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Health-Related Philanthropy: Toward Understanding the Relationship Between the Donation of the Body (and Its Parts) and Traditional Forms of Philanthropic Giving

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The academic study of philanthropy has focused on the public good from private action and includes the study of the public good of improving health and studies of the various determinants of giving. Yet one very obvious act of giving in the health field has been largely neglected in philanthropic studies: the donation of the body, such as blood and tissue donation, organ donation, and the donation of one's body for medical research or education. In August 2003, a research team at the Indiana University Center for Bioethics conducted a study of these two aspects of philanthropy as part of a project titled Health Related Philanthropy: The Donation of the Body (and Parts Thereof). This article describes the project and summarizes the results of a national survey conducted as part of that project.

Keywords: *health-related philanthropy; body donation; giving; organ donation*

Consider the following examples of donation.

ORGAN TRANSPLANTATION

On May 24, 2007, the Organ Procurement Transplant Network (OPTN) reported that more than 96,000 people in the United States were on a waiting list to receive a solid organ for transplantation with the vast majority waiting for a kidney (about 71,600), followed by those awaiting a liver (16,890), lung (2,745), heart (2,730), kidney or pancreas (2,320), pancreas (1,675), and intestine (225) (OPTN, 2006). The waiting list involves the most basic formulation of supply and demand: There are more people waiting

than there are organs that have been donated. Although the number of donors and transplant procedures are increasing each year, the increases do not keep pace with the number of individuals who remain on the list or are added. Sadly, approximately 19 people die every day (7,000 per year) waiting for a matched organ that does not arrive in time (U.S. Department of Health and Human Services, 2006).

BLOOD DONATION

On July 21, 2006, the Indiana Blood Center reported on its website that Indianapolis had seriously low levels of O+ and O- blood types, with stockpiles well below the 550 units of blood needed daily to meet the needs of Indiana hospitals and patients. Despite blood donor drives and new techniques for using less blood in surgery, shortages are still a common feature at the nation's blood centers, and in extreme cases, shortage leads to delayed or cancelled surgery, and suboptimal care of patients (Indiana Blood Center, 2006).

HUMAN ANATOMY PROGRAMS

Every accredited medical school in the United States has a human anatomy program that makes use of human cadavers for research and teaching. It is a significant part of every medical student's training to be given a cadaver on which to learn the basics of human anatomy. With 125 accredited medical schools in the country, hundreds of cadavers are required every year. Students routinely "share" bodies, sometimes with five or more students learning from the same cadaver. This type of sharing may not be optimal from a teaching perspective, but one can easily see how larger shortages in the number of cadavers (for example, of a particular gender) might eventually inhibit quality teaching and research.

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TISSUE AND DNA DONATION

From the invention of clinical pathology at the beginning of the 19th century, medical science has used blood, biopsy specimens, tumors, and other tissues to understand and diagnose the causes of cancer, heart disease, diabetes, and other diseases (Ackerknecht, 1967). It is estimated that more than 300 million specimens of these biological materials are stored in the country's pathology departments, laboratories, and tissue repositories (Eiseman & Haga, 1999), the vast majority of which were collected for clinical diagnosis. But now, many countries including Iceland, Estonia, Sweden, and the United Kingdom have established "biobanks" to which citizens are contributing (literally) in the hope that health research will be stimulated by the careful study of the samples' genetic properties (Caulfield, Brown, & Meslin, 2007; Evans, Flockhart, & Meslin, 2006; Meslin & Quaid, 2004).

UNDERSTANDING HEALTH-RELATED PHILANTHROPY

Organ transplantation, blood donation, anatomical gift programs, and genetics research on tissues raise profound ethical, legal, and social issues on their own, and yet they also share a "family resemblance" insofar as they each involve acts of giving, or donation. They are, in a word, acts of philanthropy. Common to these cases are a set of philanthropic concepts, ideas that apply equally well to "traditional philanthropy" (Burlingame, 1993; Mansbridge, 1990). Many concepts such as altruism, beneficence, concern for strangers, donation, gift, responsiveness to unmet need, and voluntariness are used freely in both domains of study. Each of these concepts shares three things in common: (a) each one has an ethical or moral foundation, (b) each one provides a basis for policy, and (c) each one is critical to understanding the knowledge, attitudes about, and behavior regarding giving.

What remains particularly intriguing is the bidirectional contribution that bioethics may make to philanthropy and philanthropy to bioethics. Consider the term "voluntary" and its related terms "volunteer" or "voluntarism." To volunteer is a central element of traditional philanthropy—to give of oneself either in time spent at an event, on a board of directors, or engaged in some aspect of civil society. The concept of "volunteer" also plays a central role in medicine and health: One refers to informed and voluntary consent in which a patient willingly agrees to permit a physician or surgeon to carry out treatment. A person may be a healthy volunteer in a clinical trial of a new drug and in so doing knowingly accepts the uncertainty associated with medical research (the drug may harm them, the placebo not at all) in exchange for the feeling of helping to benefit future patients (Etchells, Sharpe, Dyeman, Meslin, & Singer, 1996). Other terms and concepts mentioned above enjoy similar types of overlap. And yet despite the obvious similarities, we have relatively little knowledge about how the terms are actually applied in specific

situations. This presented us with a unique research opportunity to examine these issues in depth.

THE INDIANA UNIVERSITY CENTER FOR BIOETHICS HEALTH
RELATED PHILANTHROPY STUDY GROUP (HRPSG)

In 2003 a research team at the Indiana University Center for Bioethics sought to address this issue. The team, lead by one of us (Eric Meslin), sought to bring together the methodology and approaches of philanthropy and bioethics to jointly inform traditional philanthropy and certain critical issues in health care. Two approaches were adopted: (a) a year-long university study group was used because of the prior success of this approach for engaging diverse participation in the discussion of topical problems in bioethics and health care (Centre for Bioethics, 1992; Moreno, Caplan, & Wolpe, 1998; University of Illinois at Chicago Research Ethics Study Group, 2002) and (b) a first-ever national household survey of public opinion. We briefly describe the study group before focusing our attention on the national survey and its additional analysis.

The study group set out to address questions such as

1. What can we learn about the public attitudes toward health-related donation and how do they compare to attitudes toward more traditional philanthropic giving?
2. Should donors have a say in where their donations go?
3. What are the boundaries for public or private partnerships in donating biologic materials?
4. Are there ethnic, religious, or cultural differences in these attitudes toward donation of body parts?

We convened the group on the campus of Indiana University–Purdue University Indianapolis, meeting 18 times from September 2003 to June 2004. An electronic listserv was used to facilitate meeting scheduling, distribute materials, and provide updates on current events related to topics of interest. An average of 15 faculty and students attended the HRPSG meetings, with some meetings including as many as 30 participants. Many studies have been conducted of public opinion on the individual topics of organ transplantation, blood donation, and volunteering (Bennett & Savani, 2004; Landolt et al., 2001; Li, Lin, & Lam, 2001; Sanner, 1998). A few other studies have been carried out to better understand any relationships between health-related philanthropy and traditional philanthropy (Bekkers, 2006; Lee, Piliavin, & Call, 1999). These studies have informed our thinking but they do not speak directly to our present interest, namely the connections between and among different forms of traditional philanthropy, the connections between and among different forms of “health-related philanthropy,” and the overall connections between the two broad categories themselves.

Several meetings were devoted to designing an instrument that would be used to capture attitudes about individual behaviors about blood donation, organ transplantation, and body donation and to compare the results with attitudes about more traditional philanthropy. The Survey Research Center at IUPUI (formerly the Public Opinion Laboratory), led by James Wolf, conducted our national telephone survey.¹

HYPOTHESIS TESTING OR HYPOTHESIS GENERATING?

We recognize that this project identifies with and relies on different theoretical, methodological, and foundational homes. Indeed, even though the project itself was substantially hypothesis generating, rather than hypothesis testing, different competing hypotheses could have been developed. For example, we might have hypothesized that the two forms of philanthropy—traditional and health-related—have common determinants (sociodemographics, personality, attitudes) but that the two do not influence each other. Alternatively, we might have hypothesized that one form of philanthropic giving substitutes for another, as just another form of “civic duty,” or that it complements another, by getting people into social networks that solicit contributions and exert social pressure.²

METHOD

Because no surveys of public opinion on the broad topic of health-related philanthropy had been conducted, our goal was to conduct a single survey of 1,000 randomly selected households throughout the United States—large enough to begin to understand the perceptions that motivate or constrain people in their willingness to donate blood, tissue, DNA, organs, or their entire body, but small enough to be conducted efficiently and affordably during the grant period. Contrasting questions relating to the donation of money and time (the traditional giving behaviors in philanthropy) were also included in the interview.

The traditional giving and volunteering questions were taken from the Center on Philanthropy Panel Study (COPPS), a module on the University of Michigan’s Panel Study of Income Dynamics (PSID). COPPS questions have been tested extensively by the Center on Philanthropy in national and regional studies of giving, and by the staff at the PSID. Research has found that survey methods play an important role in measuring both philanthropy participation rates and the amounts of giving and volunteering (Deb, Wilhelm, Rooney, & Brown, 2003; Rooney, Mesch, Chin, & Steinberg, 2005; Rooney, Steinberg, & Schervish, 2001, 2004; Steinberg, Rooney, & Chin, 2002). In this survey, we prompted interviewees for the type of giving by subsector (i.e., mission of the charity such as religion, education, health, poor relief, etc.)

and included examples for what types of charities would be in that group, and what types of giving should not be included in some categories.

The telephone survey resulted in a sample of 1,055 adults randomly selected from households across the continental United States. Phone numbers were drawn from the four major U.S. census regions (West, Midwest, South, and Northeast) with probability proportional to the size of the population.³

FINDINGS

The response rate was 22%, a number considerably smaller than we would have liked, but nevertheless sufficient to draw some general conclusions.⁴ About 40% of the sample was male, although 48% of the U.S. population is male. Only about 16% of the sample was less than 30 years old, although more than 20% of the U.S. population is that age. As a result, weights were applied to compensate for this known nonresponse bias. The margin of error for all aggregate statistics does not exceed plus or minus 3%.

TRADITIONAL PHILANTHROPY

Consistent with other research on philanthropy, the survey found that giving financial gifts to charities was positively correlated with age and income (e.g., Rooney et al., 2001; Rooney et al., 2004; Rooney et al., 2005). Table 1 displays that this was found to be true regarding monetary gifts to both religious and nonreligious charities. About 77% gave money to any charity, 50.4% gave to a religious charity, and 61.3% donated to nonreligious charities. Older, higher income respondents were more likely to give to religious groups. Although there were some racial differences among contributors to nonreligious charities, household income was by far the strongest predictor of this type of philanthropy. Self-reported volunteerism was more prevalent among those middle aged (30 to 65) and positively correlated with income.

The sample is somewhat more philanthropically predisposed than the U.S. population overall. COPPS has found overall giving and volunteering rates to be about 10 percentage points lower than we found in this sample. COPPS is a philanthropy module that has been inserted in a long-running panel (the PSID, which started in 1968) of almost 8,000 households, who have been surveyed annually until the late 1990s and biannually since then. The philanthropy module has been added only since 2001 and is a small share of the total survey time. Therefore, we think that the respondents to the philanthropy questions in COPPS are less likely to either self-select into the sample and/or to be concerned about impressing the interviewer with how much they donate. Given that this sample was specifically surveying households about their giving and volunteering behaviors (both "health-related" and traditional

Table 1. Traditional Philanthropic Giving of Money and Time, by Demographic Characteristics

	<i>Financial Donation</i>			<i>Volunteer (%)</i>
	<i>Any (%)</i>	<i>Religious (%)</i>	<i>Nonreligious (%)</i>	
Male	76.5	51.8	61.5	40.9
Female	77.2	49.2	61.2	45.8
Age				
18 to 29	62.9	30.8	47.7	35.4
30 to 49	79.3	53.5	64.4	50.7
50 to 65	82.9	56.6	68.3	39.5
66 and older	80.6***	60.4***	62.1***	41.0
Race				
White	79.9	52.9	64.6	45.0
Black or African American	59.6	43.2	42.5	36.4
Hispanic	58.1	39.5	42.9	41.9
Other	70.6***	29.4**	52.0***	30.2
Region				
Northeast	72.5	48.0	63.4	46.3
Midwest	81.1	55.3	59.7	46.7
South	73.3	49.5	59.3	39.7
West	81.9*	49.1	66.5	43.5
Income				
< \$20,000	42.0	28.0	26.7	27.3
\$20,000 to \$40,000	74.8	42.4	55.3	39.7
\$40,000 to \$60,000	84.2	57.1	64.8	42.7
\$60,000 to \$100,000	89.0	56.7	78.1	45.9
> \$100,000	94.5***	63.8***	88.9***	63.0***
United States	76.8	50.4	61.3	43.4

Note: Values of *p* reflect chi-square analysis of all values of each demographic characteristic by dichotomous values (yes-no) for each column heading.

p* < .05. *p* < .01. ****p* < .001.

philanthropy), it is reasonable to assume that the higher reported averages for both giving and volunteering in this sample are a result of response bias (either self-selection bias and/or respondent exaggeration to please the interviewer). Although this is a concern and should be acknowledged, it is not so inconsistent with COPPS or other surveys that it would invalidate the results.

HEALTH-RELATED PHILANTHROPY

In examining the characteristics of those who indicated that they gave blood or are willing to donate other parts of their body, we again found results consistent with previous research.⁵ Table 2 presents the demographic breakdown of those involved in health-related philanthropy. People who reported that they donated blood in the past year are more likely to be young, but those who are male and higher income are more likely to report that they have given blood at some point in their lives. Women are much

Table 2. Health-Related Philanthropic Giving of Blood and Tissue, By Demographic Characteristics

	<i>Gave Blood</i>			
	<i>Lifetime (%)</i>	<i>(If Ever) Past Year (%)</i>	<i>Organ Donor (%)</i>	<i>Body (%)</i>
Male	69.2	22.0	48.0	7.2
Female	55.4***	16.5*	58.6**	6.8
Age				
18 to 29	52.9	25.2	59.9	7.7
30 to 49	64.2	21.1	55.5	5.5
50 to 65	70.7	18.7	55.2	9.3
66 and older	56.9***	6.6***	37.2***	6.1
Race				
White	64.6	20.4	57.8	7.9
Black or African American	43.2	10.2	36.4	5.8
Hispanic	48.8	13.6	26.8	0.0
Other	55.8***	18.9	38.5***	0.0*
Region				
Northeast	53.3	17.1	42.3	7.5
Midwest	61.8	21.6	54.8	7.6
South	61.2	16.5	51.5	3.8
West	66.5	23.2	65.4***	10.7*
Income				
< \$20,000	45.2	10.8	44.8	4.9
\$20,000 to \$40,000	55.2	17.9	48.5	5.3
\$40,000 to \$60,000	65.6	16.8	59.7	10.5
\$60,000 to \$100,000	73.3	25.6	62.5	5.8
> \$100,000	72.4***	26.8*	66.4***	11.6
United States	61.0	19.1	53.5	7.0

Note: Values of *p* reflect chi-square analysis of all values of each demographic characteristic by dichotomous values (yes-no) for each column heading.

*Results for categories within this demographic variable were not statistically different.

p* < .01. *p* < .001.

more likely to have signed an organ donation statement, as are younger adults and those with higher incomes. However, younger people indicated that they were much more willing to donate a kidney right now, particularly if it was to a family member (known as living related donation). Less than 10% of the adult population has made arrangements to have their entire bodies donated to science.

Additional questions were asked of respondents about their opinions on issues that might have an impact on whether they would donate blood or organs. For example,

- Knowing what the blood, organ, or body donation is to be used for (e.g., medical procedures, research, teaching, or educational purposes) seemed to have a strong impact on a person’s willingness to donate.

- Public opinion about the use of public policy to encourage organ donation is divided.
- Young, lower income individuals support tax breaks and payments to donors.

BIVARIATE RESULTS

Given that the primary goal of this project was to bring together the methodology and results of philanthropy and bioethics to shed light on the combined thematic topic of “health-related philanthropy,” we looked at the simple correlation between our measures of giving of money or time and our measures of HRP, and came to the following conclusions:

- People who have given money to religious charities are no more or no less likely to have given blood in the previous year than other people, but they are much less likely to be willing to donate organs or their whole body to science.
- Conversely, those who gave to secular organizations in the previous year are much more likely than average to have also given blood last year or to be willing to donate their organs.

Based on the cross tabs and bivariate analyses already presented, there does not appear to be a common profile that would characterize a perfect “universal giver”—the sort of person who might be habitually expected to completely give of themselves whether it be money or time or needed parts of their body. We did not expect to identify such a profile especially because even the different types of health-related philanthropy involve such complex medical issues that invoke strong and often conflicting ethical responses. But we did find some intriguing data nonetheless. The demographic characteristics of people most likely to give vary greatly across categories of donations. If there are significant predictors of a person’s willingness to give money, time, or biological materials to be found in these data, more sophisticated analytic techniques are required. This will be refined further in multivariate analyses in the next section.

MULTIVARIATE ANALYSES

To both understand the relationship among the determinants of traditional philanthropy and biological philanthropy, and the interrelationships between traditional and biological philanthropy, one of us (PMR) undertook a series of multiple regression analyses looking at these relationships. Given that both biological and traditional philanthropy cannot be negative (i.e., giving can only be positive or zero), we use Probit to estimate the probabilities of households being either traditional donors or biological donors and Tobit to estimate the dollar amounts given for traditional philanthropy. Probit and Tobit adjust

for the truncation bias from which ordinary least squares suffers. Probit tells us whether various factors affect the probability of being a donor and Tobit tells us how much each factor plays in the dollar amounts donated, holding other factors constant.

Given that prior research has shown that religious and secular giving tends to have different determinants of giving, or that some of the determinants have differential effects, we have estimated the determinants of traditional philanthropy both overall and for religious and secular giving independently. For each dependent variable of interest, we estimated three regressions:

1. A base model, which included the standard socioeconomic variables that philanthropic research has shown to be important determinants of philanthropy (e.g., Rooney et al., 2004; Rooney et al., 2005);
- 2a. For the traditional philanthropy models, we added biological philanthropy variables;
- 2b. For the biological philanthropy questions, we added whether somebody was also a cash donor;
3. For each type of model of both traditional and biological philanthropy, we added volunteerism as a separate specification, as we expected that it might have a differential effect on traditional and biological philanthropy. Also, given the volume of the results, we focus only on the sign and significance of the explanatory variables (complete results available from the authors).

Table 3 shows Probits for total giving, religious giving, and secular giving. Probits calculate the marginal or incremental effects in the likelihood that a respondent donated at all to a religious or a secular nonprofit organization (NPO; depending on the specification) for each variable, holding constant all other factors. Table 3 also demonstrates that as one ages, one is typically more likely to give at all and to religious organizations but not to secular nonprofits. Income plays an important role in explaining total giving, religious giving, and secular giving. That is, middle (\$50,000 to \$100,000) and high (\$100,000 or more) income households are significantly more likely to be donors than low-income households (less than \$50,000).

Those who refused to answer the income question are included but categorized separately. We found them to be less likely to give overall and to secular NPOs than were low-income households, but those who refused to answer the income question were no more or less likely to give than low-income households to religious NPOs. This suggests that these nonincome reporting households might in fact be "very low-income" households. This is an open question for future research.

Similarly, those with a college degree give significantly more to total giving—religious and secular—than those with a high school education or less. However, those with a graduate degree were also more likely to give overall and to secular causes, but were no more likely to donate to religious

Table 3. Summary of Significant Effects: Traditional Philanthropy and Impact of Philanthropy of Bodies and Parts on Traditional Giving

	<i>Total Giving</i>			<i>Religious Giving</i>			<i>Secular Giving</i>		
	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>
Age	n/s	+	+	+	+	+	n/s	n/s	n/s
Income (vs. low)									
Middle	+	+	+	+	+	+	+	+	+
High	+	+	+	+	+	+	+	+	+
Refused answer	-	-	-	n/s	n/s	n/s	-	-	-
Education (vs. high school or less)									
College	+	+	+	+	+	+	+	+	n/s
Graduate education	+	+	+	n/s	n/s	n/s	+	+	+
Refused answer	n/s	n/s	n/s	+	+	n/s	n/s	n/s	n/s
Religious affiliation									
Catholic	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Protestant	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Other	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Religious attendance (vs. seldom)									
Never	n/a	n/a	n/a	n/s	n/s	n/s	n/s	n/s	n/s
Weekly	+	+	+	+	+	+	n/s	n/s	n/s
Monthly	+	+	+	+	+	+	n/s	n/s	n/s
Yearly	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Male (vs. female)	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Married (vs. singles)	n/s	n/s	n/s	n/s	n/s	n/s	+	n/s	+
White (vs. minorities)	+	+	n/s	+	+	+	+	+	+
Region (vs. west)									
South	-	n/s	n/s	-	n/s	n/s	-	n/s	n/s
Midwest	n/s	n/s	n/s	n/s	n/s	n/s	-	n/s	n/s
West	n/a	+	+	n/a	n/s	n/s	n/a	n/s	n/s
North	-	n/a	n/a	n/s	n/a	n/a	n/s	n/a	n/a
Health-Related Philanthropy									
Blood donor	n/a	n/s	n/s	n/a	+	n/s	n/a	n/s	n/s
Organ donor	n/a	+	+	n/a	n/s	n/s	n/a	+	+
Body donor	n/a	n/s	n/s	n/a	n/s	n/s	n/a	n/s	n/s
Volunteer	n/a	n/a	+	n/a	n/a	+	n/a	n/a	+
Constant	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
N	1,055	1,055	1,055	1,055	1,055	1,055	1,055	1,055	1,055
Pseudo R ²	.1728	.1798	.2028	.246	.2495	.2627	.1194	.1266	.1498
Log Likelihood	-531.3	-526.8	-512.0	-550.9	-548.3	-538.7	-631.4	-626.2	-609.6

Note: n/s = not significant; n/a = not available in this regression.

groups than were those with a high school education or less. Those who refused to answer this question were more likely to donate to religious organizations than were those with a high school education or less but no more or less likely to give overall or to secular causes.

Perhaps surprisingly, there was no significant difference in the likelihood to give overall, to religious causes or to secular causes by religious affiliation.

However, we did find that “religiosity” as measured by frequency of attending formal religious services did produce some differences. Although religiosity has no effect on the propensity to give to secular causes, weekly and monthly attendance is associated with a higher likelihood of giving to religious organizations and to give at all—relative to those who seldom attend. Those who never attend or who attend yearly behave like those who report attending on a seldom basis. Clearly, the act of regular religious participation is more important than whether one is affiliated with a religious belief in predicting whether one is a donor at all or whether one donates to a religious cause. This too suggests areas of future research.

Unlike some of our earlier work with a larger dataset (Rooney et al., 2004; Rooney et al., 2005), we found no difference between male and female respondents controlling for the other factors. We also found that those who are married and single were generally not significantly different from one another—except that married respondents were more likely to be donors to secular causes than single respondents. Again, contrary to some of our earlier work (Rooney et al., 2004; Rooney et al., 2005), we found Whites more likely to be donors than minorities for all types of giving. Also, we found some regional differences in some of the models, but they were not strong, consistent patterns.

IMPACT OF BIOLOGICAL PHILANTHROPY ON THE PROBABILITY OF GIVING TO TRADITIONAL PHILANTHROPY

The most intriguing aspect of our project was to assess the relationship between and impact of one area of philanthropic giving on the other. Some key take-home findings were

- Those who reported being blood donors were no more likely to be donors overall or to secular causes.
- Blood donors were more likely to be religious donors when volunteerism is excluded, but the volunteerism variable swamps the blood donor effects when it is included, driving the difference between blood donors and nondonors to zero.
- Organ donors were more likely than nonorgan donors to give overall and to secular causes even with the volunteerism variable included. However, organ donors are no more likely to donate to religious causes than nonorgan donors.

We found no significant effects associated with being a body donor on the likelihood of donating overall or to either religious or secular causes. Being a volunteer is associated with being more likely to give overall, and to both religious and secular NPOs. As discussed earlier, being a volunteer tended to swamp some of the other effects and drove them to insignificance statistically (see Table 3).

Table 4 shows Tobits for total giving, religious giving, and secular giving. Tobits calculate the marginal or incremental effects in the amounts donated for each variable, holding constant all other factors. Table 4 demonstrates that as one ages, one gives more to religious organizations, but not to secular nonprofits or overall. Income plays an important role in explaining total giving, religious giving, and secular giving. Middle (\$50,000 to \$100,000) income households reported giving significantly more money to secular causes and in total than did low-income households, but they were not different with respect to religious giving. High (\$100,000 or more) income households gave significantly more than low-income households (less than \$50,000) overall and to both religious and secular NPOs. Those who refused to answer the income question did not give significantly different amounts from low-income households—except in the overall giving model that included biological philanthropy and volunteerism. In this model, those refusing to answer the income question gave less money on average than those who reported having low incomes—again suggesting that those refusing to answer the income question were disproportionately coming from very low-income households.

Similarly, those with a college degree give significantly more overall and to religious causes, but they give no differently to secular causes than those with a high school education or less. However, those with a graduate degree give more overall and to secular causes, but did not donate more to religious groups than those with a high school education or less. Those who refused to answer this question reported donating more money to religious organizations than were those with a high school education or less but this group did not give more or less overall or to secular causes than those with a high school education or less.

Perhaps surprisingly, there was no significant difference in the amounts donated overall, to religious causes or to secular causes by religious affiliation. However, we did find that “religiosity” as measured by frequency of attending formal religious services did produce some differences. Although religiosity has no effect on the amounts given to secular causes, weekly attendance is associated with higher levels of giving to religious organizations and overall giving—relative to those who seldom attend. Those who never attend or who attend less often than weekly behave like those who report attending on a “seldom” basis. Clearly, the act of regular religious participation is more important than whether one is affiliated with a religious belief in explaining how much money one donates overall and how much one donates to religious causes.

Unlike some of our earlier work with a larger dataset (Rooney et al., 2005), we found male respondents reported giving more to religious NPOs than female respondents, controlling for the other factors. We also found that marrieds and singles were not significantly different from one another—at least with respect to the amounts donated. Again, contrary to some of our earlier work (Rooney et al., 2005), we found Whites donated more overall

Table 4. Summary of Significant Effects: Traditional Philanthropy and Impact of Philanthropy of Bodies and Parts on Traditional Giving

	<i>Total Giving</i>			<i>Religious Giving</i>			<i>Secular Giving</i>		
	<i>Tobit</i>	<i>Tobit</i>	<i>Tobit</i>	<i>Tobit</i>	<i>Tobit</i>	<i>Tobit</i>	<i>Tobit</i>	<i>Tobit</i>	<i>Tobit</i>
Age	n/s	n/s	n/s	+	+	+	n/s	n/s	n/s
Income (vs. low)									
Middle	+	+	n/s	n/s	n/s	n/s	+	+	+
High	+	+	+	+	+	+	+	+	+
Refused answer	n/s	n/s	-	n/s	n/s	n/s	n/s	n/s	n/s
Education (vs. high school or less)									
College	+	+	+	+	+	+	n/s	n/s	n/s
Graduate education	+	+	n/s	n/s	n/s	n/s	+	+	+
Refused answer	n/s	n/s	n/s	+	+	+	n/s	n/s	n/s
Religious affiliation									
Catholic	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Protestant	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Other	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Religious attendance (vs. seldom)									
Never	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Weekly	+	+	+	+	+	+	n/s	n/s	n/s
Monthly	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Yearly	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Male (vs. female)	n/s	n/s	n/s	+	n/s	+	n/s	n/s	n/s
Married (vs. singles)	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
White (vs. minorities)	+	+	+	+	n/s	n/s	+	+	+
Region (vs. west)									
South	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Midwest	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
West	n/a	n/s	n/s	n/a	n/s	n/s	n/a	n/s	n/s
North	n/s	n/a	n/s	n/s	n/a	n/a	n/s	n/a	n/a
Health-Related Philanthropy									
Blood donor	n/a	+	n/s	n/a	+	+	n/a	+	n/s
Organ donor	n/a	n/s	n/s	n/a	n/s	n/s	n/a	n/s	n/s
Body donor	n/a	n/s	n/s	n/a	n/s	n/s	n/a	n/s	n/s
Volunteer	n/a	n/a	+	n/a	n/a	+	n/a	n/a	+
Constant	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
N	1,055	1,055	1,055	1,055	1,055	1,055	1,055	1,055	1,055
Pseudo R ²	.0065	.0068	.008	.0162	.0167	.0177	.0084	.0087	.0104
Log likelihood	-8286.9	-8283.8	-8274.4	-5807.5	-5804.4	-5798.6	-6508.2	-6506.4	-6495.0

Note: n/s = not significant; n/a = not available in this regression.

and to secular causes than did minorities. Whites also gave more to religious causes than did minorities in the base model, but that effect became insignificant once we included biological philanthropy and volunteerism. We found no significant regional differences with respect to the amounts donated.

IMPACT OF BIOLOGICAL PHILANTHROPY ON THE AMOUNTS OF MONEY DONATED TO TRADITIONAL PHILANTHROPY

Those who reported being blood donors donated more cash overall and to both religious and secular causes. Blood donors gave more dollars to religious organizations even when volunteerism was included in the model. However, blood donors' additional giving overall and to secular causes became insignificant when volunteerism is included. Neither body nor organ donors gave more money overall to either religious or secular causes than did nonorgan donors or nonbody donors. Being a volunteer is associated with giving more overall, and to both religious and secular NPOs. As discussed earlier, being a volunteer tended to swamp some of the other effects and drove them to insignificance statistically (see Table 5).

Table 5 shows Probits for organ, blood, and body donations. These Probits calculate the marginal or incremental effects in the likelihood that a respondent donated (or committed to donating) an organ, blood, or their body for each variable, holding constant all other factors. Table 5 demonstrates that age has no effect on the probability of being a biological donor. Middle-income (\$50,000 to \$100,000) households were more likely to be organ and blood donors than were low-income households, but no more likely to be body donors. High-income households (\$100,000 or more) were significantly more likely to be organ donors than low-income households. High-income households were more likely to be blood and body donors in the base models, but lost significance when we added whether the person was a cash donor and when we added volunteerism to the base model. In addition, high-income households were more likely to be volunteers. Those who refused to answer the income question were less likely to be an organ donor, but more likely to be a blood donor than low-income households and no different with respect to body donations.

Perhaps surprisingly, education tended not to be a factor in biological philanthropy. The sole exception was that college grads and those with a graduate education were more likely to be blood donors, holding everything else constant. However, this education effect lost its significance when we added either traditional philanthropy or volunteerism to the base model for biological philanthropy.

Neither religious affiliation nor religiosity has a significant effect on any of the forms of biological philanthropy, holding other factors constant statistically. This may be the result of many factors, including the fact that some religious teachings might encourage biological philanthropy, whereas other religious teachings might prohibit biological philanthropy. These factors may have been offsetting. Our study may not have been able to differentiate adequately between these effects. This should be an area of future research.

Men and women have very clear and different behaviors with respect to biological philanthropy. Women were more likely to be organ donors and men were more likely to be blood donors, holding other factors constant.

Table 5. Summary of Significant Effects: Philanthropy of Bodies and Parts Thereof

	<i>Organ</i>			<i>Blood</i>			<i>Body</i>		
	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>	<i>Probit</i>
Age	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Income (vs. low)									
Middle	+	+	+	+	+	+	n/s	n/s	n/s
High	+	+	+	+	n/s	n/s	+	n/s	n/s
Refused answer	n/s	n/s	-	+	+	+	n/s	n/s	n/s
Education (vs. high school or less)									
College	n/s	n/s	n/s	+	n/s	n/s	n/s	n/s	n/s
Graduate education	n/s	n/s	n/s	+	n/s	n/s	n/s	n/s	n/s
Refused answer	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Religious affiliation									
Catholic	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Protestant	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Other	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Religious attendance (vs. seldom)									
Never	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Weekly	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Monthly	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Yearly	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Male (vs. female)	-	-	-	+	+	+	n/s	n/s	n/s
Married (vs. singles)	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
White (vs. minorities)	+	+	+	+	n/s	n/s	+	n/s	n/s
Region (vs. west)									
South	-	+	+	n/s	n/s	n/s	-	-	-
Midwest	-	+	+	n/s	n/s	n/s	n/s	n/s	n/s
West	n/a	+	+	n/a	n/s	n/a	n/a	n/a	n/a
North	-	n/a	n/a	-	n/a	n/s	n/s	n/s	n/s
Cash donation (yes-no)	n/a	n/s	n/s	n/a	n/s	+	n/a	n/s	n/s
Volunteer (yes-no)	n/a	n/a	+	n/a	n/a	+	n/a	n/a	+
Constant	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
N	1,055	1,055	1,055	1,055	1,055	1,055	1,049	1,049	1,049
Pseudo R ²	.077	.1424	.1471	.0653	.0938	.0963	.0654	.2068	.2163
Log likelihood	-673.5	-625.8	-622.4	-658.0	-637.9	-636.2	-247.6	-210.2	-207.6

Note: n/s = not significant; n/a = not available in this regression.

There were no significant gender differences in the probability of being a body donor. Marital status has no effect on the probability of being a biological donor, holding all other factors constant.

Whites were more likely than minorities to be organ donors, in all models, holding income and other factors constant. Whites were also more likely to be blood and body donors than minorities in the base model, but these differences became insignificant when we added traditional giving and volunteering behaviors to the base model.

Regional differences in biological philanthropy were largely insignificant or inconsistent. The one consistent pattern was that residents of southern states were significantly less likely to report being a body donor.

IMPACT OF TRADITIONAL PHILANTHROPY ON BIOLOGICAL PHILANTHROPY

Being a cash donor is positively associated with being a blood donor, but not being an organ or body donor. Volunteers are uniquely more likely to be biological donors. They are significantly more likely to be organ donors, blood donors, and body donors, holding all other factors constant (see Table 5).

CONCLUDING THOUGHTS

This project began when a multidisciplinary group of scholars from different disciplines (bioethics, philanthropic studies, religion, sociology, economics, law, history, medicine, and science) recognized that they shared some common conceptual ground about very different key social and policy issues. The bioethics scholars have long been interested in the topic of why people choose (or choose not) to give of themselves in some of the most tangible and literal ways one can imagine: donating blood that will be used to save lives or to carry out research, signing a card that will direct transplant surgeons to remove organs or to permit a medical students to learn about human anatomy. These decisions are inextricably linked to profound moral, religious, and social norms about the body, life, death, and the care of strangers. They are also connected to more global concepts of giving, donation, and volunteerism. Although we know a little bit about each of these topics, there is much to learn about how they relate to each other.

Similarly, philanthropic studies scholars have long been interested in why people give of themselves in other tangible (though less demonstrably physical) ways. What motivates them to open their wallets and give or to reallocate their already precious time to volunteer for organizations or on boards and committees? As with the donations that are biological, these traditional philanthropic gifts are no less ethically laden or socially meritorious.

None of us could have predicted where the project would have led, but it is exquisitely clear to each of us that we have uncovered a gold mine of topics to pursue long into the future. Will we ever find that elusive "universal donor"? Will we ever fully understand the complex factors that inform personal decision making? Time will tell, but we did make progress toward some areas for further investigation so that the next group venturing into this territory may have some guideposts to help them.

We found many common determinants of giving of both cash and bodies and parts thereof, suggesting that philanthropic study of both traditional and

health matters should be an area of fertile collaboration. Furthermore, given that we found no significant effects in either biological philanthropy, being associated with decreases in traditional philanthropy or measures of traditional giving being associated with decreases in biological philanthropy, our results do not appear to support a hypothesis that the two forms of philanthropy might be substitutable forms of civic engagement. Finally, we did find some evidence that biological philanthropy is positively associated with traditional philanthropy in predicting both the incidence and amounts of traditional philanthropy. We also found that traditional forms of philanthropy, especially volunteerism, are associated with higher incidences of biological philanthropy. Both of these results are consistent with the notion that traditional and biological philanthropy are complementary. That is, traditional philanthropy encourages or stimulates biological philanthropy and vice versa.

Will we ever truly be able to say that we understand the facts and values that motivate individuals and their families when making choices about organ or blood donation, or financial giving to organizations? Only through further research will answers be possible.

Notes

1. Wolf carried out this survey under contract with the Indiana University Center for Bioethics. His research team included S. Andrew Hutcherson, Brianne Peyton, and Eric Riddles.

2. We are grateful for one of our reviewers, who suggested these possible hypotheses. Although they were not our hypotheses, we believe that they represent important possible ways of studying this issue.

3. The study was determined to be exempt from review by the Indiana University Institutional Review Board. Telephone interviews began on February 29, 2004, and ran through March 24, 2004.

4. Response rate is calculated using the American Association for Public Opinion Research Standard Definitions (Formula 3). This calculation divides the total number of completions by the total number of eligible households that were contacted. In situations in which eligibility could not be determined, a fraction of the total unknowns is considered eligible.

5. One of the more intriguing limitations in studies of this kind is whether individual reports of behaviors are accurate, either because individuals may have forgotten or because they wish to give what they believe is the desired answer. A more comprehensive study would have matched responses with evidence of donating blood.

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