

## ACSEP Basic Research Working Paper No. 2

**Framing the Roots of Philanthropy**

By Swee-Sum Lam, Gabriel Henry Jacob, David Jeremiah Seah

**Executive Summary**

What are the motivations of philanthropic behaviour? Do the same motivations drive both donation (giving of money) and volunteering (giving of time)? Does faith and religion explain philanthropy? Does faith and religion motivate philanthropy beyond the religious sector? These are the questions being answered in this study. The sample used is the 2005 US household data which capture charitable giving and volunteering by sector, religious services attendance, and demographics of households.

First, the paper isolated five “roots” of charitable giving, viz. economic resources, intergenerational learning, religious spirituality, religious affiliation, and social integration. “Economic resources” measures the wealth of a person. “Intergenerational learning” measures the amount of social learning by children attributable to parents’ charitable and volunteering behaviour. “Religious spirituality” measures the amount of involvement in religious activities by the visits to place of worship in a year. “Social integration” measures the level of connectedness with a community using proxies like parents’ education and number of their children. “Religious affiliation” measures one’s expression of faith via affiliation with say, the Catholic church.

Second, the paper tested the relation between these five “roots” and household donations and individual volunteering hours, while accounting for other possible influential factors such as economic status, human, social and cultural capital, and other demographic variables.

It is found that the key factors that explain more donations include “economic resources”, “intergenerational learning”, “religious spirituality” and “social integration”. Specifically, reducing marginal income tax rates by 1% tends to increase donations by 6.7%; increased parental donations of 1% is correlated with an increase of one’s donations of 0.1%; doubling the frequency of religious attendance correlates with increased donations of 51%; and completing tertiary education yields increased donations of 90% compared one with just high-school education. In summary, the most economically significant motivation for donations is the tax incentive. Hence, policymakers can consider using this incentive to increase donations.

Individual volunteering hours are highly related to “intergenerational learning” and “social integration”. Specifically, role-modelling effects of the mother is stronger in the child, and completing tertiary education tends to increase incidence of volunteering by 67% more than one with just high-school education. A doubling of the frequency of religious attendance is associated with a 28.8% increase in aggregate volunteering hours. Hence, policymakers can also attract religious groups to volunteer in non-religious causes.

## **Framing the Roots of Philanthropy**

Swee-Sum Lam, Gabriel Henry Jacob, David Jeremiah Seah\*

This version: June 2011

### **ABSTRACT**

This study provides a parsimonious methodological framework for synthesis of multi-disciplinary determinants of philanthropic behavior. We find strong religious motivation for philanthropy, both directly in the religious sector and more significantly, indirectly with spillover effects, in the non-religious sectors. Interestingly, we find that religious spirituality and religious affiliation explain philanthropy independent of each other. Other independent roots of philanthropy include economic resources, intergenerational learning, and social integration.

One's ability to give from one's economic resources explains charitable donation but not volunteering. While intergenerational learning in a child's growing years drives philanthropic behavior, one's social integration, channels the giving to diverse sectors over one's life time. We evaluate the intergenerational effects of philanthropy via parental role modeling on children's philanthropic behavior. Consistent with social learning theory, the norms learnt from parents motivate philanthropy, and one does not have to be wealthy, religiously spiritual or affiliated, or socially integrated to give.

Keywords: philanthropy, charitable donation, volunteering, religion, intergenerational learning

---

\* Swee-Sum Lam, PhD, FCPA, CFA, is Director of Asia Centre for Social Entrepreneurship and Philanthropy (ACSEP) and Associate Professor of Finance, NUS Business School, National University of Singapore. Lam is the corresponding author. National University of Singapore, Mochtar Riady Building, 15 Kent Ridge Road, Singapore 119245. Email: swee.sum@nus.edu.sg; Work: +65 6516 3037. Gabriel Henry Jacob is research associate, ACSEP, NUS Business School, National University of Singapore. David Jeremiah Seah, PhD, is President, Asian Pastoral Institute. His research focuses on spirituality and organizational transformation.

Lam acknowledges funding support from the Ministry of Education of Singapore (AcRF Tier 1 research grant R-315-000-084-112). All remaining errors are ours.

## 1. INTRODUCTION

Philanthropy includes the giving by private individuals of their money or time to charitable organizations (Carter & Marx, 2007). The former act is commonly referred to as “charitable giving” or “charitable donation” and the latter act, “volunteering”. Philanthropy is also a private action for the public good, and is a critical indicator of the capacity of a community to identify public problems and to develop strategies for addressing them.

Recent systematic reviews on philanthropy point to no lack of empirical findings on what may explain charitable donation or volunteering (e.g., Batson, 1998; Bekkers & Wiepking, 2011; Piliavin & Charng, 1990; Sargeant & Woodliffe, 2007). Yet, many of such studies often take on a mono-disciplinary approach in the analyses. Moreover, Bekkers and Wiepking (2011, p.926) observe that “no systematic reviews on philanthropy exist in the fields of sociology or psychology”. Given the multiple (single focus) lenses from which philanthropy has been evaluated and analyzed, there lacks a unified framework which can help synthesize the diverse empirical evidence drawn from marketing, social psychology, sociology, economics, and management to give coherence to this new field of research.

In this study, we apply principal component analysis to provide a parsimonious framework for synthesis of multi-disciplinary determinants of philanthropic behavior. We identify the key latent factors behind the myriad demographic, socioeconomic and religious variables which have been documented in the extant literature to influence philanthropic behavior. We evaluate the questions: What are the major determinants or roots of philanthropic behavior? Do the same determinants drive both charitable donation and volunteering? What is the role of religion in philanthropy? Does religion motivate philanthropy beyond the religious sector?

Will and Cochran (1995) find distinct differences in how members of different religious (and denominational) affiliations respond in generosity. Studies on the role of religion in volunteering document mixed support for the hypothesis that church denominational differences exist for volunteering rates (Mock, 1992; Wilson & Janoski, 1995; Wuthnow 1990). Wilson and Janoski (1995, p.148) conclude that “the relation between religion and volunteering is much more complex than previously believed. It is not always true that people reared in religious homes are more likely to volunteer than those reared by non-religious parents.”

The multi-disciplinary literature on intergenerational effects of philanthropy is patchy. The economic literature on intergenerational transmission of philanthropy frequently evaluates

the strength of the transmission as measured by the elasticity of adult children's charitable donation with respect to the parents' charitable donation. The volunteering literature in sociology relies mainly on survey data based on adult child's recall of parental charitable giving. For example, Hodgkinson and Weitzman (1996) find that 74 percent of those who could recall parents making charitable giving also give compared to only 50 percent of those adult children who could not recall such actions. The experimental psychology literature has tended to focus on mechanisms for the intergenerational transmission of philanthropy – role modeling, empathy-based induction and dispositional praise (e.g. Eisenberg, Fabes & Spinrad, 1998).

The evidence to date does not allow for discrimination of religious spirituality from intergenerational effects and the myriad explanatory factors for charitable giving (e.g. Wilson & Janoski, 1995). Is it parental religious spirituality which cultivates children's spirituality through intergenerational learning, which ultimately influences children's philanthropic behavior, or, are the intergenerational effects of philanthropy distinct from children's spirituality in influencing children's philanthropic behavior?

Contemporaneous moderating factors for charitable giving can be categorized into economic resources (income, net worth and the tax price of giving), human capital (education and health status), social capital (the number of children), cultural capital (religiosity) and demographic variables (age, gender and marital status) (e.g. Brown & Ferris 2007; Mesch, Rooney, Steinberg, & Denton, 2006; Slyke & Brooks, 2005; Wilson, 2000; Wilson & Musick 1997). For example, Wilhelm, Brown, Rooney, and Steinberg (2008) find significant and large intergenerational effects of parents' religious charitable donation on the adult child's religious and secular charitable donation. Are intergenerational effects distinct from religious motivations for philanthropy? That is, does parental philanthropic behavior rub off on their children's (including foster children's) philanthropic behavior through intergenerational learning even though parents or both parents and children are not religiously affiliated?

This study extends the literature in a few senses. On the questions - What are the major roots of philanthropy? Are both charitable donation and volunteering motivated similarly? - We find that charitable donation and volunteering share four major common roots in religious spirituality, religious affiliation, intergenerational learning, and social integration. On the other hand, the single philanthropic root that is unique to charitable donation is economic resources, that is, the ability or capacity to give monies.

In determining the role of religion among the philanthropic roots of charitable donation and volunteering, this study adds structure to the personal philanthropy literature. The major root of philanthropy is religion-based and this has two independent dimensions: religious spirituality and religious affiliation. Religious spirituality embraces the other-worldly values rooted in the understanding and pursuit of God or a higher spiritual state which motivates giving and voluntary services beyond the bounds of places of worship. Religious affiliation, on the other hand, embraces this-worldly values or code of behavior of a religious community or congregation of worship. That is, one may not be religiously spiritual, as measured by regular attendance to the other-worldly pursuits, and yet be identified with a religious institution and be committed to the teaching and practices on this-worldly philanthropic contributions to the non- religious sectors.

Besides religion-based motivations, we evaluate and test the implications of the social learning theory for intergenerational learning in philanthropic behavior: Are adult children's philanthropic behavior associated with household giving? We extend the empirical support for intergenerational learning in philanthropy, and particularly in volunteering, in the aggregate and across religious and secular non-profit sectors. We identify parental donation and volunteering to be constructs for that which might be learnt through intergenerational learning in early childhood, that which is influenced by one's family norms and mores.

Another major root is one's social integration which embraces social networks which are being built up over one's lifetime with life cycle effects. This can explain why one's philanthropic giving and volunteering towards religious and non-religious sectors may vary over one's life cycle. Together with economic resources which enable charitable donation, these five major independent motivations for personal philanthropic behavior appear to account for myriad evidence in the empirical literature.<sup>1</sup>

In this study, we discriminate the effects of economic resources and social learning on philanthropy. We propose that social learning theory predicts that there is an internalized norm which is learnt from parents in early childhood that motivates philanthropy. We therefore argue that philanthropy can theoretically be learnt regardless of one's endowment. On the other hand, we posit that economic factors are primary motivations for charitable donation. As these economic factors change in an individual's life cycle, we would expect one's charitable donation to fluctuate over time. Unlike earlier studies which are "unable to specify whether the socioeconomic status of one's family of origin is significant because of its resources, as we postulate, or because higher status families teach their children civic values" (Mustillo, Wilson,

& Lynch, 2004, p. 539), we are able to determine in this study that economic resources and intergenerational learning appear to be independent roots of philanthropy.

Thirdly, we extend Wilhelm et al.'s (2008) work on intergenerational effects beyond parental charitable donation to parental volunteering. We find that parental volunteering has significant and positive effects on adult children's volunteering with life cycle effects. Moving beyond pair-wise analysis of parents and an adult child, our robustness tests find that the intergenerational effects of parental giving extend to all adult children originating from the same household. We find no difference in giving behavior among siblings in aggregate and across nonprofit sector except for the religious sector where the eldest tends to give more monies and time than younger siblings. This evidence further supports the social learning theory and role modeling effects.

The rest of this study is organized as follows: The section "Data and Method" develops the hypotheses, justifies the data set choice and explains the method. The section on "Discussion" presents the findings and analysis of our study. We summarize the conclusions of our research in the "Conclusion" section.

## **2. DATA AND METHOD**

### **2.1. DATA**

Our dataset which gives both aggregate and nonprofit sectorial charitable donation and volunteering hours allows us to triangulate our results for robustness and offers new insights into philanthropic behavior, like life cycle effects. In this respect, our method is unlike the typical religious versus secular giving dichotomy (Clain & Zech, 1999). Following Wilhelm et al. (2008), this study uses a relatively new dataset on philanthropic activity in the United States which is derived from the Centre on Philanthropy Panel Study (COPPS). Initiated in 2001, the COPPS collects philanthropic data and combines it with the Panel Study of Income Dynamics (PSID), an ongoing longitudinal survey repeated annually in the U.S.A. from 1968 to 1999 and every two years since (PSID, 2009). The PSID and COPPS data are of extremely high quality, with exceptional response rates to questions about giving. Unlike other intergenerational datasets which carry recall and self-selection biases (e.g. Bekkers, 2007), the parent-adult child pairing allows for the parents' information to be directly associated with the adult child's giving behavior.

This study employs the 2005 wave of data which captures data from 2004. The more recent wave in 2007 would have been more relevant but unfortunately it did not contain the

volunteering and religious attendance data. The data contains donation reported at the household level and volunteering reported at the individual level for family heads and their spouses.

## 2.2. *METHOD*

Our sample begins with the 8,002 households surveyed in the 2005 wave of the PSID data. The sample includes data of charitable giving, volunteering, religious services attendance, and the demographics of the households. After filtering for parent-children match and incomplete records, we have 2,235 valid observations or households with matched parents and associated siblings. We made natural log transformations for donation, volunteering, income, and net worth.<sup>2</sup>

Next, we used principal component analysis (PCA) to identify commonalities among the variables, that is, the unobservable factors or constructs explaining philanthropy. This method allows us to put intuition behind the constructs. The PCA identifies seven principal components (PC) that represent philanthropic roots for donation and volunteering: Economic resources, intergenerational learning, religious spirituality, religious affiliation, social integration, physical availability and Jewish tradition, which together explain 64 percent of the variation of the independent variables (see Table 1). We name the first PC “economic resources” because it is captured by various demographics and constructs of economic endowment and disposable income. Demographics can proxy for economic resources because disposable income tends to increase with age and older folks are able to give more because their children have grown up and are financially independent (Auten & Joulfaian, 1996). We identify the second PC as “intergenerational learning”, being social learning within the household; and this is captured by parental household charitable donation, parental decision making in donation and parental volunteering. This second PC is rooted in social learning theory where parent’s philanthropic activities influence children’s charitable donation and volunteering. Philanthropic activities are constructs for a trait which is learnt through early childhood socialization, driven by one’s family norms and mores.

Our PCA suggests that the third PC is “religious spirituality”, with the frequency of attendance at religious service and being Protestant loading together. Attending religious services is a costly investment in the pursuit and knowledge of God, especially for those who are gainfully employed, and the opportunity costs grows with one’s economic earning power.

Among other things, religious spirituality gives one a conviction to give (as in the Christian tradition) offerings and to offer voluntary services.

[Insert Table 1 about here]

In human capital theory, level of education is the most consistent predictor of volunteering (McPherson & Rotolo, 1996; Sundeen & Raskoff, 1994). Nonetheless, the loading of education and number of children together into the fifth PC gives us a new insight. We posit that the number of children and education are proxies for “social integration”, which is a theoretical construct for that which facilitates union in a community. This intuition is consonant with empirical evidence that education impacts giving due to the correlation between education and omitted social capital variables, as the more educated tends to have wider social networks and hence greater access to giving opportunities (Brown & Ferris, 2007). The educated tend to give more of their money and their time because they belong to more organizations (Wilson, 2000). On the other hand, while children can increase their social ties via schools and youth organizations, children also limit the availability of parents’ resources. The interaction between education and children determines how much the educated are able to give their money and time to charitable organizations.

The other three PC comprise “religious affiliation” (as captured by the Catholic Church), “physical availability” (with health and not-working status loading together) and “Jewish tradition”. We deem the Catholic Church, one of the oldest institutions of the civilization, to be representative of the systems and structures of social interactions as a this-worldly expression of the faith. Therefore, there are three out of the seven PC which represent the various dimensions of religious spirituality, religious affiliation and Jewish tradition, explaining a combined 20 percent of the total variance of all the independent variables. For the purpose of parsimony, we adopt a five PC framework for this discussion going forward, comprising economic resources, intergenerational learning, religious spirituality, social integration and religious affiliation. This framework is able to interpret myriad evidence in the empirical literature.

### **3. DISCUSSION**

In this study, religious spirituality is drawn from the emergent management, spirituality and religion literature for philanthropy, and distinguishes spirituality which takes its roots from religious rather than secular values. Religious spirituality is concerned with the pursuit and knowledge of God or the Absolute. Religious teachings across major faiths like Christianity,



Judaism, Buddhism and Islam explain both altruistic and impure altruistic giving behavior among followers. In the Christian faith, salvation is conferred by grace and not as a result of works. Yet, the apostle Paul teaches that faith without good works is dead, and faith is perfected by works. So, works (expressed as charitable donation and volunteering in this study) are natural outward expressions and outcomes of one's salvation in Christ Jesus.

Judaism is centered on the Jews being the elect as God's people. Here, works and charitable norms like taking care of the needy, the disadvantaged and the dependent in the land, are observed as this-worldly compliance in order to gain God's protection as a people from His judgment and to gain God's favor of good harvests (Bird, 1982).

On the other hand, charity works in the opposite to contribute directly to one's pursuit of God, or a better afterlife, in other-worldly outcomes. For example, charitable works performed in this life can shorten one's time in purgatory in the Catholic faith (McCleary, 2007). Wealth put to good use counts towards one's reincarnation in Buddhism while salvation is a reward for righteous behavior in Islam (McCleary, 2007). Specifically, almsgiving (or zakat) and especially giving beyond the fixed rate of zakat earns salvific merit for the Muslim.

Therefore, religious spirituality for philanthropy takes on two dimensions: this-worldly social missions and the other-worldly pursuit of God or a better afterlife. In this study, we identify the "frequency of attendance at religious services" to be a variable which captures the costly efforts expended in the other-worldly pursuit of God, after controlling for one's employment status (Azzi & Ehrenberg, 1975). Therefore, we use the frequency of attendance at religious services as a variable for the "other-worldly" dimension of religious spirituality.

In contrast, we argue that one's religious affiliation and participating in its self-help or volunteer programs for the greater community is a this-worldly or social orientation. One's religious affiliation (like any other social organization) through membership often requires one to align himself or herself behaviorally with its vision, mission and goals, and participate in its self-help or volunteer programs and activities. For example, the Catholic Church and the Protestant churches have founded missions in schools, eldercare programs, hospices and hospitals. Following the same argument in McCleary (2007), we posit that one can be involved in such social missions work without being actively engaged in other-worldly pursuit of the knowledge of God through transcendence or immanence of the Spirit. In this study, we interpret "religious affiliation" as a variable for "this-worldly" expression of one's spirituality in social missions.

Tables 2 and Table 3 summarize the regression analysis results for household donation and individual volunteering, respectively. Using ordinary least squares, the adult child's household donation and individual volunteering hours respectively are regressed against the parent's contemporaneous household donation, and father's and mother's contemporaneous volunteering hours, while controlling for economic status, human, social and cultural capital, and demographic variables. The results are presented on an aggregate level (column 1 of Tables 2 and 3) and across the various nonprofit sectors (column 2 to 12 of Table 2 and column 2 to 8 of Table 3 respectively).

[Insert Table 2 about here]

### **3.1. HOUSEHOLD DONATION**

“Economic resources”, “intergenerational learning”, “religious spirituality” and “social integration” (but not “religious affiliation”) are the four philanthropic roots which showed statistical significance in the regression analysis of charitable donation, explaining 43 percent of the variations of aggregate charitable donation.

Of the four, “economic resources” are parsimoniously captured by the tax price of giving, and this appears to present the greatest economic significance. For example, considering just the tax effect in the regression model with a regression coefficient of -6.494, raising the marginal income tax rate by one percent, *ceteris paribus*, would increase aggregate charitable donation by approximately 6.7 percent.<sup>3</sup> These regression analysis results are consistent with those of the principal component analysis for household donation, where “economic resources” emerge as the largest philanthropic root for charitable donation. Interestingly, we find that religious donation is not sensitive to income. Yet, religious donation remains sensitive to net worth just like aggregated donation, at the one-tenth of one percent level of significance. We posit that givers towards religious purposes carry a religious spirituality driven conviction and these will give out of their endowment, even when their disposable incomes cannot explain the giving.

Overall, the tax incentive for giving carries the highest economic significance of all the economic status and demographic variables. A high tax price of giving derived from a low tax rate, or a low tax shield, yields lower charitable contributions. This has implications for the use of tax incentives to encourage charitable donation. Another interesting observation is the differential impact of the tax price of giving across the eleven nonprofit sectors studied. This echoes Brooks' (2007) finding on the variation of tax price elasticity across nonprofit sectors.

The significance of the tax price of giving is lower for cultural, community and international purposes. We infer that giving to these sectors will not be incentivized much by increasing tax deductibility of charitable donation.

Consistent with our PCA, demographic variables like age, gender or marital status, which unilaterally, pair wise or interactively proxy for the economic resources which enable charitable donation, explain aggregated household donation at the one-tenth of one percent significance level. Whether it is because disposable income increases with age which leads to higher donation (Apinunmahakul & Delvin, 2004) or because older people are willing to give more to charities because their children have become financially independent from them (Auten & Joulfaian, 1996), these could be traced ultimately to the economic ability to give.

Of smaller economic impact, we find support for the social learning theory with the aggregated and sectorial charitable donation data. For example, the regression coefficient of 0.114 for parental donation means that a one percent increase in aggregate parental donation, *ceteris paribus*, is associated with a 0.1 percent increase in the adult child's household aggregate donation. We find evidence for this intergenerational effect to be significant (at least at the five percent level) for six out of the eleven nonprofit sectors: religious, combined purpose, education, cultural, environment and international charitable donation. This is consistent with Wilhelm et al. (2008) who find that parental religious and secular donations have a significant and positive effect on the child's religious and secular donations respectively.

Yet, we find no intergenerational effect for donation to the need, health, youth, community or other sectors. We posit that this nil effect is consistent with a life cycle phenomenon where the adult child and the parents are at different phases of their life cycle at any one time. For example, when an adult child with growing children is giving towards the youth sector, the aging parents are not likely to do likewise. Or, when the parents find themselves giving to the need sector, the child may not be disposed to do so.

Overall, our sector analysis provides robust support that intergenerational learning is one of the philanthropic roots of charitable donation. In our robustness test, we find that both parents have equal impact in shaping the child's giving behavior and who makes the decision is immaterial to the intergenerational learning effects of personal philanthropy. However, we note that the economic significance of "economic resources" dominates that of "intergenerational learning" in influencing the adult children's behavior towards charitable donation.

Intuitively, social integration is the ‘glue’ which fosters adhesion and self-help within one’s community, social or professional network. These enhance charitable donation to the related nonprofit sectors. The adult child’s level of education has a significant impact towards giving in aggregate and across most sectors, except for health, community and other charitable organizations. For example, the regression coefficient of 2.700 for education means that an individual who completed his/her tertiary education (16 years of education), *ceteris paribus*, would give 90 percent more in aggregate charitable donation than someone who only completed his/her high school education (12 years of education).<sup>4</sup> Our finding agrees with education being positively related to giving (Apinunmahakul & Delvin, 2004; Wilhelm et al., 2008).

Moreover, the number of children one has increases donation towards education and youth purposes, and decreases donation for environmental charities, but has no effect on donation towards the other nonprofit sectors. These finding supports the intuition that having children increases one’s social network of causes related to education and youth, but not for other sectors. Having children increases the probability of an individual being asked to donate to causes such as school-based or youth fundraising projects and translates to economically significant impact on adult children’s charitable donation. For example, the regression coefficient of 0.115 and 0.080 respectively for number of children means having a second child (a 100 percent increase from the first child) is associated with an increase in the adult child’s aggregate household donation to the education and youth sectors by 11.5 percent and 8.0 percent respectively. Therefore, we find social integration as a robust philanthropic root across nonprofit sectors.

On the aggregated donation level, we also find support for religious spirituality as a motivation for philanthropy. Across the nonprofit sectors, our results differ from Bekkers and Schuyt (2008) because we find some support that religious spirituality is a robust motivation for charitable donation beyond places of worship, specifically, in the giving towards combined purpose, youth, the environment and international concerns. But because religious charitable donation as a single category constitutes up to 60 percent of the aggregate personal donation, religious spirituality as a philanthropic root demands its fair share of attention from both religious leaders and policy makers alike given the potential to grow charitable donation beyond the religious sector.

As a construct for religious spirituality, the frequency of attendance at religious services offers both economic and statistical significance. It explains charitable donation for the

aggregate household, religious and international concerns significantly at one-tenth of one percent significance level and is significant (at the one and five percent levels) for combined purpose and youth concerns respectively. For example, without considering any other philanthropic factors, a regression coefficient of 0.510 for religious frequency means doubling a typical follower's frequency of attendance at religious services from, say, once every two weeks (26 times per year) to once weekly (52 times per year), *ceteris paribus*, is associated with a 51 percent increase in aggregate charitable donation. As expected, charitable donation to the religious sector, in specific, tend to be more sensitive to the religious spirituality of the typical follower. Hence, a regression coefficient of 0.867 for religious frequency means growing the religious spirituality of a typical follower by doubling the frequency of attendance at religious services from once every two weeks to once weekly, *ceteris paribus*, would be associated with a 87 percent increase in donation to the religious sector. However, being identified with the Protestant or Catholic faith or Jewish tradition, *ceteris paribus*, does not seem to influence charitable donation at the aggregate level.

[Insert Table 3 about here]

### **3.2. *INDIVIDUAL VOLUNTEERING***

This section extends the literature on the intergenerational effects of volunteering as the effect of parental volunteering on the child has yet to be explored extensively. Given the short span of longitudinal data available to date, we assume that the parent's contemporaneous volunteering data is a good proxy for their volunteering activities during the child's formative years. The natural logarithmic transformation of the adult child's volunteering hours is regressed against the natural logarithmic transformations of volunteering hours for the father and mother respectively. Table 3 summarizes the results of the multivariate regression analysis of the adult child's aggregate and sectorial volunteering hours. Next, we analyze adult child's volunteering in aggregate and across the seven nonprofit sectors with respect to the four major philanthropic roots.

We find robust evidence for the intergenerational learning root and, interestingly, it suggests that the role modeling effects of the mother is dominant in the adult child's volunteering in the religious sector. Here, the father's socialization effect is found not to influence volunteering. We argue that culturally it is the mother who nurtures and passes on to the child, whether consciously or subconsciously, values and mores of life. Wuthnow (1995) finds that mother's volunteering is more influential than father's volunteering. We posit that

fathers and mothers tend to include children in different activities and they participate in children-related activities as well although the mother, rather than father, tends to spend more time with the children and therefore would have a stronger influence on the child's norm on volunteering.

This raises an interesting question. If the adult child had been socialized in his or her formative years with the norms and mores of volunteering, this adult child's volunteering behavior would be observable consistently through life. In fact, the descriptive statistics on volunteering in Table 2 analyzes volunteer hours as being predominantly in the youth (36 percent) and religious (32 percent) sectors. We argue that the intergenerational effects remain robust in volunteering. The intergenerational effect that is being documented as being dominant in the religious sector is an artifact of using contemporaneous data for adult child and parents' volunteering. We posit that volunteering pattern follows one's life cycle, with the main exception being religious volunteering which persists as long as one practices one's faith. Therefore, the mismatch of life cycles of the adult child and parents would mean that we do not find aging parents volunteering in the youth sector when the adult child with growing children does so. Yet both adult child and parents can be actively serving in their own churches contemporaneously. Therefore, our robustness tests with sectorial analysis using contemporaneous volunteering data tend to understate the significance of intergenerational effects.

Economic resources, as a philanthropic root, find much less economic impact, if at all, in volunteering than for charitable donation. Both income and net worth do not explain child volunteering in aggregate and across all the nonprofit sectors. The coefficient of the tax price of giving is significantly negative at the five and one-tenth of one percent levels respectively for the adult child's aggregated and religious volunteering hours. This finding suggests that, statistically, the higher the marginal tax rate, the more likely an individual will volunteer. The relation between volunteering and the tax price of giving is not clear. However, bearing in mind that there is a positive relation between the marginal tax rate and household donation as well, it seems that volunteering and charitable donation may be complementary in nature. Further studies could be done to analyze this relation.

Our findings suggest that one volunteers substantively more when one is more socially integrated within one's community or social network. This phenomenon is documented across sectors except for the need and senior sectors. For example, the regression coefficient of 2.018 for the number of years of education means that an individual who typically has

completed his/her tertiary education with 16 years of education, *ceteris paribus*, tends to volunteer 67 percent more hours than someone who has only completed his/her high school education with 12 years of education.<sup>5</sup> It is plausible that one's volunteering in the seniors sector can come on later in the adult child's life although this is not captured in the relatively short longitudinal dataset. Another social integration construct, though more confined to the youth sector, is the number of children. The educated, through their affiliations, have a larger social network. In like manner, parent with more children have larger social network through their social ties with youth (Wilson, 2000).

Our sectorial analysis on volunteering gives insights into two independent dimensions of religion-based spirituality: religious spirituality (the other-worldly) and religious affiliation (this-worldly). When it comes to volunteering in the religious sector, it is religious spirituality, or the pursuit of the other-worldly (as measured by the frequency of attendance at religious services), rather than mere identification with a religious institution that motivates voluntary services at one's place of worship. Religious spirituality, interestingly, also explains volunteering in the secular sectors: specifically, the need, youth and senior sectors. Moreover, Catholics and Protestants tend to volunteer outside the church in secular sectors like the need and health sectors. Religious spirituality, as a philanthropic root in volunteering, finds expression through behavioral participation at religious services. Consistent with empirical evidence, such frequency of attendance is associated with volunteering (Bekkers, 2005). For example, the regression coefficient of 0.288 for frequency of attendance at religious services, without considering any other philanthropic factors, means that an individual who pursues more of the other-worldly and doubles the frequency of attendance at religious services from once every two weeks to once weekly, say, would typically increase his/her aggregate volunteering hours by 28.8 percent. Policy makers who wish to grow volunteering in the secular sectors do well to target those who are either oriented other-worldly or this-worldly.

#### **4. ROBUSTNESS TESTS**

We further evaluate our findings that parental philanthropic behavior molds children's norms on charitable donation and volunteering. The social learning theory predicts that children of the same household would experience similar intergenerational effects of philanthropy on charitable donation and volunteering – whether these were eldest or younger siblings, or, biological or adopted children (Hamilton, Cheng, & Powell, 2007).

Firstly, we find evidence which supports the hypothesis that the intergenerational effects of philanthropy generally do not differ significantly across siblings. Except for the religious sector, the F-test results report no difference in charitable donation and volunteering behavior between the eldest and younger siblings in the aggregate and across the secular nonprofit sectors. For the religious sector, we document a significant difference at the five percent significance level. Our descriptive statistics reveal that the eldest sibling tends to donate and volunteer more than the younger siblings in the religious sector on average (USD 778.27 versus USD 605.54, and 15.1 hours versus 13.75 hours annually). It is unclear why there is this isolated difference. Perhaps future research can explore how the social learning of philanthropy is made operational within a household.

Secondly, we also find no difference in philanthropic behavior across all adult children, whether biological or adopted. <sup>6</sup> The COPPS database yields 12 adult children who were adopted and 14 biological children matched from the same household. We group the adopted adult children into one group matched by the biological children of the parents of the same household. We apply the analysis of covariance to test whether the level of charitable donation and volunteering respectively differ between adopted children and biological children drawn from the same household, after controlling for intergenerational transmission and other philanthropic factors.

We expect our results in this robustness test to be non-conclusive as the sample size of 12 households is too small. Nonetheless, our finding for household donation is consistent with the social learning hypothesis. Household donation does not differ significantly between adopted and biological children. This suggests that children growing up in the same household learn the same from parents' role modeling, whether these are their adoptive or biological parents.

However, we find that adopted children tend to volunteer more than the biological children of their adoptive parents, at the five percent level of significance. Our descriptive statistics report that the 12 adopted children tend to volunteer more on average than biological children (186 hours versus 50.1 hours annually). We postulate that these adopted children have benefitted directly from the impact of altruistic behavior and this encounter motivates paying it forward through volunteering. Future research should explore this phenomenon in philanthropy.

## **5. CONCLUSION**



We establish a parsimonious framework where religion-based spirituality is most significant among the roots of philanthropy. Altruism or the warm glow effect is said to motivate giving, and such motivation is consonant with spirituality in its two independent dimensions: religious spirituality (or the other-worldly pursuit of God) and religious affiliation (or this-worldly expression of the religious faith). In sum, the development of a viable and thriving nonprofit sector calls for an understanding of the roots of philanthropy which must include spirituality as a key construct.

Test results suggest that philanthropy can be learnt and philanthropy is not the domain of the well-heeled only. Children socialize by adopting the norms and mores of parents, including those concerning the giving of monies and time to charities. The evidence for the intergenerational effects of philanthropy is robust as siblings originating from the same household demonstrate similar philanthropic behavior in aggregate and across nonprofit sector, with the exception of the religious sector where the eldest sibling tends to give more than the other siblings. Our analysis advances the view that everyone potentially can be socialized to be philanthropic.

Although one does not have to be well endowed to give donation and volunteer, philanthropy is certainly enabled with economic resources and social integration. Economic resources include one's wealth and disposable income, and policy makers know well that the tax price of giving can incentivize charitable donation. On the other hand, social integration represents one's social capital where constructs like education and the number of children represent social networks which facilitate volunteering as well as charitable donation.

## ENDNOTES

1 Consistent with the identification of the independent roots of personal philanthropy, we find no significant interactive effects among these philanthropic roots.

2 A summary of the variables used in this study and their descriptive statistics are available from the authors on request.

3 Change in aggregate charitable donation for a one percent increase in marginal income tax rate

$$= e [-6.494 \times -0.01] - 1.$$

4 Change in aggregate charitable donation for a 33.3 percent increase in years of education from 12 years to 16 years =  $2.700 \times (4/12 \times 100) = 90$  percent.

5 Change in aggregate volunteer hours for a 33.3 percent increase in years of education from 12 years to 16 years =  $2.018 \times (4/12 \times 100) = 67$  percent.

6 The robustness test results are available from the authors on request.

## REFERENCES

- Aphinunmahakul, A., & Delvin, R. A. (2004). Charitable giving and charitable gambling: An empirical investigation. *National Tax Journal*, 57, 67-88.
- Auten, G., & Joulfaian, D. (1996). Charitable contributions and intergenerational transfers. *Journal of Public Economics*, 59, 55-68.
- Azzi, C., & Ehrenberg, R. (1975). House allocation of time and church attendance. *Journal of Political Economy*, 83, 27-56.
- Barro, R. J., & McCleary, R. M. (2003). Religion and economic growth across countries. *American Sociological Review*, 68, 760-781.
- Batson, C.D. (1998). Altruism and prosocial behavior. In D.T. Gilbert (Ed.), *Handbook of social psychology* (Vol. 2, 282-316). New York: Random House.
- Bekkers, R. (2005). Participation in voluntary associations: Relations with resources, personality, and political values. *Political Psychology*, 26, 439-454.
- Bekkers, R. (2007). Intergenerational transmission of volunteering. *Acta Sociologica*, 50, 99-114.
- Bekkers, R., & Schuyt, T. (2008). And who is your neighbor? Explaining denominational difference in charitable giving and volunteering in the Netherlands. *Review of Religious Research*, 50, 74-96.
- Bekkers, R., & Wiepking, P. (2011). A literature review of empirical studies of philanthropy: Eight mechanisms that drive charitable giving. *Nonprofit and Voluntary Sector Quarterly*, 40, 924-973.
- Bird, F. B. (1982). A comparative study of the work of charity in Christianity and Judaism. *Journal of Religious Ethics*, 10, 144-169.
- Brown, E., & Ferris, J. M. (2007). Social capital and philanthropy: An analysis of the impact of social capital on individual giving and volunteering. *Nonprofit and Voluntary Sector Quarterly*, 36, 85-99.
- Carter, V B., & Marx, J. (2007). What motivates African-American charitable giving: Findings from a national sample. *Administration in Social Work*, 31, 67-85.
- Clain, S. H., & Zech, C. E. (1999). A household production analysis of religious and charitable activity. *American Journal of Economics and Sociology*, 58, 923-946.

- Eisenberg, N., Fabes, R. A., & Spinrad, T. L. (1998). Prosocial Development. In W. Damon, R.M. Lerner, & N. Eisenberg (Eds.), *Handbook of Child Psychology, Volume 3, Social and Personality Development* (pp. 646-718). New York, NY: Wiley.
- Hamilton, L., Cheng, S., & Powell, B. (2007). Adoptive parents, adoptive parents: Evaluating the importance of biological ties for parental investment. *American Sociological Review*, 72, 95-116.
- Janoski, T., & Wilson, J. (1995). Pathways to volunteerism: Family socialization and status transmission models. *Social Forces*, 74, 271-292.
- Mesch, D. J., Rooney, P. M., Steinberg, K. S., & Denton, B. (2006). The effects of race, gender, and marital status on giving and volunteering in Indiana. *Nonprofit and Voluntary Sector Quarterly*, 35, 565-587.
- McCleary, R. M. (2007). Salvation, damnation, and economic incentives. *Journal of Contemporary Religion*, 22, 49-74.
- McPherson, J. M., & Rotolo, T. (1996). Testing a dynamic model of social composition: Diversity and change in voluntary groups. *American Sociological Review*, 61, 179–202.
- Mock, A. (1992). Congregational religious styles and orientation to society: Exploring our linear assumption. *Review of Religious Research*, 34, 20-33.
- Mustillo, S., Wilson, J., & Lynch, S. M. (2004). Legacy volunteering: A test of two theories of intergenerational transmission. *Journal of Marriage and Family*, 66, 530-41.
- Piliavin, J.A., & Charng, H.-W. (1990). Altruism: A review of recent theory and research. *Annual Review of Sociology*, 16, 27-65.
- Sargeant, A., & Woodliffe, L. (2007). Individual giving behaviour: A multi-disciplinary review. In A. Sargeant & W. Wymer (Eds.), *The nonprofit marketing companion*. London: Routledge.
- Sundeen, R. A., & Raskoff, S. A. (1994). Volunteering among teenagers in the United States. *Nonprofit and Voluntary Sector Quarterly*, 23, 383–403.
- Slyke, D. M. V., & Brooks, A. C. (2005). Why do people give? New evidence and strategies for nonprofit managers. *The American Review of Public Administration*, 35, 199-220.
- Wilhelm, M. O., Brown, E., Rooney, P. M., & Steinberg, R. (2008). The intergenerational transmission of generosity. *Journal of Public Economics*, 92, 2146-2156.

Will, J.A., & Cochran, J.K. (1995). God helps those who help themselves – The effects of religious affiliation, religiosity, and deservedness on generosity toward the poor. *Sociology of Religion*, 56, 327-338.

Wilson, J. (2000). Volunteering. *Annual Review of Sociology*, 26, 215-240.

Wilson, J., & Janoski, T. (1995). The contribution of religion to volunteer work. *Sociology of Religion*, 5, 137-152.

Wilson, J., & Musick, M. (1997). Who cares? Toward an integrated theory of volunteer work. *American Sociological Review*, 62, 694-713.

Wuthnow, R. (1990). Religion and the voluntary spirit in the United States: Mapping the terrain. In R. Wuthnow, V. Hodgkinson, & Associates (Eds.), *Faith and philanthropy in America*, (pp. 3-21). San Francisco, CA: Jossey-Bass.

Wuthnow, R. (1995). *Learning to care: Elementary kindness in the age indifference*. New York, NY: Oxford University Press.

**Table 1: Rotated Factor Loadings with Parental Household Charitable Donation and Paternal and Maternal Volunteering**

We use principal component analysis to identify commonalities among the variables explaining philanthropy- economic resources, human capital, social capital, cultural capital and demographic variables. Seven principal components are identified and the factor loading score for each orthogonal solution represents how the variables are weighted for each principal component. Variables that load strongly for each principal component are in bold and denoted by the bracket. The proportion of variance accounted by each principal component is displayed at the bottom of the table.

Variable	Economic Resources	Intergenerational learning	Religious Spirituality	Religious Institutions	Social Integration	Physical Ability	Jewish Tradition
Parental Donation	0.1601	<b>0.7753</b>	0.1247	0.0604	-0.1602	-0.0894	0.1191
Father Decision	0.0801	<b>0.7462</b>	0.0062	0.0327	0.0825	-0.1816	0.1663
Mother Decision	-0.0143	<b>0.7500</b>	0.0478	0.0438	0.0652	-0.1727	0.1611
Father volunteerism	0.0921	<b>0.6684</b>	-0.0383	-0.0596	-0.0408	0.1129	-0.2260
Mother volunteerism	0.0223	<b>0.6231</b>	-0.0267	-0.0652	-0.1912	0.1756	-0.2996
Income	<b>0.6717</b>	0.0963	0.0680	0.0809	-0.1226	-0.2828	0.0959
Networth	<b>0.6643</b>	0.0603	0.0831	0.1256	-0.1577	-0.0823	0.1274
Tax price of giving	<b>-0.6807</b>	-0.1551	-0.1437	-0.1316	0.1286	0.0790	-0.1117
Age	<b>0.6132</b>	-0.1392	0.2060	0.0416	-0.2455	0.4360	0.0777
Female	<b>-0.6417</b>	-0.1157	0.2981	0.0480	-0.1649	0.1296	0.1275
Married	<b>0.7856</b>	0.0969	0.0105	0.0155	0.3437	-0.0592	-0.0481
Num child	0.0830	-0.0620	0.1696	0.0426	<b>0.7820</b>	0.0143	0.0468
Education	0.2326	0.2899	0.1613	0.0932	<b>-0.4552</b>	-0.3139	0.2262
Health	-0.1193	-0.1329	-0.0266	-0.0414	-0.0159	<b>0.7181</b>	0.0644
Working	0.2784	0.0659	-0.0124	-0.0028	-0.2182	<b>-0.5971</b>	-0.0157
Religious frequency	0.0691	0.0861	<b>0.6410</b>	0.0041	-0.0670	-0.0862	-0.1722
Catholic	0.0848	0.0263	0.0944	<b>0.9510</b>	0.0300	-0.0174	-0.0842
Jewish	0.0623	0.0965	-0.0671	-0.0338	-0.0008	0.0513	<b>0.8638</b>
Protestant	-0.0165	0.0005	<b>0.6045</b>	<b>-0.7320</b>	0.0387	-0.0047	-0.1506
No religious preference	-0.0688	-0.0590	<b>-0.8387</b>	-0.0052	-0.0699	-0.0224	-0.0472
Proportion of Variance	<b>19.58%</b>	<b>11.36%</b>	9.61%	6.17%	5.95%	5.81%	5.19%

**Table 2: Multivariate Regression Analysis for the Test of Intergenerational Effects of Philanthropy on Household Donation**

The adult child's charitable donation is regressed on the parents' charitable donation. The adult child's charitable donation is analyzed in aggregate (column 1) as well as the type of nonprofit sector (column 2 to 12). Robust standard errors are displayed in parentheses below the coefficients. Significance at one tenth of one percent, one percent and five percent is denoted by \*\*\*, \*\* and \* respectively (two-tailed test).

DONATION (\$)	TOTAL 1	RELIGIOUS 2	COMBINATION-PURPOSE 3	NEED 4	HEALTH 5	EDUCATION 6	YOUTH 7	CULTURAL 8	COMMUNITY 9	ENVIRO-NMENT 10	INTERNA-TIONAL 11	OTHER 12
Constant	<b>-7.179***</b> 1.78	<b>-3.541***</b> 1.52	<b>-3.081*</b> 1.25	<b>-3.184*</b> 1.43	-0.180 0.96	<b>-3.883***</b> 1.05	-1.522 0.82	<b>-1.623*</b> 0.67	-0.609 0.60	0.231 0.70	-0.813 0.53	0.209 0.62
Parent donation	<b>0.114***</b> 0.02	<b>0.085***</b> 0.02	<b>0.067**</b> 0.02	0.029 0.02	0.036 0.02	<b>0.052*</b> 0.02	0.036 0.02	<b>0.062*</b> 0.03	0.001 0.02	<b>0.077*</b> 0.03	<b>0.087*</b> 0.04	0.031 0.02
Father decision	0.116 0.15	0.056 0.13	0.042 0.11	-0.173 0.13	0.114 0.09	0.018 0.08	-0.076 0.07	0.085 0.06	0.061 0.05	-0.034 0.06	0.042 0.05	0.053 0.06
Mother decision	-0.139 0.15	-0.103 0.13	<b>-0.232*</b> 0.11	<b>0.260*</b> 0.11	-0.019 0.08	-0.108 0.07	-0.010 0.06	-0.070 0.05	-0.002 0.05	-0.022 0.05	-0.066 0.04	-0.002 0.05
Income	<b>0.246***</b> 0.05	0.086 0.04	<b>0.140***</b> 0.03	<b>0.148***</b> 0.03	<b>0.077***</b> 0.02	0.051 0.03	<b>0.048**</b> 0.02	0.014 0.01	<b>0.027*</b> 0.01	<b>0.039*</b> 0.02	0.006 0.01	0.011 0.01
Networth	<b>0.071***</b> 0.01	<b>0.042***</b> 0.01	<b>0.024***</b> 0.01	0.017 0.01	0.012 0.01	0.010 0.01	<b>0.015**</b> 0.01	0.006 0.00	0.004 0.00	<b>0.010*</b> 0.00	0.006 0.00	0.006 0.01
Tax Price Of Giving	<b>-6.494***</b> 0.66	<b>-4.371***</b> 0.64	<b>-3.661***</b> 0.58	<b>-3.082***</b> 0.61	<b>-2.382***</b> 0.45	<b>-2.045***</b> 0.45	<b>-1.187**</b> 0.38	<b>-0.561*</b> 0.27	<b>-0.520*</b> 0.25	<b>-1.038***</b> 0.32	-0.427 0.24	<b>-1.251***</b> 0.32
Age	<b>1.297***</b> 0.22	<b>1.021***</b> 0.20	<b>0.566***</b> 0.15	0.315 0.17	<b>0.415***</b> 0.12	<b>0.465***</b> 0.10	<b>0.210*</b> 0.09	<b>0.237***</b> 0.00	<b>0.171**</b> 0.07	0.025 0.08	0.104 0.07	0.143 0.08
Female	<b>0.313*</b> 0.15	0.107 0.12	<b>0.348***</b> 0.10	<b>0.355**</b> 0.11	<b>0.253***</b> 0.08	0.028 0.07	-0.052 0.06	-0.015 0.05	0.034 0.04	0.030 0.05	0.005 0.04	-0.035 0.05
Married	<b>0.845***</b> 0.16	<b>0.576***</b> 0.15	<b>0.473***</b> 0.12	<b>0.400**</b> 0.13	0.117 0.09	0.076 0.08	0.031 0.07	-0.017 0.06	0.016 0.05	0.063 0.06	0.007 0.05	-0.024 0.07
Num Child	-0.100 0.05	0.029 0.05	-0.044 0.04	-0.010 0.04	-0.009 0.03	<b>0.115***</b> 0.03	<b>0.080**</b> 0.03	0.001 0.02	-0.008 0.02	<b>-0.040*</b> 0.02	0.019 0.02	-0.024 0.02

DONATION (\$)	TOTAL 1	RELIGIOUS 2	COMBINATION-PURPOSE 3	NEED 4	HEALTH 5	EDUCATION 6	YOUTH 7	CULTURAL 8	COMMUNITY 9	ENVIRONMENT 10	INTERNATIONAL 11	OTHER 12
Edu	<b>2.700***</b>	<b>0.809*</b>	<b>1.135***</b>	<b>1.636***</b>	0.232	<b>1.580***</b>	<b>0.517**</b>	<b>0.670***</b>	0.150	<b>0.551***</b>	<b>0.355**</b>	0.185
	0.42	0.34	0.30	0.34	0.22	0.27	0.18	0.16	0.12	0.15	0.12	0.15
Health	-0.095	-0.053	0.010	0.049	<b>-0.067*</b>	-0.015	-0.009	<b>-0.043*</b>	0.023	-0.018	0.008	0.042
	0.06	0.05	0.04	0.05	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Working	-0.088	0.010	0.001	<b>-0.250*</b>	0.118	-0.133	0.095	-0.076	-0.041	-0.056	-0.021	0.070
	0.17	0.14	0.10	0.12	0.07	0.08	0.06	0.05	0.05	0.05	0.05	0.05
Religious Frequency	<b>0.510***</b>	<b>0.867***</b>	<b>0.073**</b>	0.048	0.011	0.015	<b>0.039*</b>	0.002	0.016	<b>-0.033*</b>	<b>0.048***</b>	-0.014
	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
<b>Religion</b>												
Catholic	0.045	<b>0.600*</b>	<b>0.586**</b>	-0.226	-0.064	-0.197	0.269	-0.398	-0.157	<b>-0.480*</b>	-0.142	-0.080
	0.40	0.29	0.21	0.30	0.21	0.20	0.17	0.23	0.17	0.22	0.14	0.17
Jewish	0.933	<b>1.224*</b>	<b>1.243**</b>	0.797	0.808	0.589	0.379	0.127	-0.069	-0.091	-0.134	-0.215
	0.53	0.54	0.45	0.55	0.45	0.43	0.33	0.38	0.26	0.37	0.23	0.24
Protestant	0.256	<b>0.844**</b>	<b>0.468**</b>	-0.354	-0.203	-0.165	0.097	-0.403	-0.136	<b>-0.426*</b>	-0.175	-0.109
	0.39	0.27	0.18	0.28	0.20	0.19	0.14	0.22	0.17	0.21	0.13	0.16
No Religious Preference	0.400	<b>0.583*</b>	<b>0.507*</b>	-0.097	-0.095	-0.182	0.111	-0.330	-0.125	<b>-0.498*</b>	-0.134	-0.029
	0.41	0.28	0.20	0.30	0.21	0.19	0.16	0.23	0.17	0.22	0.14	0.17
No. of Obs.	2,235	2,235	2,235	2,235	2,235	2,235	2,235	2,235	2,235	2,235	2,235	2,235
Adjusted R-Squared	0.435	0.448	0.176	0.128	0.114	0.142	0.075	0.073	0.026	0.069	0.042	0.039



**Table 3: Multivariate Regression Analysis for Test of Intergenerational Effects of Philanthropy on Individual Volunteering**

We regress the adult child’s volunteering hours on the father’s and mother’s individual volunteering hours. The adult child’s volunteering hours are analyzed in aggregate (column 1) as well as by the type of nonprofit sector (column 2 to 8). Robust standard errors are displayed in parentheses below the coefficients. Significance at one tenth of one percent, one percent and five percent is denoted by \*\*\*, \*\* and \* respectively (two-tailed test).

<b>VOLUNTEERING (ANNUAL HOURS)</b>	<b>TOTAL 1</b>	<b>RELIGIOUS 2</b>	<b>NEED 3</b>	<b>HEALTH 4</b>	<b>YOUTH 5</b>	<b>SENIOR 6</b>	<b>CHANGE 7</b>	<b>OTHER 8</b>
Constant	<b>-4.602***</b>	0.629	-0.577	-0.403	<b>-3.388***</b>	-0.043	<b>-1.068**</b>	<b>-1.201*</b>
	1.26	0.73	0.37	0.29	0.92	0.33	0.39	0.58
Father Vol	0.037	0.014	0.022	0.001	0.064	<b>-0.016***</b>	0.135	0.090
	0.03	0.03	0.05	0.02	0.05	0.00	0.11	0.05
Mother Vol	<b>0.061**</b>	<b>0.039*</b>	0.023	-0.005	-0.025	-0.006	0.035	-0.002
	0.02	0.02	0.04	0.01	0.03	0.01	0.05	0.03
Income	-0.012	-0.032	0.012	-0.008	-0.018	0.014	-0.003	0.009
	0.04	0.03	0.01	0.01	0.03	0.01	0.01	0.01
Networth	0.005	0.005	0.001	0.002	0.001	0.001	0.004	0.001
	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Tax price of giving	<b>-1.153*</b>	<b>-0.990***</b>	-0.095	-0.173	-0.142	-0.079	-0.039	-0.218
	0.47	0.31	0.13	0.12	0.34	0.11	0.16	0.23
Age	0.145	0.080	0.012	0.024	-0.009	-0.007	0.048	0.016
	0.15	0.10	0.05	0.42	0.10	0.04	0.05	0.08
Female	<b>0.204*</b>	0.075	0.052	0.052	0.059	0.042	0.044	0.028
	0.10	0.06	0.04	0.03	0.07	0.02	0.04	0.05
Married	0.029	0.047	-0.045	-0.002	0.084	-0.033	-0.061	-0.034
	0.11	0.07	0.03	0.03	0.08	0.02	0.04	0.05
Num Child	<b>0.089***</b>	0.013	-0.012	<b>-0.018*</b>	<b>0.165***</b>	0.002	-0.020	-0.023
	0.04	0.03	0.01	0.01	0.03	0.01	0.01	0.02
Edu	<b>2.018***</b>	<b>0.531**</b>	0.176	<b>0.275***</b>	<b>1.353***</b>	0.013	<b>0.419***</b>	<b>0.554***</b>
	0.33	0.18	0.09	0.08	0.23	0.05	0.11	0.15

<b>VOLUNTEERING (ANNUAL HOURS)</b>	<b>TOTAL 1</b>	<b>RELIGIOUS 2</b>	<b>NEED 3</b>	<b>HEALTH 4</b>	<b>YOUTH 5</b>	<b>SENIOR 6</b>	<b>CHANGE 7</b>	<b>OTHER 8</b>
Health	-0.015	-0.038	0.011	0.000	0.026	0.016	0.005	0.019
	0.04	0.03	0.01	0.01	0.03	0.01	0.02	0.02
Working	-0.146	-0.048	-0.040	0.009	0.010	-0.041	0.003	-0.102
	0.12	0.08	0.05	0.03	0.08	0.04	0.04	0.07
Religious frequency	<b>0.288***</b>	<b>0.299***</b>	<b>0.037***</b>	0.008	<b>0.094***</b>	<b>0.022**</b>	0.010	0.017
	0.03	0.02	0.01	0.01	0.02	0.01	0.01	0.01
<b>Religion</b>								
Catholic	0.363	-0.080	<b>0.092*</b>	<b>0.084**</b>	0.239	-0.064	-0.102	0.028
	0.24	0.16	0.04	0.03	0.16	0.10	0.11	0.14
Jewish	0.516	-0.040	<b>0.297*</b>	0.21	0.206	-0.031	0.213	-0.199
	0.36	0.19	0.15	0.15	0.26	0.11	0.21	0.15
Protestant	0.300	0.058	<b>0.072*</b>	<b>0.065***</b>	0.120	-0.042	-0.110	0.007
	0.23	0.15	0.03	0.02	0.15	0.10	0.11	0.13
No Religious Preference	0.636	0.199	<b>0.149**</b>	<b>0.089**</b>	0.185	-0.000	0.005	0.043
	0.24	0.16	0.05	0.03	0.16	0.10	0.12	0.13
No. of Obs.	2,235	2,235	2,235	2,235	2,235	2,235	2,235	2,235
Adjusted R-Squared	0.130	0.183	0.022	0.019	0.065	0.017	0.039	0.021