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CHARITABLE DONATIONS: AN ANALYSIS OF THE DIFFERENCES IN DONATION PATTERNS BY INCOME LEVEL

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CHARITABLE DONATIONS: AN ANALYSIS OF THE DIFFERENCES IN DONATION PATTERNS BY INCOME LEVEL

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ABSTRACT

This thesis examines the possibility of grouping charitable donors by income level to develop a set of models that can more accurately predict charitable donations. Previous work is inconsistent in predicting charitable donations. This work helps to determine if these inconsistencies are a result of methodological differences between researchers, or if group membership is an important factor in predicting charitable donations as suggested by some researchers. This research only found four variables that were common to all three income groups, frequency of church attendance, family income, age, and years of education. Results show that additional variables can serve as predictors of relative donations, but only when samples are grouped by income. This should be considered as evidence that group membership is an important factor to consider in future charitable donations research. These groupings should not be limited to income; other socio-demographic indicators should also be explored in more depth.

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CHAPTER ONE
INTRODUCTION

In 2012, the United States Government spent $541.34 billion on income security representing 3.33% of the Gross Domestic Product (GDP), the federal Supplemental Nutrition Assistance Program (SNAP) benefits accounted for $6.83 billion of that spending (Office of Management and Budget 2014). Additionally, in 2012, Americans privately donated an estimated $316.23 billion (Lilly Family School of Philanthropy 2013). The majority of these charitable donations were made by individual households, which accounted for 72% of all donations in 2012, and represented approximately 1.90% of the GDP of the United States for that same year (Lilly Family School of Philanthropy 2013). Private donations in the area of human services accounted for 13% of this total or $41.11 billion dollars (Lilly Family School of Philanthropy 2013).

Recently, the United States Congress reduced funding to many low income families who rely on the Supplemental Nutrition Assistance Program (SNAP). The increase in the dependence on local charities is estimated at 47 million Americans, which is expected to stretch the current resources of local food banks (Dean and Rosenbaum 2013). This increase in demand for charitable services will warrant increased fundraising activities by charities. With more reliance on charities to help address social problems, it is therefore of great importance for charities to understand the factors associated with charitable giving in order to tailor marketing and fundraising campaigns.

Researchers in the areas of sociology, economics, social psychology, anthropology, marketing, and political science among others have made an effort to

predict charitable donations (Bekkers and Wiepking 2011). More recent studies on charitable donations focused on combining information learned from prior studies to predict individual charitable donations. This has proven a difficult, as evidenced by the fact that studies have reported approximately thirty-one different predictors for charitable giving (from a set of around 250 possible variables). These studies suggested different predictors as to the likelihood, causes, and amount of donations.

One noticeable problem with use of these 31 predictors is that results have varied (Bekkers and Wiepking 2011). Examples of such differences were noted in studies on charitable donations that included factors of race, gender, number of children, marital status, and age (Bekkers and Wiepking 2007). One possible explanation for these discrepancies is methodological differences between researchers (Rooney et al. 2005). For example, among methodological concerns noted by researchers, the most important may be that the value of donations cannot be less than zero, causing some censoring of the data (Rooney et al. 2005; Van Slyke and Brooks 2005; Wiepking and Breeze 2012). Schervish and Havens (1997) found that between the different income groups, the predictors of charitable donation are not significant when using multivariate, ordinary least squares (OLS) analysis, a commonly used method for many studies. Thus, there is some debate whether the relationship between income and donations is linear (Bekkers and Wiepking 2007; James and Sharpe 2007).

Because of these discrepancies, Bekkers and Wiepking (2011) state we need to look beyond current theory to find additional predictors of donation. One may assume uniformity of donations regardless of income, or one may assume heterogeneity of

motivations with variation dependent on income. To date the assumption of uniformity of motivations has yielded only limited results, so the alternative should be examined. Therefore, this thesis addresses that need and proposes a new income-based grouping. I posit therefore that there are different motivating factors for different income groups relative to charitable giving, and by segregating samples by income levels those factors can be more easily identified.

As evidence in support of this position, it has been noted that a small proportion of donors to charity provide the majority of funds for charitable donations (Auten and Rudney 1990; Reed and Selbee 2001). In Canada, for instance, there is a recognized core group of individuals, which varies in composition by region, who are responsible for the majority of philanthropic activity in the country (Reed and Selbee 2001). In the United States, variability in donations among those with very high and very low incomes seems to be caused by the same phenomena seen in Canada where the majority of donations are coming from a fairly small number of people (Auten and Rudney 1990). It seems, people with the highest and lowest income group donate the highest proportions of income to charity (Bekkers and Wiepking 2007; James and Sharpe 2007), and that there appears to be substantial fluctuations in giving over time (Auten and Rudney 2010). Indeed, another study showed that when comparing low income donors to high income donors there exist different reasons for donating (Van Slyke and Brooks 2005).

Some work has begun to address these differences in giving related to income. Previous work has shown that aggregation of charitable donations across all income and

wealth levels seems to be the confounding factor in the results of previous analysis (Backus 2010; Piff et al. 2010; Schervish and Havens 1997). Therefore, this thesis expands on the work of others in an attempt to identify the predictors of charitable donation in different income groups. In particular, this thesis extends the work of Van Slyke and Brooks (2005) and Schervish and Havens (1997).

The impact of this study can be best felt by Non- Profit Organizations (NPOs). NPOs focus on different social and political efforts, and people are motivated to donate to the organization that is most important to them. This research will help individual NPOs identify the dominant donor groups in their communities as well as the predictors for their charitable giving. This will allow them to focus efforts towards approaching their donors in ways that address their motivations for giving. Additionally, this research will help future studies by showing that discrepancies in previous work may be accounted for through grouping by income level, and perhaps by other groupings as well.

This thesis will therefore first determine income groups based on similarity of donation patterns as determined by relative donation. Secondly this thesis will examine which predictors of relative donation are significant predictors of relative donations for each income group.

This thesis is primarily empirical in nature. Previous literature is utilized as a guide to identify predictors of relative donations. Variables with sufficient cases were tested for their importance in predicting relative donations. Variables with nominal or

ordinal level of measure were recoded as needed based on empirical evidence of group similarities of relative donations.

CHAPTER TWO
LITERATURE REVIEW

The introduction noted that methodology can explain divergent results in predicting charitable donations. Structured efforts have been made to consolidate the previous research in detailed literature reviews by Bekkers and Wiepking (2007; 2011) which identify 31 variables. Bekkers (2010) identified several themes that aid in understanding who is most likely to donate, how much they will donate, and under what circumstances.

Previous Methodologies for Predicting Donations

Initial studies to identify predictors for charitable giving often used two prominent methodologies. First, Ordinary Least Squares (OLS) regression was used; however, because donations to charity are never less than zero, the results are censored, causing some variation in the results with OLS (Rooney et al. 2005; Van Slyke and Brooks 2005; Wiepking and Breeze 2012). Second, most analyses lumped all respondents into one single group.

More recent studies have moved away from simple OLS techniques to address the problems with censored data. Work by Van Slyke and Brooks (2005), Wang and Graddy (2008), used Tobit regression to correct for this. Tobit regression is well suited when the dependent variable is continuous, but censored at specific value (Osgood, Finken, and McMorris 2002). Wiepking and Breeze (2012) also used Tobit regression with a Heckman correction. With this method the dependent variable reported is latent, in this case the desire to donate or the amount of money that the respondent would donate if they

had the resources is included in the study (Wiepking and Breeze 2012). Because of the number of possible predictors (250) as well as problems with collinearity, Weerts and Ronca (2009) used Classification and Regression Trees (CART) to identify the variables that were the most important predictors of donations. However, their study was restricted to donations to colleges. Additionally, a set of studies noted that the relationship between income and donations seemed to not be linear (Bekkers and Wiepking 2007; James and Sharpe 2007), thus implying that other non-linear statistical methods might be more appropriate.

The second problem, that of lumping all data into a single group, was addressed by Van Slyke and Brooks (2005) and Backus (2010). Van Slyke and Brooks found that motivations for donors differ between groups, and thus lumping all respondents into one group seemed inappropriate. They showed that when looking at individual groups, the motivations for donating to charity differ. They looked at race, religion, and high and low income. Thus, they tried to address the observation that fundamental differences in groups of respondents can lead to varying results. The work by Van Slyke and Brooks (2005) organized respondents into two groups: "low" and "not-low" income. The possible predictive factors used in their analysis were age, marital status, education, perceived social class, wealth, home ownership, volunteerism, church attendance, strength of stated religiosity, and attitude about the likelihood of improving one's economic position in society. Their results did show that different factors were predictive of charitable donations for "low" income verses "not-low" income. These findings seem

to confirm that there are different factors at different income levels that could better explain charitable donations within the different income levels.

Despite their meaningful contribution to this area of study, Van Slyke and Brooks did not fully examine factors for charitable giving at a range of income strata. This could be done by grouping households into a variety of income levels (not just low and not-low) and using multiple linear regression analysis to determine factors that have statistical and practical significance in each group. Such an approach could help identify how demographics, social and financial factors affect donation within each group.

In summary, the previous studies in this field attempted to identify predictors for charitable giving but failed to identify a consistent set of predictors. Evidence was shown that the relationships between charitable giving and income were not linear and that various motivating factors affected different income strata differently. The evidence suggested that a single statistical model is infeasible based on the variety of motivations across the spectrum of income. Therefore, it appears beneficial to separate samples into different income groups to facilitate more accurate and meaningful analysis of charitable donations.

Income

Family income has been studied in depth by economists who look at price elasticity, in this case the increase in donation resulting from a decrease in the financial impact of that donation. They have found that a 10% increase in income equates to a 2% increase in donations (Auten and Rudney 1990; Backus 2010). As income increases there is an increase in the proportion of income donated to charity (Wiepking 2007).

Pharaoh and Tanner (1997) found similar results in that a 10% increase in income increased the likelihood of donating by 1.2%. However, it has been noted, that the proportion of income donated is highest at the highest and lowest income groups, thus a non-linear relationship exists across income groups. Therefore, it seems appropriate that income can be used as a grouping factor for reasons beyond the mere availability of resources. There is sociological complexity involved beyond the crude economic fact that existence of resources is a necessary condition of donation.

Despite these studies, Schervish and Havens (1995) found no evidence of the effects of income on donations when using the Giving and Volunteering Survey (Gallup Organization N=2873). However, methodological decisions could have influenced the results as only responses from the head of household were included, limiting the study to 83% of the respondents (Schervish and Havens 1995). James and Sharpe (2007) tried to replicate both results and pointed out a possible bias that is problematic in the analysis by Schervish and Havens (1995), and that additionally this bias could have led to missing an important relationship.

Aside from the very low and very high income groups, Wiepking (2007) found that income had a persistent negative effect on the proportion of income donated to charity by using the "Giving in the Netherlands" panel study in 2003 (N=1,316). Thus, the proportion of income donated decreases as income increases. However, despite the drop in proportion of income donated, there are more people with higher incomes that donate than there are at lower incomes.

Motivations for High and Low Income Donors

Motivating factors for charitable donations indeed seem to be different for both high and low-income donors. At lower income levels, when religious donations are included in the analysis, the proportion of income donated was higher than at higher income levels (Schervish and Havens 1995). Tithing is one possible explanation for the relationship between income and the proportion of income donated to charity. This difference in donation type is also noted by Backus (2010).

Also among donors with low incomes, there is statistically significant positive association between income and donation, especially among people who had at one point received assistance. This relationship is noted in a study using the 2003 Center on Philanthropy Panel Study data (Guo and Peck 2009). However, for people who are currently receiving welfare benefits there is a decrease in donations (Guo and Peck 2009). Thus it seems empathy may be a motivating factor for lower income donors.

Motivations for wealthy donors seem based on social expectations. For example, wealthy philanthropists believe that charitable donation is not only a personal decision, but a social obligation (Ostrower 1991). This is in line with reasons that Andrew Carnegie (2011) mentioned in his autobiography that the wealthy were able to make improvements to society that would not be made otherwise. Respondents thought less of wealthy people who did not make donations feeling that they were selfish (Ostrower 1991). Wealthy philanthropists are often raised to be charitable and assume that not donating to charity is a deviant act (Ostrower 1991).

An individual belonging to a social club would be viewed poorly if their donations were not sufficient (Ostrower 1991). Proportionally lower donations are observed at higher income levels as people donate only the solicited amount required to gain a specific reward, or increase their prestige (Harbaugh 1997). This would happen, for example, when the requirement to be a "gold" donor for a local Christmas display is $500, people will donate $500 rather than greater amounts above the specified donation bracket. This helps explain lower proportional donations at higher income levels as opposed to lower levels.

Religiosity

One of the predictors that vary depending on income group is religiosity. As mentioned previously, lower-income donors that identify as religious, tend to donate higher proportion of their income to religious charities. In general, there are two different theories about why religiosity increases donation. First, values learned in church will lead people to donate (Feldman and Steenbergen 2001). Schervish and Havens (1995) found that the difference is explained by religious donations which are made by individuals committed to the principal of tithing (paying 10% of income to the church). In 2010, the group receiving the highest portion of donations in the United States was religious organizations with 35% of all charitable donations (Center on Philanthropy 2011).

Second, church attendance is believed to correlate with increased donations because participation in a religious community reinforces social norms through regular interaction which increases the likelihood of donation (Ostrower 1991; Schervish and

Havens 1997). Those who attend church are more likely to come into contact with those soliciting donations (Bekkers 2010; Schervish and Havens 1997) and are more visible in their donation behavior. Moral education, which comes from communities of participation in early life, preschool and church attendance, is important in creating frameworks of consciousness (Schervish and Havens 1997). Bekkers (2010) points out that this also involves a conditioning effect where donation is a learned behavior. People who attend church more frequently are more likely to encounter requests for donations (Schervish and Havens 1997). The act of donating a dollar each time a collection plate is passed is an example of this behavior learned early in life (Bekkers and Wiepking 2007). In this case, the importance of religion to donation is that participation in a religious social network will affect the framework of consciousness (and self-consciousness) so that we are more likely to give (Bekkers 2010; Schervish and Havens 1997).

Wang and Graddy (2008) also considered the strength of religious convictions. To measure this concept they asked respondents whether or not they agreed with the statement "Religion is important in their lives" to which they responded on a scale from strongly disagree to strongly agree. They found that 83% either strongly agree or agree that they feel that religion is important. Wang and Graddy (2008) found that the degree of religiosity, how strongly the respondent felt that religion was important in their lives, was an important predictor of religious donation but not community donations.

Also noted in the literature is the tendency of respondents of low socioeconomic status to prefer small sects over large established religions, which posited as the club-theoretic model (James and Sharpe 2007a). These smaller congregations tend to require

donations more, or have stronger social norm associated with donation than larger churches (James and Sharpe 2007a). This is evident when working with the proportion of donations, as the actual dollar amount masks this effect (James and Sharpe 2007a). It then seems logical that members of a small congregation would feel the need to donate to the sect so that they can continue to sustain, or benefit from, it. For this thesis the implication is that there should be a difference in the average proportion donated depending on the size of the congregation. Therefore respondents who are aligned with larger established religions, with larger bureaucracies, in the United States should donate less proportionally than those who attend smaller less established congregations. Other studies support the differences in the proportion donated by Protestants, Catholics, Jews, and other religions (Jackson et. al. 1995; Ottni-Wilhelm 2010).

Using the World Values Survey and the International Social Survey Programme (ISSP) researchers compared the aggregate social services spending in 22 developed OECD nations as a function of the nation's average religiosity (Scheve and Savage 2006). Scheve and Savage (2006) found that individuals who are religious were less likely to support increased government social spending feeling that instead the church could best care for these needs. Religious people can be classified as humanitarians, supporting increased donation to private charities in lieu of government intervention to address social problems (Feldman and Steenbergen 2001). The opposite are egalitarians, supporting increased government intervention to alleviate social problems, feeling private charities will be less effective than larger government interventions geared towards eliminating inequality (Feldman and Steenbergen 2001). In this case humanitarians, who

tend to express higher levels of religiosity, will donate more to NPO's than egalitarians. When religiosity is measured by increased contact with a community of association (the religious organization), it is positively correlated with charitable donations (Scheve and Savage 2006). This supports research that shows that having a strong religious social network is associated with higher charitable giving, regardless of the denomination (Bekkers 2010, Schervish and Havens 1997).

Among wealthy donors, Ostrower (1991) found that those who were religious were more likely to view philanthropy as an obligation than other donors. She found that this sense of obligation existed no matter what the religious affiliation of the donor (Ostrower 1991). This concurs with the findings of the other researchers; that participation in a group within a religion is more predictive of donation than religious beliefs (Graham and Haidt 2010; Lewis, MacGregor and Putnam 2012; Wang and Graddy 2008; Schervish and Havens 1997, Scheve and Savage 2006). In the case of the wealthy, Ostrower (1991) felt that donations stemmed from religious belief, however, she noted that among the wealthy many of them felt as if they were "indoctrinated early in putting something in the collection plate every Sunday."

Awareness of Need

Awareness of the community and needs in that community are often a motivator for donation (Bekkers 2010). Being aware of an acute need in the community increases a donor's desire to donate (Feldman and Feldman 1985). There are several factors that influence awareness of need such as: if beneficiaries are perceived as deserving (Miller 1977), personal responsibility (Feldman and Steenbergen 2001), number of children in

the donor's family (Auten and Rudney 1990), effectiveness of the donation (Feldman and Steenbergen 2001), framing or understanding of the plight of a typical beneficiary (Small and Simonsohn 2008), religiosity and political affiliation in that they help define what constitutes a need in the community (Bekkers 2010; Feldman and Steenbergen 2001). Also important is the sympathy the donor feels towards the specific situation of a beneficiary. In an experimental study Small and Simonsohn (2008) found that social distance was a predictor of donation because knowing someone close to the potential beneficiary was more likely to draw donations for the beneficiary's misfortune than for any other misfortune. Thus volunteerism also brings potential donors into contact with beneficiaries (Bryant et al. 2003; Wang and Graddy 2008).

Costs and Benefits and "Impure Altruism"

As with any other financial expenditure, people will consider both the costs and benefits of charitable donations. Economists have studied the price elasticity of donation as it relates to income and the benefits that one gains from a particular donation (Andreoni 1989; Harbaugh 1998). Andreoni and Miller (2002) and Harbaugh (1998) suggest that the desire to donate depends on the individual's perceived ability to make the donation without creating undue hardship on themselves, as well as the rewards of that donation in the form of increased social prestige and the 'warm glow' that donors feel (labeled 'impure altruism' by some).

It does not matter how benevolent a person is, they will not donate if they do not have resources to donate. Schervish and Havens (1997) found that people with more discretionary resources were more likely to give to charity. Donors with a yearly income

of $75,000 per year were more likely to donate than those making only $25,000 per year (Schervish and Havens 1997). Several millionaires in one study reported that they did not feel wealthy (Ostrower 1991). If wealthy donors did not feel financially secure, they were more likely to be "stingy" (Wiepking and Bekkers 2012). Their associations with others established their own definition of "financially secure" (Wiepking and Breeze 2012). Costs and benefits of donation are moderated by income, price elasticity of donation, marital status, gender, and the subjective perception of the costs of donations and whether or not a physical or social benefit was given in exchange for the donation. Price elasticity in this case refers to the increase in donations (quantity demanded) relative to the cost of donation (budget constraint) (Harbaugh 1998).

Prestige is a benefit of donations of money. According to Ostrower (1991) there are social rules for wealthy donors, where donation is considered a social obligation and failure to donate will result in loss of prestige. Among students, (Milinski, Semmann, and Krambeck (2002) found that those who donated to UNICEF were more likely to win a mock election than those who did not. Social and political prestige are important benefits of donation.

Solicitation

Logically, those who are asked to donate are more likely to do so, where those who are not asked are less likely. Byrant et al. (2003) estimated that 85% of people asked to donate will do so. There are people who are more likely to be solicited for donations that others and they include married females, people with more education, people who own a home, and people who are better integrated in their community.

African Americans, widows, and single males, are less likely to receive a solicitation (Bryant et al. 2003). As with awareness of need, those who volunteer in the community are also more likely to be solicited for donations owing their increased contact with charitable organizations and requests for volunteers often come as a result of church attendance (Bryant et al. 2003; Wang and Graddy 2008).

Efficacy

As mentioned previously the misfortune (e.g. illness or other accident) of a family member, friend or associate may bring the potential donor into contact with a charitable organization (Ostrower 1991). When this happens donors are able to see firsthand the efficacy of their donations, which motivates them to donate to a charity (Bekkers 2010). Efficacy is the knowledge that the donation made will be used as understood and intended by the donor (Bekkers 2010). Knowing someone working in an organization instills confidence in donors and they feel that their donation will be effective (Bekkers 2010). Efficacy is transmitted in several ways. For donors efficacy is transmitted through friends soliciting donations, personal experience receiving help from organizations during crises, or from volunteering directly for an organization (Ostrower 1991). Feeling confident in the effectiveness of an organization, and frequent contact with the person making the request for donations are both correlated with increased donations (Bekkers 2010).

Efficacy and solicitation are also significant to affluent donors. Ostrower (1991) found the donors in her survey were involved both in donating as well as in soliciting donations. Understanding the organization and especially the efficacy of the contribution

to the community is important to wealthy givers (Ostrower 1991). Bekkers (2010) found that community involvement was an important factor affecting donation. Elite donors as a group feel a social obligation to maintain community resources and actively encourage each other through social sanctions and norms to do so (Ostrower 1991).

Demographic Factors

Demographic factors also influence the amount of money donated to charity. These factors include gender, age, race, marital status, education, number of children, current employment, parental background, immigration status, and context or region of residence. Women are more likely to donate to charity; however, men typically donate larger amounts (Bryant et al. 2003). Life events can initiate philanthropic activity (Ostrower 1991). Events associated with age such as retirement, children leaving home, and tragedies all can lead to increased donation and volunteering among the wealthy as these events aid in the awareness of need (Ostrower 1991). New social connections are also established when these events bring donors in contact with healthcare organizations that inspire continued donations and fundraising activities among acquaintances (Ostrower 1991). In this way age is an important factor related to the awareness of need in the community.

Steinberg and Wilhelm (2005) studied the effects of race on charitable donations. Using data from the Center on Philanthropy Panel Study, they examined the relationship between race and charitable donations. They tested the assumption that African American families were less likely to donate money to charities at all income levels than White families. They studied the differences in monetary donations between White, Hispanic,

and African American families finding that when controlling for income and other factors, there was a difference in the amount of money donated by the Hispanics and the other races, White and African Americans. However, the relationship was not statistically significant (Steinberg and Wilhelm 2005). When examining donations by African American and White families they found no significant difference in the amount of money donated by the two groups (Steinberg and Wilhelm 2005). This was also the case in the work by Rooney et al (2005). Work by (Drezner 2009) which focused on college graduates who donated to the UNCF (United Negro College Fund) and NPAC (National Pre-Alumni Council), which consists solely of African Americans recipients, points out increased donation to very specific charities among those with higher education. It should be noted that this is a very specific group of people and that no comparison was made between this group and other groups of college students.

Education levels also have an effect on donations. As education increases there is an increase in donations (Bekkers and Wiepking 2007). A positive correlation between education and the proportion of income donated to religious charities was also noted in a study using data from the Consumer Expenditure Survey (James and Jones 2011). The type of education is as important as the number of years of education (Bekkers and Wiepking 2007). Hillygus (2005) found that students in a social science curriculum were more likely to volunteer actively in politics in the community than humanities or business majors, and the relationship between volunteerism and attendance of a business curriculum was found to be negative (Hillygus 2005). Volunteerism is associated with donations (Schervish and Havens 1997). Thus, if one group is more likely to volunteer

they will also be more likely to donate as a result of that volunteerism. This indicates that the type of education is an important factor in charitable giving.

Finally, Osili and Du (2005) found that immigrants were more likely to give within private transfer networks rather than formal charitable giving to organizations. They did find that recent immigrants were slightly less likely to donate to charity but the difference was not significant and that this difference decreased across time.

Financial Resources

As stated previously, the financial resources of the individual are an important consideration for possible donations (Bekkers 2010). Family income, home ownership, the perception of ability to donate, and financial capital are all important considerations related to charitable donations (Bekkers 2010). Despite the importance of financial resources there is a great amount of variability in the generosity of donors especially among high income donors (Auten and Rudney 1990).

People judge their financial stability by those with whom they associate (Schervish and Havens 1997). If a person's social network consists solely of people with million dollar homes and yachts, and they do not have those things then they perceive that they themselves are unable to donate (Wiepking and Breeze 2012). When people amass wealth to a point where they feel that they are financially secure they will donate from what they feel are excess earnings (Wiepking and Breeze 2012). Interviews with donors also revealed different attitudes about what constituted a large donation (Ostrower 1991). The perception that enough money has been donated to charity differs according

to social class (Wiepking and Breeze 2012). As mentioned in the previous section the perception one's ability to donate moderated the cost of donation. However, it was found that donations at the highest income level were restricted to a few committed donors who consistently made the majority of donations (Auten and Rudney 1990).

Social Factors

Social factors such as organizational participation, volunteerism and church attendance also increase charitable donations (Bekkers and Wiepking 2007). Studies on organizational integration have shown increased donation to organization to which people volunteer (Drezner 2009; Mael and Ashforth 1995). People participate in several different "voluntary" organizations often beginning as parents when their children start to attend school (Schervish and Havens 1997). Organizations like Parent Teacher Associations which focus on the school are also influential on individuals as donors (Schervish and Havens 1997). Integration into an organization like a college or university can also increase the overall amount of donation (Drezner 2009). Recipients of aid and mentoring through the UNFC and NPAC gave twice as much as after graduation as they received while in school (Drezner 2009). In higher education, the more integrated students are in their college or university the more likely they are to donate after school is completed (Mael and Ashforth 1995). Former university students who were active volunteers in the community while in school are also more likely to donate (Weerts and Ronca 2009).

Other Factors

Other factors that are related to the amount of money donated to charity are the number years of residence in a community, occupational prestige, happiness, consumption, home value, living on a farm, fraternity or sorority membership, health, confidence in government, and political beliefs (Bekkers 2010). For example, research has also shown that happy people are more likely to make donations (Bekkers and Wiepking 2007). Wang and Graddy (2008) also noted this trend more recently finding that happy people were more likely to donate to both secular and religious charities.

These additional factors have not been studied in as much depth as demographic, social, financial and personal characteristics. However, they are included in this thesis because they could offer important insights into predicting donations.

This project first divides the respondents into three groups based on similarity of relative donation patterns. The data is divided into three groups; "high", "middle" and low income. I expect that the predictors for each income group will differ from both the aggregate model as well as the other two income groups, in importance for predicting relative charitable donations.

There are two main reasons for using the proportion of income over total dollars donated. First, it is easier to make comparisons of donors who make dissimilar donation using the ratio of donations to income. Using ratios simplifies the classification of individuals into similar groups. Secondly, in previous studies the relative generosity of

the lowest and highest income groups has already been documented (Auten and Rudney 1990; James and Sharpe 2007).

CHAPTER THREE
DATA AND METHODS

Data

This project used two secondary data sources, specifically, the Consumer Expenditure Survey (CEX) and the General Social Survey (GSS). The CEX was used to determine the income groups while the GSS was used for hypothesis testing. More variables needed to test the hypothesis were available in the GSS while the CEX had a better measure of income which aided in determining income groups.

The Consumer Expenditure Survey (CEX)

The CEX is a project of the Bureau of Labor and Statistics (BLS) where researchers collect information in two different surveys regarding household income, spending and some demographic information. Data from this survey is available from 1972-1973 and from 1984 to present. The measurement unit is the 'consumer unit' and is selected using one of three methods. First, a consumer unit can be a group of people who are related by birth and other legal relationships—this would not include roommates. Second, a consumer unit can be a single individual that is financially independent. Third, a consumer unit can be individuals that live together and make joint financial decisions relating to housing, food and other living expenses. The reference individual, unit of analysis, is the primary person found on the title, mortgage or rental agreement. For this study, the data used is found in the July CEX Quarterly interview of 2010. The CEX Quarterly Interview contains information on charitable donations for the second half of

the calendar year. For this study, data was used from the year 2010 as this was the most recent year that data existed simultaneously for both the CEX and GSS.

The General Social Survey

The General Social Survey is a project of the National Opinion Research Center based in the University of Chicago and funded by the Sociology Program of the National Science Foundation (Smith et al 2011). Survey participants are selected randomly from the entire United States non-institutionalized, native English speaking population 18 and over (Smith et al. 2011). The GSS has been administered as a computer assisted personal interview (CAPI) since 1972, and employs a split ballot design. In 2006, a panel component was added and information on charitable donations collected in the year 2010 from the panel, data was released May 2011 (Smith et al 2011). Respondents in the GSS panel were originally polled in 2008, but questions related to charitable donations were asked to the same respondents in the year 2010. Earlier waves of the GSS were used to analyze the relationship between income and relative donations (Schervish and Havens 2001).

The data used for this thesis comes from a subsample of 1,560 respondents who answered questions about their donation behaviors in 2010. These respondents were included if 'any member of the household had donated more than $25 to charity in the last year in money, assets, property or goods' (Smith et. Al 2011).

Dependent Variable

Proportion of Income Donated to Charity

The proportion of income donated to charity in the second half of 2010 was used as the dependent variable for this study. The dataset from the GSS contains information for calculating total household donations. As state previously a filter question was used to determine if respondents in the panel had made charitable donations in the past year. To determine the proportion of income donated to charity a subsequent question was asked of respondents: 'Altogether, what was the total dollar value of all donations you and your immediate family made in the past year towards religious and charitable purposes?' Values recorded were the actual dollar amount donated. Respondents who answered 'no' to the original filter question were added to the dataset with total donation value of $0.

Independent variables

Table A-1, contains a list of the variables from the GSS that were included for use in the regression analysis for this study. In addition the full description of the variables, missing values and recoding is included in the same table.

The religiosity index was constructed using responses to four questions in the GSS: '"how fundamentalist does is the respondent currently", what is the "strength of the respondent's religious affiliation", "how often does the respondent Pray", and the respondent's "feelings about the Bible." The variables were recoded so that higher numeric values were assigned to either an increase in view of self as fundamental or an increase in the frequency of prayer. Therefore, the religiosity index was created by taking

an average score of the first four questions, recoded as stated. Cronbach's alpha of .728 indicates that these two variables are internally consistent. Church attendance seemed to be appropriate as part of the religiosity index, however additional testing showed that it was more significantly related to relative donations than the other two indicators included in the index. Additionally, as stated in the literature there is a theoretical difference between religiosity and church attendance. In addition to measuring an individual's religiosity it also measures the increased frequency that the individual comes in contact with solicitations for donation. By separating this variable, its effects are more easily examined.

Religious denomination was recoded into three indicator variables that grouped denominations together based on their average donation as determined by the software. These groups were created by grouping together categories with similar proportional donations. Religious groupings were determined by empirical evidence, and separated based on similar relative donations. The first group consists of Protestant, Buddhism, Other Eastern, and Christian religions. The second group consists of Catholic, Jewish, Moslem/Islam and Orthodox Christian religions. The third category includes people with no religious affiliation as well as other specified, Hinduism, and Native American religions. See Figure B-3.

Methods

Outliers

In the GSS data, there was a great amount of variation in the proportion of income donated to charity such that the average proportion was .03 with a standard deviation of

.19, and a range of 0- 4.44. Outliers were identified as cases that were outside of three standard deviations of the average proportion and were trimmed. Only cases where the proportion donated was between 0 and .5965 were included in the analysis. The final sample size used was 1,451 with the average proportion donated to charity at .03 with a standard deviation of .05 and a range from 0 to .59. By removing significant outliers the data more closely meets the assumption of equal variance required for linear regression. Additionally, the proportion of income was transformed using the natural log for the final analysis.

Within the GSS data, missing values are a problem. While only a few of the variables seem to have significant numbers of missing values, deletion of samples with missing values reduced the dataset significantly. To avoid this problem several variables were omitted from the analysis that should be considered in future analysis.

Grouping Samples by Income

The independent variable is income. As stated previously, the hypothesis is that grouping respondents by income will identify different patterns of association. Within the GSS, income data was recorded as counts within specific income ranges. However, income data from the CEX is a continuous value. The total household income was recorded in the CEX as the "household income in real US dollars" for the year and is a Bureau of Labor and Statistics (BLS) imputed income based on responses to several different questions. For this study, real income as stated by the respondents in the CEX was used instead of the imputed income as it most similar to the question in the GSS

dataset more closely. Additionally, incomes below zero were not included in this study because the GSS did not include income less than zero in the questionnaire.

While there is no standard practice for dividing income into specific strata, the current literature can provide insights to infer possible groupings. James and Sharpe (2007) calculated the average proportion donated by income within group increments of $10,000 in their study of the linearity of proportion donated. They found that the groups that gave more than the average percent of income were those between $0 and $10,000 at 4.55%, and between $10,000 and $19,000 at 2.37%. Using this information they used regression techniques to graph a curve and determined that the point where the percent of income donated started to increase (James and Sharpe 2007). For people making above $132,282 the proportion of income gradually increased, however, never as high as in the lowest income groups.

The CEX data itself was used to determine the points where the relationship between income and donations change. Scatter plots of CEX income and GSS proportion donated to charity were used to determine the break points for creating income groupings. The scatterplot shows two points where a possible division could be made. The first appears to be between $10,000 and $20,000 in annual income, and the second is between $100,000 and $130,000, (FIGURE B-1). To examine more closely, a second scatter plot of income and the log transformed proportion of donations was created (FIGURE B-2). This plot confirms a noticeable change near $10,000. Because the variables used for the regression analysis come from the GSS, and because the GSS has fewer income points in income, the first break point is set at $20,000.

Both scatterplots also show a reduction in the amount of variation around $150,000 per year. Again, in order to have sufficient data points the second break point is set at $120,000. In summary, the data was grouped into three income groups: low income (between $0 and $20,000 per year), middle income (between $20,000 and $120,000 per year), and high income respondents (those who make $120,000 or more per year).

Similar to previous studies with large numbers of possible dependent variables, a linear regression was performed. The Automatic Linear Regression (ALR) function in SPSS was used to determine which variables were most important in each income grouping. This is a powerful tool new to IMB SPSS Statistics which was added in version 19. This feature is beneficial for selecting the most important variables in a model, especially when it is unclear which variables should be used. The number of variables identified by the previous literature makes this technique an appealing way to test the hypothesis that different variables will be important for different income groups. ALR does make some "automatic" decisions. For example, it removes outliers by replacing them with the nearest in bounds value, in this case within three standard deviations from the mean. In addition, it replaces missing values with the mean (for variables denoted as interval or ratio in SPSS) the median (for variables denoted as ordinal), or the mode (for those nominal variables). ALR is used primarily as a filter. The second step uses Ordinary Least Squares (OLS) regression using the most appropriate variables determined by ALR at each income level as determined by

statistical significance. Variables were not considered with fewer than 1000 cases and listwise deletion was used with OLS regression.

CHAPTER FOUR
RESULTS

Descriptive Statistics

A list of the variable included in this analysis is found in Appendix A – "List of Variables Found in GSS." After trimming the outliers as described in the Materials and Methods section, the average proportion of donation for the entire dataset is .0214 with a standard deviation of .05 which is less than the standard deviation before the deletion of the outliers. Missing variables are problematic in this data set. Because of this several possible predictors were excluded and listwise deletion used. The number of cases included in the final analysis is 1140.

The average income of respondents in this sample is $78,554 with significant variation in reported incomes; standard deviation in income is $77,136. In this sample 15% of respondents fall in the "High" income group, 65% fall in the "Middle" income group, and 20% fall in the "Low" income group. In the "High" income group the average income is $238,437 with a standard deviation of $51,000. In the "Middle" income group the average donation is $60,726 with a standard deviation of $27,588. For the "Low" income group the average income is $11,181 with a standard deviation of $5,521.

Bivariate Correlations

Bivariate results are presented in 'Bivariate Correlations Table A-3' found in appendix A of this document. Most variables show an association with the ln(proportion)

of income donated to charity. Significant bivariate correlations were found between age (r = .206), Education (r=.205) religiosity (r=.297), attending a small religious sect (r=.227), the frequency of church attendance (r=.410), being married (r=.131), number of children (r=.079), having been born in the United States (r=.109), SEI (r=.121), general happiness(.125), religiosity as measured by the index (r=.265), and feeling that their family income is above average (r=.113). These are all significant at the α=.01 level. In addition to this there is a significant negative correlation between the ln(proportion) income and (r=-.092), feeling that their family income is below average (r=-.105), and being in the "High" income group (r=-.104).

Multivariate Analysis

To test the hypothesis that different variables are needed to predict donation at each income level, four different models were constructed using OLS regression. These four models are for low, medium and high income groups as well as a group combining all income levels for comparison. Results from these four models are presented in table 4-1. Of the variables originally tested for the model, only 11 were found to be significant predictors of the proportion of income donated in at least one income level. Additionally, only four variables were significant at all three income levels and in the aggregate data set. These two variables were income, frequency of church attendance, age, and number of years of education (α<0.05). Multicollinearity was considered, however, variable inflation factor scores did not indicate that problems existed with the variables tested in these models.

For the aggregate data set, represented by Model I in table 4-1, there were ten variables that were significant predictors of the proportion of income donated. These were age, education, being married, income, wealth including home value, US born, the frequency of church attendance, the size of the religious congregation attended, how the respondent feels their income compares to other people, and the religiosity index score. The model's *r*-square is .293 which is similar to other findings (Wang and Graddy 2008).

Respondents who make more than $120,000 per year (high income) are represented by Model II in table 4-1. For people in this income range there are seven predictors with partial slopes significantly different from zero: age, education, income, frequency of church attendance, and how the respondent feels their income compares to others, perceived social class, and race. The last two were not found to be significant predictors of the dependent variable when all income levels were included in the analysis, and would have been dismissed as not significant indicators of donation. For this income group the variables wealth not including home value, US born, being married, the size of the congregation attended, and religiosity were not significantly greater than zero. In addition the model *r*-square is .444 indicates that these variables explain the variation in donations at high income levels better than for the aggregate dataset.

The middle income group between $20,000 and $120,000 are represented by Model III in table 4-1. In this group the variables that are most significant to predicting income are age, education, income, US Born, feeling that their family income is above average, frequency of church attendance, and belonging to a small religious sect. In addition to these variables general happiness is a significant predictor in this income

group while it is not significant for any of the other income groups. Family wealth including the value of the home, being married and religiosity are not significant for this income group even though they were significant predictors for the aggregate group. The model *r*-square is .302, and does not vary greatly from the model *r*-square (.294) of the aggregate data set.

The results for the low income group are shown in Model IV in table 4-1. This group only includes respondents with incomes less than $20,000. The model's *r*-square of .179 shows that this model is the least effective of all four in predicting the dependent variable. The strongest predictors for this income group are age, education, income, frequency of church attendance, and family wealth including home value. There are no variables that are significant in this data set that are not included in the aggregate data set.

Table 4-1 OLS Regression Best Possible Model.

Variables	Model I All Income Levels	Model II High Income Above 120 K	Model III Middle Income 20 K-120 K	Model IV Low Income Below 20 K
Age	.012***	.01**	.018***	.011*
Education	.098***	.06**	.082***	.162***
Income	-.000***	-.000*	-.000**	-.000**
Middle Coded Real Wealth	7.281E-7***			1.857E-6
Born in the US	.255*		.268*	
Married	.171**			
Feels that Family income is Above Average	.295***	.429**	.228*	
Feels that Family income is Below Average	-.10	-.092	-.097	
Attends a Small Religious Congregation/Sect	.294***		.413***	
Attends Other Religious Sect	.413**		.347**	
Frequency of Church Attendance	.205***	.211***	.239***	.175***
Religiosity (Index)	.152*			
Black		-.811***		
Other Race		-.126		
Subjective Class		.365**		
General Happiness			.143*	
Coefficient	-8.48***	-8.038	-8.374***	-7.738***
Model R-Square	.293	.473	.315	.179
N	1137	174	757	204

Dependent Variable LN(Proportion of income donated to charity)
* value is significant at α=.10, ** value is significant at α=.05, ***value is significant at .01

CHAPTER FIVE
DISCUSSION

The results from OLS regression provide evidence to support the hypothesis that different predictors are needed to explain charitable donations at different income levels. For the high income group, around 40% of the variation in the proportion of income donated is accounted for by the model, whereas only around 30% for the full dataset and the "middle" income group. This indicates that there appears to be a difference between the income groups. By including the observation that each group of respondents may be motivated by different factors, researchers can explore the possible causes of charitable donations for target income groups.

Of note is that the model for the middle income level showed no apparent difference from the aggregate model in terms of the variation explained. However, there are several predictors that are unique to the middle income group. These would be missed in an aggregate analysis of the full data. In fact, at all income levels there were predictors that were significant that would not have been identified without the grouping. Thus, despite the lack of improvement in percent of variance explained, the models are perhaps more able to identify causal variables at each level.

As stated throughout this thesis, there are some limitations that are derived from the survey data. The most significant limitation is with the GSS. It uses a split ballot, and while most of the variables of interest are available, the missing data, which is a result of the panel design, causes problems for analysis. Because of this some variables identified in the literature were not used in regression analysis. In the future a dataset specifically

designed for social scientific research on charitable donations would offer better choices for assessing the appropriateness of different statistical models for this and other possible population subgroups.

This research used less conservative tests with the intent of finding all possible relationships that could be tested in the future using more stringent tests. Additionally, interactions should be tested to better understand the relationship between the variables and the proportion of income donated to charity. Also it is important to consider that data for this project was collected prior to the great recession of 2008. Changes to individual's economic resources can significantly change their donation behavior.

This project is exploratory in nature. Future research should explore the use of different variables as possible grouping factors. While grouping by income can help to identify the factors related to donation for each group, it does not take into account other combinations of group membership. Additionally, different charities attract different types of donors. It will be important to include the types of charities in addition to a separation of secular and religious charities, organizations should be divided based on missions.

In this thesis church attendance was separated from the other measures of religiosity. The religiosity index is only significant in the aggregate model, while church attendance is significant for all of the income groups. This supports the theory posited in the previous literature that church attendance increases the opportunity for solicitation (Bekkers 2010; Ostrower 1991; Schervish and Havens 1997). Additionally, as religious donations are included in the relative donations it is possible that those who attend church

more frequently are also more likely to make this donation. In this case how often someone attends church seems to affect the portion of income donated

The perception of the ability of the family to donate is also important at the "High" and "Middle" seems to be more important than at the lowest income level. If the respondent feels that their family income is above average they are will donate more than if they feel that there is average or below average. Wiepking and Bekkers (2012) also noted this tendency when talking to high income donors. Those in the highest income groups have different definitions of what it means to have an "above average income." As material success is an important part of American culture, feeling that you have achieved that success is important to many Americans. Incomes in this group start around $120,000 per year which means that financially everyone in this income group is about the average income, in this sample $78,554. Since everyone in this income group is above average in the amount of income, for this group it is more important to feel financially secure rather than actual financial security. In the low income feeling that one's income is above average is not as important when deciding to give larger donations relative to income.

Race was significant only in the "High" income group. Drezner (2009) found that among African American's those who had improved their social status, and had benefitted from mentorship programs gave back in great amounts. However, in this case the proportion of income donated to charity was significantly lower for African Americans than for White respondents. It is possible that in comparison to their White peers African Americans feel less able to donate, and donate in smaller amounts. For the

"High" income group there are only 174 cases included in the analysis. Without looking specifically at race as a grouping variable it is impossible to conclude why there is a lower than expected proportional donation. Future analysis that used race as a grouping variable should clarify the results.

In the "Low" income group, respondents making less than $20,000 a year, there are only five variables that explain very little of the variation in relative donation. This indicates that there is still much to learn about this group of donors. In this group wealth including home value is an important predictor of relative donations. In this group having some money in savings is important to donation. Living below the poverty level for most of the respondents would make donations of even 10% of their income almost impossible. In order to meet the necessities of life and still make significant charitable donations they would have to have assets to donate. The majority of the outliers, donors donating more than 59% of their income, are in this group. To better understand the predictors of relative donation in the lowest income group it will be necessary to include the outliers divide the group based on wealth. Additional exploratory research will be needed determine the predictors as well as motivational factors for donation among those Americans with very low incomes.

In conclusion, this work suggests that income is confounding factors regarding charitable donations and that lack of grouping by income may be the cause of conflicting results in existing literature. Evidence is shown herein to suggest that this is the case, especially when examining the high income group. This work also helps identify potential variables that warrant closer inspection per each income group as potential

indicators of charitable giving. Finally, this suggests a method by which charities can identify factors that affect donation within their target group of donors and perhaps help improve efficiency of charities.

APPENDICES

APPENDIX A
TABLES

Table A-1. List of Variables

GSS Variable Name	GSS Variable Label	GSS Question	Original Catagories	Recoding
AGE	Age of Respondent	Date of Birth has been recoded into actual age	Ratio level of Measure (coded as actial age)	none
SEX	Respondent's Sex	Interviewer Coded "Code Respondent's Sex"	1=male, 2=female	Recoded into indicator variable 'male' 1=male and 0=female
RACE	Race of Respondent	Code without asking is only there is no doubt in your mind. What race do you consider yourself? Record Verbatim and Code		Recoded into three indicator variables 'Black', 'White', and 'other.' 1= category and 0= other catagories.
MARITAL	Marital Status	Are you currently - married, widowed. Divorced. Seperated, or have you ever been married?	1 = Married, 2 = Widowed. 3 = Divorced, 4 = Seperated, 5 = Never Married, 9 = No Answer	Marital Status (recoded 1= married,0= not married)
CHILDS	Number of Children	How many children have you ever had? Please count all that were born alive at any time (including any you had from a previous marriage).	0-7= actual number of children, 8= 8 or more, 9= No Answer, don't know	No recoding 9 marked as user missing
EDUC	Highest Year of School Completed	A. What is the highest grade in elementary school or high school that (you/your father/ your mother/your [husband/wife]) finished and got credit for? B. IF FINISHED 9th-12th GRADE OR DK*: Did (you/he/she) ever get a high school diploma or a GED certificate? Did (you/he/she) complete one or more years of college for credit--not including schooling such as business college, technical or vocational school? IF YES: How many years did (you/he/she) complete?	0-20 = Actual number of years completed 97 = Not Applicable 98 = Don't know 99=No Answer	No Recoding 97,98,99 were marked as user missing
BORN	Was R born in this country	Was Respondent born in this country	1= yes, 2= no, 0=Not Applicable, 8 = Don't know, 9= No answer	Recoded into an indicator variable 'BORNUS" 1= yes, 0= no
RELIG	RS Religious Preference	What is your religious preference? Is it Protestant, Catholic, Jewish, some other religion, or no religion?	1= Protestant, 2= Catholic, 3= Jewish, 4= None, 5= Other, 6= Budhism, 7= Hinduism, 8= Other Eastern, 9= Moslem/Islam, 10= Orthodox Christian, 11=Christian, 12=Native American, 13=Interdenominational, 0= NAP, 98= DK, 99= NA	Group 1= (1,6,8,11) Group 2= (2,3,9,10,13) Group 3 = (4,5,7,12) Missing Value 0,98,99
INCOME06	Total Family Income	In which of these groups did your total family income, from all sources, fall last year – 2005 – before taxes, that is. Just tell me the letter. Hand Card A20 reads: Total income includes interest or dividends, rent, Social Security, other pension, alimony or child support, unemployment compensation, public aid (welfare), armed forces or veterans allotment.	1=UNDER $1,000, 2=$1,000 TO $2,999, 3=$3,000 TO $3,999, 4=$4,000 TO $4,999, 5=$5,000 TO $5,999, 6=$6,000 TO $6,999, 7=$7,000 TO $7,999, 8=$8,000 TO $9,999, 9=$10,000 TO $12,499, 10=$12,500 TO $14,999, 11=$15,000 TO $17,499, 12=$17,500 TO $19,999, 13=$20,000 TO $22,499, 14=$22,500 TO $24,999, 15=$25,000 TO $29,999, 16=$30,000 TO $34,999, 17=$35,000 TO $39,999, 18=$40,000 TO $49,999, 19=$50,000 TO $59,999, 20=$60,000 TO $74,999, 21=$75,000 TO $89,999, 22=$90,000 TO $109,999, 23=$110,000 TO $1299,99, 24=$130,000 TO $149,999,25=$150,000 OR OVER, 26=REFUSED,0=NAP, 98=DK, 99=NA	1=499, 2=1499, 3=3499, 4=4499, 5=5499,6=6499, 7=7499, 8=8499, 9=11249,10=14249, 11=16249, 12=18749, 13=21249, 14=22499, 15=274990, 16=32499, 17=37499, 18=44999,

GSS Variable Name	GSS Variable Label	GSS Question	Original Catagories	Recoding
FINRELA	Opinion of family income	Compared with American families in general, would you say your family income is far below average, below average, average, above average, or far above average?	1= Far Below Average, 2= Below Average, 3 = Average, 4 = Above Average, 5= Far Above Average 0=NAP,8= DK,9=NA	19=54999, 20=67499, 21=82499, 22=99999, 23=119999, 24=139999, 25=254453, 0,98,99 ,26 are missing
REALWLTH	How much money left after home		0=IAP, 1='Just Debts", 2=I/we don't own a home, 3=1-$29,999, 4= $30,000-$59,999, 5= $60,000-$89,999, 6=$90,000 $119,999, 7=$120,000-$146,000, 8=$150,000-$299,999, 9=$300,000-$499,999, 10=$500,000-699,999. 11=$700,000-$899,999, 12= More than $900,000, 98= Don't know, 99 =NA	1 and 2=0, 3=15,000, 4=45,000, 5=75,000, 6=105,000, 7=135,000, 8=225,000, 9=400,000, 10=600,000, 11=800,000, 12=900,000, 0,98,99 set to missing
CLASS	Subjective Class Identification	If you were asked to use one of four names for your social class, which would you say you belong in: the lower class, the working class, the middle class, or the upper class?	1= Lower Class,2= Working Class, 3= Middle Class, 4=Upper Class, 5= No Class, 0=NAP, 8=DK,9=NA	no recoding 0,5-9=user missing. Included as numerical variable instead of ordinal because of apparent linear pattern using graphs.
SEI	Respondent Socioeconomic Index	Based on procedures that Otis Dudley Duncan developed, Keiko Nakao and Judith Treas have created a new SEI based on the 1989 GSS study of occupational prestige. The new SEI scores have been assigned to all cases coded according to the 1980 Census occupational scheme. There is an implied decimal point between the second and third digits. The above collapsed codes are presented for convenience of display only.	-1= NAP, 99.8 =DK,99.9=NA All other values are SEI scores	Missing values maintained
ATTEND	How often R attends church	How often do you attend religious services?	0= Never, 1= LT than Once a Year, 2 = Once a year, 3 = Several Times a Year, 4= Once a Month, 5= 2-3 times a month, 6 = nearly every week, 7 = Every Week, 8= More than Once a Week, 9= DK, NA	Set 9 to missing. Used as IR variable because of the number of catagories and fairly linear relationship using graphs
FUND	How fundamentalist is R now	Fundamentalism/Liberalism of Respondent's Religion	1=Fundamentalist, 2= Moderate, 3= Liberal, 0=NAP, 8=DK, 9= NA-Excluded	3=1,2=2,1=3 and missing values maintained so that increase in fundamentalism is indicated by a higher score.
RELITEN	Strength of affiliation	Would you call yourself a strong (PREFERENCE NAMED IN RELIG OR DENOM) or a not very strong (PREFERENCE NAMED IN RELIG OR DENOM)?	1= Strong, 2= Not Very Strong, 3= Somewhat Strong, 4= No Religion, 0=NAP, 8=DK, 9=NA	4=0,2=2,3=3,4=1 Missing Values are 0,8,9
PRAY	How often does R pray	About how often do you pray?	1= Several Times a Day, 2= Once a Day, 3= Several times a Week, 4= Once a Week, 5= LT than once a week, 6=Never, 0=NAP, 8=DK, 9=NA	6=0,5=1,4=2,3=3,2=4,1=5. Missing values are 0,8,9
BIBLE	Feelings about the Bible	Which of these statements comes closest to describing your feelings about the Bible? a. The Bible is the actual word of God and is to be taken literally, word for word. The Bible is the inspired word of God but not everything in it should be taken literally, word for word. The Bible is an ancient book of fables, legends, history, and moral precepts recorded by men	1= Word of God, 2= Inspired Word of God, 3= Book of Falbes, 4= Other, 5= NAP, 6= DK, 7= NA	3-4=0, 2=1, 3=2 Missing Values are 0,8,9
HAPPY	General Happiness	Taken all together, how would you say things are these days--would you say that you are very happy, pretty happy, or not too happy?	1= Very Happy, 2= Pretty Happy, 3= Not Too Happy, 0=NAP, 8=DK, 9= NA	3=1,2=2,1=3. Missing Values are 0,8,9 To use as linear variable.

Table A-2: Descriptive Statistics of GSS

	Aggregate			High Income Group			Middle Income Group			Low Income Group		
	N	Mean	Std. Deviation	N	Mean	Std. Deviation	N	Mean	Std. Deviation	N	Mean	Std. Deviation
Proportion of Income Donated to Charity	1451	0.02	0.05	219	0.01	0.028	921	0.0213	0.0418	276	0.031	0.077
Dollar Value of Donations	1451	$1,248.52	$3,414.44	219	2800	6852	921	$1,231.70	$2,493	276	$5,000.00	$232.22
Age	1439	49	16.75	218	47	15.43	912	49.04	16.12	274	50.65	18.805
Education	1450	13	3.02	219	14.56	2.83	921	14	2.66	275	11.81	3.185
Wealth (Including Home Value)	1286	$111,286.94	$177,933.87	200	$203,825	$251,820	835	$110,586	$163,519	235	$39,595.75	$107,012.39
Yearly Income	1416	$78,554.23	$77,136.82	219	$238,437	$51,001	921	$60,726	$27,588	276	$11,181.07	$5,521.46
Occupational Prestige Score	1386	49.53	19.07	208	56.92	18.27	892	51.45	19.01	276	38.54	15
Religiosity index score	1367	3.03	1.61	201	2.92	0.86	873	3.03	0.87	261	3.09	0.858
Social Class (Subjective)	1447	7% Lower Class, 48% Working Class, 42% Middle Class,		4% Lower Class, 32% Working Class, 53% Middle Class, 12% Upper Class			4% Lower Class, 51% Working Class, 45% Middle Class, <1% Upper Class			22% Lower Class, 48% Working Class, 27% Middle Class, 3% upper Class		
Number of Children	1451	67% have 2 or fewer children		71% of respondents have 2 or fewer chidren			67% Have 2 or Fewer Children			61 % of Respondents have 2 or Fewer Children		
Marital Status	1450	49% of Respondents are Married		61% of Respondents are Married			56% of Respondents are Married			20% of Respondents are Married		
Gender	1451	53 % Female and 46% male		54% Female 46% Male			49.5% Male, 55.9% Female			64% Male, 35% Female		
Race	1451	77% White, 14% Black, 8% Other Race		82% White, 8% Black, 10% Other Race			80% White, 12.5% Black, 7.2% Other Race			65% of Respondents are White, 25% are Black, and 10% are other race		
Born in the US	1451	89% Were Born in the US		92% Born in the US			89% Born in the US			85% of the population was born in the US		
Income Group (High)	1416	15% or 219 Earn more than $120,000 per year										
Income Group (Middle)	1416	65 % or 921 Earn between $20,000 and $120,000										
Income Group (Low)	1416	20% or 276 Earn Below $20,000 per year										
Happiness	1444	84% Report being Pretty happy or Very Happy		91 % consider themselves to be pretty happy or very happy, Only 9% consider themselves to be not tooo happy.			88% of Respondents are Pretty or Very Happy			69% of Respondents are Pretty or Very Happy		
Opinion of Family income, How they feel income compares to others	1441	20% Above Average, 47% Average, 33% Below Average		48.4% Above Average, 27.4% Average,24.2% Below Average			17.6% Above Average, 58% Average, 24% Below Average			6% Above Average, 27% Average, 66% Below Average		
Religious Denomination	1444	56% Group 1, 25% Group 2, 19% Group 3		53% Group 1, 28% Group2, 19% Group 3			55% Group1, 26% Group2, 18% Group 3			58% Group 1, 21% Group 2, 21% Group 3		
Frequency of Church Attendance	1448	54% attend church at least several times a year		54% of respondents attend church several times a year or less			53% Attend Church Several times a year or less			55% of Respondents attend several times a year or less		
Valid N (listwise)	1140	1137		175			758			205		

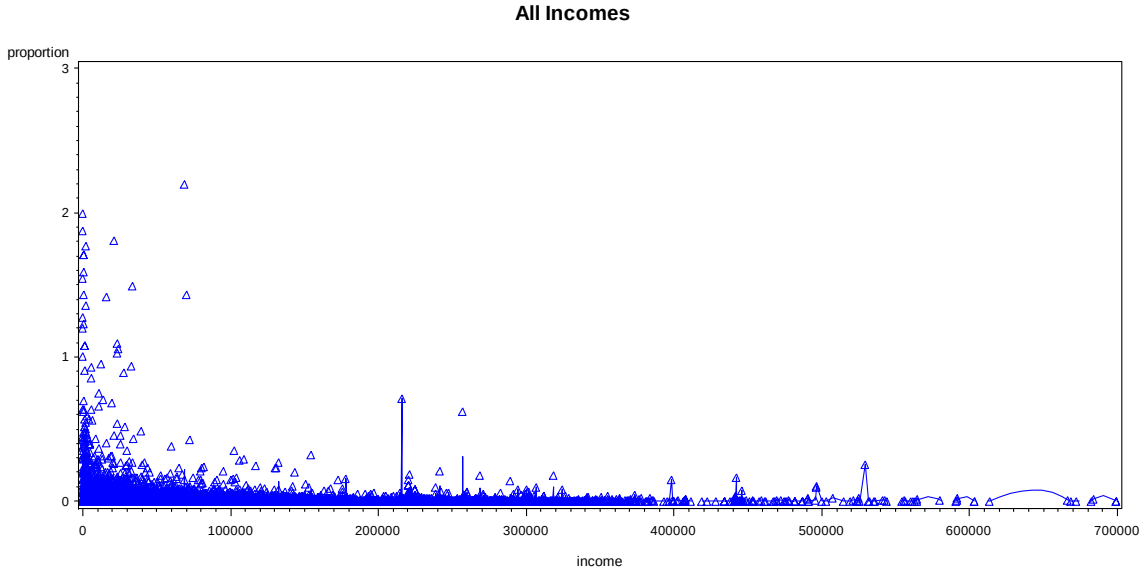
Table A-2: Bivariate Correlations (Aggregate Model)

Correlations		
	Proportion of Income Donated to Charity	Proportion of Income Donated to Charity LN Transformed)
Age	.110**	.206**
Highest Year of Education Completed	.062*	.205**
Income	-.116**	-.092**
Male	-0.0130	0.0020
Married (Indicator)	0.0330	.131**
Number of Children	0.0450	.079**
Black (Indicator)	0.0350	-0.0210
White (Indicator)	-0.0250	0.0490
Born in the United States (Indicator)	.060*	.109**
Wealth (Middle Coded)	.059*	.170**
Occupational Prestige Score	0.0030	.121**
Happiness	0.0390	.125**
Religion Index Score	.190**	.265**
High Income (Indicator)	-.085**	-.104**
Middle Income (Indicator)	-0.0160	.112**
Low Income (Indicator)	.097**	-0.0400
Feels Family Income is Above Average (Indicator)	0.0120	.113**
Feels Family Income is Average (Indicator)	-0.0030	0.0090
Feels Family Income is Below Average (Indicator)	-0.0060	-.105**
Small Congregation (Indicator)	.173**	.227**
Large Centralized Religion (Indicator)	-.105**	-.085**
Other Religions Organization (Indicator)	-.101**	-.193**
How Often Respondent Attend Religious Services	.260**	.410**

** value is significant at α=.10, * value is significant at α=.05

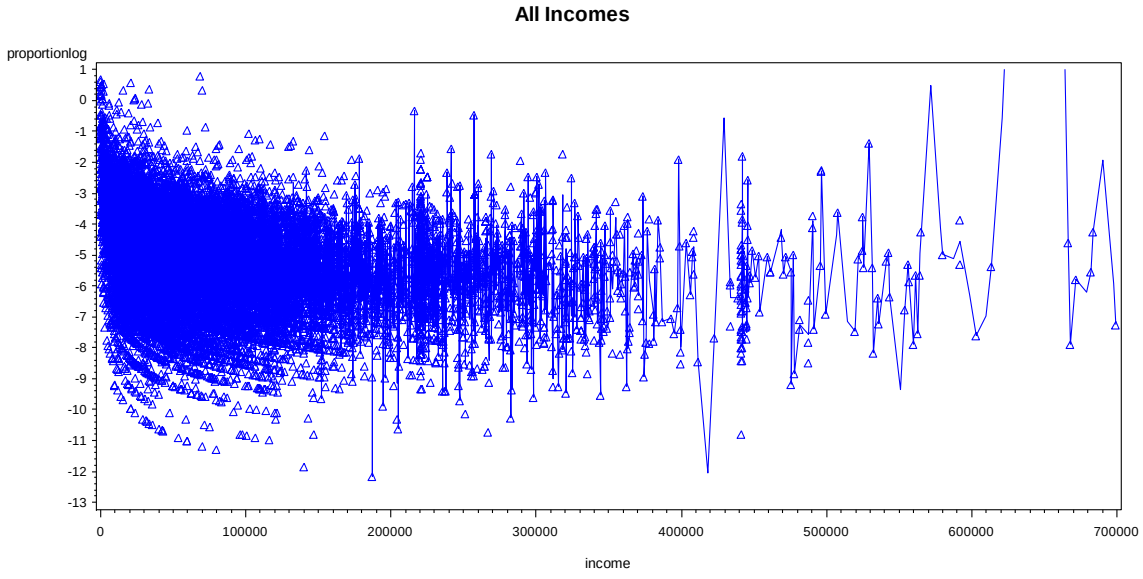
Appendix B
FIGURES

Figure B-1: Scatter plot income on proportion.



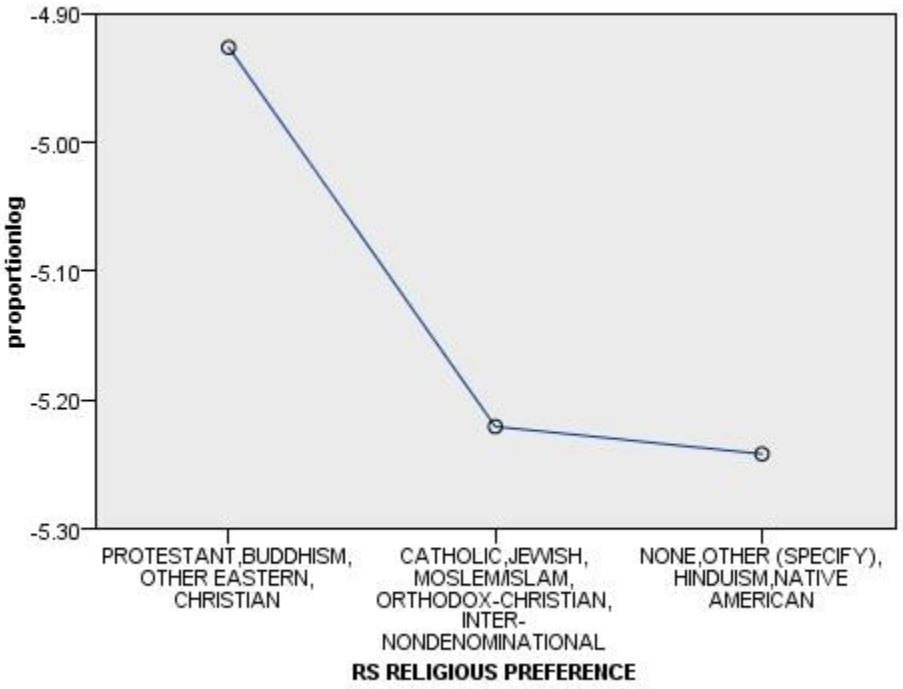
Outliers trimmed outside of three standard deviations of the average proportion donated. Plot created using SAS 9.3.

FIGURE B-2. Scatter plot of income by proportion (log transformed).



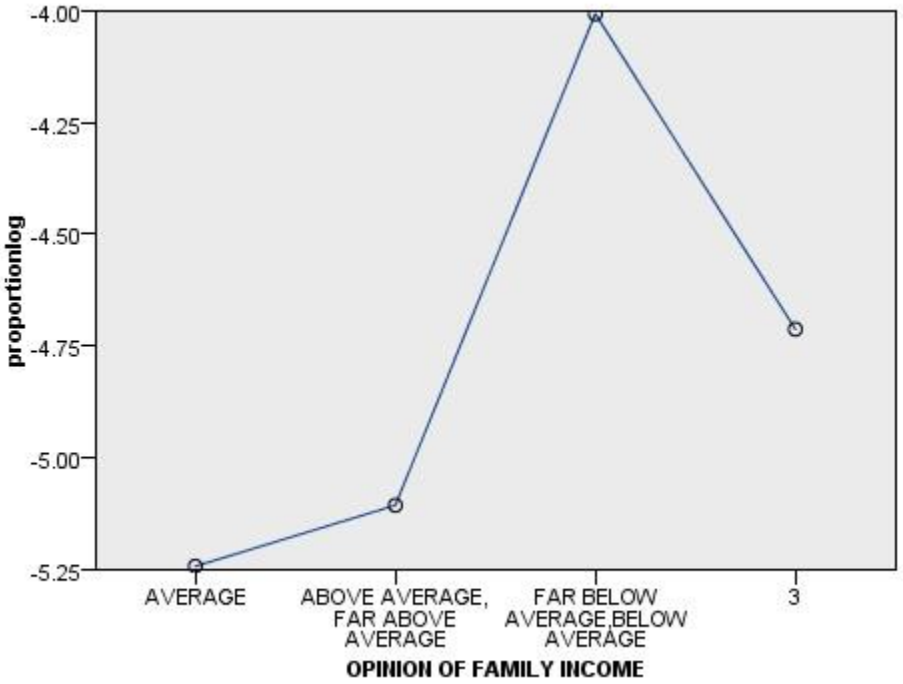
Plot created using SAS 9.3.

FIGURE B-3. Estimated Means Chart for the Reported Denomination of the Respondent.



Created using IBM SPSS 22.

FIGURE B-4. Estimated Means Chart for the Respondent's Opinion of Their Family



Income. Created using IBM SPSS 22.

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