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The effects of race, gender, and survey methodologies on giving in the US

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Abstract

This study examines the effects of race and gender on philanthropy and interaction effects between race or gender and survey methodologies. Results indicate differences in philanthropic behaviors by gender but not by race. We also find significant interaction effects between survey methodologies and race and gender, which may have important implications for social science research in which race and/or gender explain or predict behaviors. © 2004 Elsevier B.V. All rights reserved.

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Economic theory dictates that public goods and goods with large externalities can lead to market failures that can be ameliorated by taxes, subsidies, or regulation. Private philanthropy can play an important role in addressing these market failures, especially for smaller, less politically powerful groups (Weisbrod, 1975) whose preferences are not reflected in the outcomes of majority voting. Conditional on their ability to overcome free riding, marginalized groups, such as women and minorities, can use the nonprofit sector as a substitute for government-supplied public goods. We test whether race and/or gender affects charitable giving by American households as measured under commonly adopted survey methodologies.

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Recent empirical research suggests that women appear to be more charitable than men (e.g., [Andreoni and Vesterlund, 2001](#); [Bolton and Katok, 1995](#)); however, race differences only lately have begun to receive serious study ([O'Neill, 2001](#); [Conley, 2000](#); [Musick et al., 2000](#)). We examine these effects of race and gender across different survey methodologies. [Bertrand and Mullainathan \(2001\)](#) document that question order and wording matter in survey research, as do framing and norming and the response alternatives. Although much empirical work has included race and gender as control variables in research on giving and volunteering, we found no research that tested whether survey methodologies have differing effects on demographic subgroups.

In an experiment conducted by [Andreoni and Vesterlund \(2001\)](#), results indicated systematic differences by sex—men tend to be more price sensitive, whereas women tend to be “equalitarians” who prefer to share more evenly—a finding consistent with the theoretical literature on gender socialization. Recent reports also have found women to be more philanthropic than men (e.g., [Independent Sector, 1995](#); [Council of Economic Advisors, 2000](#)). [Eller \(1996–1997\)](#) finds gender differences in charitable bequests, but some of this is explained by the fact that wives tend to outlive husbands.

The literature on racial or ethnic differences in giving has not received as much attention and the results are more ambiguous ([Wilson, 2000](#)). Several studies have found that racial differences in giving and volunteering disappear after controlling for education, income, and occupational status (e.g., [Mesch et al., 2002](#); [O'Neill, 2001](#); [Clary et al., 1996](#)). [Conley \(2000\)](#) found that the black–white gap is eliminated, controlling for human capital differences. In contrast, [Van Slyke and Eschholz \(2002\)](#) found that whites were significantly more likely to donate and donate more than African Americans.

We anticipate that, if there are differences in giving by race and/or by gender, some of those differences may be a result of how different groups “hear” or respond to the questions ([Bertrand and Mullainathan, 2001](#)). Much of popular literature (e.g., [Gray, 1992](#)) speaks to the fact that different groups, particularly men and women, hear and process information differently. [Smith et al. \(1999\)](#) describe ethnographic differences with some minority groups describing their philanthropic activities as “sharing” and “helping” (p. 6) rather than “charity.” [Ramos and Kasper \(2000\)](#) state, “nonprofit fundraisers must appeal to prospective Latino donors differently than they would mainstream white donors” (p. 22).

1. Methods

“Giving” is operationalized as total dollars given by American households to nonprofits in the previous year (surveys were conducted during the Fall, 2001). Our independent variables of interest are gender and race (white and nonwhite). We include the following demographic variables, which have been found in other research to be significant predictors of giving, as control variables: age, household income, marital status, and education. Because the sample includes many nondonors, we use Probit to estimate the decision to give and Tobit to correct for the truncation in the distribution of the amount given.

Survey data rely on the memories of respondents, and survey methodologies vary in their approaches to prompting respondents' recall of events. Our survey modules vary in the number and types of memory prompts, allowing us to compare and contrast reported giving across five different survey methodologies. In developing the different survey methodologies, we replicated central design elements of the most widely cited surveys (see [Rooney et al., 2001, 2002](#) for a more complete description of the method and data). The “Area” module included several prompts based on giving by “area” such as education, religion, etc. The “Method” module prompted respondents based on “method” of fundraising contact

such as direct mail, telethon, etc. The “PSID” module used several prompts based on key areas of giving with one prompt for method of giving. The “Very Short” module used one general prompt for giving. We also used a module based on survey techniques developed by O’Neill and Roberts (2000) that combined several prompts for giving by area and by method of contact (“Method–Area”).

To collect the data, Walker Information used random digit dialing of households in the USA during the Fall, 2001. The total sample size was 4200—consisting of 800–900 respondents in each of the five survey methods. Each respondent participated in only one of the surveys. Married households constituted 58% of the sample and 20% were minorities. While we asked more specific questions about race and ethnicity, subsample sizes preclude us from focusing on each racial or ethnic group. Of the singles, 60% were females.

2. Results: impact of race, gender, and methodology on giving

First, we present the unconditional sample means for the variables of interest. Then, we summarize the Probit and Tobit results for three different samples: all households, married households only, and singles only. Examining the unconditional means, we find that single males report giving slightly less than single females (US\$924 vs. US\$962); however, these differences are insignificant ($t=-0.25$). We found significant differences between marrieds and singles (US\$1866 vs. US\$947; $t=7.37$), married men and married women (US\$2216 vs. US\$1600; $t=3.33$), and whites and minorities (US\$1572 vs. US\$1114; $t=2.96$).

We compare single males with single females because marriage confounds gender and other factors, and because marital status may be more important than gender in predicting giving (Kaplan and Hayes, 1993). We test the impact of the gender and marriage specification by creating two subsamples (all households and singles only). We start by comparing all households to single females and single males (the omitted category) and then examine gender differences in the sample of singles only.

For each sample, we tested two models: the base model and the fully interactive model. The base model controls for race, gender, and survey method, but not interaction effects. The fully interactive model controls for the same variables and includes all possible interactions between race and/or gender and the various survey methods. Likelihood ratio tests confirm that the fully interactive model significantly enhances the explanatory power of the base model in several cases, so we will restrict our discussion to the fully interactive models. While interactions between race and module or gender and module fail the likelihood ratio test, the fully interactive model (all permutations of race, gender and module) is significantly better in most of the analyses. The test statistic for the Tobit in the singles only is 26.2, which exceeds the critical value of 22.36 with $p=0.05$, but it fails the test for All. Conversely, in the Probits, the test statistic for the singles only fails the test but for All it is significant (test statistic for All=22.68 and the critical value at $p=0.05$ is 22.36).

2.1. Marital status and gender effects

In looking at the married vs. gender effects, we find that married households are between 5% (married male respondents) and 11.6% (married female respondents) more likely to donate than single men (see Table 1). Marrieds also gave between US\$378 (married males) and US\$519 (married females) more than single males. After taking into account the impact of the survey–method interaction effects with race and

Table 1

Differences in the probability of giving using Probit

| | All | | Singles only | |
|--------------------------------|------------------|---------|------------------|---------|
| | Marginal impacts | S.E. | Marginal impacts | S.E. |
| Constant | -0.009 | 0.141 | 0.028 | 0.188 |
| Demographics: | | | | |
| Age | 0.001*** | 0.002 | 0.001 | 0.003 |
| Single Female | 0.119*** | 0.144 | 0.131*** | 0.167 |
| Married Female | 0.116*** | 0.141 | | |
| Married Male | 0.050*** | 0.090 | | |
| Single Male (Omitted) | | | | |
| Income | 0.035*** | 0.021 | 0.034*** | 0.032 |
| High School Educ. or < | -0.087*** | 0.063 | -0.124*** | 0.092 |
| Some College+ (Omitted) | | | | |
| Minority Household | -0.009 | 0.198 | -0.050 | 0.253 |
| White Household (Omitted) | | | | |
| Survey Methods: ^b | | | | |
| Very Short (Omitted) | | | | |
| PSID | 0.010 | 0.137 | -0.062 | 0.193 |
| Area | -0.010 | 0.131 | 0.013 | 0.196 |
| Method | 0.219*** | 0.181 | 0.165*** | 0.207 |
| Method–Area (MA) | 0.185*** | 0.172 | 0.263*** | 0.205 |
| Interaction Effects: | | | | |
| Omits: Single Males | | | | |
| Omits: Married Couples | | | | |
| Omits: Non-Female, White HHs | | | | |
| Omits: Very Short Module | | | | |
| Female×Minority | -0.116** | 0.262 | -0.027 | 0.294 |
| Female×PSID | -0.077** | 0.183 | -0.045 | 0.252 |
| Female×Area | -0.048 | 0.177 | -0.069 | 0.255 |
| Female×Method | -0.110** | 0.235 | -0.034 | 0.270 |
| Female×MA | 0.033 | 0.263 | – | |
| Minority×PSID | -0.079 | 0.284 | 0.004 | 0.409 |
| Minority×Area | 0.009 | 0.308 | -0.003 | 0.402 |
| Minority×Method | -0.126* | 0.327 | 0.129* | 0.338 |
| Minority×MA | -0.007 | 0.349 | 0.149 | 0.488 |
| Female×Minority×PSID | 0.165** | 0.383 | 0.012 | 0.518 |
| Female×Minority×Area | 0.086 | 0.391 | -0.002 | 0.489 |
| Female×Minority×Method | 0.317*** | 0.476 | – | |
| Female×Minority×MA | 0.169 | 0.596 | – | |
| <i>n</i> | 3368 | | 1409 | |
| Adjusted <i>R</i> ² | 0.148 | | 0.176 | |
| Log likelihood | -1225 | | -571 | |
| % Correct predictions | | | 0.814 | |
| Constant | -3479.65*** | 361.808 | -1995.270*** | 418.840 |
| Demographics: | | | | |
| Age | 21.13*** | 4.53588 | 11.845*** | 5.084 |
| Single Female | 525.90** | 371.153 | 421.568* | 420.727 |
| Married Female | 519.01** | 361.719 | | |
| Married Male | 377.58*** | 220.399 | | |

Table 1 (continued)

| Differences in the amounts donated using Tobit ^a | | | | |
|---|-----------------|---------|-----------------|----------|
| | All | | Singles Only | |
| | Marginal impact | S.E. | Marginal impact | S.E. |
| Demographics: | | | | |
| Single Male (Omitted) | | | | |
| Income | 451.91*** | 44.0654 | 345.894*** | 57.461 |
| High School Educ. or < Some College+ (Omitted) | −540.18*** | 157.094 | −477.094*** | 193.926 |
| Minority Household | −25.19 | 545.79 | −219.460 | 679.249 |
| White Household (Omitted) | | | | |
| Survey Methods: ^b | | | | |
| Very Short (Omitted) | | | | |
| PSID | 394.78* | 368.309 | −147.194 | 484.628 |
| Area | 70.31 | 355.954 | −264.750 | 470.038 |
| Method | 799.29*** | 357.36 | 524.516* | 448.829 |
| Method–Area (MA) | 1345.12*** | 355.853 | 457.312* | 462.110 |
| Interaction Effects: | | | | |
| Omits: Single Males | | | | |
| Omits: Married Couples | | | | |
| Omits: Non-Female, White HHs | | | | |
| Omits: Very Short Module | | | | |
| Female×Minority | −666.29 | 731.213 | −402.054 | 850.737 |
| Female×PSID | −353.50 | 479.653 | −119.886 | 622.493 |
| Female×Area | −15.29 | 466.031 | −83.030 | 604.160 |
| Female×Method | −719.18** | 469.381 | −668.627* | 591.293 |
| Female×MA | −522.15* | 465.703 | −145.538 | 600.832 |
| Minority×PSID | −669.47 | 809.75 | −229.450 | 1071.590 |
| Minority×Area | 619.06 | 832.196 | 1687.490*** | 992.114 |
| Minority×Method | −737.80 | 789.685 | −282.588 | 928.689 |
| Minority×MA | −505.55 | 775.996 | 197.845 | 946.122 |
| Female×Minority×PSID | 1286.83* | 1090.69 | 1276.518 | 1364.660 |
| Female×Minority×Area | −208.34 | 1075.67 | −1260.179* | 1252.930 |
| Female×Minority×Method | 1812.41*** | 1055.49 | 1411.117* | 1198.870 |
| Female×Minority×MA | 1113.31* | 1039.4 | 693.438 | 1199.130 |
| Sigma | 2395.41*** | 49.8766 | 1785.095*** | 63.147 |
| <i>n</i> | 3368.00 | | 1409 | |
| Log likelihood | −27,757.30 | | −10,861 | |

The values are marginal impacts (not the betas), but the standard errors are with respect to the betas.

Very Short: one general prompt for giving.

PSID: several prompts based on key areas of giving and one prompt for method of giving.

Area: several prompts based on the area of giving (e.g., education, religion, health, etc.).

Method: prompts based on method of fundraising contact (e.g., direct mail, telethon, etc.).

Method–Area (MA): several prompts for giving by area and by method of contact.

^a Statistical significance with respect to the latent indicator variable.

^b Survey Methods: all modules had the exact same demographic questions but varied in types and numbers of prompts about donations.

* $p \leq 0.1$.

** $p \leq 0.05$.

*** $p \leq 0.01$.

gender, single females are 11.9% more likely to be donors than were single males in the overall sample (p -value=0.000) and 13.1% more likely to be donors than single men in the Singles Only subsample (p =0.000). In both samples, single females donated over US\$400 more than single males, holding everything constant. The gender differences are larger with respect to both the reported probability of giving at all and the dollars given in the fully interactive model relative to the base model, especially for the singles only subsample, suggesting the importance of the interaction effects.

2.2. Race effects

After controlling for interaction effects, minorities are not significantly different from whites in either sample for either the probability of donating at all or the amounts donated. It should be noted that in the base model, minorities were significantly less likely to give and to give significantly fewer dollars than whites. This is strong evidence of the importance of testing for the interaction effects between race and the survey methods.

2.3. Methodology effect

The Probit and Tobit results indicate that the coefficients for the research methodologies tend to be significant relative to the Very Short module (the omitted variable). Hence, longer more detailed prompts are more likely to stimulate recall (see Rooney et al., 2001, 2002). The interaction effects between the methods and race and/or gender suggest that women and minorities, especially female minorities, do respond to the survey methodologies differently from men and whites. Likelihood ratio tests confirm that the fully interactive model enhances the explanatory power of the base model: the number and types of prompts not only matter in explaining giving totals, but they matter differently by gender and race. The exact effect of the interactions is difficult to ascertain, but, for example, single minorities recall giving more money than single whites when using the “Area” method. Minorities, especially minority women, seemed most responsive to the “Method” module: women as a whole were more likely to recall giving at all with the “Method” module but less likely to recall giving more money using that method. This suggests that at least for minority women, it is important to stimulate their recall of philanthropy with questions about the method of fundraising solicitation.

In fact, we find evidence that minority women are quite sensitive to the “framing” of the questions. When we take the “average” minority woman and predict her giving holding everything but the survey module constant, we find that these estimates range from US\$1229 (Very Short) to US\$2509 (Method–Area) in the overall sample and a very similar range in the singles only (US\$1202 vs. US\$2483). Furthermore, likelihood ratio tests found that the fully interactive (race, gender, and module) models were significantly better at explaining the data than when interactions for race and module and gender and module were included, reinforcing the notion that there are important differences in framing for minority women.

3. Discussion and conclusion

Our results suggest that minorities are not disadvantaged in their ability to self-finance public goods, but that single women are better able than single men to supplement government-provided goods with

private philanthropy—at least after controlling for differences in income and other relevant factors. Our findings suggest that there are important differences in giving by gender but not by race. After controlling for demographic variables, single women are significantly more likely to give at all and to give more money than single men. These results are consistent with Andreoni et al. (2003) who found that, among single people, women were more likely than men to give across all categories of charity. We also find that married individuals were more likely to donate than single men and to give significantly more money than did single males.

We find that differences between minorities and whites were insignificant in both the overall sample and the Singles Only subsample. These results support other research that has found racial differences in giving and volunteering tend to go away after controlling for other variables (e.g., Musick et al., 2000). We also find support for the hypothesis that there are differences in how men and women and whites and nonwhites hear questions about their philanthropic behavior, especially among minority women.

Perhaps the most important research contribution of this study is that it questions the validity of survey-based social science research on race and gender. Prior results may reflect framing bias. This paper serves as a call to look for interactions in other social science research in order to make sense of divergent findings from analyses of surveys and to extend the persuasiveness of the results. In particular, this paper demonstrates that changing the way in which the memory is prompted can reverse some reported differences. Further research using this “module approach” is likely to shed light on a variety of other social and policy questions such as welfare, parenting, job search, and pay, in which gender and race are likely to matter.

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