Do Fairness and Race Matter in Generosity? Evidence from a Nationally Representative Charity Experiment*

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Abstract

We present a dictator game experiment where the recipients are local charities that serve the poor. Donors consist of approximately 1000 participants from a nationally representative sample. We manipulate the perceived worthiness and race of the charities' recipients with an audiovisual presentation. Respondents then decide how much to give to the charities and report their perceptions of recipient worthiness and racial composition. We have four main findings. First, treatments describing recipients as worthy significantly increase giving. Second, the treatment where respondents viewed photos mostly of black recipients rather than white recipients had no significant effect on giving, even though it successfully manipulated perceptions of racial composition. Third, we find significant racial bias in perceptions of worthiness; the black picture treatment lowers perceived recipient worthiness significantly more among non-black respondents than among black respondents. Finally, we decompose the reduced-form effect of black picture treatment on giving into two channels: one operating via perceptions of recipient worthiness and one running through perceptions of recipient racial composition. The worthiness perceptions channel is statistically significant, while the race perceptions channel is not. Thus, racially biased worthiness perceptions have a significant effect on giving but this effect is not strong enough to cause a significant reduced-form effect of the black picture treatment on giving.

JEL: C93, D63, D64, H41, J71.

Keywords: charitable giving, dictator games, fairness, altruism, discrimination, racial bias, racial group loyalty, artefactual field experiments.

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1. Introduction

There is now broad agreement among social scientists that fairness and race are two of the most important determinants of generosity from the relatively well-off to the poor.[1] Theoretical research on fairness and redistribution from the rich to the poor has focused on the role of beliefs about whether or not the poor are individually responsible for their own bad outcomes, i.e., whether the poor are lazy or industrious (Piketty 1995, Alesina and Angeletos 2005, Bénabou and Tirole 2006). Empirically, people support more redistribution from the rich to the poor when they believe that poverty is caused by exogenous circumstances, as opposed to factors under volitional control. This is the case in both survey data and laboratory experiments on voting for redistribution with monetary stakes (Williamson 1974, Heclo 1986, Gilens 1999, Alesina, Glaeser, and Sacerdote 2001, Fong 2001, Corneo and Grüner 2002, Durante and Putterman 2008).[2] Meanwhile, findings from laboratory experiments on private giving of money show that subjects allocate more to recipients who, for various reasons, might be perceived as having greater moral worth (Hoffman, McCabe, Shachat, and Smith 1994, Eckel and Grossman 1996, Fong 2007, Cherry and Shogren 2008, Fong and Oberholzer 2009).

One interpretation of these findings, from attribution theory in social psychology, is that the industrious poor are assigned greater moral worth than the lazy poor because they are not individually responsible for their own poverty (Weiner 1995). Another interpretation is that the industrious poor are less likely to be *intentionally* free-riding on the generosity of tax-payers and donors, which can motivate support via generalized strong reciprocity (Fong, Bowles, and Gintis 2006).[3] Preferences to give more support to industrious recipients can also be explained by the equity principle of distributive justice, according to which the resources one receives from a system should increase with one's

[1] See Alesina, Glaeser, and Sacerdote (2001) and Alesina and Giuliano (2009) for reviews.

[2] See also Di Tella, Galiani, and Schargrodsky (2007), Di Tella, Donna, and MacCulloch (2008), and Di Tella and Dubra (2008) on beliefs and institutions defined more broadly.

[3] Strong reciprocity is the propensity to incur pecuniary costs to reward those who have been kind and to punish those who have been unkind (Gintis 2000, Fehr, Fischbacher, and Gächter 2002, Bowles and Gintis 2004). The type of "kindness" that motivates reciprocation involves good intentions, regardless of the outcome of those intentions (Rabin 1993). The strong reciprocity motive can be generalized such that people may want to reward those who have helped others or society in general and to punish those who have hurt others or society in general (Fong, Bowles, and Gintis 2006, Servátka 2009).

inputs into the system (Walster, Walster, and Berscheid 1978, Deutsch 1985).[4] Moreover, the motives of generalized reciprocity and equity may also lead people to be more generous to recipients who have contributed more to society through means other than their labor effort, e.g., by giving money or time to others, or by being helpful and cooperative. Hence we also expect people to be more generous to recipients who are viewed as relatively generous themselves. For our purposes, the differences between equity theory, attribution theory, and generalized reciprocity are less important than the similarities. They all predict that generosity will be conditioned on beliefs about recipient worthiness.

The evidence of racial discrimination in income redistribution is also compelling. Across countries, those with more racial or ethnic fractionalization have less governmental redistribution (Alesina, Glaeser and Sacerdote 2001). Within the United States, those states with more ethnic fractionalization spend less on public goods and social services (Alesina, Baqir and Easterly 1999). Across individuals, those who live in a locality with a higher fraction of welfare recipients of a different race are significantly more opposed to redistribution (Luttmer 2001), and racial attitudes seem to play an important role in attitudes to redistribution (Gilens 1999, Lee and Roemer 2006, Roemer, Lee, and Van der Straeten 2007).[5] In the private sphere, charitable activity of all-white religious congregations decreases as the fraction of blacks in the community increases (Hungerman 2008).[6]

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[4] See Konow (2003) for a review.

[5] For recent theoretical work on models of social identity (including racial identity) and redistribution, see Shayo (2009) and Lindqvist and Östling (2009).

[6] There are mixed findings on racial discrimination in other economic settings. There is no consistent evidence of racial discrimination in dictator games (Fershtman and Gneezy 2001, Burns 2004), and a recent experiment shows higher levels of support for government job training and placement assistance to unemployed blacks than unemployed whites (Pager and Freese 2006). On the other hand, racial biases have been documented in attitudes to Katrina victims (Iyengar and Hahn 2007, Harris-Lacewell, Imai, and Yamamoto 2007), and Fong and Luttmer (2009) found racially biased giving against black Katrina victims among respondents who reported subjective feelings of ethnic closeness with whites. See also Munnell et al. (1996), Cutler, Glaeser, and Vigdor (1999), Altonji and Blank (1999), Bertrand and Mullainathan (2004), Pager, Western, and Bonikowski (2006), Price and Wolfers (2007), and Parsons et al. (2009) 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, Baqir, and Hoxby 2004). Levitt (2004), Antonovics, Arcidiacono, and Walsh (2005), and List (2006) find little evidence of racial discrimination in behavior on game shows. See

Finally, prior theory and evidence suggest that fairness motives and racial discrimination interact. Loury (2002) argues that racial inequality stems not from a taste for discrimination, but from causal misattributions in which racial disparities caused by discriminatory social behavior, for which powerful actors would feel responsible, are misattributed to faults or weaknesses of black people themselves. Racial disparities attributed to faults of black people are accepted because powerful actors do not feel responsible for the inequality. This argument relates closely to the fairness literature. Loury's argument is, essentially, that racial disparity is due to beliefs that lead whites to view blacks as responsible for their own bad outcomes and, thus, morally unworthy of support. Consistent with this theory, racially biased attitudinal opposition to welfare operates via beliefs that poor people are disproportionately black and that black welfare recipients are "lazy" (Gilens 1999).

Despite abundant prior evidence that fairness and race affect generosity to the poor, there is no supporting evidence based on studies that simultaneously use (i) real monetary transfers to the poor, (ii) randomized treatments of fairness and race, (iii) a nationally representative sample, and (iv) decision-making in a natural environment. We know of no evidence that is based on all four desiderata. In this paper, to the best of our knowledge, we present the results from the first study to produce data based on the first three desiderata: behavioral measures of redistribution to the poor, random manipulations of perceived recipient worthiness and race, and national representativeness. Our experiment is an *artefactual field experiment* because we use broadly representative subjects (Harrison and List 2004). We see our paper as complementary to field experiments, which typically meet all desiderata except the third (Frey and Meier 2004, Croson and Shang Forthcoming, Landry et al. 2006, Falk 2007, Karlan and List 2007, Eckel and Grossman 2008, DellaVigna, List, and Malmendier 2009, List and Price 2009, Meer 2009).

Our experiment is a dictator game in which the recipients are local charities that serve the poor in the city of Tuscaloosa, Alabama. Donors consist of approximately 1,000 participants from a nationally representative respondent panel that is maintained by a

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Fershtman and Gneezy (2001), Eckel and Wilson (2003), Bouckaert and Dhaene (2004), Burns (2006), and Haile, Sadrieh, and Verbon (2006) on racial or ethnic discrimination in trust games.

private survey research firm, Knowledge Networks. We manipulate the perceived worthiness and race of the charity recipients by showing respondents an audiovisual presentation about the recipients.

The audio information in the presentation contains (among others) four manipulations of information about the worthiness of recipients. These manipulations are meant to roughly capture the notions of worthiness used in the literature summarized above; they manipulate information about the recipients' accountability, or lack thereof, for their poverty, and information about how kindly or unkindly the recipients treat other people. The visual information in the presentation manipulates perceptions of the racial composition of recipients. Our "black picture treatment" shows photos mostly of black charity recipients while our control treatment shows photos mostly of white charity recipients.

After manipulating perceptions of worthiness and race, we give each respondent a ten percent chance of receiving $100. Prior to learning whether or not they will receive the $100, respondents must decide how much of that sum they would like to donate to the assigned charity in the event that they receive it. Finally, we collect survey data on a variety of attitudes and beliefs, including perceptions of the worthiness and race of the recipients. These perception measures are designed to test whether our treatments successfully manipulated beliefs about the recipients. We find that our treatments did indeed have significant direct effects in the expected direction on perceptions of the worthiness and race of the recipients.

Our experiment generates four main results from our randomized manipulations of perceived worthiness and race. First, manipulations that describe recipients as more worthy ("worthiness treatments") significantly increase giving. Second, our black picture treatment has no significant effect on giving, despite the fact that it successfully manipulates the perceived racial composition. This finding holds both for the entire sample as for subsamples defined by respondent race. Third, we find significant racial bias in perceptions of worthiness such that the black picture treatment lowers perceived recipient worthiness significantly more among non-black respondents than among black respondents, and the worthiness treatments increase the perceived fraction of recipients that belong to the respondent's racial group. Our final finding comes from decomposing

the reduced-form black picture treatment effect on giving into two parts: one channel that operates via perceptions of the worthiness of recipients and a second channel that operates through perceptions of the racial composition of recipients. We find that non-black respondents give significantly less in response to the black picture treatment through the channel that operates via worthiness perceptions, whereas the response operating via perceptions of the racial composition is insignificant (and actually slightly positive). Thus, although the black picture treatment does not have a significant overall effect on giving by non-black respondents, the racially biased worthiness perceptions that result from the black picture treatment do indeed have a significantly negative effect on giving. The overall effect of the black picture treatment on giving is insignificant because it is the sum of a significant negative channel (the racially biased worthiness perceptions) and an imprecisely estimated channel (the direct effect of race perceptions).

Our finding of significant racial discrimination operating via racially biased perceptions of the worthiness of recipients, and not via perceptions of the racial composition of recipients, is consistent with Loury's argument that "racially biased social cognition," rather than a taste for discrimination, accounts for racial inequality. Our findings are also consistent with prior research showing that racially biased attitudes regarding welfare for the poor are driven by whites' beliefs that blacks are morally unworthy of support – e.g., that blacks are lazy and that they abuse welfare (Gilens 1999).

The remainder of the paper is organized as follows: Section 2 presents our experimental design, Section 3 presents our results, and Section 4 concludes.

2. Experimental Design

Our experiment was fielded by Knowledge Networks, a market research firm founded by two Stanford political science professors. Knowledge Networks maintains a roughly nationally representative panel of respondents for use in both commercial and academic projects. Its respondents participate in surveys approximately once a week by Internet or WebTV. In exchange for their participation, Knowledge Networks panelists receive free Internet or WebTV access and receive monetary incentives from some surveys. Our respondents received whatever monetary payoffs they earned from our experiment.

Panelists are recruited through random-digit dialing and are then asked to join the Knowledge Networks panel.

In our experiment, we manipulate respondents' perceptions of the poor. More specifically, we focus on perceptions of the worthiness and race of recipients of two local charities in Tuscaloosa, Alabama. We accomplish this with a slideshow that presents eight photographs along with two and a half minutes of audio. The slideshow describes the city of Tuscaloosa, one of two randomly-assigned charities, and recipients of aid from that charity. Half of our respondents saw a slideshow depicting the work of the Salvation Army in Tuscaloosa, and the other half saw a slideshow depicting the work of Temporary Emergency Services in Tuscaloosa.

We took care to manipulate race perceptions in a way that minimized the likelihood that respondents would recognize the racial motivation of our study. Thus, we did not mention the issue of race in the audio part of our slideshow. Instead, we manipulated perceptions of recipient race with the photographs. Half of our respondents saw photos mostly of black charity recipients, and the other half saw photos mostly of white charity recipients.[7] We made the backgrounds of the photos of blacks and whites as similar as possible (nearly identical in most cases) by taking the photos in exactly the same location.

The audio portion of our slideshow was designed to manipulate perceptions of recipient worthiness and other characteristics. We avoid using deception by including different pieces of true information in different treatment conditions. Below we summarize our randomly assigned audio manipulations. The issues being manipulated are in bold text (with the fraction of participants assigned to each condition of the manipulation in parentheses). The treatment conditions for each manipulation are listed together with the values (0 or 1) we give them when they are used as dummy variables. With one exception, each randomized manipulation contains two conditions. The exception is the *reasons for poverty and willingness to work* manipulation, in which there

[7] We did not show pictures exclusively of one race because that might arouse suspicions among the respondents. Instead, in the black treatment condition, approximately 80% of the pictures are of blacks while in the white treatment condition approximately 80% of the pictures are of whites.

are three conditions.[8] For each manipulation, each respondent was assigned to one and only one treatment condition. The exact wording of the audio conditions is provided in Appendix A.

i) **City is Republican (50/50):**
   0. "Compared to the rest of Alabama, more people in Tuscaloosa vote for the Democratic Party"
   1. "Like the rest of Alabama, people in Tuscaloosa vote overwhelmingly for the Republican Party"
ii) **City is economically advantaged (50/50):**
   0. "…with a poverty rate that is twice as high as in the rest of the country"
   1. "…with a per capita income that is more than 5% higher than the rest of the state"
iii) **Reason for poverty and willingness to work (50/25/25):** Many of the poor in Tuscaloosa are poor because of
   a. "…a mixture of factors including bad choices…and bad luck" and work ethic not mentioned
   b. "bad choices" and "many of them wish they could rely on more generous assistance"
   c. "circumstances beyond their control" and "many of them try to get a job…"
iv) **Religious (50/50):**
   0. [Nothing said]
   1. Many of the poor in Tuscaloosa "pray to God regularly to ask Him for help"
v) **Salvation Army (50/50):** The charity depicted is
   0. Temporary Emergency Services
   1. Salvation Army
vi) **Short-term need for aid (50/50):** Many of the charity's recipients use its help
   0. "…for long periods of time"
   1. "…for short periods of time when it is absolutely necessary"
vii) **Currently working (50/50):** the charity is busy "before people receive their next"
   0. "government benefits check"
   1. "paycheck"
viii) **Sharing own aid with others (50/50):** "Many recipients are"
   0. "competitive about getting aid"
   1. "willing to share their allotment with others in need"
ix) **Law-abiding (50/50):** It is often hard for recipients to get well-paying jobs because "many employers are reluctant to hire"
   0. "people who have a criminal record"
   1. "them"

Immediately following the slideshow, we measure generosity to the poor in Tuscaloosa with actual giving to the charity depicted in the slideshow. We explain that we will give $100 to one out of every ten participants in this study and ask all

[8] In *the reasons for poverty and willingness to work* manipulation, we assigned 50% to the default condition in which we said nothing about the work ethic of the poor and said that the reasons for poverty are a mixture of factors including bad choices and circumstances beyond control. Among the other 50% of subjects, half were assigned to the *Reason for poverty bad choices, not willing to work* condition and half were assigned to the *Reason for poverty beyond control, willing to work* condition. The actual number of observations in each condition differs slightly from 50% or 25% because of non-response (see Section 3 for details about excluded participants). The actual fraction of participants in each treatment condition is presented in Table 1.

respondents to decide in advance how much of that money they would like to give to the Tuscaloosa charity.[9]

After respondents decide how much to give, we ask a series of questions designed to check the effectiveness of our treatments. These questions measure perceptions about the charity recipients and about all the residents of Tuscaloosa. For each treatment condition, there is a perceptions question specifically designed to test its effectiveness. Five of these questions measure perceptions of worthiness by asking respondents their estimate of the percentage of the charity's recipients who (i) are poor mainly because of bad choices, (ii) are poor because of reasons beyond individual control, (iii) are willing to work hard in order to get ahead in life, (iv) have a criminal record, and (v) are willing to share their own aid.[10]

Next, we ask a variety of background and attitudinal questions including past charitable giving, attitudinal support for government transfers to the poor in Tuscaloosa, attitudinal support for charitable transfers to the poor in Tuscaloosa, preferences for government spending in general, and beliefs about causes of poverty.

Finally, we ask a series of questions about racial beliefs. Placing these questions at the end of our instrument was part of our effort to minimize the chances that respondents would suspect that the study was about race, at least until after they had answered all of our other questions. We measure beliefs about the racial composition of the recipients with a question about the perceived fraction of recipients who are white, the perceived fraction who are black, and the perceived fraction who are another race. We also measure beliefs about the racial composition of the small city, the respondents' social contact with people of other races, and attitudes about racial inequality of opportunity.[11]

3. Results

[9] To credibly convey that each respondent had a ten percent chance of being selected, we assigned each respondent a number between 0 and 9, and told him that his decision will be carried out if his assigned number is equal to the first number of the Louisiana State *Pick3* lottery on a specified future date. Moreover, we told the respondent that the charity would send him a note specifying the amount of his donation. This was subsequently carried out as promised.

[10] For the exact wording of these perceptions questions, see Part III of our instrument, presented in Appendix A.

[11] For the exact wording of these questions, see Part IV of our instrument, presented in Appendix A.

The experiment was fielded in 2006, from August 28 to September 20. A total of 1167 respondents participated, but we limit our sample to the 989 individuals who indicated that they could clearly hear the speaker in our audio presentation. An additional seven respondents did not answer the question about how much they would like to give during the experiment, so we also drop these observations. Our final sample consists of 982 respondents, of which 204 are black. Since we oversampled black respondents, we weight all of our results to correct for this oversampling. Appendix Table 1 compares the means and standard deviations of demographic variables in our Knowledge Networks data to those in the June 2006 Current Population Survey. The demographic means are roughly similar in magnitude even though there are significant differences in age, education, income, household structure, and marital status. There are no significant differences in the means of race, region, and work status dummies (except for a marginally significant difference in the fraction of respondents who are disabled).

Table 1 presents summary statistics for the full weighted sample. The average donation was $58.7 (s.d. = $37.2), and roughly 11% of the respondents gave zero. About 21% of the sample gave the median donation of $50, and about 36% of the respondents gave the full $100. The total payout from the experiment to the charities was $5995. Figure 1 presents the cumulative density function of giving during the experiment for the full weighted sample. Slightly more than 20% gave between zero and $50, and approximately 10% of the respondents gave between $50 and $100.

The fairly high level of giving in this experiment is not surprising. In standard laboratory dictator games, in which students give anonymously to other students, average donations are around 10%-15% of the total (Camerer 2003). However, several dictator game experiments on giving to charities have shown much higher levels of giving when recipients presumably appear to be needy and worthy. University students in a laboratory dictator game gave three times more to the American Red Cross than to anonymous subjects – 31.0% of the pie on average versus 10.6% (Eckel and Grossman 1996). In a $5.00 dictator game experiment where dictators sampled from the general public could donate money to Habitat for Humanity recipients, participants gave roughly 50% of the pie on average (Small and Loewenstein 2003). This occurred despite the fact that dictators were playing with their own $5.00 participation fee, which they earned by

completing a survey. Subjects in $100 dictator games, where payoffs were implemented with probability 0.1 and the recipients were charities of the dictators' choosing, gave 68% of the pie on average (Carpenter, Connolly, and Myers 2008). These subjects came from two populations – college students and the broader community. Subjects from the broader population gave $72.3 on average and subjects from the student population gave $54.7 on average. Even higher levels of giving, 86% of the pie on average, occurred in a dictator game where dictators could contribute money toward donations of medicine to centers in Asia, Africa, and South America (Aguiar, Brañas-Garza, and Miller 2008).[12] Finally, in an experiment similar to this one, where a nationally representative sample played dictator games in which the recipients were victims of Hurricane Katrina, the average offer was $65 out of $100 (Fong and Luttmer 2009).

Other factors that may have increased average giving in our experiment include social or psychological proximity, which can be increased by providing information about recipients (Bohnet and Frey 1999, Small and Loewenstein 2003, Charness and Gneezy 2008), and our lottery method of assigning endowments to respondents, which may have decreased their sense of entitlement to the sum (Hoffman, McCabe, Shachat, and Smith 1994).[13] Since so many factors can affect the overall level of giving in dictator games, our interest lies primarily in the marginal effects of our treatment conditions and background variables. We use the dictator game simply as a tool to obtain a measure of generosity towards the poor that is based on an actual, payoff-relevant choice. We therefore do not interpret average giving in this experiment as an estimate of the marginal propensity to give.

3.1. Treatment effects on giving

In this subsection we examine the direct effects of our treatments on giving. In Table 2 we show that while there are robust significant effects of the worthiness treatments on

[12] Donations were made in five Euro increments from a fifteen Euro pie, which may have affected the results somewhat.

[13] Another design feature that may affect offers is delaying the implementation of the respondents' payoffs and the charitable donations to a later date. This might further reduce respondents' sense of entitlement to the money, but it might also have effects of unknown direction. For instance, it might change the warm glow associated with giving in unknown ways.

giving, there is no overall effect of recipient race on giving. We show in Appendix Table 3 that these results are robust to a plethora of alternative specifications.

Table 2 presents OLS regressions of giving in the experiment on our treatment conditions and demographic controls. The first column presents the effects of each treatment condition in the whole sample. The first four rows of coefficients and standard errors in column 1 present the effects of the treatments designed to manipulate perceived worthiness. When these treatments are included separately, three of the four effects are in the expected direction, but only the "shares own aid with others" treatment has a statistically significant effect on giving (in the expected direction). The row labeled "Black Picture" shows that that the black picture treatment reduces giving by $2.2 with a standard error of $2.3. This treatment effect is less than 4% of the mean offer of $59 (see Table 1). The 95%-confidence interval on this effect is
-$6.7 to $2.3. Thus, at this level of confidence, we cannot rule out a negative effect of black pictures of 11% of the $59 mean. Finally, the remaining treatment conditions have small and statistically insignificant effects.

In the second column, we show the effect of the average of the four manipulations of perceived worthiness rather than showing the effect of each worthiness treatment separately. This measure is constructed from the four audio manipulations of perceived worthiness that were included separately in column 1.[14] For this composite measure, we reverse coded the "poverty caused by bad choices" treatment so that its intended effect is measured in the same direction as the other treatments. Our derived measure of the mean of these treatments ranges from zero to one, decreases by .25 for those who are assigned to (ii) and increases by .25 for each of the conditions (i), (iii), and (iv) to which a respondent is assigned. The row labeled "# Worthiness Treatments" shows that the combined effect of the perceived worthiness manipulations is positive and significant at the five-percent level. Respondents who hear four treatments describing the recipients as worthy give, on average, $11.0 more than those who hear the four alternative treatments that describe recipients as unworthy. This establishes that there is a causal effect of information about worthiness on giving. Column 3 presents the same specification as

[14] The treatments not included in this measure were designed to manipulate perceptions other than worthiness – namely, perceptions about financial need and perceptions about background characteristics that we hypothesized might lead to social group loyalty.

column 2, except that we restrict the sample to individuals who responded to all of the worthiness and race perceptions measures. The results of column 3 are similar to the results of column 2.

Columns 4 and 5 present the same regression as in column 3, but for these columns the sample used in column 3 is split into non-black and black respondents, respectively. The effect of the number of perceived worthiness treatments is positive and highly significant for non-black respondents but negative and not statistically significant for black respondents. This null finding may indicate that, among blacks, the number of worthiness treatments has a weaker effect on worthiness perceptions than among non-blacks (see Table 3). In both columns the effect of black pictures is statistically insignificant, but relatively precisely estimated. None of the other treatment effects are significant at the 5 percent level.

Finally, column 6 presents a regression of giving on the same variables and sample as in column 3 but with interaction effects included. The combined effect of the worthiness treatments is $14.5 and is significant at the one-percent level. The interaction term between the number of worthiness perception treatments and black respondent is negative and significant. This reflects the difference between black and non-black respondents in their responses to the worthiness perception treatments: responding to worthiness perceptions in the predicted manner is a non-black phenomenon in our experiment.[15] As with the other regressions, column 6 shows a statistically insignificant effect of the race treatment. The point estimate indicates that non-black respondents give $2.1 less after seeing black pictures. The interaction between the black-picture treatment and black respondent is small and insignificant. The interaction effect of $0.9 indicates that the reaction of black respondents to the black picture treatment is almost identical to the reaction of non-blacks, though the standard error of $5.4 limits our ability to reject moderate amounts of racial bias. Finally, none of the other treatment effects are significant.

3.2. Treatment effects on perceptions of worthiness and race of charity recipients

[15] This is consistent with findings reported elsewhere that groups with lower socioeconomic status, including non-whites compared to whites, place a lower monetary value on redistributing resources on the basis of recipient "worthiness" (Corneo and Fong 2008).

Table 3 presents the effects of our worthiness and race treatments on perceptions of the worthiness and race of the charity recipients. The control variables in Table 3 are the same as those used in Table 2. This table shows that, by and large, our treatments successfully manipulated the perceptions they were designed to affect. It also shows racial bias in perceptions stemming from both the worthiness and race manipulations. First, non-black respondents who view black recipients judge them to be less worthy, and they do so to a significantly greater extent than black respondents. Second, subjects who hear that the recipients are worthy are more likely to perceive that the recipients are of their own race.

In Table 3, we use composite measures of the worthiness treatments and the worthiness perceptions to summarize the results more compactly and give us more statistical power. In Appendix Table 2, we present the disaggregated effects of each of our treatments. Among other things, Appendix Table 2 shows that the separate worthiness treatments had effects on corresponding worthiness perceptions in the expected directions.

Our composite measure of worthiness treatments is the one used in Table 2, namely the average number of worthiness treatments to which the respondent was exposed. Our composite measure of worthiness perceptions is the average of the responses to the five worthiness perceptions questions listed in Section 2.[16] This measure ranges from zero to 100.

The columns of Table 3 presents results for the entire sample (col. 1), the sample of non-black respondents (col. 2), and the sample of black respondents (col. 3). Column 4 presents the results for the whole sample from a regression that includes an interaction term between respondent race and the number of worthiness treatments and an interaction term between respondent race and the black picture treatment.

Panel A presents regressions where the outcome variable is perceptions of the worthiness of the charity recipients. The first row shows that in all columns, the

[16] The five worthiness perceptions questions are the percentage of the charity's recipients who (i) are poor mainly because of bad choices (reverse coded), (ii) are poor because of reasons beyond individual control, (iii) are willing to work hard in order to get ahead in life, (iv) have a criminal record (reverse coded), and (v) are willing to share their own aid. The perceptions measures not included in this worthiness perceptions measure correspond to treatment conditions not included in the worthiness manipulation measure. These perceptions questions were designed to check the effectiveness of treatments intended to manipulate background characteristics other than worthiness.

worthiness treatments have significant positive effects on the perceived worthiness of the recipients, confirming that our treatment successfully manipulated worthiness perceptions. In addition, non-black respondents' perceptions of worthiness are significantly more sensitive to our worthiness manipulations than the perceptions of black respondents, which would be consistent with non-blacks being less familiar with aid recipients, and therefore having weaker priors about them. The second row shows that in the whole sample and the non-black sample, black photos have a highly significant negative effect on the perception of worthiness. In contrast, among blacks, black photos have a small and insignificant effect on the perception of worthiness. Moreover, column 4 shows that the interaction between respondent race and the black photo treatment is positive and statistically significant. That is, black respondents seeing black photos rate aid recipients as more worthy than do non-black respondents, and this difference is statistically significant. This is evidence of racially biased perceptions of worthiness.

Panel B presents regressions where the outcome variable is the perceived percentage of charity recipients that is black minus the perceived percentage that is white.[17] The first row of Panel B presents the effect of the number of worthiness treatments on the racial perception variable. Column 4 shows a marginally significant interaction between the number of worthiness manipulations and respondent race, which indicates that the effect of the worthiness treatments is different for black and non-black respondents. According to this interaction effect, people are more likely to think of worthy recipients as coming from their own racial group. This hints at racial bias in perceptions and mirrors the effect in Panel A where the effect of the black picture treatment on perceived worthiness is significantly different, i.e. significantly less negative, for black respondents than non-black respondents. In every column of Panel B, the black picture treatment has a highly significant positive effect on the perceived percentage black recipients relative to the percentage white recipients, with effects ranging from 21 to 28 percentage points. This is evidence that the race treatment successfully manipulated perceptions of the racial composition of charity recipients.

[17] This measure was constructed from our perceptions question about the perceived fraction of the charity's recipients who are white, the perceived fraction who are black, and the perceived fraction who are another race. See Section 2 and Appendix A for more detail.

Thus, there are two important results in Table 3. First, the table shows that the worthiness treatments successfully manipulated worthiness perceptions and the black picture manipulation successfully manipulated racial perceptions. Second, there is evidence of racial group loyalty in the formation of perceptions, stemming from both the worthiness and race manipulations. Panel A shows that non-black respondents view black recipients as less worthy and do so to a significantly greater extent than black respondents. Analogously, Panel B shows that blacks who hear that the recipients are worthy are more likely than non-blacks who hear the same information to perceive that the recipients shown in the photos are black. These findings are consistent with results from the social categorization literature in social psychology which suggest that people tend to hold out-group members individually responsible for their own poor outcomes while people tend to attribute poor outcomes of "in-group" members to adverse external circumstances (Brewer and Miller 1996).

3.3. Effects of perceptions on giving

In Table 4, we turn to the effects of worthiness and race *perceptions* (as opposed to treatments) on giving. Panel A presents the effects of our endogenous measures of perceptions on giving using OLS. Panel B presents *causal* estimates of the effects of worthiness and race perceptions by instrumenting these perceptions with the number of worthiness treatments and the black picture treatment. For the instrumental-variables regression to be valid, the treatments that we used to manipulate perceived worthiness and race cannot have effects on giving other than through their effects on our measures of perceptions of worthiness and race. We believe that this is plausible but acknowledge that there could be other channels. For instance, the treatments may affect giving directly via unconscious beliefs, or people could lie about their perceptions.

The independent variables in Table 4 are identical to the dependent variables in Table 3 and are measured on scales from 0 to 100. Panel A presents OLS regressions of giving on the average response to the five worthiness perceptions questions and the perceived fraction of welfare recipients who are black-minus-white, controlling for the other treatments and demographic variables that were included in Tables 2 and 3. Note that these measures may be endogenous to respondents' donation decisions because

perceptions may have formed in response to unobserved variables that also affect giving. Moreover, we measure perceptions after respondents decide how much to give to the recipients, so reported perceptions may also to some extent reflect prior behavior rather than cause it. Thus, in Panel B, we present the instrumental-variables estimates of the effects of worthiness and race perceptions on giving. In both panels, columns 1-4 present the regressions, respectively, for all respondents, non-black respondents, black respondents, and all respondents with interactions between worthiness perceptions and respondent race, and race perceptions and respondent race. All columns use the sample of respondents who responded to all of the race and worthiness perceptions questions.

The first rows in the first column of each panel show that the effects of both endogenous and exogenous worthiness perceptions are positive and significant in the whole sample. The IV estimate is noteworthy in at least two respects. First, it allows us to scale the effect of the worthiness treatments in terms of worthiness perceptions, and this reveals that the treatment effect is large in economic terms: a ten percentage point increase in the average perceived worthiness of recipients increases giving by $7.5. Second, the IV estimate is larger than the OLS estimate. Our interpretation of this finding is that the worthiness perceptions measures are likely to be poorly measured. If there is measurement error, then the OLS estimates are biased toward zero. The IV estimates, in contrast, do not suffer from attenuation bias induced by measurement error. Thus, our IV estimates address both the endogeneity and measurement error problems that are likely to be present in the OLS estimates. Columns 2 and 3 present these results for the sub-samples of non-black and black respondents, respectively. The results in column 2 are similar to the results in column 1. The results in the black sample are mostly insignificant, except for a marginally significant effect of worthiness perceptions in the expected direction in the OLS regression.

The second rows in Panels A and B indicate that the effects of both endogenous and exogenous perceptions of recipient race on giving are close to zero and statistically insignificant. The point estimates in column 1 (whole sample) indicate that, if the perceived fraction of recipients that is black minus the perceived fraction that is white increases by ten percentage points, giving in our experiment increases by $0.1 in the OLS

regression and by \$0.3 in the IV regression. Recall that these results are from giving out of a total amount of \$100, where the mean gift is about \$60.

Column 4 presents OLS and IV estimates in the whole sample, with the race and worthiness perceptions measures interacted with respondent race. The first two rows in each regression show the effect of the worthiness and race perceptions on giving among non-blacks. As expected, both the OLS and IV estimates are similar to those of column 1. The third and fourth rows of each regression present the interactions between the perceptions variables and a dummy for a black respondent. These interaction effects are not statistically significant.

3.4. Decomposition of reduced-form treatment effects

Looking across all of the results presented above, there appears to be a contradiction. Table 3 presented evidence of racial bias in worthiness perceptions; in particular, the black picture treatment causes non-black respondents to perceive recipients as significantly less worthy (Panel A, column 2). The IV regressions in Table 4 show there is a statistically significant causal effect of worthiness perceptions on giving by non-blacks (Panel B, column 2). Yet, in Table 2, we found no statistically significant evidence of the black picture treatment on giving by non-blacks (column 4). To resolve this apparent contradiction, we decompose the effects of our worthiness and race treatments on giving, respectively, into two channels: one that runs via worthiness perceptions and one that runs via perceptions of race. Both decompositions show that the component of our manipulations that operates via worthiness perceptions is statistically significant, while the component that operates via perceptions of the racial composition is not significant.

The following simple framework describes the decomposition. Suppose that individual *i*'s giving, G_i, is a differentiable function of *i*'s perception of the worthiness of recipients, θ_i^W, and *i*'s perception of the racial composition of recipients, θ_i^R, where the perceptions, in turn, are functions of the worthiness treatments, W, and the race treatment, R. That is, let us suppose that giving is determined by the differentiable function $G_i\left(\theta_i^R(R,W), \theta_i^W(R,W)\right)$. Implicit in this formulation is the identifying assumption of the IV regression, namely that the race and worthiness treatments *only* affect giving through

their effects on race and worthiness perceptions. Under this assumption, the total effects of the worthiness and racial treatments on giving can each be decomposed into two channels:

$$\frac{dG_i}{dW} = \left[\frac{\partial G_i}{\partial \theta_i^W} \times \frac{\partial \theta_i^W}{\partial W}\right] + \left[\frac{\partial G_i}{\partial \theta_i^R} \times \frac{\partial \theta_i^R}{\partial W}\right] \quad (1)$$

$$\frac{dG_i}{dR} = \left[\frac{\partial G_i}{\partial \theta_i^W} \times \frac{\partial \theta_i^W}{\partial R}\right] + \left[\frac{\partial G_i}{\partial \theta_i^R} \times \frac{\partial \theta_i^R}{\partial R}\right] \quad (2)$$

In Equation 1, the left-hand side is the total effect, or reduced-form effect, of the worthiness treatments on giving whereas the right-hand side shows the decomposition. The first term in square brackets shows the effect of the worthiness treatments on giving via the channel of worthiness perceptions, and the second term in square brackets shows the effect of the worthiness treatments on giving via the channel of race perceptions. We will refer to these components, respectively, as the worthiness perceptions channel and the racial perceptions channel of the worthiness treatments. Equation 2 shows the analogous decomposition of the reduced-form effect of the race treatment on giving. We will refer to the two components of Equation 2 as, respectively, the worthiness perceptions channel and the racial perceptions channel of the race treatment.

Empirically, the reduced-form effects of the worthiness and race treatments in our experiment are our main treatment effects presented in Table 2, namely, the effect of the number of worthiness treatments (*#Worthiness Treatments*) and the race treatment (*Black Picture*) on offers in our dictator game (*Giving*). Since the treatments are randomly assigned, these are causal estimates. As we saw in Table 2, the reduced-form effect of the worthiness treatments on giving is positive and significant, and the reduced-form effect of the race treatment on giving is negative but small and insignificant.

To decompose each of the reduced-form effects from our experiment into the worthiness perceptions channels and the race perceptions channels shown in Equations 1 and 2, we employ our two perceptions variables: perceptions of the worthiness of recipients (*Worthiness Perceptions*) and perceptions about the racial composition of

recipients (*Perceived % Black - % White Aid Recipients*). The decomposition is calculated from the first and second stages of the instrumental-variables regressions (presented in Tables 3 and 4). The first stage regressions, presented in Table 3, give us the effects of our treatments on perceptions. These are estimates of $\partial\theta_i^W/\partial W$, $\partial\theta_i^R/\partial W$, $\partial\theta_i^W/\partial R$, and $\partial\theta_i^R/\partial R$ from Equations 1 and 2. The IV estimates presented in Table 4, give us the causal effects of worthiness and race perceptions on giving. These are estimates of $\partial G_i/\partial\theta_i^W$ and $\partial G_i/\partial\theta_i^R$.

Figure 2 summarizes our decomposition for the sample of non-black respondents. The top diagram illustrates the decomposition of the reduced-form effect of our worthiness treatments. The first set of arrows going from the "Worthiness Treatments" box to the "Worthiness Perceptions" box and the "Race Perceptions" box show the first-stage estimates of worthiness treatments on worthiness and race perceptions ($\partial\theta_i^W/\partial W$ and $\partial\theta_i^R/\partial W$ from Table 3). The second set of arrows show the second-stage estimates of worthiness and race perceptions on *Giving* ($\partial G_i/\partial\theta_i^W$ and $\partial G_i/\partial\theta_i^R$ from Table 4, Panel B). Finally, the calculations of Equation 1 are in the center of the diagram. These show that the effect of the worthiness perceptions channel is 14.3 and is statistically significant. The effect of the racial composition perceptions channel is -0.2 and is not significant. Finally, the "Total Effect" shows the sum of the effects of the two perceptions channels: 14.1. This is exactly equal to the reduced-form effect from Table 2, column 4 by construction.

The bottom diagram illustrates the analogous decomposition of the reduced-form effect of the race treatment. The first set of arrows show the effects of the treatment on worthiness perceptions and racial composition perceptions. As we have already seen, the effect of the black picture treatment on worthiness perceptions is negative and significant, indicating racially biased worthiness perceptions. The effect of the black picture treatment on racial composition perceptions is positive and significant, showing that the race treatment successfully manipulated perceptions of the racial composition. The next set of arrows shows the causal effect of worthiness and racial composition perceptions on giving. These are the same estimates as shown in the top diagram: the causal effect of worthiness perceptions on giving is positive and significant whereas the causal effect of

racial composition perceptions on giving is small and not significant. Finally, the calculations of Equation 2 are in the center of the diagram. These show that the worthiness perceptions channel is negative and significant, indicating that racially biased perceptions about worthiness indeed significantly reduce giving by non-black respondents. In contrast, the racial composition perceptions channel is not significant.

Figure 2 illustrates that racially biased perceptions of worthiness do result in statistically significant racial bias in giving when this effect is separated out from a small and insignificant effect of perceptions of racial composition on giving. In short, perceiving recipients as black does not have a significant direct effect on giving by non-blacks. However, non-blacks are more likely to judge blacks as less worthy, and this racially biased judgment does indeed cause significantly lower giving by non-blacks. This mechanism is consistent with prior findings from attitudinal data which show that racially biased opposition to welfare is driven by racially biased perceptions of moral worthiness (Gilens 1999).

3.5. External validity check

How well might the results of our experiment generalize to natural giving outside of the experiment? One way to investigate the external validity of our results is to estimate the extent to which giving in our experiment corresponds to total charitable giving in the previous calendar year. In unreported results, we find that total charitable giving in 2005 has a statistically significant positive effect on giving in the experiment. However, a drawback of this simple regression is that measurement error in charitable giving leads to attenuation bias in the estimated effect. Hence, it does not provide a good estimate of the sensitivity of giving in the experiment to total charitable giving. As a validity check that circumvents attenuation bias from measurement error, we investigate whether demographic characteristics that predict total charitable giving in 2005 similarly predict giving in our experiment. Table 5 presents this analysis.

Column 1 regresses giving during our experiment measured in dollars on respondent demographic characteristics. Column 2 regresses a transformed measure of total charitable giving in 2005 on the same demographic characteristics included in column 1. To make the dependent measures in columns 1 and 2 comparable, we first topcode total

charitable giving in 2005 at $500 so that the fraction of people giving the maximum amount is equal across the two measures. Then we divide total charitable giving in 2005 by 5 so that both giving measures range from zero to $100. The key result from columns 1 and 2 is that the explanatory power of the demographic variables is higher in column 2 than in column 1. Moreover, the coefficients in column 2 tend to have a larger absolute value than the coefficients in column 1, and the percent of the variation in giving that is explained by the demographic variables is roughly two times higher in column 2 (R^2 = 0.208) than in column 1 (R^2 = 0.098). This is a first indication that giving during the experiment is somewhat less responsive to demographics than actual past charitable giving.

The regressions in columns 1 and 2 show that the demographic variables tend to have effects in the same direction on giving in our experiment and on past charitable giving; we do not see any demographic variables that have a significant positive effect in one of the columns and a significant negative effect in the other. However, since many of the demographic variables are highly correlated with each other, we investigate this general pattern in more detail in columns 3 and 4. We predict each type of giving with the demographic variables and then estimate the effect of (i) predicted total charitable giving in 2005 on actual giving during the experiment (column 3) and (ii) predicted giving during the experiment on actual total charitable giving in 2005 (column 4). That is, we regress each type of giving on the linear combination of demographic variables that best predicts the other type of giving. This is a check of how well the combination of demographic variables that best explains one type of giving explains the other type of giving.

Column 3 shows that if predicted charitable giving in 2005 increases by one, then actual giving in our experiment increases by $0.43. That is, giving in the experiment is 43% as responsive as past charitable giving to the demographics that predict past charitable giving. Column 4 estimates this responsiveness by regressing charitable giving in 2005 on predicted giving in the experiment. This estimate says that past charitable giving is 118% as responsive as giving in our experiment to the demographic variables that predict giving in the experiment, or, inversely, that giving in the experiment is 85% as responsive to the demographic variables as past charitable giving. In summary, giving

in our experiment is somewhere between 43% and 85% as sensitive to the demographic variables as charitable giving in the real world. These results suggest that perceptions of the worthiness of the poor may also have a greater effect on charitable giving in the real world than they have on giving during the experiment.

4. Conclusion

In this paper, we presented the results from an experiment that examines how charitable giving to the poor responds to the perceived worthiness and race of charity recipients. The experiment was conducted on a sample of about 1000 respondents that is broadly representative of the U.S. adult population. We showed an audiovisual presentation about a charity, the charity's recipients, and the city in which recipients were located to manipulate respondents' perceptions of recipient worthiness and race. Following the presentation, the respondents decided how to distribute $100 between themselves and the charity. Subsequently, we asked the respondents about their perceptions of the worthiness and race of the charity's recipients, which confirmed that our treatments successfully manipulated the respondents' perceptions.

The experiment yielded four main results. First, respondents give significantly more when given information suggesting that recipients are more worthy. This effect is large in economic terms; audio treatments that raise the perceived fraction of worthy recipients by 10 percentage points cause the respondents to increase their giving by $7.5 relative to a mean level of giving of $58.7. Second, we find no significant effect of our race treatment on giving. Third, we find a racial group loyalty effect on perceptions: Respondents rate recipients as relatively more worthy when shown pictures of recipients from their own racial group, and conversely, they perceive a higher fraction of recipients as being from their own racial group if the audio story describes recipients in more worthy terms. Finally, the components of our worthiness and race treatments that operate through worthiness perceptions are statistically significant, while the components that operate through perceptions of the racial composition of recipients are insignificant. Our finding of racial discrimination that operates via racially biased worthiness perceptions is consistent with evidence from attitudinal data that opposition to welfare is determined to a large extent by racially biased attitudes about the worthiness of black welfare recipients

(Gilens 1999).

It is important to note, however, that despite the methodological advantages of our study – namely, using randomly varied perceptions as the independent variables and real behavior as the outcome variable – there are some disadvantages. In particular, respondents in our study were forced to make their donation decisions in a somewhat artificial setting, and they may have also suspected that they were being studied. Both of these factors may have affected our results. Because racial discrimination is seen by many as socially undesirable, our design may be less effective at picking up racial discrimination based directly on perceptions of race than other more socially acceptable behaviors, such as giving according to perceived worthiness. Thus, it seems plausible that any additional racial discrimination, beyond discrimination based on racially biased perceptions of worthiness, would not be detected by our experiment.

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Appendix A: Charity 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 they were given radio buttons to click on, in this appendix that feature shows up as numbered options [1], [2], [3], this is different from audio treatments which are distinguished (0), (1).
- Separating lines correspond to new screens.
- [CHARITY] was replaced in both the text and the audio with either the words "Salvation Army" or the words "Temporary Emergency Services" depending on the treatment.
- There are a total of 11 experimental treatments: [CHARITY], the name of the charity shown in the presentation, [BLACK PICTURE], the predominant race of the people shown in the pictures, and the nine audio treatments: (1) [CITY IS REPUBLICAN], (2) [CITY IS ECONOMICALLY ADVANTAGED], (3) [REASON FOR POVERTY BEYOND CONTROL], (4) [REASON FOR POVERTY BAD CHOICE], (5) [RELIGIOUS], (6) [SHORT-TERM NEED FOR AID], (7) [CURRENTLY WORKING], (8) [WILLING TO SHARE OWN AID WITH OTHERS], and (9) [LAW-ABIDING].

-- Main Questionnaire --

This is a study conducted by researchers at Carnegie Mellon University and Harvard University. The general topic is assistance to the poor and other issues facing America.

Thank you for your participation!

PART I. BACKGROUND ABOUT THE WORK OF A CHARITY IN [TOWN]

Presentation about **[CHARITY]** in Tuscaloosa, AL

Shortly, you will see a brief presentation about the work of [CHARITY] in [TOWN], AL.

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. These are two pictures of the city of Tuscaloosa itself, shown side by side. The first picture is the same independent of the black picture treatment. (It shows a black and a white cyclist in the background). In the second picture, a black passerby is shown in the black picture treatment and a white passerby otherwise. Respondents hear the following audio text.]

The City of Tuscaloosa, AL

This is a slide show about Tuscaloosa, some of its poor people, and a charity that helps them. Tuscaloosa is a small city in Alabama.

[CITY IS REPUBLICAN]:

0. *Compared to the rest of Alabama more people in Tuscaloosa vote for the Democratic Party*
1. *Like the rest of Alabama, people in Tuscaloosa vote overwhelmingly for the Republican Party*

[CITY IS ECONOMICALLY ADVANTAGED]:

0. *Tuscaloosa is relatively disadvantaged, with a poverty rate that is almost twice as high as in the rest of the country.*
1. *Tuscaloosa is relatively advantaged, with a per capita income that is more than 5% higher than the rest of the state.*

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

[Respondents view second pair of pictures, again shown side by side. The first picture shows a person entering a thrift store. This person is black in the black picture treatment and white otherwise. The second picture shows two individuals, one black and one white, inside the thrifts store. Respondents hear the following audio text.]

The Poor in Tuscaloosa
Many poor people in Tuscaloosa receive both welfare from the government and food and other goods from a variety of charities.

[If REASON FOR POVERTY BEYOND CONTROL=0 and REASON FOR POVERTY BAD CHOICE=1]:
Many of these people use welfare and charitable assistance because of bad choices in their personal lives such as lack of effort or substance abuse.

Generally the recipients are unhappy about their situation and wish they had more money.

Many of them wish they could rely on more generous assistance from the government and charities.

[If REASON FOR POVERTY BEYOND CONTROL=1 and REASON FOR POVERTY BAD CHOICE=0]:
Many of these people use welfare and charitable assistance because of circumstances beyond their control such as bad luck.

Generally the recipients are unhappy about their situation and wish they had more money.

Many of them try to get a job that pays enough for them to stand on their own feet and no longer rely on assistance from the government and charities.

[If REASON FOR POVERTY BEYOND CONTROL=0 and REASON FOR POVERTY BAD CHOICE=0]:
The reasons why these people use government welfare and charitable assistance vary widely. Often it is a mixture of factors including bad choices in their personal lives such as lack of effort or substance abuse, and circumstances beyond their control such as bad luck.

Generally the recipients are unhappy about their situation and wish they had more money.

[Note the combination REASON FOR POVERTY BEYOND CONTROL=1 and REASON FOR POVERTY BAD CHOICE=1 does not occur]

[RELIGIOUS]:
0. **[NOTHING SAID]**
1. *Many of them pray to God regularly to ask Him for help.*

[Respondents view third pair of pictures, again shown side by side. Both pictures are of people receiving aid from [CHARITY]. Under the black picture treatment, all individuals shown are black. Otherwise, all individuals shown are white. Respondents hear the following audio text.]

The work of [CHARITY]
[CHARITY] *in Tuscaloosa is one of the charities that help welfare recipients and other poor people in Tuscaloosa.*

[SHORT-TERM NEED FOR AID]
0. *It provides food and other goods to the poor, many of whom use this kind of help for long periods of time.*
1. *It provides food and other goods to the poor, many of whom only use this kind of help for short periods of time when it is absolutely necessary.*

[CURRENTLY WORKING]:
0. *Providing enough assistance is more difficult on the busy days just before many people will receive their next government benefit check.*

1. *Providing enough assistance is more difficult on the busy days just before many people will receive their next paycheck.*

[WILLING TO SHARE OWN AID WITH OTHERS]:

0. *During these busy days, many of the usual recipients get worried and become competitive with others in line for assistance.*
1. *During these busy days, many of the usual recipients get worried, but they are willing to share some of their allotment with others in need.*

[Respondents view third pair of pictures, again shown side by side. Both pictures are of people receiving aid from [CHARITY]. Under the black picture treatment, all individuals shown are black. Otherwise, all individuals shown are white. Respondents hear the following audio text.]

The people that receive help from [CHARITY]
Ideally, the recipients will obtain jobs that pay well enough that they no longer need assistance from charities, but in practice this is often hard for a variety of reasons.

[LAW-ABIDING]:

0. *For example, many employers are reluctant to hire people who have a criminal record.*
1. *For example, many employers are reluctant to hire them.*

In the meantime, organizations like [CHARITY] *provide crucial assistance to welfare recipients and other poor people in Tuscaloosa.* [CHARITY] *couldn't achieve this without many generous charitable contributions and help from volunteers.*

[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") 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 involving [CHARITY] in Tuscaloosa. 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 [CHARITY] in Tuscaloosa. 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 [CHARITY] in Tuscaloosa. 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, [CHARITY] in Tuscaloosa 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 **[LOTTERYDATE]** 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 DURING EXPERIMENT] Now, please decide how much of your $100 you want to give to **[CHARITY]** for its services to welfare recipients and other poor people in Tuscaloosa in the event that you are randomly selected to receive $100.

If the first number of the Pick3 draw on **[LOTTERYDATE]** is **[LOTTERYNUMBER]**,

I want $_____ to be sent to [CHARITY] for its services to welfare recipients and other poor people in Tuscaloosa.

[CONFIRM] If the first number of the Pick3 draw on **[LOTTERYDATE]** is **[LOTTERYNUMBER]**, $**[AMOUNT FROM ABOVE]** will be sent to **[CHARITY]** for its services to welfare recipients and other poor people in **[TOWN]**, 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 DURING EXPERIMENT AGAIN IF RESPONDENT SELECTS "NO" IN CONFIRM]

[HYPOTHETICAL GIVING].

[SHOWN FOLLOWING IF GIVING =0]

Suppose that [CHARITY] in Tuscaloosa had mailed a letter to your home describing the plight of welfare recipients and other poor people in Tuscaloosa and had asked you for a donation. How much, if anything, would you have given?

[GIVEN A NUMBER BOX WITH RANGE 0-99999]

[SHOWN FOLLOWING IF GIVING >0]

Suppose that you had not just given $**[GIVING]** to [CHARITY]. Instead, suppose that [CHARITY] in Tuscaloosa had mailed a letter to your home describing the plight of welfare recipients and other poor people in Tuscaloosa and had asked you for a donation. How much, if anything, would you have given?

[GIVEN A NUMBER BOX WITH RANGE 0-99999]

PART III. QUESTIONS ABOUT THE CHARITIES' RECIPIENTS

Factual questions about recipients of **[CHARITY]**

From the information presented earlier, you may have learned more about [CHARITY] in Tuscaloosa. Now, we'd like to ask you some questions about [CHARITY] and about the characteristics of people who receive aid from [CHARITY] in Tuscaloosa.

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.

[GIVEN A NUMBER BOX WITH RANGE 0-99999]

[INCOME OF CHARITY RECIPIENTS]

We'd like to know what you think the median household income is for recipients of [CHARITY] in Tuscaloosa. The median (i.e., middle) household income is the income where half of the [CHARITY] recipients' 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 [CHARITY] in Tuscaloosa is about $___,000 per year.

[GIVEN A NUMBER BOX WITH RANGE 0 TO 100]

[PERCENT OF RECIPIENTS WILLING TO WORK HARD]

As your best guess, what percentage of recipients of [CHARITY] in Tuscaloosa are willing to work hard in order to get ahead in life?

[GIVEN A NUMBER BOX WITH RANGE 0 TO 100]

[PERCENT OF RECIPIENTS WITH A CRIMINAL RECORD]

As your best guess, what percentage of recipients of [CHARITY] in Tuscaloosa have a criminal record?

[GIVEN A NUMBER BOX WITH RANGE 0 TO 100]

[PERCENT OF RECIPIENTS ATTENDING CHURCH]

As your best guess, what percentage of recipients of [CHARITY] in Tuscaloosa attend religious services almost every week?

[GIVEN A NUMBER BOX WITH RANGE 0 TO 100]

[REASON FOR POVERTY]

As you recall, the recipients of [CHARITY] in Tuscaloosa are poor - they are welfare recipients and other poor people.

As your best guess, what percentage of recipients of [CHARITY] in Tuscaloosa are poor mainly because of reasons beyond their control?

[GIVEN A NUMBER BOX WITH RANGE 0 TO 100]

As your best guess, what percentage of recipients of [CHARITY] in Tuscaloosa are poor mainly because of bad choices in their personal lives?

[GIVEN A NUMBER BOX WITH RANGE 0 TO 100]

[PERCENT OF RECIPIENTS WILLING TO SHARE ASSISTANCE]

As your best guess, what percentage of recipients of [CHARITY] in Tuscaloosa would be willing to share some of the assistance they receive with others in need?

[GIVEN A NUMBER BOX WITH RANGE 0 TO 100]

[PERCENT OF RECIPIENTS WHO WORK]

As your best guess, what percentage of adult recipients of [CHARITY] in Tuscaloosa currently work at least 20 hours per week for pay?

[GIVEN A NUMBER BOX WITH RANGE 0 TO 100]

[PERCENT OF RECIPIENTS RECEIVING ASSISTANCE SHORT TERM]

As your best guess, what percentage of recipients of [CHARITY] in Tuscaloosa rely on charity assistance only for a short period of time (less than six months) in order to overcome a period of difficulty?

[GIVEN A NUMBER BOX WITH RANGE 0 TO 100]

[PERCENT OF RECIPIENTS WHO VOTED FOR BUSH]

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

[GIVEN A NUMBER BOX WITH RANGE 0 TO 100]

[INCOME OF TUSCALOOSA POPULATION]

As your best guess, what is the median household income in Tuscaloosa? The median (i.e., middle) household income in the city is the household income where half of the households in the city are richer and half are poorer. *(The median household income in the whole of the U.S. is $44,000 per year).*

The median household income in Tuscaloosa is about $___,000 per year.

[PART IV. SURVEY QUESTIONS]

Survey questions

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

[GOVERNMENT SPENDING ON RECIPIENTS IN TUSCALOOSA]

Compared to the current level of spending, do you think the government should spend more or less of its budget on helping welfare recipients and other poor people in Tuscaloosa?

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

[CHARITY SPENDING ON RECIPIENTS IN TUSCALOOSA]

Compared to their current level of spending, do you think that charities should spend more or less of their budgets on helping welfare recipients and poor people in Tuscaloosa?

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

[CHARITY EFFECTIVENESS]

How effective do you think [CHARITY] in Tuscaloosa 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?

[GIVEN A NUMBER BOX WITH RANGE 0 TO 100]

[PERSONAL CONNECTION TO POVERTY]

Do you personally know someone who receives or has received assistance from a charity?

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]

[CHARITABLE 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?

[GIVEN A NUMBER BOX WITH RANGE 0 TO 999999]

[CHARITABLE GIVING TO CHARITIES FOR POVERTY]

[SHOWN FOLLOWING IF GIVING =0].

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.?

$ _____

[GIVEN A NUMBER BOX WITH RANGE 0 TO 999999]

[SHOWN FOLLOWING IF GIVING >0].

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 have donated in 2005 to charities that help poor people in the U.S.?

$ _____

[GIVEN A NUMBER BOX WITH RANGE 0 TO 999999]

[TOTAL CHARITABLE GIVING]

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

$ _____

[GIVEN A NUMBER BOX WITH RANGE 0 TO 999999]

[CHARITABLE GIVING TO CHARITIES FOR LOCAL POVERTY]

Now, we'd like to ask about your charitable giving to help poor people in your local area. By "local area" we mean the greater metropolitan area of the town or city that you live in or near. If you live in a rural area and are not part of a greater metropolitan area, then "local area" means your county.

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 your local area?

[GIVEN A NUMBER BOX WITH RANGE 0 TO 999999]

[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 1]

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]

[LIFE PRIORITIES 2] What do you believe is second most important?
[SHOWN RESPONSES NOT SELECTED ABOVE]

[LIFE PRIORITIES 3] What do you believe is third most important?
[SHOWN RESPONSES NOT SELECTED ABOVE]

[LIFE PRIORITIES 4] What do you believe is fourth most important?
[SHOWN RESPONSES NOT SELECTED ABOVE]

[LIFE PRIORITIES 5] What do you believe is fifth most important?
[SHOWN RESPONSES NOT SELECTED ABOVE]

[PERCENT OF RECIPIENTS WHO ARE (RACE)]

As your best guess, what percentage of <u>recipients of [CHARITY]</u> in **[TOWN]** are:

White _____%
African American _____%
Another race _____%

[SHOWN NUMBER BOXES WITH RANGE 0 TO 100 SUMMING TO 100; RESPONDENTS WERE SHOWN SUM BOX FOR AMOUNTS ENTERED AND PROGRAM RECORDED HOW MANY TIMES RESPONDENT GOT A WARNING ABOUT PERCENTAGES NOT EQUALING 100]

[PERCENT OF RECIPIENTS WHO ARE (RACE)]

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

[SHOWN NUMBER BOXES WITH RANGE 0 TO 100 SUMMING TO 100; RESPONDENTS WERE SHOWN SUM BOX FOR AMOUNTS ENTERED AND PROGRAM RECORDED HOW MANY TIMES RESPONDENT GOT A WARNING ABOUT PERCENTAGES NOT EQUALING 100]

[SOCIAL CONTACTS]

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 RACIAL DISADVANTAGE]

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]

[STANDARD CLOSE]

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

Figure 1: CDF of Giving During the Experiment

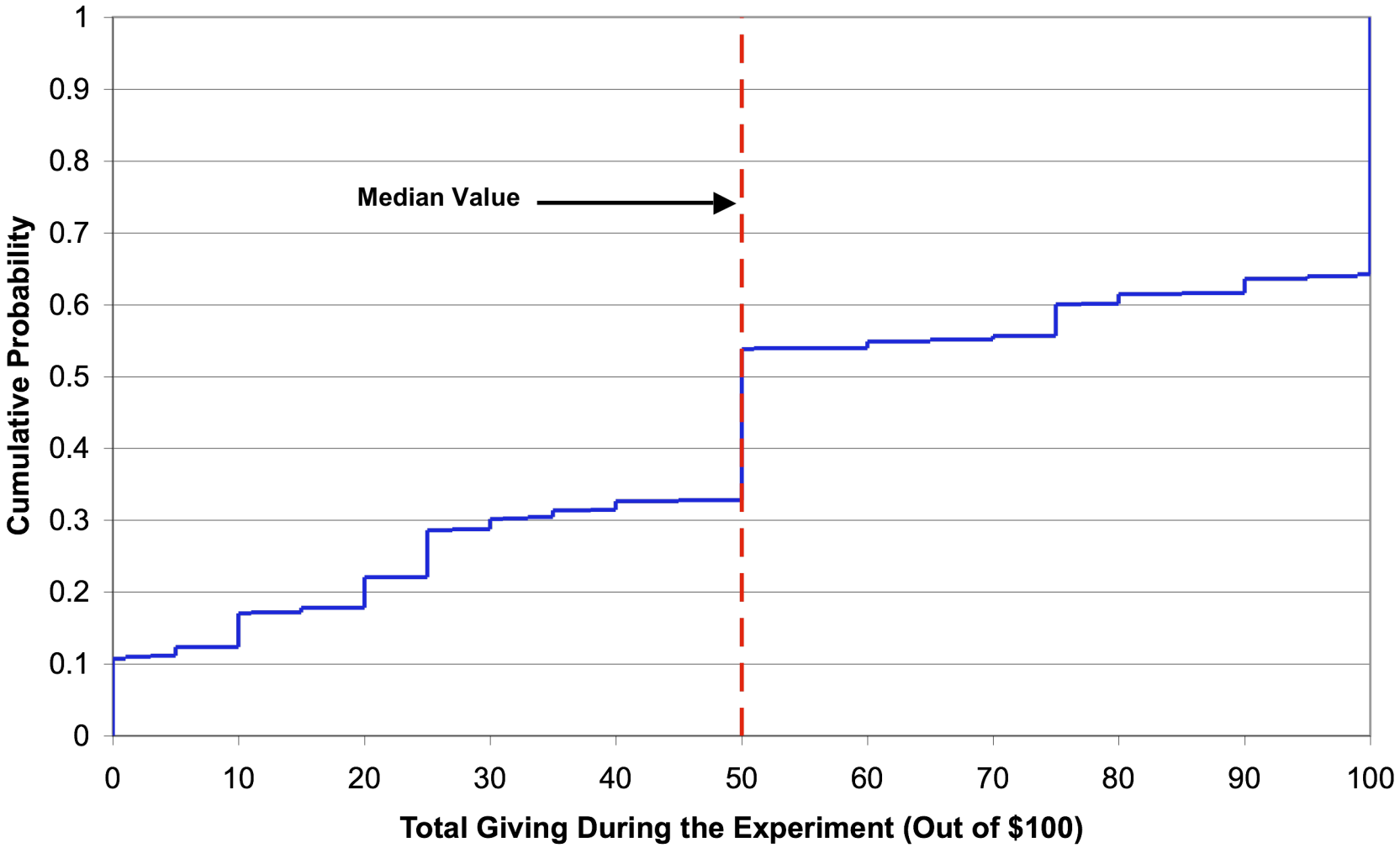

Figure 2: Decomposition of Reduced-Form Treatment Effects

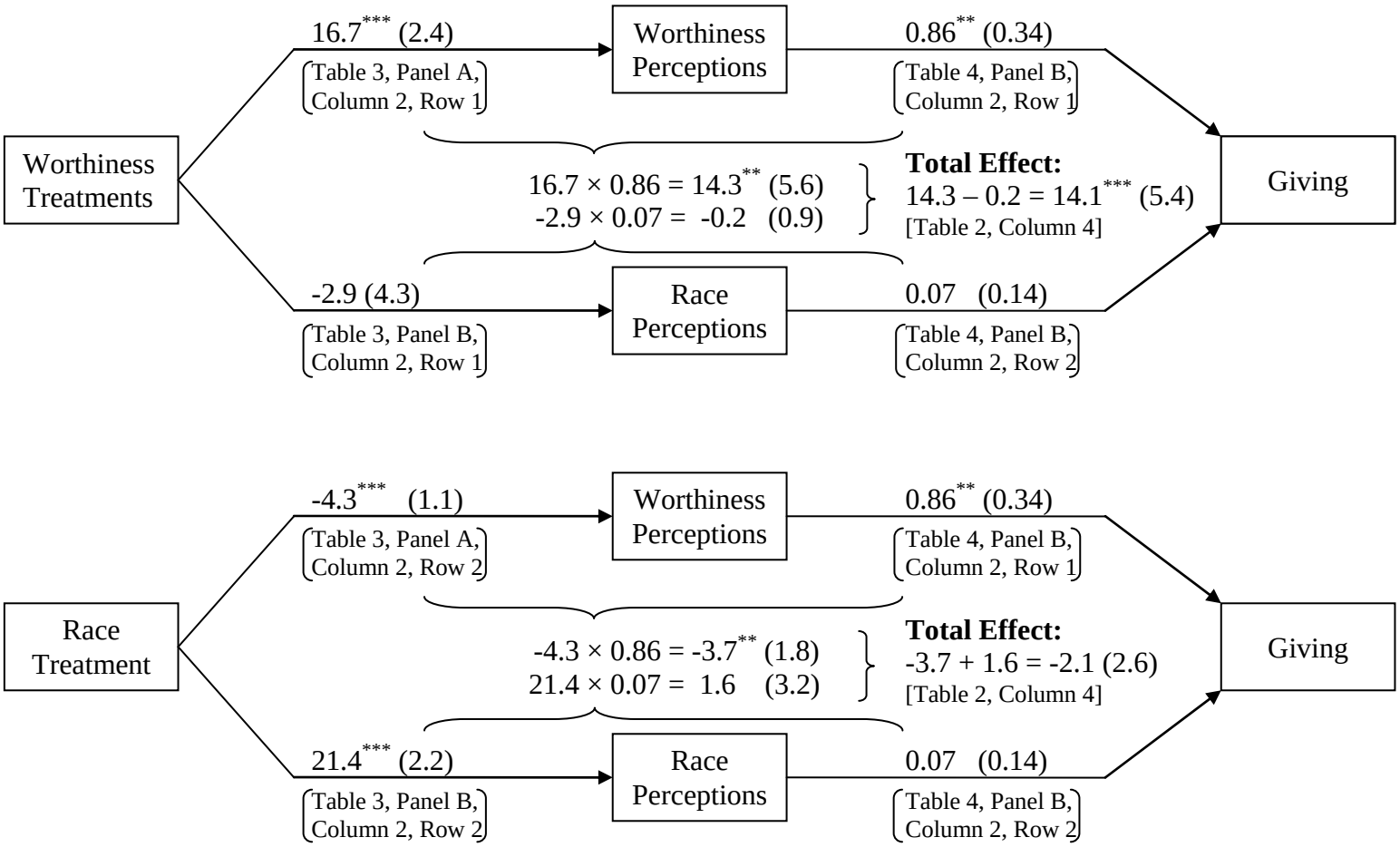

Table 1: Summary Statistics

	Mean	S.D.	Min	Max	N
Outcome Variables					
Giving During the Experiment ($ out of $100)	58.7	37.2	0	100	982
Fraction Giving $100	0.355	0.5	0	1	982
Fraction Giving $50	0.209	0.4	0	1	982
Fraction Giving $0	0.109	0.3	0	1	982
Fraction Giving Some Other Amount	0.328	0.5	0	1	982
Hypothetical Giving ($, topcoded at $500)	11.6	29.6	0	500	980
Self-Reported Preference for Government Spending on Poor in Tuscaloosa (1-7 scale)	4.5	1.5	1	7	977
Self-Reported Preference for Charity Spending on Poor in Tuscaloosa (1-7 scale)	4.6	1.2	1	7	972
Experimental Treatment Variables					
Black Picture	0.496	0.5	0	1	982
Reason for Poverty Beyond Control, Willing to Work	0.241	0.4	0	1	982
Reason for Poverty Bad Choices, Not Willing to Work	0.250	0.4	0	1	982
Law-Abiding	0.520	0.5	0	1	982
Shares Own Aid with Others	0.476	0.5	0	1	982
Short-Term Need for Aid	0.507	0.5	0	1	982
Currently Working	0.516	0.5	0	1	982
Religious	0.530	0.5	0	1	982
City is Republican	0.507	0.5	0	1	982
City is Economically Advantaged	0.506	0.5	0	1	982
Salvation Army	0.494	0.5	0	1	982
# Worthiness Treatments (derived variable, 0-1 scale)	0.497	0.2	0	1	982
Perception Variables					
Perceived Percentage of White Aid Recipients	28.0	16.1	0	100	965
Perceived Percentage of Black Aid Recipients	56.6	18.4	0	100	965
Perceived Percentage of Aid Recipients from Another Race	15.5	11.7	0	90	965
Perceived Percentage Black – Percent White Aid Recipients	28.6	32.4	-100	100	965
Perceived Percentage of Aid Recipients Willing to Work Hard	53.0	24.5	0	100	978
Perceived Percentage of Aid Recipients Whose Reasons for Poverty Are Beyond Control	46.8	23.3	0	100	977
Perceived Percentage of Aid Recipients Whose Reasons for Poverty Are Bad Choices	49.2	22.6	0	100	973
Perceived Percentage of Aid Recipients with a Criminal Record	37.0	22.2	0	100	971
Perceived Percentage of Aid Recipients Willing to Share Own Aid with Others	36.7	26.9	0	100	978
Perceived Percentage of Aid Recipients on Short-Term Assistance	39.6	24.1	0	100	972
Perceived Percentage of Aid Recipients Who Attend Religious Services Weekly	52.4	24.3	0	100	969
Perceived Percentage of Aid Recipients Who Voted for Bush	37.8	29.2	0	100	968
Perceived Average Income of Tuscaloosa Aid Recipients, Thousands of Dollars per Year	15.4	7.8	0	73	977
Perceived Average Income of All Tuscaloosa Residents, Thousands of Dollars per Year	26.5	11.4	0	70	971
Perceived Percent Black – Percent White City Residents	11.8	35.2	-100	100	949
Worthiness Perceptions (derived variable, 0-100 scale)	50.0	16.3	3	94	960

Control Variables					
Age	48.3	16.9	18.0	92.0	982
Age^2/100	26.2	17.0	3.24	84.6	982
White	0.705	0.456	0	1	982
Black	0.120	0.325	0	1	982
Other Race	0.175	0.381	0	1	982
Less than High School	0.112	0.315	0	1	982
High School Degree	0.332	0.471	0	1	982
Some College	0.287	0.453	0	1	982
College Degree or Higher	0.270	0.444	0	1	982
Log Household Income	10.6	0.889	7.8	12.8	982
Dual Income	0.525	0.500	0	1	982
Married	0.528	0.499	0	1	982
Male	0.488	0.500	0	1	982
Single Male	0.204	0.403	0	1	982
Resides in South	0.367	0.482	0	1	982
Working	0.615	0.487	0	1	982
Disabled	0.064	0.245	0	1	982
Retired	0.174	0.379	0	1	982
Fraction Who Gave to Charities in 2005	0.810	0.393	0	1	982
Log Total Charitable Giving in 2005	6.0	1.6	0.7	11.9	784
Fraction Who Gave to Charities for the Poor in 2005	0.726	0.446	0	1	982
Log Total Giving to Charities for the Poor in 2005	5.4	1.4	1.6	10.1	708

Means and standard deviations are weighted to correct for oversampling of black respondents. The variable # *Worthiness Treatments* is the average of the following four audio treatments: Reasons for poverty bad choices (reverse coded), reasons for poverty beyond control, law abiding, and willing to share own aid. The variable *Worthiness Perceptions* is the average of the five corresponding perceptions questions: Reasons for poverty bad choices (reverse coded), reasons for poverty beyond control, willing to work, possessing a criminal record (reverse coded), and willing to share own aid.

Table 2: Giving During the Experiment

Dependent Variable: Giving during the Experiment ($ out of $100)	(1) All Respondents	(2) All Respondents	(3) All Respondents	(4) Non-Black Respondents	(5) Black Respondents	(6) All Respondents
Treatments						
Reason for Poverty Beyond Control, Willing to Work	-1.6 (2.9)					
Reason for Poverty Bad Choices, Not Willing to Work	-4.4 (2.9)					
Law-Abiding	2.7 (2.4)					
Shares Own Aid with Others	5.2** (2.4)					
# Worthiness Treatments		11.0** (4.7)	11.4** (4.8)	14.1*** (5.4)	-9.3 (9.5)	14.5*** (5.4)
Black Picture	-2.2 (2.3)	-2.3 (2.3)	-2.1 (2.4)	-2.1 (2.6)	-3.4 (4.9)	-2.1 (2.6)
# Worthiness Treatments × Black Respondent						-23.9** (11.0)
Black Picture × Black Respondent						0.9 (5.4)
Short-Term Need for Aid	-1.3 (2.3)	-1.4 (2.3)	-1.9 (2.4)	-0.8 (2.6)	-7.5 (4.7)	-1.8 (2.4)
Currently Working	-0.7 (2.4)	-0.2 (2.4)	-0.2 (2.4)	-1.2 (2.7)	6.6 (5.2)	-0.2 (2.4)
Religious	-3.0 (2.3)	-3.1 (2.3)	-3.4 (2.4)	-3.7 (2.7)	0.6 (4.7)	-3.3 (2.4)
City Republican	2.9 (2.3)	2.8 (2.3)	3.7 (2.4)	4.4* (2.6)	-1.6 (4.7)	3.7 (2.4)
City Economically Advantaged	-1.8 (2.3)	-1.6 (2.3)	-2.4 (2.4)	-1.6 (2.6)	-8.4* (5.0)	-2.2 (2.4)
Salvation Army	0.2 (2.4)	0.6 (2.3)	0.9 (2.4)	0.2 (2.6)	4.9 (4.6)	1.1 (2.4)
Controls for Demographics	Yes	Yes	Yes	Yes	Yes	Yes
Limit to those with non-missing perceptions	No	No	Yes	Yes	Yes	Yes
R^2	0.134	0.131	0.126	0.126	0.213	0.129
N	982	982	949	751	198	949

Note: Results are weighted to correct for oversampling of black respondents. Robust standard errors are in parentheses. Significance levels: * 10 percent; ** 5 percent; *** 1 percent. The variable *# Worthiness Treatments* is the average of the four audio treatments: Reasons for poverty bad choices (reverse coded), reasons for poverty beyond control, law abiding, and willing to share own aid. The demographic controls consist of the variables listed under the heading "control variables" in Table 1.

Table 3: Perceptions of Worthiness and Race

	(1) All Respondents		(2) Non-Black Respondents		(3) Black Respondents		(4) All Respondents	
Panel A: Worthiness Perceptions (Dependent variable: Average of 5 perceptions questions related to worthiness)								
Treatments								
# Worthiness Treatments	15.2***	(2.1)	16.7***	(2.4)	9.2**	(4.3)	16.5***	(2.4)
Black Picture	-3.7***	(1.0)	-4.3***	(1.1)	-0.7	(2.1)	-4.3***	(1.1)
# Worthiness Treatments × Black Respondent							-10.0**	(4.9)
Black Picture × Black Respondent							5.2**	(2.4)
Controls for Other Treatments	Yes		Yes		Yes		Yes	
Controls for Demographics	Yes		Yes		Yes		Yes	
R^2	0.127		0.149		0.183		0.132	
N	949		751		198		949	
Panel B: Race Perceptions (Dependent variable: perceived percentage black recipients – perceived percentage white recipients)								
Treatments								
# Worthiness Treatments	-0.5	(3.9)	-2.9	(4.3)	15.8	(10.1)	-2.7	(4.3)
Black Picture	21.9***	(2.0)	21.4***	(2.2)	27.7***	(5.4)	21.5***	(2.2)
# Worthiness Treatments × Black Respondent							17.5*	(10.1)
Black Picture × Black Respondent							3.1	(5.4)
Controls for Other Treatments	Yes		Yes		Yes		Yes	
Controls for Demographics	Yes		Yes		Yes		Yes	
R^2	0.155		0.154		0.236		0.158	
N	949		751		198		949	

Note: Results are weighted to correct for oversampling of black respondents. The sample is limited to respondents with nonmissing race and worthiness perceptions. Robust standard errors are in parentheses. Significance levels: * 10 percent; ** 5 percent; *** 1 percent. The variable *# Worthiness Treatments* is the average of the following four audio treatments: Reasons for poverty bad choices (reverse coded), reasons for poverty beyond control, law abiding, and willing to share own aid. The variable *Worthiness Perceptions* is the average of the five corresponding perceptions questions: Reasons for poverty bad choices (reverse coded), reasons for poverty beyond control, willing to work, possessing a criminal record (reverse coded), and willing to share own aid. The controls for other treatments consist of the following six treatment variables: short-term need for aid, currently working, religious, city republican, city economically advantaged, and salvation army. The demographic controls consist of the variables listed under the heading "control variables" in Table 1.

Table 4: Effect of Endogenous versus Exogenous Perceptions on Giving

Dependent Variable: Giving during the Experiment ($ out of $100)	(1) All Respondents	(2) Non-Black Respondents	(3) Black Respondents	(4) All Respondents
Panel A: **OLS Results**				
Perceptions				
Worthiness Perceptions	0.49*** (0.08)	0.49*** (0.08)	0.36* (0.19)	0.50*** (0.08)
Perceived % Black - % White Aid Recipients	0.01 (0.04)	0.00 (0.04)	0.07 (0.07)	0.00 (0.04)
Worthiness Perceptions × Black Respondent				-0.10 (0.19)
(Perceived % Black - % White Aid Recipients) × Black Respondent				0.06 (0.08)
Controls for Other Treatments	Yes	Yes	Yes	Yes
Controls for Demographics	Yes	Yes	Yes	Yes
R^2	0.163	0.161	0.230	0.163
N	949	751	198	949
Panel B: IV Results				
Perceptions				
Worthiness Perceptions	0.75** (0.32)	0.86** (0.34)	-0.77 (1.06)	0.87*** (0.34)
Perceived % Black - % White Aid Recipients	0.03 (0.12)	0.07 (0.14)	-0.14 (0.18)	0.08 (0.14)
Worthiness Perceptions × Black Respondent				-1.93 (1.52)
(Perceived % Black - % White Aid Recipients) × Black Respondent Respondent				-0.12 (0.26)
Controls for Other Treatments	Yes	Yes	Yes	Yes
Controls for Demographics	Yes	Yes	Yes	Yes
R^2	0.151	0.138	0.00	0.105
N	949	751	198	949

Note: Results are weighted to correct for oversampling of black respondents. The sample is limited to respondents with nonmissing race and worthiness perceptions. Robust standard errors are in parentheses. Significance levels: * 10 percent; ** 5 percent; *** 1 percent. The variable *Worthiness Perceptions* is the average of the five corresponding perceptions questions: Reasons for poverty bad choices (reverse coded), reasons for poverty beyond control, willing to work, possessing a criminal record (reverse coded), and willing to share own aid. The controls for other treatments consist of the following six treatment variables: short-term need for aid, currently working, religious, city republican, city economically advantaged, and salvation army. The demographic controls consist of the variables listed under the heading "control variables" in Table 1. In columns 1-3 of Panel B, race perceptions and worthiness perceptions are instrumented by the black picture treatment and by the number of worthiness treatments. In column 4 of Panel B the instruments also include the interaction between the number of worthiness treatments and respondent race, and the interaction between the black picture treatment and respondent race.

Table 5: Predictors of Giving During the Experiment vs. Past Charitable Giving

	(1) Giving During Experiment		(2) Charitable Giving in 2005		(3) Giving During Experiment		(4) Charitable Giving in 2005	
Predicted Charitable Giving					0.43***	(0.06)		
Predicted Giving in Experiment							1.18***	(0.11)
Age	1.2***	(0.4)	-0.3	(0.5)				
Age²/100	-0.7	(0.5)	0.7	(0.5)				
Non-Hispanic Black	-6.9**	(3.0)	-0.3	(3.5)				
Other Race	-3.6	(3.3)	4.9	(3.6)				
Less than High School	5.0	(4.3)	-4.7	(4.6)				
Some College	3.7	(3.0)	8.4**	(3.3)				
Bachelor's Degree or Higher	7.7**	(3.3)	15.6***	(3.5)				
Log Household Income	3.5**	(1.6)	14.4***	(1.8)				
Dual Income	-2.7	(2.6)	0.4	(2.8)				
Married	-2.7	(3.4)	2.4	(3.9)				
Male	0.8	(3.4)	-1.9	(3.5)				
Single Male	-3.9	(4.9)	-4.0	(5.2)				
Resides in South	-2.6	(2.5)	5.2**	(2.6)				
Working	2.0	(3.7)	-1.9	(4.2)				
Disabled	-10.3*	(6.1)	-11.2*	(6.1)				
Retired	-0.2	(5.3)	0.8	(5.5)				
R^2	0.098		0.208		0.050		0.106	
N	982		955		982		955	
Mean of Dependent Variable	58.7		55.1		58.7		55.1	
Std. Dev. of Dependent Variable	37.2		42.0		37.2		42.0	
Fraction Equal to 0	0.11		0.16		0.11		0.16	
Fraction Equal to 100	0.35		0.35		0.35		0.35	

Note: Results are weighted to correct for oversampling of black respondents. Robust standard errors are in parentheses. Significance levels: * 10 percent; ** 5 percent; *** 1 percent. The dependent variable in columns (1) and (3) is the number of dollars given during the experiment (out of $100). The dependent variable in columns (2) and (4) is a transformed measure of total self-reported charitable giving in 2005. To make the scale of the charitable giving variable comparable to the scale of giving during the experiment, we topcode charitable giving at $500 so that the fraction of individuals giving the maximum amount is equal. Next, we divide the charitable giving variable by 5, so that both dependent variables are measured on a 0-100 scale. The variable *Predicted Charitable Giving* is the amount predicted by the regression in column (2). The variable *Predicted Giving in Experiment* is the amount predicted by the regression in column (1).

Appendix Table 1: Representativeness of the Sample

	Knowledge Networks		Current Population Survey		Mean Difference	
	Mean	SD	Mean	SD	(KN-CPS)	p-value
Age	48.3	16.9	45.7	17.4	2.6	0.00
Age^2/100	26.2	17.0	23.9	17.3	2.3	0.00
Education						
Less than High School	0.112	0.315	0.154	0.361	-0.042	0.00
High School	0.332	0.471	0.317	0.465	0.015	0.34
Some College	0.287	0.453	0.269	0.439	0.018	0.23
Bachelor's Degree or Higher	0.270	0.444	0.260	0.444	0.010	0.51
Non- Hispanic Black	0.120	0.325	0.112	0.316	0.008	0.37
Non-Hispanic White	0.705	0.456	0.695	0.460	0.009	0.52
Other Race / Ethnic Group	0.175	0.381	0.192	0.394	-0.017	0.19
Male	0.488	0.500	0.483	0.500	0.004	0.78
Log Household Size	0.779	0.531	0.947	0.528	-0.168	0.00
Log Household Income	10.599	0.889	10.74	0.984	-0.141	0.00
Annual Household Income						
Less than $20,000	0.178	0.383	0.168	0.374	0.010	0.42
$20,000 to $40,000	0.275	0.447	0.237	0.425	0.038	0.01
$40,000 to $75,000	0.322	0.468	0.297	0.457	0.026	0.10
$75,000 to $100,000	0.119	0.324	0.124	0.330	-0.005	0.63
More than $100,000	0.106	0.308	0.174	0.379	-0.068	0.00
Has Child under 18 in Household	0.254	0.435	0.299	0.458	-0.045	0.00
Marital Status						
Married, All	0.528	0.499	0.564	0.496	-0.036	0.03
Married with Children	0.164	0.370	0.243	0.429	-0.079	0.00
Married without Children	0.364	0.481	0.321	0.467	0.042	0.01
Single without Children	0.196	0.397	0.056	0.416	0.139	0.00
Divorced, Separated, or Widowed; without Children	0.187	0.390	0.222	0.364	-0.036	0.01
Single, Divorced, Separated, or Widowed; with Children	0.090	0.286	0.157	0.231	-0.067	0.00
Region						
Northeast	0.178	0.383	0.187	0.390	-0.009	0.49
Midwest	0.231	0.422	0.223	0.417	0.007	0.60
South	0.367	0.482	0.362	0.481	0.006	0.72
West	0.223	0.417	0.228	0.419	-0.004	0.76
Live in Metropolitan Area	0.848	0.360	0.834	0.372	0.014	0.25
Work Status						
Retired	0.174	0.379	0.163	0.369	0.011	0.38
Disabled	0.064	0.245	0.049	0.216	0.015	0.06
Unemployed, Laid Off, or Looking for Work	0.034	0.180	0.030	0.170	0.004	0.51
Not Working for Some Other Reason	0.114	0.318	0.110	0.313	0.003	0.76

The CPS data was extracted from the June 2006 Current Population Survey; the sample is limited to individuals 18 and older. The number of observations in the Knowledge Networks data is 982. The Knowledge Networks means and standard deviations are weighted to correct for oversampling of black respondents. The number of observations for CPS data is 101,073, except for the income variables, which have 83,591 observations.

Appendix Table 2a: Effects of Treatments on Perceptions

	Perceptions of Aid Recipients (Percentage with Property Listed in Column Heading)					
	(1) Black-White	(2a) Willing to Work	(2b) Reason Is Beyond Control	(2c) Reason Is Not Bad Choices	(3) No Criminal Record	(4) Shares Own Aid with Others
Treatments (column where treatment is expected to have a direct effect)						
a. Black Picture (1 & 10)	21.8*** (2.0)	-4.0*** (1.6)	-4.1*** (1.5)	-5.0*** (1.4)	-3.8*** (1.4)	-0.4 (1.7)
b. Reason for Poverty Beyond Control, Willing to Work (2+)	2.1 (2.4)	5.3*** (1.9)	9.3*** (1.9)	5.9*** (1.8)	5.0*** (1.7)	1.7 (2.2)
c. Reason for Poverty Bad Choices, Not Willing to Work (2-)	-0.3 (2.5)	-5.2*** (2.0)	-2.6 (1.8)	-3.3* (1.8)	-1.0 (1.8)	-2.7 (2.1)
d. Law-Abiding (3)	-1.3 (2.0)	1.4 (1.6)	2.4* (1.5)	3.3** (1.4)	4.3*** (1.4)	0.4 (1.7)
e. Shares Own Aid with Others (4)	-1.2 (2.0)	3.1** (1.6)	1.9 (1.5)	3.7** (1.5)	2.2 (1.4)	10.9*** (1.8)
f. Short-Term Need for Aid (5)	1.3 (2.0)	2.3 (1.6)	2.9** (1.5)	-0.4 (1.5)	1.6 (1.4)	-0.6 (1.8)
g. Currently Working (6)	3.7* (2.0)	-0.5 (1.6)	0.1 (1.5)	1.5 (1.5)	-0.8 (1.4)	-2.5 (1.8)
h. Religious (7)	-0.2 (2.0)	1.1 (1.6)	0.3 (1.5)	-1.0 (1.5)	1.4 (1.4)	-0.7 (1.7)
i. City Republican (8)	-1.2 (2.0)	0.9 (1.6)	1.0 (1.5)	0.3 (1.5)	0.7 (1.4)	-0.3 (1.7)
j. City Economically Advantaged (9 & 11)	-4.4** (2.0)	-0.1 (1.6)	0.0 (1.5)	2.6* (1.4)	0.3 (1.4)	-0.2 (1.8)
k. Salvation Army	-0.3 (2.0)	1.2 (1.6)	0.4 (1.5)	-2.5* (1.5)	-0.7 (1.4)	-2.4 (1.7)
Respondent Characteristics						
Black Respondent	-7.8*** (3.0)	4.8** (2.2)	6.2*** (2.1)	4.2** (2.0)	-0.6 (2.0)	0.9 (2.3)
Other Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.159	0.083	0.111	0.098	0.126	0.071
N	965	978	977	973	971	978

Note: Results are weighted to correct for oversampling of black respondents. Robust standard errors are in parentheses. Significance levels: * 10 percent; ** 5 percent; *** 1 percent. Each column is a separate OLS regression where the dependent variable is the perception listed in the column heading. See Appendix A for the exact definitions of the experimental treatments. The number in parentheses behind each treatment denote the column number(s) of the perceptions we indeed to be affected by the treatment variable. The demographic controls consist of the variables listed under the heading "control variables" in Table 1.

Appendix Table 2b: Effects of Treatments on Perceptions

	Perceptions of Aid Recipients (Percentage with Property Listed in Column Heading)										Perceptions of Tuscaloosa Residents			
	(5) Short-Term Need for Aid		(6) Currently Working		(7) Religious		(8) Republican		(9) Income ($'000 / year)		(10) Black-White		(11) Income ($'000 / year)	
Treatments (column where treatment is expected to have a direct effect)														
a. Black Picture (1 & 10)	0.5	(1.6)	-1.8	(1.4)	2.0	(1.6)	-1.9	(1.7)	-0.9*	(0.5)	15.3***	(2.3)	-0.1	(0.7)
b. Reason for Poverty Beyond Control, Willing to Work (2+)	0.4	(1.9)	4.1**	(1.9)	0.7	(2.0)	0.7	(2.1)	-0.2	(0.6)	2.5	(2.9)	0.5	(0.9)
c. Reason for Poverty Bad Choices, Not Willing to Work (2-)	-1.1	(2.0)	-0.5	(1.7)	-3.6*	(2.0)	-2.5	(2.1)	-0.6	(0.6)	1.5	(2.8)	0.7	(0.9)
d. Law-Abiding (3)	-3.3**	(1.6)	0.4	(1.4)	-0.8	(1.6)	0.3	(1.7)	-0.3	(0.5)	-2.2	(2.3)	1.1	(0.7)
e. Shares Own Aid with Others (4)	2.6	(1.6)	1.6	(1.5)	0.8	(1.6)	-1.1	(1.7)	0.4	(0.5)	0.2	(2.3)	-0.4	(0.7)
f. Short-Term Need for Aid (5)	6.1***	(1.6)	1.1	(1.5)	0.1	(1.6)	-1.1	(1.7)	0.4	(0.5)	1.0	(2.3)	0.8	(0.7)
g. Currently Working (6)	-1.4	(1.6)	-2.5*	(1.5)	0.4	(1.6)	-0.8	(1.7)	0.0	(0.5)	2.0	(2.3)	-0.4	(0.7)
h. Religious (7)	1.2	(1.6)	1.1	(1.5)	7.4***	(1.6)	4.7***	(1.7)	0.1	(0.5)	1.8	(2.3)	0.0	(0.7)
i. City Republican (8)	-0.9	(1.6)	-0.1	(1.5)	2.5	(1.6)	28.4***	(1.7)	-0.6	(0.5)	-4.0*	(2.3)	0.9	(0.7)
j. City Economically Advantaged (9 & 11)	-2.2	(1.6)	0.4	(1.4)	-0.6	(1.6)	-4.4***	(1.7)	1.5***	(0.5)	-10.7***	(2.3)	5.5***	(0.7)
k. Salvation Army	0.5	(1.6)	1.4	(1.4)	-1.3	(1.6)	4.0**	(1.7)	0.6	(0.5)	1.9	(2.3)	-0.5	(0.7)
Respondent Characteristics														
Black Respondent	3.2	(2.3)	-1.9	(2.0)	0.0	(2.2)	-6.4***	(2.4)	-1.5**	(0.7)	-3.8	(3.4)	-6.3***	(0.9)
Other Demographic Controls	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Adjusted R^2	0.049		0.040		0.063		0.269		0.080		0.097		0.175	
N	972		966		969		968		977		949		971	

Note: Results are weighted to correct for oversampling of black respondents. Robust standard errors are in parentheses. Significance levels: * 10 percent; ** 5 percent; *** 1 percent. See notes to Table 2a.

Appendix Table 3: Robustness of the Main Results from Regressions of Giving on Treatments

	# Worthiness Treatments		Black Picture		R^2	N
Regression Specification:						
1. Baseline (Non-Black Respondents Only)	14.1***	(5.4)	-2.1	(2.6)	0.126	751
2. Entire Sample	11.4**	(4.8)	-2.1	(2.4)	0.126	949
3. Whites Only	12.9**	(6.2)	-3.7	(3.0)	0.128	602
4. Ordered Probit	0.43**	(0.17)	-0.04	(0.08)	0.031	751
5. Just Salvation Army	9.6	(8.0)	2.2	(3.8)	0.218	364
6. Just TES	15.4**	(7.3)	-5.3	(3.8)	0.103	387
7. Censored Regression	26.9***	(10.1)	-2.7	(4.9)	0.020	751
8. No Demographic Controls	17.3***	(5.5)	-1.7	(2.7)	0.026	751
9. Additional Controls	13.4**	(5.4)	-0.4	(2.6)	0.176	743
10. Hypothetical Giving as Dependent Variable	-4.1	(3.5)	0.5	(2.3)	0.088	750
11. Self-Reported Preference for Government Spending on the Poor in Tuscaloosa as Dependent Variable	0.40**	(0.21)	-0.08	(0.11)	0.106	751
12. Self-Reported Preference for Charity Spending on the Poor in Tuscaloosa as Dependent Variable	0.22	(0.17)	0.05	(0.08)	0.092	746

Note: Results are weighted to correct for oversampling of black respondents. The sample is limited to respondents with nomissing race and worthiness perceptions. Robust standard errors are in parentheses. Significance levels: * 10 percent; ** 5 percent; *** 1 percent. The baseline regression is the regression of giving during the experiment on treatments and demographics as reported in column 4 of Table 2. All other regressions are identical to the baseline regression except for the change noted in the first column. The additional controls in row 9 consist of: the perceived effectiveness of the charity (measured as fraction of dollars donated to charity reaching needy recipients), the self-reported importance of "helping others in need," and the self-reported importance of "earning a lot of money."