126	0.57 (0.50)	749	0.90 (0.29)	219
Equal or more social contact with blacks than with whites	0.48 (0.50)	1328	0.38 (0.49)	903	0.97 (0.17)	245
Blacks have the same or more economic opportunities than other Americans	0.61 (0.49)	1331	0.69 (0.46)	908	0.17 (0.38)	242

Note: Sample has been weighted to adjust for oversampling of black respondents

Table 2: Mean Giving Out of $100 to Habitat for Humanity to Help Katrina Victims

	Pictures show race	Pictures obscure race	Difference
Pictures with black victims	66.3 (2.2)	65.6 (2.2)	0.7 (3.1)
N	280	273	
Pictures with white victims	64.7 (2.2)	63.9 (2.2)	0.8 (3.1)
N	280	268	
Difference	1.6 (3.1)	1.7 (3.1)	-0.1 (4.4)

Note: N=1101. Main instrument only. The outcome variable is the dollar amount that the respondent chose to give to Katrina victims via Habitat for Humanity in the city in question. Standard errors are in parentheses; the number of observations is below. Means are not weighted.

Table 3: Effects on Perceived Race of Katrina Victims and on Giving to Katrina Victims

	(1)	(2)	(3)	(4)	(5)	(6)
	Perceived % black - perceived % white	Giving out of $100 to Habitat for Humanity to help Katrina victims in city				
Picture manipulations						
Pictures show black victims	16.3***	-2.2	-3.8	-17.1**	-16.7**	-71.5***
	(4.0)	(3.8)	(4.7)	(6.7)	(6.9)	(26.9)
Pictures show black victims × black respondent			9.6			
			(9.6)			
Pictures show black victims				30.0***	29.8***	87.0***
× subjective identification with blacks				(9.2)	(10.5)	(29.2)
Controls for other picture features	Yes	Yes	Yes	Yes	Yes	Yes
Other experimental manipulations						
Republicans have majority in city	-6.9***	0.6	-0.5	-1.9	-2.4	2.1
	(1.9)	(1.9)	(2.1)	(2.2)	(2.5)	(4.3)
City is economically disadvantaged	4.9**	4.2**	5.0**	4.7**	6.0**	-0.3
	(2.0)	(1.9)	(2.0)	(2.2)	(2.5)	(4.3)
Many in city received government benefits	2.1	-1.2	-1.4	-0.3	-0.2	-2.1
	(2.0)	(1.9)	(2.0)	(2.2)	(2.5)	(4.3)
Many city residents prepared for hurricanes	-0.6	1.1	2.3	3.3	3.9	2.7
	(2.0)	(1.9)	(2.1)	(2.3)	(2.6)	(4.9)
Many city residents attend church	2.7	-2.6	-0.1	0.8	0.9	4.3
	(1.9)	(1.9)	(2.1)	(2.2)	(2.5)	(4.6)
City has been troubled by crime	3.1	-0.2	-0.1	1.0	2.0	0.5
	(1.9)	(1.9)	(2.1)	(2.3)	(2.6)	(4.3)
Many city residents helped other victims	-0.1	2.0	1.8	1.0	0.1	5.7
	(2.0)	(1.9)	(2.1)	(2.2)	(2.5)	(4.3)
Habitat recipients must contribute labor to house	-2.0	-0.7	0.3	-0.5	-1.3	0.5
	(2.0)	(1.9)	(2.0)	(2.2)	(2.5)	(4.3)
There were concerns about looting	3.3*	-1.5	-2.6	-1.5	-1.9	-0.1
	(1.9)	(1.9)	(2.1)	(2.2)	(2.6)	(4.3)
Slidell, LA featured in presentation	-3.3	3.3	4.5	3.8	4.7	2.9
	(2.7)	(2.6)	(2.9)	(3.1)	(3.5)	(6.8)
Full-stakes survey variant	-1.5	-14.8***	-16.0***	-13.9***	-14.3***	
	(3.5)	(3.6)	(4.0)	(4.2)	(4.4)	
Race-salient survey variant	-18.0***	-3.1	-2.9	-0.3	-0.1	
	(3.9)		(3.8)	(4.2)	(4.3)	
Respondent racial identity						
Non-Hispanic black	-19.9***	-10.6***	-5.7	-9.9***		
	(3.1)	(2.6)	(5.1)	(3.1)		
Other race/ethnicity	-0.8	-0.6				
	(3.0)	(2.7)				
Subjective identification with blacks				-2.1	-3.1	-9.1
				(4.1)	(4.7)	(11.5)
Other demographic control variables	Yes	Yes	Yes	Yes	Yes	Yes
Sample (race of the respondents)	All	All	Blk,Wht	Blk,Wht	White	Black
R^2	0.143	0.177	0.170	0.180	0.184	0.306
N	1321	1343	1162	968	749	219

Note: Numbers shown are OLS coefficients (robust standard errors in parentheses). Significance levels: *10 percent; ** 5 percent; *** 1 percent. The dependent variable in column 1 is the perceived percent of the city's Habitat for Humanity recipients who are black minus the perceived percent who are white. The dependent variable in columns 2-6 is giving out of $100 to the city's Habitat for Humanity chapter. Controls for picture features are the dummy variables "Race obscured" and "Pictures with black victims" and the interaction of these two dummies with "Black respondent" (in col. 3) or with "Subjective identification with blacks" (in col. 4-6). Other demographic controls consist of age, age^2, log household income, log giving to charity in 2005, log prior giving to Katrina relief, and dummies for high school dropout, some college, college or more, dual income family, married, male, single male, living in the South, employed, disabled, retired, any giving to charity in 2005, and any prior giving to Katrina relief. Regressions are weighted to adjust for oversampling of black respondents.

Table 4: Results by Race of the Respondent and by Measure of Generosity

	Pictures show black victims		Audio manipulation: economically disadvantaged		Number of worthiness manipulations		R^2	N
Panel A: Giving to Habitat to help Katrina victims in *city*, $ out of $100								
All respondents	-2.2	(3.8)	4.2**	(1.9)	0.7	(0.9)	0.176	1343
White respondents	-4.0	(4.7)	6.1***	(2.3)	0.8	(1.2)	0.165	915
Black respondents	7.1	(8.5)	-1.9	(4.1)	2.9	(2.2)	0.249	247
Panel B: Hypothetical giving to Habitat to help Katrina victims in *city* ($)								
All respondents	0.5	(3.8)	-1.3	(2.1)	0.8	(1.2)	0.117	1341
White respondents	-2.3	(4.0)	-2.0	(2.5)	1.4	(1.1)	0.116	913
Black respondents	7.0	(13.8)	-2.5	(6.9)	-6.9*	(4.1)	0.163	247
Panel C: Subjective support for charity spending to help Katrina victims in *city* (1-7 scale)								
All respondents	-0.21	(0.13)	0.09	(0.06)	0.03	(0.03)	0.059	1333
White respondents	-0.22	(0.16)	0.11	(0.07)	0.03	(0.04)	0.066	907
Black respondents	-0.62*	(0.37)	0.08	(0.20)	0.01	(0.10)	0.105	246
Panel D: Subjective support for government spending to help Katrina victims in *city* (1-7 scale)								
All respondents	-0.22	(0.16)	0.11	(0.08)	0.14***	(0.04)	0.091	1337
White respondents	-0.44**	(0.20)	0.10	(0.09)	0.16***	(0.05)	0.083	913
Black respondents	0.06	(0.40)	0.23	(0.20)	0.02	(0.10)	0.110	245

Note: Significance levels: *10 percent; ** 5 percent; *** 1 percent. Each row contains results from a single regression. Each panel uses a different generosity measure as dependent variable. The table reports OLS coefficients (robust standard errors in parentheses) for, respectively, the race manipulation, audio manipulation on the income level of the city, and the number of audio manipulations designed to increase perceptions of victims' worthiness. The number of worthiness manipulations is equal to the sum of the dummy variables for the audio manipulations "Many city residents helped other victims", "Habitat recipients must contribute labor to house", and "Many city residents prepared for hurricane" minus the dummy for the audio manipulation "City has been troubled by crime". Results for all respondents are weighted to adjust for oversampling of blacks. Control variables are the same as in Table 3, column 2. Hypothetical giving is topcoded at $500, which affected 6 observations.

Table 5: Robustness Checks on Sample of White Non-Hispanic Respondents

	Pictures show black victims		Audio manipulation: economically disadvantaged		Number of worthiness manipulations		R^2	N
Panel A: Giving to Habitat to help Katrina victims in *city,* $ out of $100								
Baseline	-4.0	(4.7)	6.1***	(2.3)	0.8	(1.2)	0.165	915
Main sample only	-3.6	(5.1)	6.0**	(2.6)	0.6	(1.3)	0.150	717
Slidell sample only	1.8	(6.6)	6.8**	(3.2)	-1.3	(1.7)	0.209	446
Biloxi sample only	-8.6	(6.6)	4.4	(3.3)	2.7*	(1.6)	0.188	469
No demographic controls	-2.9	(4.9)	6.3***	(2.4)	1.1	(1.2)	0.028	915
Additional control variables	-4.7	(4.6)	5.5**	(2.3)	0.8	(1.1)	0.212	900
Censored regression	-4.8	(10.5)	13.1**	(5.1)	1.0	(2.6)	0.030	915
Race-shown sample only	-2.3	(2.9)	6.3**	(2.9)	1.0	(1.5)	0.209	554
Panel B: Hypothetical giving to Habitat to help Katrina victims in *city* ($)								
Baseline	-2.3	(4.0)	-2.0	(2.5)	1.4	(1.1)	0.116	913
Main sample only	-2.1	(4.2)	-2.9	(2.6)	2.0	(1.3)	0.133	715
Slidell sample only	-3.9	(5.4)	-3.6	(4.0)	0.5	(1.1)	0.145	444
Biloxi sample only	-0.7	(6.0)	-0.9	(3.6)	2.7	(1.9)	0.147	469
No demographic controls	-1.8	(4.3)	-1.0	(2.4)	1.4	(1.1)	0.006	913
Additional control variables	-2.5	(4.0)	-2.5	(2.5)	1.5	(1.2)	0.125	899
Censored regression	-4.3	(7.8)	-0.9	(3.8)	3.2*	(1.9)	0.025	913
Race-shown sample only	-0.8	(3.4)	-1.7	(3.5)	0.7	(1.4)	0.142	553
Panel C: Subjective support for charity spending to help Katrina victims in *city* (1-7 scale)								
Baseline	-0.22	(0.16)	0.11	(0.07)	0.03	(0.04)	0.066	907
Main sample only	-0.29*	(0.17)	0.05	(0.08)	0.05	(0.04)	0.075	709
Slidell sample only	-0.24	(0.23)	0.14	(0.11)	0.00	(0.05)	0.114	441
Biloxi sample only	-0.23	(0.22)	0.09	(0.11)	0.06	(0.06)	0.064	466
No demographic controls	-0.22	(0.16)	0.12	(0.07)	0.03	(0.04)	0.035	907
Additional control variables	-0.27*	(0.16)	0.10	(0.07)	0.03	(0.04)	0.093	893
Ordered probit	-0.20	(0.15)	0.12*	(0.07)	0.03	(0.04)	0.024	907
Race-shown sample only	0.09	(0.09)	0.25***	(0.09)	0.03	(0.05)	0.087	550
Panel D: Subjective support for government spending to help Katrina victims in *city* (1-7 scale)								
Baseline	-0.44**	(0.20)	0.10	(0.09)	0.16***	(0.05)	0.083	913
Main sample only	-0.45**	(0.22)	-0.03	(0.11)	0.20***	(0.05)	0.079	715
Slidell sample only	-0.55*	(0.28)	0.17	(0.13)	0.15**	(0.06)	0.123	444
Biloxi sample only	-0.33	(0.28)	0.08	(0.14)	0.19***	(0.07)	0.082	469
No demographic controls	-0.45**	(0.19)	0.10	(0.09)	0.17***	(0.05)	0.041	913
Additional control variables	-0.50***	(0.19)	0.09	(0.09)	0.17***	(0.05)	0.120	899
Ordered probit	-0.31**	(0.15)	0.08	(0.07)	0.13***	(0.04)	0.026	913
Race-shown sample only	-0.14	(0.12)	0.20*	(0.11)	0.15**	(0.06)	0.112	553

Note: Significance levels: * 10 percent; ** 5 percent; *** 1 percent. Each row contains results from a single regression. Each panel uses a different generosity measure as dependent variable. Unless otherwise noted, the table presents OLS coefficients (robust standard errors in parentheses) for, respectively, the race manipulation, audio manipulation on the income level of the city, and the number of audio manipulations designed to increase perceptions of victims' worthiness. Baseline control variables are the same as in Table 3, column 2. The additional controls include subjective assessments of the effectiveness of Habitat for Humanity, how much the respondent values helping others, and how much the respondent cares about money. Results are weighted to adjust for oversampling of black respondents.

Table 6: Effects of Interactions between Race Manipulation and Subjective Racial Attitudes on Racial Bias

	(1) Giving to Habitat to help Katrina victims in *city*, $ out of $100	(2) Hypothetical giving to Habitat to help Katrina victims in *city* ($)	(3) Subjective support for charity spending to help Katrina victims in *city* (1-7 scale)	(4) Subjective support for government spending to help Katrina victims in *city* (1-7 scale)
Panel A: Effect of "Pictures show black victims" on white respondent's generosity				
(A1) By respondent's closeness to his or her ethnic or racial group				
Very close/Close	-16.7** (6.9)	-3.3 (6.7)	-0.28 (0.24)	-0.33 (0.29)
Not very close/Not close at all	13.0* (7.8)	0.0 (6.8)	-0.14 (0.26)	-0.52 (0.33)
P-value on test of equal coefficients	0.0049	0.7352	0.6833	0.6477
Number of observations	749	748	742	747
(A2) By frequency of social contact with blacks compared to whites				
Equal or more social contact with blacks	-17.7** (8.2)	-5.7 (7.0)	-0.43 (0.28)	-0.61* (0.34)
More contact with whites than blacks	2.8 (5.8)	-2.1 (4.3)	-0.12 (0.19)	-0.35 (0.24)
P-value on test of equal coefficients	0.0432	0.6547	0.3593	0.5227
Number of observations	903	902	896	902
(A3) By belief about number of economic opportunities for blacks compared to whites				
Blacks have at least as many opportunities	-3.6 (5.9)	0.9 (5.5)	-0.22 (0.20)	-0.47** (0.24)
Blacks have fewer opportunities	-6.7 (7.8)	-8.4 (6.4)	-0.23 (0.25)	-0.42 (0.32)
P-value on test of equal coefficients	0.7571	0.3031	0.9802	0.8951
Number of observations	908	907	902	908
Panel B: Effect of "Pictures show black victims" on black respondent's generosity				
(B1) By respondent's closeness to his or her ethnic or racial group				
Very close/Close	15.5 (9.8)	16.5 (16.6)	-0.68 (0.42)	-0.19 (0.47)
Not very close/Not close at all	-71.5*** (26.9)	-133.7* (74.8)	-0.57 (1.28)	1.06 (1.48)
P-value on test of equal coefficients	0.0032	0.0591	0.9396	0.4306
Number of observations	219	219	218	217
(B2) By frequency of social contact with blacks compared to whites				
Equal or more social contact with blacks	6.0 (8.5)	5.7 (15.9)	-0.67* (0.37)	-0.10 (0.40)
More contact with whites than blacks	-12.6 (40.5)	31.1 (49.1)	-0.06 (1.48)	3.19* (1.77)
P-value on test of equal coefficients	0.6482	0.6623	0.6862	0.0679
Number of observations	245	245	244	243
(B3) By belief about number of economic opportunities for blacks compared to whites				
Blacks have same or more opportunities	11.8 (21.4)	-0.4 (23.3)	-1.19 (0.89)	-0.28 (1.14)
Blacks have fewer opportunities	4.6 (9.2)	3.3 (16.7)	-0.55 (0.42)	-0.05 (0.44)
P-value on test of equal coefficients	0.7558	0.8837	0.5259	0.8521
Number of observations	242	242	241	240

Note: Significance levels: *10 percent; ** 5 percent; *** 1 percent. Each column/row cell contains results from a single regression. The Panels A and B present results for non-Hispanic whites and non-Hispanic blacks, respectively. The rows A1-A3 and B1-B3 present interaction effects between "Pictures show black victims" and exhaustive dummy variables for racial attitudes. Regressions also controls for the direct effect of the racial attitude as well as all controls included in Table 3, column 2. Numbers shown are OLS coefficients (robust standard errors in parentheses), with p-values on the test of equality of coefficients and number of observations below.

[All the materials below are for the on-line appendices]

Appendix A: Survey Instrument

- Text that is notes is bold and in brackets. Text that is the name of a question or a variable name is in brackets and capital letters.
- Audio text that respondents hear is in italics; all other text the respondents read.
- For multiple choice questions, respondents were given radio buttons to click on. In this appendix, this shows up as numbered options [1], [2], [3].
- Separating lines correspond to new screens.
- **[CITY]** was replaced in both the text and the audio with either the word "Biloxi" or the word "Slidell" depending on the version.

– Main Questionnaire -

This is a study conducted by researchers at Carnegie Mellon University and Harvard University. The general topic is Hurricane Katrina and other issues facing America.
THANK YOU FOR YOUR PARTICIPATION!

[PART I. BACKGROUND ABOUT A SMALL CITY AFFECTED BY HURRICANE KATRINA]

Presentation about Hurricane Katrina

Shortly, you will see a brief presentation about the effects of Hurricane Katrina on a small town. However, first we would like to know, how closely did you follow the news about Hurricane Katrina and its aftermath?

Very closely (e.g., watching TV, listening to the radio or reading news about Katrina for more than an hour a day during the week following the hurricane) 1
Quite closely (e.g., watching TV, listening to the radio or reading news about Katrina for about 31-60 minutes a day during the week following the hurricane) 2
Somewhat closely (e.g., watching TV, listening to the radio or reading news about Katrina for about 10-30 minutes a day during the week following the hurricane) 3
Not too closely (e.g., watching, listening to, or reading headline news for a few minutes a day for one or more days during the week following the hurricane) 4
Not at all 5

Though you may already have seen quite a bit of media coverage about Katrina, much of the coverage focused on the effects of Katrina on New Orleans and its residents. However, many small towns and cities were also affected, and they differ in many ways from New Orleans. Next you will see a short presentation about the effects of Hurricane Katrina on a small city called **[CITY]**.

Please have the volume on your computer or TV adjusted so that you can clearly hear the speaker's voice that goes with the slides.

To respect their privacy, we have obscured the identities of the people shown in the slides.

During the presentation, the "Continue" button only becomes active after the speaker has finished.

[Respondents view first pair of pictures and hear following audio text]

Effects of Katrina on **[CITY]**

*As you may know, Hurricane Katrina hit the Gulf coast on August 29th, 2005. While the devastation in New Orleans received the most media coverage, many small cities in Louisiana and Mississippi were also affected. Here we show you some of the effects of Katrina on the residents of the small city of **[CITY]**.*

Contrary to what many people believe, this city differs in many ways from New Orleans, such as in terms of the make-up of the population or the effects of Katrina.

[REPUBLICANS HAVE MAJORITY IN CITY]:

0. **[NO INFORMATION CONDITION]**
1. *For example, while New Orleans votes overwhelmingly Democratic, Republicans have a solid majority in [City].*

[Respondents view second pair of pictures and hear following audio text]

The Residents of **[CITY]**

[MANY IN CITY RECEIVED GOVERNMENT BENEFITS]:

*Katrina also caused financial hardship for the residents of **[CITY]**. Many business operations had to close, and postal service to the area was interrupted for a long time.*

0. *As a result, many employees stopped receiving their pay-checks.*
1. *As a result, many recipients of government assistance stopped receiving their benefit checks.*

[CITY IS ECONOMICALLY DISADVANTAGED]:

[Manipulation for Biloxi:]

0. **[NO INFORMATION CONDITION]**
1. *Economically, Biloxi is relatively disadvantaged. Prior to Katrina, its median household income was well below the national average and its poverty rate was 18 percent higher than the rest of the country.*

[Manipulation for Slidell:]

-1. *Economically, Slidell is relatively well-off. Prior to Katrina, its median household income was above the national average and its poverty rate was 5 percent lower than the rest of the country.*
0. **[NO INFORMATION CONDITION]**

[CITY HAS BEEN TROUBLED BY CRIME]:

0. *This city has mostly law-abiding citizens.*
1. *This city has been troubled by crime and drug abuse.*

[MANY CITY RESIDENTS ATTEND CHURCH]:

0. *Many residents do not attend church on Sunday.*
1. *Many residents attend church on Sunday.*

[CHURCH ATTENDANCE AND CRIME MANIPULATIONS WERE COMBINED INTO ONE SENTENCE, SUCH AS "THIS CITY HAS BEEN TROUBLED BY CRIME AND DRUG ABUSE, AND MANY RESIDENTS DO NOT ATTEND CHURCH ON SUNDAY."]

[RESPONDENTS VIEW THIRD PAIR OF PICTURES AND HEAR FOLLOWING AUDIO TEXT]

Reactions to Hurricane Katrina in **[CITY]**

*In **[CITY]**, there were a variety of reactions to the hurricane.*

[MANY CITY RESIDENTS HELPED OTHER VICTIMS]:

0. *When the threat of the Hurricane became clear, many residents became mostly concerned about their own situation and did not help others in need.*
1. *When the threat of the Hurricane became clear, many residents became concerned about the situation and helped others in need.*

[THERE WERE CONCERNS ABOUT LOOTING]:

0. **[NO INFORMATION CONDITION]**
1. *In the aftermath of Katrina, looting and lawlessness were a concern.*

Habitat for Humanity, a non-profit charity, has stepped in to help those in need of decent housing.

[RESPONDENTS VIEW FOURTH PAIR OF PICTURES AND HEAR FOLLOWING AUDIO TEXT]

Habitat for Humanity in **[CITY]**

[MANY CITY RESIDENTS PREPARED FOR HURRICANES]:

0. *Partly because many residents underestimated the risk of hurricanes, Katrina did considerable damage.*
1. *Even though many residents took reasonable precautions against hurricanes, Katrina did considerable damage.*

*Fortunately, **[CITY]** has its own local chapter of Habitat for Humanity which helps build housing for people in the community who need it. Families moving into these homes experience an improvement in housing conditions that they could not have attained by themselves.*

[HABITAT RECIPIENTS MUST CONTRIBUTE LABOR TO HOUSE]:

0. **[NO INFORMATION CONDITION]**
1. *In return, they must invest at least 300 hours of labor – so-called "sweat equity" - into building their own homes plus homes for other families.*

[SOUND CHECK] How well could you hear the speaker's voice in the presentation you just saw?

I didn't hear any sound 1
I heard some sound but couldn't understand what she was saying 2
The speaker's voice was clear and understandable 3

[IF RESPONDENT SELECTS 1 ("DIDN'T HEAR ANY SOUND") OR 2 ("COULDN'T UNDERSTAND WHAT SHE WAS SAYING") IN CHECK, SURVEY SKIPS TO DISPLAY SCREEN AT THE BEGINNING OF PART IV.]

[PART II. DECISION-MAKING TASK]

Decision-making task

Now, you are going to make a decision about assistance to Katrina victims in **[CITY].** Please note that all information we give you is true and all payments will be made exactly as stated. Please think carefully about your decision because one out of every 10 participants in this study will have his or her decision carried out with real money.

We will give $100 to one out of every 10 participants in this study. We ask you to decide in advance how much of this $100, if any, you would like to give to the local chapter of Habitat for Humanity in **[CITY]**. You can give any amount you wish, including nothing. If you are selected, this $100 is yours, and you are free to keep or to give away any amount you wish, including nothing. While many people give some away, we expect that most people will keep at least some of this amount for themselves.

If you are randomly selected to receive $100, we will send the amount that you want to donate, if any, to the local Habitat for Humanity chapter in **[CITY]**. The amount that you decide to keep for yourself will be credited to your Knowledge Networks account (you get 1000 bonus points for each dollar you decide to keep).

If you decide to donate money, Habitat for Humanity in **[CITY]** will mail you a note to confirm that we sent them exactly the amount you specified.

The random selection works as follows. If the first number of the Pick3 draw of the Louisiana State Lottery on June 23, 2006 is **[LOTTERYNUMBER]**, then we will carry out your decision. Because numbers in the Pick3 game lie between 0 and 9, you have a 1 in 10 chance that we will carry out your decision. If you wish, you will be able to find the winning number on http://www.louisianalottery.com. However, this is not necessary. If your number is drawn, we will automatically carry out your decision.

[GIVING] Now, please decide how much of your $100 you want to give to Habitat for Humanity for Katrina victims in **[CITY]** in the event that you are randomly selected to receive $100.

If the first number of the Pick3 draw on June 23, 2006 is **[LOTTERYNUMBER]**,

I want $_____ to be sent to Habitat for Humanity to help victims of Hurricane Katrina in **[CITY]**.

[IF THE RESPONDENT DID NOT ENTER A NUMBER FROM 0 TO 100 THEY WERE GIVEN THE MESSAGE: "YOU HAVE ENTERED

AN INVALID NUMBER. PLEASE ENTER A NUMBER FROM $0.00 TO $100.00"]

[CONFIRM] If the first number of the Pick3 draw on June 23, 2006 is **[LOTTERYNUMBER]**, $**[AMOUNT FROM ABOVE]** will be sent to victims of Hurricane Katrina via Habitat for Humanity in **[CITY]**, and $**[100 - AMOUNT FROM ABOVE]** will be sent to you as a credit of **[1000*REMAINDER]** bonus points to your Knowledge Networks account.

Is this correct?

Yes……1
No, I would like to change my answer. 2

[SHOWN GIVING AGAIN IF RESPONDENT SELECTED "NO" IN CONFIRM]

[SHOWN FOLLOWING IF GIVING=0]

[HYPOTHETICAL GIVING]:

Suppose that Habitat for Humanity in **[CITY]** had mailed a letter to your home describing the effects of Katrina on **[CITY]** and had asked you for a donation. How much, if anything, would you have given?
[GIVEN A NUMBER BOX WITH A RANGE 0-99999]

[SHOWN FOLLOWING IF GIVING>0]

[HYPOTHETICAL GIVING]:

Suppose that you had not just given $**[GIVING]** to Habitat for Humanity. Instead, suppose that Habitat for Humanity in **[CITY]** had mailed a letter to your home describing the effects of Katrina on **[CITY]** and had asked you for a donation. How much, if anything, would you have given?
[GIVEN A NUMBER BOX WITH A RANGE 0-99999]

[PART III. QUESTIONS ABOUT [*CITY*]]
Factual questions about Katrina
From the information presented earlier, you may have learned more about **[CITY]**. Now, we'd like to ask you some questions about **[CITY]** and about the characteristics of Katrina victims who receive aid from Habitat for Humanity in **[CITY]**.

It is very important to us that you answer these questions as carefully as possible. We will give you 1500 bonus points for completing this section of the study. In return, we would appreciate it if you would put in extra effort to answer these questions as carefully as possible.

[WINDSPEED]: First, we'd like to know how severe you thought Hurricane Katrina was when it hit **[CITY]**. Note that, by definition, the maximum sustained wind speeds of category 1-5 storms are as follows: 74–95 mph for category 1, 96-110 mph for category 2, 111-130 mph for category 3, 131-155 mph for category 4, and 156 mph or more for category 5.

What do you think was the maximum sustained wind speed in **[CITY]** when Katrina hit?

74–95 mph (Category 1 hurricane) ....[1]
96–110 mph (Category 2 hurricane) ....[2]
111–120 mph (Category 3 hurricane) ....[3]
121–130 mph (Category 3 hurricane) ....[4]
131–139 mph (Category 4 hurricane) ....[5]
140–155 mph (Category 4 hurricane) ....[6]
156–169 mph (Category 5 hurricane) ....[7]
170 mph or greater (Category 5 hurricane) ....[8]

[FOR EACH OF THE FOLLOWING QUESTIONS RESPONDENTS WERE GIVEN A NUMBER BOX WITH A RANGE 0 TO 100]

[INCOME OF HABITAT FOR HUMANITY RECIPIENTS]:

We'd like to know what you think the median household income is for recipients of Habitat for Humanity in **[CITY]**. The median (i.e., middle) household income is the income where half of the Habitat households are richer and half are poorer.

As a reference, the Federal poverty standard is currently about $20,000 for a family of 4, and exactly half of all households in the U.S. have an income less than $44,000 per year

My best guess is that the median household income of recipients of Habitat for Humanity in **[CITY]** is about $ ___,000 per year.

[PERCENT OF RECIPIENTS WILLING TO WORK HARD]:

As your best guess, what percentage of recipients of Habitat for Humanity in **[CITY]** are willing to work hard in order to get ahead in life?

[PERCENT OF RECIPIENTS WITH A CRIMINAL RECORD]:

As your best guess, what percentage of recipients of Habitat for Humanity in **[CITY]** have a criminal record?

[PERCENT OF RECIPIENTS WHO ATTEND CHURCH]:

As your best guess, what percentage of recipients of Habitat for Humanity in **[CITY]** attend religious services almost every week?

[PERCENT OF RECIPIENTS WHO PREPARED FOR HURRICANE]:

As your best guess, what percentage of recipients of Habitat for Humanity in **[CITY]** prepared as well as one can reasonably expect for Hurricane Katrina?

[PERCENT OF RECIPIENTS HELPING OTHERS]:

As your best guess, what percentage of adult recipients of Habitat for Humanity in **[CITY]** helped fellow hurricane victims when the threat of the Hurricane became clear?

[PERCENT OF RECIPIENTS WHO RECEIVED GOVERNMENT ASSISTANCE PRIOR TO KATRINA]:

As your best guess, what percentage of recipients of Habitat for Humanity in **[CITY]** received government cash assistance *before* Katrina hit?

[PERCENT OF RECIPIENTS WHO VOTED FOR BUSH]:

Now, we'd like to ask you about Habitat for Humanity recipients in **[CITY]** who voted in the 2004 Presidential election. As your best guess, what percentage of these people voted for George W. Bush?

[Part IV. Survey Questions]

Survey Questions

Now we'd like to ask you some survey questions about Hurricane Katrina and other issues. There are no right or wrong answers. Please simply answer the questions as truthfully as you can.

[SUBJECTIVE SUPPORT FOR GOVERNMENT SPENDING TO HELP KATRINA VICTIMS IN CITY]:

Compared to the current level of spending, do you think the government should spend more or less of its budget on rebuilding and assistance to Katrina victims in **[CITY]**?

Government should spend much LESS			Government should spend the same			Government should spend much MORE
[1]	[2]	[3]	[4]	[5]	[6]	[7]

[SUBJECTIVE SUPPORT FOR CHARITY SPENDING TO HELP KATRINA VICTIMS IN CITY]:

Compared to their current level of spending, do you think that charities should spend more or less of their budgets on rebuilding and assistance to Katrina victims in **[CITY]**?

Charities should spend much LESS			Charities should spend the same			Charities should spend much MORE
[1]	[2]	[3]	[4]	[5]	[6]	[7]

[EFFECTIVENESS OF HABITAT FOR HUMANITY]:

How effective do you think [City]'s local chapter of Habitat for Humanity is at getting aid to needy recipients? More specifically, out of every $100.00 that is donated to it, how many dollars do you think go to needy recipients?
[RESPONDENTS GIVEN A NUMBER BOX WITH RANGE 0 TO 100]

[EFFECTIVENESS AND SPEED OF GOVERNMENT RESPONSE]:

Do you think the Federal Government responded as quickly and effectively as it should have to meet the needs of Katrina victims in **[CITY]**?

Yes ..... [1]
No ..... [2]

[GOVERNMENT CAPABILITY AND CARING]:

To the degree that the response was inadequate, do you think the reason was primarily that the Federal Government did not care enough about the residents of **[CITY]** or that the Federal Government was not capable enough?

Government <u>did not care</u> enough						Government <u>was not capable</u> enough
[1]	[2]	[3]	[4]	[5]	[6]	[7]

[PERSONAL CONNECTION TO EVENT]:

Do you <u>personally</u> know someone who was injured or killed, lost property or had to evacuate because of Hurricane Katrina?

Yes ..... [1]
No ..... [2]

[PREFERENCES FOR SOCIAL SPENDING]:

We are faced with many problems in this country, none of which can be solved easily or inexpensively. Below, we list two of these problems. For each one, please tell us whether you think we're spending too much money on it, too little money, or about the right amount.

Programs for the poor (e.g., "welfare" or programs like TANF, food stamps, and public housing)

Spending too LITTLE			Spending about the right amount			Spending too MUCH
[1]	[2]	[3]	[4]	[5]	[6]	[7]

Social insurance programs (e.g., Social Security, Unemployment Insurance, and Medicare?).

Spending too LITTLE			Spending about the right amount			Spending too MUCH
[1]	[2]	[3]	[4]	[5]	[6]	[7]

[FOR THE FOLLOWING FOUR QUESTIONS RESPONDENTS WERE GIVEN NUMBER BOXES WITH A RANGE 0 TO 999999]

[THE FOLLOWING WAS SHOWN IF SOUND CHECK=3, HEARD SPEAKER'S VOICE]

[TOTAL PRIOR GIVING TO KATRINA RELIEF]*:*

Not including any amount you may have given during his survey, what, approximately, is the total amount of money that you and people in your household donated towards the Katrina relief effort?

$ _____

[THE FOLLOWING WAS SHOWN IF SOUND CHECK=1 OR 2, DIDN'T HEAR OR UNDERSTAND SPEAKER'S VOICE]

[TOTAL PRIOR GIVING TO KATRINA RELIEF]:

What, approximately, is the total amount of money that you and people in your household have donated towards the Katrina relief effort?

$ _____

[TOTAL GIVING TO CHARITIES FOR POVERTY IN 2005]:

What, approximately, is the total amount of money that you and people in your household have donated in 2005 to charities that help poor people in the U.S.?

$ _____

[TOTAL GIVING TO CHARITIES IN 2005]:

What, approximately, is the total amount of money that you and people in your household donated towards <u>all</u> charitable causes in 2005?

$ _____

[REASONS FOR POVERTY]

Now, we would like to ask you about some of the possible reasons why people are poor.

For each of the possible reasons listed below, please tell us how important you believe it is in explaining why some people in this country are poor.

Failure of society to provide good schools for everyone

Not at all important			Somewhat important			Extremely important
[1]	[2]	[3]	[4]	[5]	[6]	[7]

Loose morals and substance abuse

Not at all important			Somewhat important			Extremely important
[1]	[2]	[3]	[4]	[5]	[6]	[7]

Failure of the economy to provide enough jobs

Not at all important			Somewhat important			Extremely important
[1]	[2]	[3]	[4]	[5]	[6]	[7]

Lack of effort by the poor themselves

Not at all important			Somewhat important			Extremely important
[1]	[2]	[3]	[4]	[5]	[6]	[7]

[LIFE PRIORITIES]:

There are many important things in life, but some are more important than others. We are going to ask you about the five most important things from the list below.

First, what do you believe is the <u>most</u> important?

"Always to obey the law" ..... [1]
"To help others in need" ..... [2]
"To enjoy life" ..... [3]
"To work hard" ..... [4]
"To pray and go to church" ..... [5]
"To earn a lot of money" ..... [6]
"To avoid having to depend on government assistance" ..... [7]
"To be financially independent" ..... [8]
"To care for children" ..... [9]
"To get respect from others" ..... [10]

[LIFEPRIORITIES2]: What do you believe is second most important?
[SHOWN RESPONSES NOT SELECTED ABOVE]

[LIFEPRIORITIES3]: What do you believe is third most important?
[SHOWN RESPONSES NOT SELECTED ABOVE]

[LIFEPRIORITIES4]: What do you believe is fourth most important?
[SHOWN RESPONSES NOT SELECTED ABOVE]

[LIFEPRIORITIES5]: What do you believe is fifth most important?
[SHOWN RESPONSES NOT SELECTED ABOVE]

[FOR FOLLOWING TWO QUESTIONS RESPONDENTS WERE GIVEN NUMBER BOXES WITH RANGE 0 TO 100 SUMMING TO 100; WITH A SUM BOX FOR AMOUNTS ENTERED; THEY WERE WARNED IF THE PERCENTAGES WERE NOT EQUAL TO 100]

[PERCENT OF RECIPIENTS WHO ARE [RACE]]:

As your best guess, what percentage of recipients of Habitat for Humanity in **[CITY]** are:
White? _____ %
African American? _____ %
Another race? _____ %

[PERCENT OF RESIDENTS WHO ARE [RACE]]:

As your best guess, what percentage of all residents of **[CITY]** are:
White? _____ %
African American? _____ %
Another race? _____ %

[SOCIAL CONTACT WITH [RACE]]:

How often do you socialize with friends from the following racial and ethnic groups?
Caucasian Americans (Whites)

Never	Once a year or less	A few times a year	Once or twice a month	Almost every week	Once a week	Everyday or almost everyday
[1]	[2]	[3]	[4]	[5]	[6]	[7]

African Americans

Never	Once a year or less	A few times a year	Once or twice a month	Almost every week	Once a week	Everyday or almost everyday
[1]	[2]	[3]	[4]	[5]	[6]	[7]

People from other racial or ethnic groups

Never	Once a year or less	A few times a year	Once or twice a month	Almost every week	Once a week	Everyday or almost everyday
[1]	[2]	[3]	[4]	[5]	[6]	[7]

[PERCEIVED ECONOMIC OPPORTUNITIES OF AFRICAN AMERICANS]:

Just in your opinion, how do the economic opportunities of African Americans compare to the economic opportunities of other Americans? Do African Americans get many fewer opportunities, about the same number, or many more opportunities than other Americans?

Many FEWER			About the same			Many MORE
[1]	[2]	[3]	[4]	[5]	[6]	[7]

[ITEMIZE DEDUCTIONS]:

Do you itemize deductions on your Federal taxes?

Yes ..... [1]
No ..... [2]
Don't know ..... [3]

[OPEN-ENDED STANDARD CLOSE] Thinking about this topic, do you have any comments you would like to share?
[**OPEN-ENDED TEXT BOX PROVIDED**]

Appendix B: The Experimental Design

To maximize the statistical power of a manipulation, we want it to be applied in half the cases and to be orthogonal to the other manipulations. Independently randomizing each manipulation with probability one half will, *in expectation*, achieve these goals. However, due to sampling variation, randomization will not exactly achieve this goal. Instead, we created an experimental design in which manipulations are *exactly* applied in half the cases, and in which each manipulation is *exactly* orthogonal to each other manipulation. Observations were randomly (and without replacement) assigned to one of the combinations of manipulations in the design. While the design file achieves exact orthogonalization, the manipulations in our sample are not exactly orthogonal because some of the respondents who "used up" a manipulation combination from the design file dropped out of our sample because they said that they did not hear the audio during the presentation or because they did not complete the survey.

With 12 manipulations, there are 2^{12}=4084 possible manipulation combinations, and one would need as many observations to ensure that each manipulation is exactly orthogonal to *all possible higher-order interactions* of the other 11 manipulations. It seems, however, unlikely that giving is significantly affected by higher-order interactions. We therefore use a fractional factorial design, in which all manipulations are applied in exactly half the cases and each manipulation is orthogonal to all other manipulations as well as to all possible second-order interactions of the other manipulations.

Because of our interest in the effects of race on giving, we wanted to make sure that the picture manipulations are orthogonal to all the other manipulations as well as any higher order interaction of the other manipulations. We achieved this for the main instrument by creating 8 arms based on the 2 picture manipulations (picture race condition and the race-shown / race-obscured condition) and the race of the respondent. Within each arm, we give the same 32 combinations of the remaining 10 manipulations (9 audio manipulations and the city). This ensures that the picture manipulations and the respondent race are exactly orthogonal to each other, the 10 other manipulations and any higher-order interaction of any of the manipulations. These 32 combinations are given by the 2^{10-5}_{IV} fractional factorial design, which means that that each of these 10 manipulations are orthogonal to each other and to any second-order interaction of these 10 manipulations. These same 32 combinations are also given to the 2 arms in the race-salient and in the full-stakes versions of the instrument (recall that these instruments do not have the race-obscured condition).

Since the sample size is larger for the non-black respondents of the main instrument, we gave the 32 manipulations (from the 2^{10-5}_{IV} design) three times and, in addition, gave them 128 combinations for the 10 non-picture manipulations from a more powerful fractional factorial design. These 128 combinations come from the 2^{10-3}_{V} fractional factorial design, which means that each of these 10 manipulations are orthogonal to each other, and to any second- and third-order interaction of these 10 manipulations. In addition, any second-order interaction of these 10 picture manipulations is orthogonal to any other second-order interaction. The design file for the non-black respondents of the main instrument thus consisted of 4 arms × (3 × 32 combination from the 2^{10-5}_{IV} design + 128 combinations from the 2^{10-3}_{V} design) = 896 manipulation combinations.

Appendix Tables

Table A.1: Summary Statistics

	Mean	S.D.	Min	Max	N
Outcome variables					
Giving to Habitat to help Katrina victims in city ($ out of $100)	65.00	36.67	0	100	1343
Gave $100	0.440	0.50	0	1	1343
Gave $50	0.200	0.40	0	1	1343
Gave nothing	0.090	0.29	0	1	1343
Gave other amount	0.270	0.44	0	1	1343
Hypothetical giving to Habitat to help Katrina victims in city (topcoded at $500)	20.05	38.93	0	500	1341
Subjective support for government spending to help Katrina victims in city	4.854	1.44	1	7	1337
Subjective support for charity spending to help Katrina victims in city	4.855	1.18	1	7	1333
Picture and survey manipulations					
Pictures show black victims	0.302	0.46	0	1	1343
Race-obscured treatment (includes both pictures with black and white victims)	0.397	0.49	0	1	1343
Pictures with black victims (incl. both race-shown and race-obscured treatment)	0.503	0.50	0	1	1343
Slidell, LA featured in presentation	0.491	0.50	0	1	1343
Full-stakes survey variant	0.100	0.30	0	1	1343
Race-salient survey variant	0.095	0.29	0	1	1343
Audio manipulations					
Republicans have majority in city	0.494	0.50	0	1	1343
City is economically disadvantaged	0.008	0.70	-1	1	1343
Many in city received government benefits	0.508	0.50	0	1	1343
Many city residents prepared for hurricane	0.504	0.50	0	1	1343
Many city residents attend church	0.501	0.50	0	1	1343
City has been troubled by crime	0.500	0.50	0	1	1343
Many city residents helped other victims	0.519	0.50	0	1	1343
Habitat recipients must contribute labor to house	0.488	0.50	0	1	1343
There were concerns about looting	0.495	0.50	0	1	1343
Racial attitude variables					
Very close or close to own ethnic or racial group	0.63	0.48	0	1	1126
Equal or more social contact with blacks than with whites	0.48	0.50	0	1	1328
Blacks have the same or more economic opportunities than other Americans	0.61	0.49	0	1	1331
Demographic control variables					
Age	47.94	16.3	18	93	1343
Age^2 / 100	25.63	16.2	3.2	86.5	1343
Non-Hispanic black	0.120	0.33	0	1	1343
Non-Hispanic white	0.735	0.44	0	1	1343
Other race/ethnicity	0.145	0.35	0	1	1343
High school dropout	0.128	0.33	0	1	1343
High school degree	0.320	0.47	0	1	1343
Some college	0.272	0.45	0	1	1343
College or more	0.279	0.45	0	1	1343
Log household income	10.57	0.92	7.8	12.8	1343
Dual income family	0.530	0.50	0	1	1343
Married	0.568	0.50	0	1	1343
Male	0.463	0.50	0	1	1343
Single male	0.200	0.40	0	1	1343
Lives in the South	0.375	0.48	0	1	1343
Lives in the Northeast	0.187	0.39	0	1	1343

Lives in the Midwest	0.232	0.42	0	1	1343
Lives in the West	0.207	0.41	0	1	1343
Working	0.589	0.49	0	1	1343
Retired	0.173	0.38	0	1	1343
Disabled	0.078	0.27	0	1	1343
Unemployed	0.040	0.20	0	1	1343
Not working for another reason	0.120	0.32	0	1	1343
Any charity giving in 2005	0.808	0.39	0	1	1343
Any prior Katrina relief giving	0.646	0.48	0	1	1343
Log giving to charity in 2005 (if Any charity giving in 2005 = 1)	5.845	1.61	0	12.2	1079
Log prior giving to Katrina relief (if Any prior Katrina relief giving = 1)	4.476	1.26	0	13.1	869
Perception variables					
% of Habitat recipients in city that is black	50.4	19.6	0	100	1321
% of Habitat recipients in city that is white	36.2	19.5	0	100	1321
% of Habitat recipients in city that is from another race/ethnic group	13.4	11.6	0	100	1321
% Recipients black - % Recipients white	14.1	37.3	-100	100	1321
% of voting Habitat recipients in city who voted for Bush in the 2004 election	50.9	23.8	0	100	1325
Household income of Habitat recipients in city in $'000 per year	25.1	12.3	0	100	1328
% of Habitat recipients in city that received government cash assistance prior to Katrina	33.4	27.9	0	100	1331
% of Habitat recipients in city that prepared as well as one can reasonably expect for Hurricane Katrina	49.6	28.5	0	100	1329
% of Habitat recipients in city that attend religious services almost every week	52.7	28.1	0	100	1329
% of Habitat recipients in city that have a criminal record	23.0	19.7	0	100	1323
% of Habitat recipients in city that helped fellow hurricane victims	52.9	31.0	0	100	1320
% of Habitat recipients in city that are willing to work hard in order to get ahead in life	72.8	22.9	0	100	1329
Maximum sustained windspeed of Hurricane Katrina in city (1-8 scale)	4.8	1.7	1	8	1339

Note: Sample has been weighted to adjust for oversampling of black respondents.

Table A.2: Predicting Perceptions of Non-racial Characteristics of Habitat Recipients in City

	Full sample					White respondents					Black respondents				
Dependent Variable	Pictures show black victims		Corresponding audio manipulation			Pictures show black victims		Corresponding audio manipulation			Pictures show black victims		Corresponding audio manipulation		
% who voted for Bush (m=51 sd=24)	-6.2**	(2.5)	14.9***	(1.2)	0.14	-4.6	(2.9)	13.5***	(1.4)	0.16	-2.2	(6.9)	17.1***	(3.3)	0.24
Income of HfH recipients ($000/HH/yr m=25 sd=12)	-1.2	(1.3)	6.8***	(0.6)	0.18	-2.1	(1.6)	6.7***	(0.7)	0.19	5.1	(3.1)	7.1***	(1.7)	0.27
% who received gov't assistance (m=33 sd=28)	1.2	(3.1)	3.7**	(1.5)	0.07	0.8	(3.7)	4.7**	(1.8)	0.08	0.5	(7.7)	2.8	(3.7)	0.18
% who prepared for hurricanes (m=50 sd=29)	2.9	(3.1)	9.0***	(1.5)	0.11	3.7	(3.7)	11.4***	(1.8)	0.12	6.1	(8.1)	9.7**	(4.1)	0.20
% who attend church (m=53 sd=28)	-4.5	(2.8)	27.2***	(1.4)	0.28	-3.9	(3.3)	27.1***	(1.6)	0.28	-8.6	(6.6)	25.1***	(3.4)	0.35
% with a criminal record (m=23 sd=20)	1.0	(2.1)	6.5***	(1.0)	0.15	1.4	(2.4)	6.9***	(1.2)	0.14	2.7	(5.2)	2.2	(2.8)	0.28
% who helped others in hurricane (m=53 sd=31)	0.8	(3.1)	27.5***	(1.6)	0.23	3.1	(3.7)	27.2***	(1.8)	0.24	-7.8	(8.1)	27.8***	(4.1)	0.30
% who are willing to work hard (m=73 sd=23)	-1.2	(2.5)	0.7	(1.2)	0.10	-1.8	(3.0)	1.7	(1.5)	0.10	-1.2	(6.1)	-1.4	(3.1)	0.15
Windspeed in town (8-point scale m=4.8 sd=1.7)	0.3	(0.2)	N/A	N/A	0.07	0.1	(0.2)	N/A	N/A	0.07	0.6	(0.5)	N/A	N/A	0.17

Note: Numbers shown are OLS coefficients (robust standard errors in parentheses). Significance levels: *10 percent; ** 5 percent; *** 1 percent. Full sample weighted to adjust for oversampling of blacks. Means and standard deviations reported under dependent variables refer to full sample. All regressions include the same control variables as in Table 3, column 2. The audio manipulations corresponding to the outcome variables are listed in Appendix Table A.1.