EC331

Research in Applied Economics

An analysis of key behavioural characteristics behind charitable giving

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CONTENTS

1. Introduction

This paper analyses some important behavioural characteristics displayed by individuals who donate to charity. I have chosen this topic as I am a keen fundraiser myself and am highly intrigued by what characteristics are most prevalent amongst donators.

This paper sets out to study 4 behavioural characteristics and how they affect whether a person donates to charity or not;

- Empathy
- Self-esteem
- Generosity
- Trust

In addition, the most commonly accepted characteristics are included in order to reduce omitted variable bias.[1]

This research can add value from a behavioural economics perspective, as the idea behind personal traits affecting the donation decision is an area generally neglected by researchers. Merging the personal traits with situational characteristics is rarely attempted and this paper attempts this.

Of the 332 individuals asked, 57.53% donated to charity. Studying the behavioural characteristics, this paper finds expectedly that; empathetic people are more likely to donate people naturally more generous are more likely to donate; more interestingly, people with a reportedly high self-esteem were more likely to donate; and finally and most unexpectedly, full trust in a charity is not an essential requirement for a majority of people to donate.

[1] Including; age, gender, religiosity, education level, employment position.

2. Conceptual Framework

Charities are under increasing financial pressure to attract and retain private donors. However, past measurements have yielded ambiguous attitudes toward giving. So, what is it that essentially *drives* people to donate?

2.1 Why give to charity?

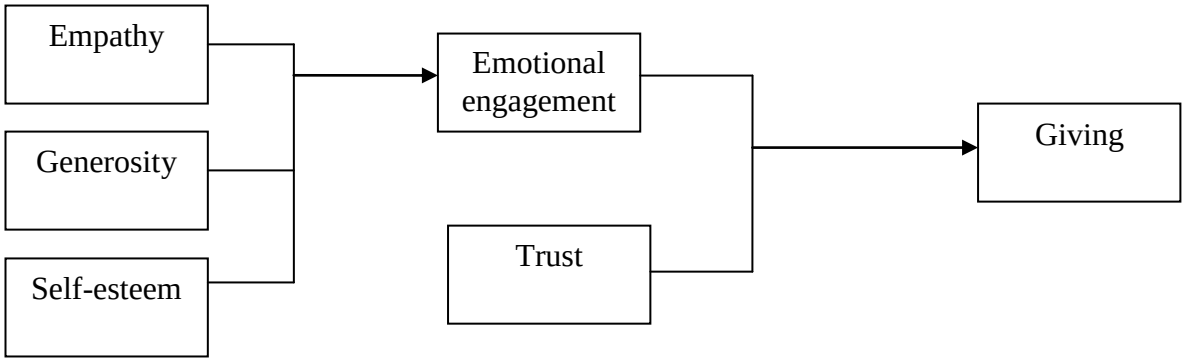
It is widely accepted by many researchers in this field that 'impure altruism' is the key reason behind donating. Andreoni (1989) proposes the 'warm glow of giving' is an intangible benefit of donating, whereby these individuals derive utility from the act of giving itself (Feldstein 1975), allowing this 'warm glow' to be treated the same way as any other consumer good, as people have a taste for it. It will be interesting to see whether the results of this paper reflect this importance. Other reasons for giving are outlined in Appendix 1.

But how can one explain that irrespective of income level, many individuals give nothing at all to charity? One could suggest that attitudes toward giving and personal attributes play a substantial part in the donation decision process. Section 2.2 highlights some of these and this paper attempts to view their effect.

2.2 The Behavioural context

A better approach to determine the underlying *drivers* that lead to a person being motivated in certain ways is to study the behavioural traits and characteristics individuals possess.

Below is a simple framework showing how certain characteristics *could* affect the decision to give. It suggests that giving is solely driven by an individual's capability to become emotionally engaged and be able to trust the charity itself.



It is through emotional engagement that three of the behavioural characteristics predominantly act. "Empathy is crucial to feeling charitable because it is fostered by experiences of caring and of being cared for"[2]. Empathetic feelings that an individual displays lead them to becoming emotionally engaged. Batson (1994) supported this saying, 'empathy evokes motivation directed to the ultimate goal of reducing the needy person's suffering; the more empathy felt for a person in need the more altruistic motivation to have that need reduced'.

Also, the more generous someone is with their time the more likely they are to obtain an emotional attachment. Volunteering is associated with higher altruistic tendencies; an individual's 'historical altruism'[3] can show they are more likely to be altruistic into the future.

Edison and German (2004) found that if an individual portrays high self-esteem they are more likely to help across different situations; they are prosocial. Whereas, individuals with low self-esteem tend to follow others behaviour, which could be good or bad, but essentially makes them less prosocial and, in turn, less likely to form an emotional attachment.
So, the more empathetic, generous and high in self-esteem an individual is, the more likely they are to become emotional engaged, which in turn makes them more likely to donate.

Morgan and Hunt (1994) define trust as "confidence in other party's reliability and integrity". Melendez (2001) notes "donors do not contribute to organisations they do not trust"; mainly because of fear their donation will not make the intended difference. So, relationships characterised by high trust lead to participants being more willing to commit, which in turn can act as a conditional driver in the decision to donate. If satisfied with the level of trust, and only if, an individual will be more likely to donate.

[2] Radley and Kennedy (1995)
[3] Smith, Kehoe and Kremer (1995)

3. Further Literature Analysis

Edison and German (2004) propose a model of donation, incorporating traits and motivations of donors. Traits and motivators have been drawn from the literature and serve as antecedents to a person's willingness to donate which is primarily, the result of three factors: the level of the potential donor's prosocial orientation, altruistic tendencies, and ability to donate. The most interesting idea of this paper is that it distinguishes between traits and motivations of donors. For example, being generous with your time is a trait[4], and the 'warm glow' some people feel after giving is a motivation. The most important ideas from this paper are its summary of the available measurement techniques for traits. "One scale for empathy that may be used is a 6-item scale used by Sparks (1995)".

The scale was designed to obtain a global measure of empathy using a five-point Likert scale with higher scores measuring higher levels of empathy. Two examples are: 'I am good at putting myself in someone else's shoes' and 'Generally, I find it easy to see things from the other person's perspective'." The subject has the choice of five options; Strongly Disagree, Disagree, Neutral, Agree or Strongly Agree. This paper uses the latter question as a measurement of empathy in the questionnaire. Rosenberg's (1965) self-esteem scale was used to measure individual's level of self-esteem, of which there are a mixture of positively and negatively inclined statements they have to respond to. This led to the inclusion of each type in the questionnaire for comparison.

Burnett and Wood (1988) acknowledge the impact of personality traits, demographic and situational factors on the donating process, similar to this paper. They begin the process with the identification of need on the part of the charity. Donors then evaluate the level of need, whether action is required, and their ability to make a difference. The authors argue that where need is perceived as salient, they will then decide whether a gift should be offered by evaluating the costs and benefits of taking action.

It is stated they do this by examining the rewards, either economic or psychological, which will accrue as a consequence of giving, and compare these with the economic costs of giving, the inconvenience of making a donation and the risk that their gift will not make the difference they believe it will. It is on the basis of this complex decision process that donors will decide whether or

[4] This is the measurement of generosity in this paper.

not to offer their support. This is a compelling piece of work and goes a long way into describing the thought process that lies behind the decision to donate or not. It is from this paper the idea of looking at how individuals respond to the risk involved with a donation not making the difference they believe it will as a measure of conditional trust.

Jones and Posnett (1991) proved that despite income being the sole determinant in the *level of donation*, the *probability* of giving in the first place is affected by a much wider range of variables. Their study revealed a household's education level, age and being female all positively influence the likelihood of giving to charity. An interesting finding was that households headed by women were more likely to donate, opposing most previous literature at the time. This paper shall include these significant situational characteristics to ensure omitted variable bias is reduced.

4. Methodology

This paper uses regression analysis to estimate the relationship between a person's decision to donate and the person's behavioural characteristics. As people can either have donated or not, the dependant variable takes one of two values, meaning the use of ordinary least squares (OLS) regression leads to biased results (Kennedy 1998).

A number of ways have been developed to create a probability model for a binary variable. Here are the main two;

1. The Linear Probability Model (LPM) - can be estimated using OLS or weighted least squares, but experiences a number of issues.[5]
2. The cumulative distribution function (CDF) –The most common being the normal and the logistic, which, respectively, give rise to the following two models[6]
    a. Probit
    b. Logit

This paper uses the logit model. However, the LPM is initially used to examine the data.

The following regression is run using the LPM to understand the general relationship:

$$DONATED = \beta_0 + \beta_1 VOLUNTEER + \beta_2 RISK\text{-}TAKER + \beta_3 NON\text{-}EMPATHETIC + \beta_4 ESTEEM(+)AGREE + \beta_5 ESTEEM(+)N + \beta_6 ESTEEM(-)DISAGREE + \beta_7 ESTEEM(-)N + \varepsilon \quad (1)$$

The dependant variable, *donated*, is a dummy variable that takes the value 1 if the person donated in the last 6 months, and 0 otherwise. The independent variables are all dummy variables. As generous people are assumed to be donators, the *volunteer* term is predicted to be positive. If generous people do donate more often then the null hypothesis that $\beta_1=0$ should be rejected. (Step repeated for all coefficients.)

Regression (1) does not control for other factors that are likely to influence a person's decision to donate. The following LPM regression is run to establish a more accurate relationship:

[5] Mainly; heteroscedasticity of the error term, the difficulty of interpreting probabilities >1 and <0 and most troublesome is the assumption of constant marginal effects of the independent variable.
[6] Both have very similar results, the only difference is the logistic distribution has slightly flatter tails than the normal.

$$DONATED = \beta_0 + \beta_1 VOLUNTEER + \beta_2 RISK\text{-}TAKER + \beta_3 NON\text{-}EMPATHETIC + \beta_4 ESTEEM(+)AGREE + \beta_5 ESTEEM(+)N + \beta_6 ESTEEM(-)DISAGREE + \beta_7 ESTEEM(-)N + \beta_8 MALE + \beta_9 RELIGIOUSV + \beta_{10} RELIGIOUSF + \beta_{11} AGE + \beta_{12} FEELGOODN + \beta_{13} FEELGOODD + \beta_{14} FEELGOODSD + \beta_{15} DUTYN + \beta_{16} DUTYD + \beta_{17} DUTYSD + \beta_{18} PRESSUREAGREE + \beta_{19} PRESSUREN + \beta_{20} EDUCATIONNOTUNI + \beta_{21} EDUCATIONPOST + \beta_{22} WORKERS + \varepsilon \quad (2)$$

(For a full description of these variables please refer to Appendix 3)

Regression (2) is then re-run using the logit model leading to the formation of regression (3). It is important to note that when using a binary dependant variable there can be a problem of heteroscedasticity (non-constant variance of the error term). This leads to standard errors being systematically underestimated. If the logit model in this paper is run without considering this then coefficients that are actually insignificant could be interpreted as significant.

One solution to this is to account for robust standard errors. The Eviews6 software package can accomplish this with its ‘robust covariance’ command. Thus Regression (3) is rerun using this command, acting as a sensitivity check, ensuring the results are robust to heteroscedasticity.

Finally, the logit model is re-run after removing all the very statistically insignificant independent variables (amongst others) from regression (3) to leave us with the following;

$$DONATED = \beta_0 + \beta_1 VOLUNTEER + \beta_2 RISK\text{-}TAKER + \beta_3 NON\text{-}EMPATHETIC + \beta_4 ESTEEM(+)AGREE + \beta_5 ESTEEM(+)N + \beta_6 MALE + \beta_7 RELIGIOUSN + \beta_8 RELIGIOUSF + \beta_9 AGE + \beta_{10} EDUCATIONNOTUNI + \beta_{11} EDUCATIONPOST + \beta_{12} WORKERS + \varepsilon \quad (4)$$

These regressions will provide sufficient results to analyse.

5. Data Outline

5.1 Questionnaire Design

The target population was my peers, teachers and past work colleagues. The questionnaire is included in Appendix 4. Responses were collected through an online survey, distributed through a number of mediums. Firstly, through a group on facebook; secondly, email to departments' contact lists; and finally, email to my previous employer, who sent the link round their offices. A cost benefit analysis of the alternatives[7] was carried out before concluding this was the most effective way.

Emotive language was avoided and a plain and simple layout was used to prevent answers being influenced. Testing of a pilot questionnaire was carried out amongst a small focus group, where the questions were analysed in an open environment, resulting in the ordering of the questions to be altered along with subtle word changes[8]. A non-response issue occurred as 36 questionnaires (9.78%) were incomplete; as a result, these were discarded. Further issues will be dealt with in the critique section.

5.2 Analysis of variables

Dependent variable:

Variable	**Description**
Donated	Individuals were asked if they had donated at least £5 to charity in the past 6 months.

Independent Variables

Variable	**Description**
Generosity	This paper predicts that the more generous a person is with their time the more likely they will donate as they are more naturally inclined to do so.
Decision to take risk	This variable is used to discover whether trust is a key driver behind the decision to donate. This paper predicts that individuals unwilling to take the risk will be more likely to have donated to charity, as the trust condition is important.
Empathy	This paper predicts that an empathetic individual is more likely to donate than their non-empathetic counterpart as they can relate to the needs of the charity more.

[7] Handing out paper questionnaires in lectures and/or standing on the street asking for responses. (Both very time consuming)

[8] Key one being the use of the word 'worthless', rather than useless, for question no.6 (see Appendix 4)

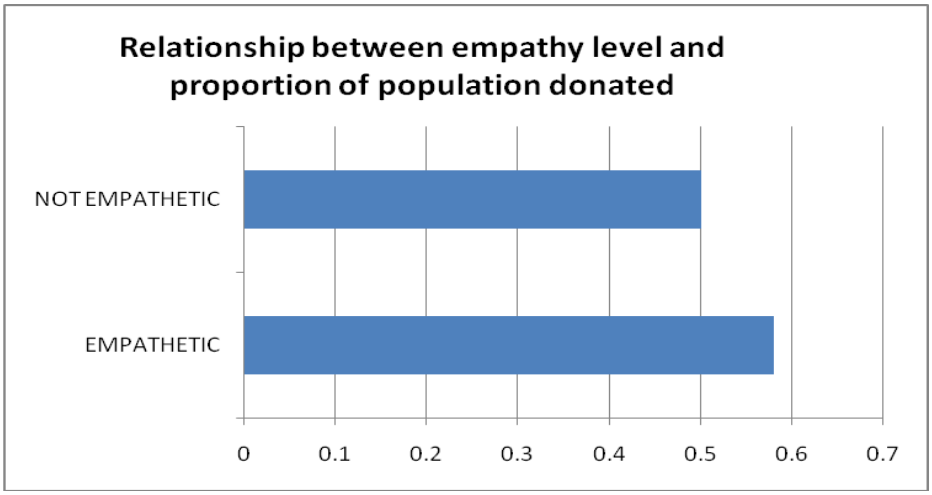
Self-esteem (positively and negatively inclined)	It is safe to assume that an individual emitting high self-esteem is more prosocial than an individual with low self-esteem and therefore they are more likely to donate.
Warm Glow	This is to ascertain whether the 'warm glow' idea proposed by Andreoni (1989) is the most popular motivation for giving. The theory leads to the prediction that it is.
Duty	This paper predicts that this will not be the most popular motivation for donating.
Pressure	This is an interesting motivation as it is linked to pure altruism with the pressure being a negative utility within interdependency, the need to not be seen as greedy, which has to be minimised. Theory is inconclusive on this particular variable.
Gender	There is inconclusiveness in empirical studies on this topic. For example, Jones and Posnett (1991) found that women tend to donate more; however, Piliavin and Charng (1990) found no difference in altruistic behaviour between genders. This paper predicts that there is no distinctive difference between a male and a female's likelihood to donate.
Religiosity	Halfpenny's, (1990) results suggest that very religious people have higher altruistic tendencies which make them more inclined to donate. This paper therefore predicts that very religious individuals will be more likely to donate to charity than their less religious counterparts.
Age	Steven T. Yen (2002) found that age has a positive effect on donations and suggest this is because "age reflects the stage in the life cycle and likely brings financial stability and means". This paper therefore predicts that the older the individual the more likely they are to donate.
Occupation	This variable was included as a substitute for income, as Jones and Posnett (1991) found that although the level of donation is positively affected solely by income, the probability of donating in the first place is affected by a number of other variables as well. This paper predicts that the employed are more likely to donate than those not employed as the employed are more likely to have a steady flow of income, which positively affects giving.
Level of education	This paper predicts that higher education increases the likelihood of a donation, as they are more knowing of charities causes.

5.3 Summary Statistics

Appendix 5 presents summary statistics of the 332 individuals who took part in the online survey. This section highlights the most interesting features.

191 individuals (57.53%) reported donating to charity in the last 6 months. Figure 1 shows the percentage of individuals who donated, split according to whether they agreed/strongly agreed to the empathy statement or disagreed/strongly disagreed[9]. Individuals who agreed are more empathetic, and also more likely to donate to charity than their less empathetic counterpart, as predicted.

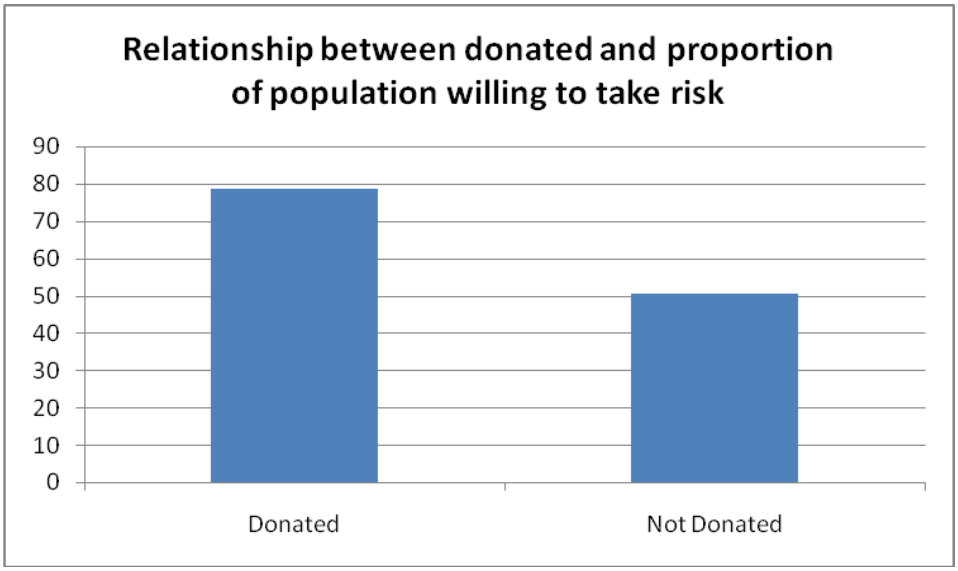
Figure 1 -



This paper forecast that trust was an important condition that needed to be satisfied for an individual to be more likely to donate. However, looking at figure 2, strikingly, we see that almost 80% of those who donated were willing to take the risk, but only 50% of those who did not donate would be willing. This could mean that there is an element of risk that must be accepted before one can donate, suggesting the level of trust required to be satisfied is lower than the small risk poses. Meaning this question is a weak determinant of trust as a donation driver. Or it could be that the individuals involved are more concerned with the benefits the act of giving beholds[10] rather than the potential difference it makes[11]. It is likely a mix of the two, so inference of this variable must be approached with caution.

[9] The 'neutral' results were left out as they have limited inference here. Hereafter, (disagreed = disagreed/strongly disagreed) and (agreed=agreed/strongly disagreed).
[10] The 'warm glow'
[11] Pure altruism.

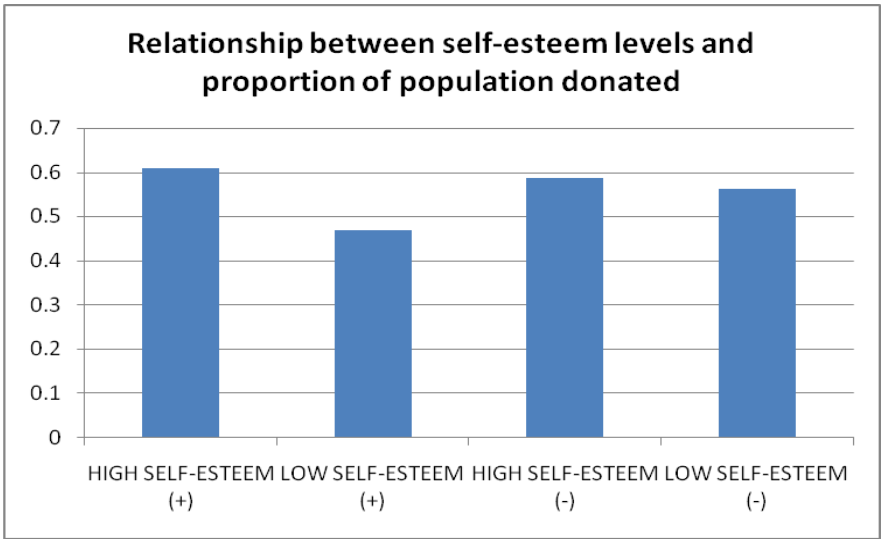
Figure 2 -



An interesting result is the difference between results for the positive and negatively inclined self-esteem question. It appears that, difference in means is more substantial for the positive statement. Figure 3 shows the relationship between an individual's self-esteem level and the likelihood they will donate to charity. 61% of people who agreed with taking a positive attitude towards themselves donated to charity, whereas only 47% of those who disagreed donated. This supports the findings of Edison and German as well as the prediction. It seems the effect of self-esteem acts in the same way for the negatively inclined question; however, the strength of the relationship dissipates somewhat. With 59% of those not 'feeling worthless' donated, whilst only 56% of those agreeing to 'feeling worthless' donated.[12]

[12] Led to the exclusion of the negatively inclined variable in regressions.

Figure 3 -



Additionally, as predicted, 71% of those who had volunteered in the last year donated while only 50% of those who had not volunteered donated. This indicates that the more altruistic tendencies an individual has the more likely they are to donate; supporting the idea that this variable represents natural generosity.

Figure 4 shows the three different motivations studied and their popularity amongst the population. 'It makes me feel good' is the obvious favourite with 66.57% either agreeing or strongly agreeing to it being a reason for donating. Whereas, there is 61.1% for 'duty' and only 42.77% for 'pressure'. So, overall, Andreoni's (1989) 'warm glow' ideology is the most widely supported by individuals.

Figure 4 –

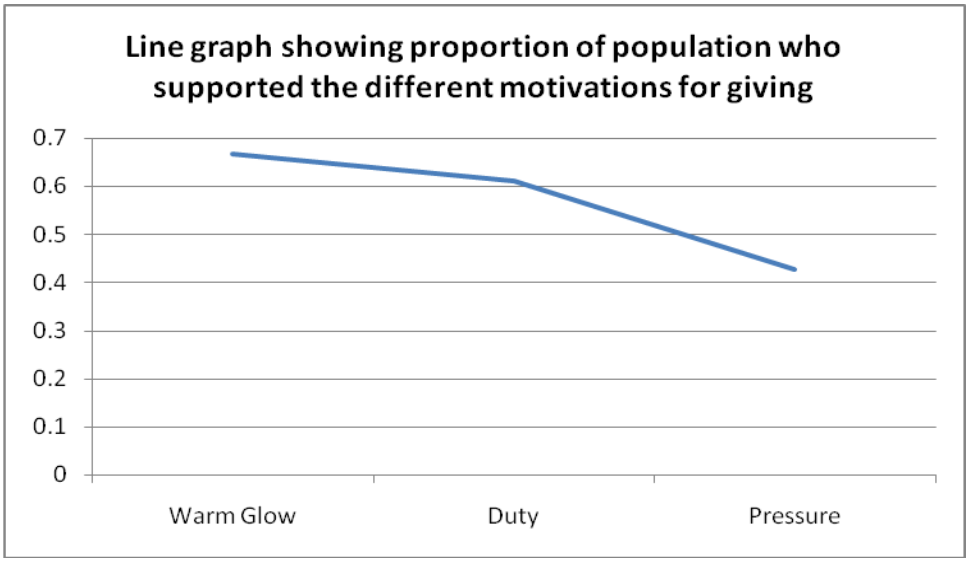


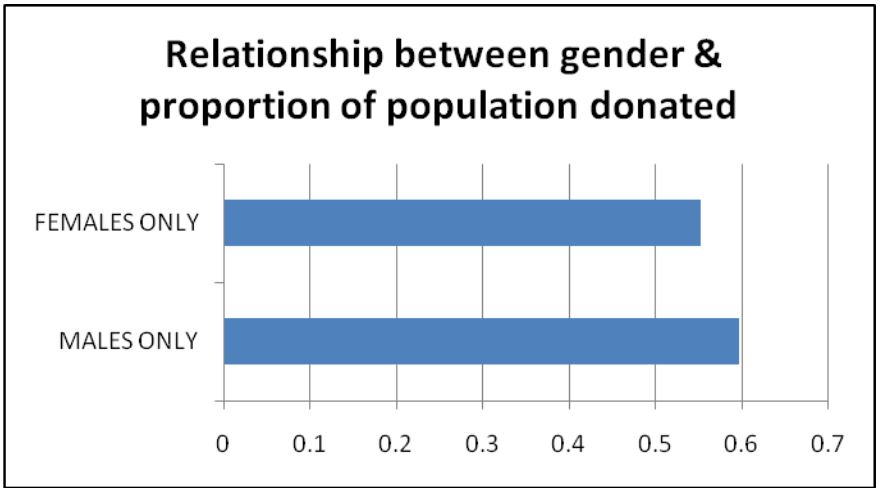
Table 1 – Cross-tabulation

	Level of Education			
Donate	Secondary School	College	Undergrad	Postgrad
Yes	4 (80%)	19 (54.3%)	121 (56.8%)	47 (59.5%)
No	1 (20%)	16 (45.7%)	92 (43.2%)	32 (40.5%)

Table 1 shows a cross-tabulation of level of education and percentage donated. This paper predicted that the higher the level of education the more likely an individual will donate as they are likely to be more knowing of a charity's needs. However this may not be strictly true as those who left school at 16 were actually found to be more likely to donate than any other group, possibly because these individuals have had time to earn more money as the people in the other categories may still be studying. Although doubt is cast on reliability of this result due to the small sample (only 5 people) not being representative of the true population. Ignoring this result, the prediction still holds, with the Postgrad population being most likely to donate.

Figure 5 shows the relationship between gender and the decision to donate. Interestingly, 60% of males donated, while only 55.1% of females donated, indicating that male individuals are slightly more likely to donate than female individuals. This goes against the findings of Jones and Posnett (1991).

Figure 5 -



These are preliminary findings; the data will be more rigorously analysed using regression analysis next.

6. Results

6.1 Regression Analysis

As discussed in the methodology section, the following regression is run determining the general relationship between an individual's propensity to donate and the behavioural characteristics they possess:

$$DONATED = \beta_0 + \beta_1 VOLUNTEER + \beta_2 RISK\text{-}TAKER + \beta_3 NON\text{-}EMPATHETIC + \beta_4 ESTEEM(+)AGREE + \beta_5 ESTEEM(+)N + \beta_6 ESTEEM(-)DISAGREE + \beta_7 ESTEEM(-)N + \varepsilon \quad (1)$$

Next to remove possible omitted variable bias, regression (2) is run

$$DONATED = \beta_0 + \beta_1 VOLUNTEER + \beta_2 RISK\text{-}TAKER + \beta_3 NON\text{-}EMPATHETIC + \beta_4 ESTEEM(+)AGREE + \beta_5 ESTEEM(+)N + \beta_6 ESTEEM(-)DISAGREE + \beta_7 ESTEEM(-)N + \beta_8 MALE + \beta_9 RELIGIOUSV + \beta_{10} RELIGIOUSF + \beta_{11} AGE + \beta_{12} FEELGOODN + \beta_{13} FEELGOODD + \beta_{14} FEELGOODSD + \beta_{15} DUTYN + \beta_{16} DUTYD + \beta_{17} DUTYSD + \beta_{18} PRESSUREAGREE + \beta_{19} PRESSUREN + \beta_{20} EDUCATIONNOTUNI + \beta_{21} EDUCATIONPOST + \beta_{22} WORKERS + \varepsilon \quad (2)$$

Table 2: LPM regression results

	(1)		(2)	
Variable	**Coefficient**	**t-stat**	**Coefficient**	**t-stat**
C	0.1724** (0.0824)	2.093562	-0.0301 (0.1286)	0.234341
VOLUNTEER	0.2139*** (0.0534)	4.006267	0.2371*** (0.0562)	4.221913
RISK-TAKER	0.3158*** (0.0544)	5.808396	0.2959*** (0.0564)	5.248208
NON-EMPATHETIC	-0.1530 (0.1370)	-1.116576	-0.1318 (0.1506)	0.874854
ESTEEM(+)AGREE	0.1662** (0.0771)	2.156249	0.1199 (0.0823)	1.456441
ESTEEM(+)N	0.1257 (0.0898)	1.399441	0.1112 (0.0935)	1.189973
ESTEEM(-)DISAGREE	-0.0141 (0.0613)	-0.229728	-0.0438 (0.0629)	0.696353
ESTEEM(-)N	-0.0371 (0.0744)	-0.498970	-0.0588 (0.0733)	0.801927
MALE			0.1018* (0.0521)	1.953608
RELIGIOUSV			0.0981 (0.0861)	1.139089
RELIGIOUSF			-0.0025 (0.0569)	0.043213
AGE			0.0105*** (0.0037)	2.822797

FEELGOODN		0.0179 (0.0622)	0.288059
FEELGOODD		-0.0224 (0.1158)	0.193590
FEELGOODSD		-0.3004** (0.1497)	2.007166
DUTYN		-0.0032 (0.0662)	0.048862
DUTYD		-0.1734** (0.0740)	2.343476
DUTYSD		-0.0952 (0.1424)	0.668634
PRESSUREAGREE		-0.0363 (0.0573)	0.634109
PRESSUREN		-0.0514 (0.0666)	0.771018
EDUCATIONNOTUNI		-0.0507 (0.0844)	0.600204
EDUCATIONPOST		-0.1033 (0.0665)	1.551784
WORKERS		0.1172 (0.0799)	1.466661
No. of obs	332		332
Adj R-squared	0.1253		0.1757

Notes: The standard errors are given in parentheses. Dependent variable = binary choice, taking the value 1 if the person had donated in last 6 months, and 0 otherwise. *** denotes statistical significance at 1% level. ** denotes statistical significance at the 5% level. * denotes statistical significance at the 10% level using two tailed tests.

The *volunteer* term is positive and significant at the 1% significance level in both regressions indicating that those individuals more naturally generous in the past are more likely to donate. Whereby, the naturally generous individuals are more likely to donate than their less generous counterparts by 21.4% and 23.7% respectively, *ceteris paribus*[13]. The *risk* variable is also positive and significant at the 1% level in both regressions, suggesting that full trust is not a conditional driver for donating behaviour as most of the literature proposes. The *esteem1agree* variable is positive and significant at the 5% level in regression (1) only, indicating that high-self esteem is associated with an increased propensity to donate; however, caution must be taken when generalising this inference to the population once other omitted variables are included. The *empathdisagree, esteem2disagree* and *esteem2n* variables are all statistically insignificant in both regressions. So, despite them portraying the predicted results[14] inference is likely to be weak. Other significant variables include *male, age, dutyd and feelgoodsd.*

Regression (2) is then re run using the logit model:

[13] *Ceteris Paribus* is assumed when interpreting marginal effects, hereafter.
[14] Non-empathetic individuals less likely to donate than empathetic ones, and high self-esteem is associated with a greater likelihood to donate than low self-esteem.

$$DONATED = \beta_0 + \beta_1 VOLUNTEER + \beta_2 RISK\text{-}TAKER + \beta_3 NON\text{-}EMPATHETIC + \beta_4 ESTEEM(+)AGREE + \beta_5 ESTEEM(+)N + \beta_6 ESTEEM(-)DISAGREE + \beta_7 ESTEEM(-)N + \beta_8 MALE + \beta_9 RELIGIOUSV + \beta_{10} RELIGIOUSF + \beta_{11} AGE + \beta_{12} FEELGOODN + \beta_{13} FEELGOODD + \beta_{14} FEELGOODSD + \beta_{15} DUTYN + \beta_{16} DUTYD + \beta_{17} DUTYSD + \beta_{18} PRESSUREAGREE + \beta_{19} PRESSUREN + \beta_{20} EDUCATIONNOTUNI + \beta_{21} EDUCATIONPOST + \beta_{22} WORKERS + \varepsilon \quad (3)$$

Following this, regression (3) is run excluding the very insignificant variables and the motivation variables[15], as well as the '(-) esteem' variables due to '(+) esteem' proving a better measure of self-esteem.

$$DONATED = \beta_0 + \beta_1 VOLUNTEER + \beta_2 RISK\text{-}TAKER + \beta_3 NON\text{-}EMPATHETIC + \beta_4 ESTEEM(+)AGREE + \beta_5 ESTEEM(+)N + \beta_6 MALE + \beta_7 RELIGIOUSN + \beta_8 RELIGIOUSF + \beta_9 AGE + \beta_{10} EDUCATIONNOTUNI + \beta_{11} EDUCATIONPOST + \beta_{12} WORKERS + \varepsilon \quad (4)$$

The output from these regressions is shown in Table 3.

Table 3: Logit Regression results

	(3)			(4)		
Variable	**Coefficient**	**Marginal effect**	**z-stat**	**Coefficient**	**Marginal effect**	**z-stat**
C	-2.4494*** (0.8767)	-0.5861	-2.7937	-2.9240*** (0.8058)	-0.7014	3.6289
VOLUNTEER	1.2695*** (0.3040)	0.3038	4.1753	1.2731*** (0.2955)	0.3054	4.3083
RISK-TAKER	1.5185*** (0.2924)	0.3633	5.1935	1.5754*** (0.2804)	0.3779	5.6190
NON-EMPATHETIC	-0.6199 (0.6701)	-0.1483	-0.9252	-0.5850 (0.7043)	-0.1403	-0.8306
ESTEEM(+)AGREE	0.6641 (0.4293)	0.1589	1.5469	0.5299 (0.3833)	0.1271	1.3822
ESTEEM(+)N	0.5876 (0.4582)	0.1406	1.2824	0.6205 (0.4444)	0.1488	1.3963
ESTEEM(-)DISAGREE	-0.3153 (0.3327)	-0.0754	-0.9479			
ESTEEM(-)N	-0.3606 (0.3809)	-0.0863	-0.9465			
MALE	0.5657** (0.2793)	0.1353	2.0254	0.5245* (0.2690)	0.1258	1.9499
RELIGIOUSN	-0.7051 (0.5240)	-0.1687	-1.3457	-0.7192 (0.4876)	-0.1725	-1.4751

[15] All 'duty', 'pressure' and 'feelgood' variables

RELIGIOUSF	-0.7300 (0.5325)	-0.1747	-1.3708	-0.6802 (0.4938)	-0.1632	-1.3776
AGE	0.0746*** (0.0274)	0.0178	2.7197	0.0739*** (0.0260)	0.0177	2.8428
FEELGOODN	0.1512 (0.3292)	0.0362	0.4592			
FEELGOODD	-0.1513 (0.5386)	-0.0362	-0.2810			
FEELGOODSD	-1.8229* (1.0236)	-0.4362	-1.7809			
DUTYN	-0.0311 (0.3310)	-0.0074	-0.0941			
DUTYD	-0.9676** (0.3823)	-0.2315	-2.5310			
DUTYSD	-0.4730 (0.7181)	-0.1132	-0.6587			
PRESSUREAGREE	-0.1982 (0.3073)	-0.0474	-0.6451			
PRESSUREN	-0.3982 (0.3522)	-0.0953	-1.1308			
EDUCATIONNOTUNI	-0.4525 (0.4448)	-0.1083	-1.0174	-0.4577 (0.4486)	-0.1098	-1.0204
EDUCATIONPOST	-0.5996* (0.3584)	-0.1435	-1.6728	-0.6204* (0.3552)	-0.1488	-1.7469
WORKERS	0.6120 (0.3995)	0.1464	1.5319	0.5250 (0.4030)	0.1259	1.3027
No. of obs	332			332		
McFadden R-squared	0.1968			0.1711		

Notes: The standard errors are given in parentheses. Dependent variable = binary choice, taking the value 1 if the person had donated in last 6 months, and 0 otherwise. *** denotes statistical significance at 1% level. ** denotes statistical significance at the 5% level. * denotes statistical significance at the 10% level using two tailed tests.

The *volunteer* and *risk* terms are again positive and significant across both regressions. According to regression (3), individuals who are naturally more generous are 30.4 percentage points more likely to donate to charity than their less naturally generous counterparts. This supports the idea of Smith, Kehoe and Cremer (1995) who discovered that ‘altruistic history’ plays a strong role in future altruistic tendency. Volunteering and donating are compliments, rather than substitutes.

Strikingly, individuals willing to accept the risk are 36.3 percentage points more likely to donate to charity than those who are not. This opposes the prediction of full trust in a charity being a conditional driver behind giving. It would seem that such high trust is unnecessary for most individuals, leading us to believe that there are other more important things driving them on.

The empathy and self-esteem measurements are statistically insignificant, however, their inference is as predicted, with a non-empathetic individual being 14.0 percentage points less likely to donate than their more empathetic counterpart; and an individual with high self-esteem is 15.9

and 12.7 percentage points, respectively more likely to donate than an individual with comparably low self-esteem.

One interesting finding that opposes most of the literature is that those individuals who had postgraduate education are 14.9 percentage points *less likely* to donate than an individual who only had undergraduate education, significant at the 10% level. Suggesting that, education level increases the propensity to donate up to undergraduate level, further education after this reduces the likelihood of donating.

Age has the expected result, with the older individual being more likely to donate. Although, regression (4) finds that a male individual is 12.6 percentage points more likely to donate than a female, significant at the 10% level, which goes against what most of the literature says.

6.2 Evaluation

When comparing the LPM and logit models we see that the signs and significance of the coefficients is consistent across models, serving as a specification check. Before the 'robust covariances' command was applied to regression (3), the statistically significant variables remained that way[16] so my results are robust to heteroscedasticity.

Goodness of fit is determined by the McFadden R-squared value for logit regressions. These values were relatively low in the regressions (0.1968 and 0.1711, respectively). However, for logit models, statistical and economic significance are believed to be more important criteria for validity of results.

[16] Compare Appendix 6 with regression (3)

7. Conclusion

7.1 Conclusion

In this paper a foundation for charitable giving is laid, from a behavioural perspective, whilst also incorporating the most popular motives suggested by theorists. Focussing solely on the *decision* to donate or not.

57.53% of individuals donated to charity. The idea of the 'warm glow of giving' was most widely supported as a motivation behind donating, supporting Andreoni's (1989) findings.

The paper set out to answer; what are the key behavioural characteristics behind the decision to donate? There is strong evidence, as expected, that individuals naturally more generous are more likely to give, most probably because they have the greater chance of becoming emotionally engaged to a charity than their less generous counterparts. Strikingly, results show that full trust in a charity is not a necessary condition for donators, suggesting that the difference a donation would make does not play as large a role as some theorists suggest. However, doubt has been cast on the underlying question testing this, with the hypothetical scenario not being a true test of trust.

It is clear that, although, statistically insignificant, economic significance of the empathy and self-esteem effects hold true to predictions. A more empathetic individual is more likely to donate to charity, and it is safe to assume this is because a stronger emotional engagement can be formed than a non-empathetic individual. The same goes for those individuals with a higher-self-esteem, being more prosocial than their lower self-esteem counterparts helps in forming emotional attachments, which in turn drives giving.

Additional factors that are related to an individual's decision to donate are age, gender and education level, with the latter factor increasing the propensity to donate

7.2 Critique

The most severe criticism is the issue with inference of complicated human traits from a singular question. Whole studies have been carried out on traits like empathy, and to assume that an individual is empathetic because they agree to a single statement can be troublesome. However, to ensure that a sufficient number of people would reply, the questionnaire had to be kept short and concise, so to some extent this was unavoidable.

Another major issue is simultaneous causality bias between the *donated* and *volunteer* term. As well as an individual's propensity to volunteer increasing the likelihood of a donation, an individual's propensity to donate could increase their likelihood of volunteering; leading to the *volunteer* term being correlated with the error term, ε. If this is the case, then the estimator for *volunteer* must be approached with caution as it is likely to be biased.

Sample is not particularly large, and heavily over representative of young people[17]. More accurate results could have been achieved if a quota system was adopted, preventing the over-representation, leading to more robust conclusions being drawn.

Another criticism is that donating was looked at from an individual perspective, whereas most researchers suggest that it is considered a group act, within a household for instance. If one group member donates the whole group can obtain the perceived benefits. However, the study was aimed at finding individuals' *personal traits* that drove donating, so group analysis would be unsatisfactory in this scenario.

Finally, social desirability bias could be present, whereby the questionnaire relied on reported rather than observed donations to charity. Some individuals could have claimed they donated when in reality they did not. This would harm the validity of my results, however, it is totally unavoidable and as the questions were not pressuring in any way, respondents would not feel pressured to lie, so it is unlikely to matter.

Overall, it is likely that some of these criticisms will affect the validity of my results; however, the fact that most results were consistent with the results of existing literature on this topic and some statistically significant variables were found leads to the belief that useful economic inference can still be made from my conclusions.

7.3 Extensions

Carrying out a controlled experiment, providing the participants with money with which they have the choice to donate to any charity or not would instantly remove social desirability bias present in this paper. Also, if carried out over a longer time period, asking a larger and strictly varied population, results will be more applicable to the general population.

[17] See Appendix 10

More time and resources would allow for a deeper analysis of each behavioural characteristic using more focussed questions, especially those drawn from existing studies, allowing for more justifiable conclusions to be drawn. In addition, other characteristics could be tested, such as selfishness, sympathy, egoism and so on.

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APPENDICES

Appendix 1

Other Reasons given for donating;

- Pure altruism – Individuals' utility is dependent on their own well-being as well as others, and they give to maximise the positive aspect (altruism, group identity) and/or minimise the negative aspects (envy, spite, feelings of unfairness). This is a significant reason for donating, and it is the negative aspects[18] that are the most interesting.

- Duty – Especially relevant for some religions, this motivation involves individuals feeling an impulse to donate either as a part of their religious beliefs[19] or because they can afford to and so feel they should, maybe as part of prosocial behaviour.

- Prestige/Recognition Motives – Harbaugh (1998) states "Abundant descriptive evidence suggests that the prestige benefits from public recognition are an important reason why people give." Such donators receive direct tangible benefits; having a building named after them, for example, or making the local or national news. However, this only represents those making considerable donations, ruling out a large majority of donators, and as this paper is not studying the amount given, just the probability, investigating this reason is unlikely to prove useful.

- There are other reasons provided in the literature, such as; reciprocal altruism (Trivers, 1971), evolutionary biology models (Hamilton, 1964) and so on. However, the above seem to be the most widely supported.

[18] In particular the idea of not wanting to be seen as greedy when put under pressure.
[19] (Halfpenny, 1990) found that individuals who felt religion was important to them were more likely to donate to charity

Appendix 2

Variable Analysis – (corresponds with 'Analysis of variables' from main text)
Dependent variable:

Variable	**Description**
Donated	Individuals were asked if they had donated at least £5 to charity in the past 6 months.

Independent Variables

Variable	**Description**
Generosity	Individuals were asked if they had volunteered within the last 12 months.
Decision to take risk	Individuals were asked if they would hypothetically still make a donation if there were a small risk that it would not make the intended difference.
Empathy	Individuals were asked if they find it easy to see things from another person's perspective using a 5-point Likert-scale (Strongly agree through to Strongly disagree).
Self-esteem (positively and negatively inclined)	Individuals were asked if they adopt a positive attitude towards themselves and were given the option scale as above.
Warm Glow	Individuals were asked to what extent they agree with 'feeling good' as a reason for donating, with the same 5-point Likert scale as before.
Duty	Individuals were asked to what extent they agree with the following reason for donating; I can afford to so I feel I should.
Pressure	Individuals were asked to what extent they agree with 'feeling pressured' as a reason for donating.
Gender	This variable was included to see whether an individual's gender had any effect on their decision to donate to charity.
Religiosity	Individuals were asked for their level of religiosity and had to choose from very religious, fairly religious, or not religious.
Age	This variable was included to see whether the age of an individual had any effect on their decision to donate.
Occupation	Individuals were asked if they were a student, employed or unemployed.
Level of education	This variable was included to see if more educated people are more likely to give to charity than their less educated counterparts.

Appendix 3

Table A1: Explanation of dummy variables

Variable	Explanation
C	Constant
VOLUNTEER	1 if individual has volunteered in past 12 months, 0 otherwise
RISK-TAKER	1 if individual is willing to accept small risk donation will not make intended difference, 0 otherwise
NON-EMPATHETIC	1 if individual agreed or strongly agreed to seeing things from another person's perspective, 0 otherwise
ESTEEM(+)AGREE	1 if an individual agreed or strongly agreed to taking a positive attitude toward themselves, 0 otherwise
ESTEEM(+)N	1 if an individual was neutral towards taking a positive attitude toward themselves, 0 otherwise
ESTEEM(-)DISAGREE	1 if an individual disagreed or strong disagreed to feeling worthless at time, 0 otherwise
ESTEEM(-)N	1 if an individual was neutral toward feeling worthless at times, 0 otherwise
MALE	1 if male, 0 if female
RELIGIOUSV	1 if an individual is very religious, 0 otherwise
RELIGIOUSN	1 if an individual is not religious, 0 otherwise
RELIGIOUSF	1 if an individual is fairly religious, 0 otherwise
AGE	The individuals age in years
FEELGOODN	1 if an individual was neutral toward 'feeling good' being a reason for donating, 0 otherwise
FEELGOODD	1 if an individual disagreed to 'feeling good' being a reason for donating, 0 otherwise
FEELGOODSD	1 if an individual strongly disagreed to 'feeling good' being a reason for donating, 0 otherwise
DUTYN	1 if an individual was neutral to the statement I can afford to so I feel I should as a reason for donating, 0 otherwise
DUTYD	1 if an individual disagreed to the statement 'I can afford to so I feel I should' as a reason for donating, 0 otherwise
DUTYSD	1 if an individual strongly disagreed to the statement 'I can afford to so I feel I should' as a reason for donating, 0 otherwise
PRESSUREAGREE	1 if an individual agreed or strongly agreed to feeling 'uncomfortable when asked' as a reason for donating, 0 otherwise
PRESSUREN	1 if an individual was neutral to feeling 'uncomfortable when asked' as a reason for donating, 0 otherwise
EDUCATIONNOTUNI	1 if an individual has not been to university, 0 otherwise
EDUCATIONPOST	1 if an individual has done a postgraduate degree, 0 otherwise
WORKERS	1 if the individual reported being employed, 0 otherwise

Appendix 4 (Questionnaire conducted through www.esurveyspro.com)

Please take a few moments to complete the following questionnaire:

- Have you donated at least £5 to charity in the past 6 months?
  ☐ Yes ☐ No

- Have you spent time doing voluntary work in the past 12 months?
  ☐ Yes ☐ No

- Would you still donate if there were a small risk that your donation will not make the difference you believe it will?
  ☐ Yes ☐ No

Please mark the scale level according to your agreement toward the following:

- Generally I find it easy to see things from another person's perspective.
  ☐ Strongly Agree ☐ Agree
  ☐ Neutral ☐ Disagree
  ☐ Strongly Disagree

- In general, I adopt a positive attitude towards myself.
  ☐ Strongly Agree ☐ Agree
  ☐ Neutral ☐ Disagree
  ☐ Strongly Disagree

- In a working environment (as an employee/student/both) I certainly feel worthless at times.
  ☐ Strongly Agree ☐ Agree
  ☐ Neutral ☐ Disagree
  ☐ Strongly Disagree

To what extent do you agree with the following reasons for donating?

- It makes me feel good.
  ☐ Strongly Agree ☐ Agree
  ☐ Neutral ☐ Disagree
  ☐ Strongly Disagree

- I can afford to so I feel I should.
  ☐ Strongly Agree ☐ Agree
  ☐ Neutral ☐ Disagree
  ☐ Strongly Disagree

- I feel uncomfortable refusing when asked.
  ☐ Strongly Agree ☐ Agree
  ☐ Neutral ☐ Disagree
  ☐ Strongly Disagree

- What is your gender?
  ☐ Male ☐ Female

- Are you religious?
  ☐ Very ☐ Fairly ☐ Not

- What is your age?

  .....

- What is your occupation?
  ☐ Student ☐ Employed
  ☐ Unemployed

- What is your level of education?
  ☐ Secondary School ☐ College/Sixth-Form
  ☐ Undergrad Degree ☐ Postgraduate Degree

Appendix 5

Table A2 Summary Statistics

		No of individuals (Total =332)	%
Donated	Yes	191	57.53
	No	141	42.47
Volunteered	Yes	119	35.84
	No	213	64.16
Accept Risk	Yes	222	66.87
	No	110	33.13
Empathy	Strongly Agree	64	19.27
	Agree	193	58.13
	Neutral	63	18.98
	Disagree	11	3.31
	Strongly Disagree	1	0.30
Self-esteem (+)	Strongly Agree	50	15.06
	Agree	173	52.11
	Neutral	60	18.07
	Disagree	44	13.25
	Strongly Disagree	5	1.51
Self-esteem (-)	Strongly Agree	19	5.72
	Agree	93	28.01
	Neutral	63	18.98
	Disagree	117	35.24
	Strongly Disagree	40	12.05
Feel good	Strongly Agree	32	9.64
	Agree	189	56.93
	Neutral	87	26.20
	Disagree	18	5.42
	Strongly Disagree	6	1.81
Duty	Strongly Agree	45	13.55
	Agree	158	47.60
	Neutral	68	20.48
	Disagree	51	15.36
	Strongly Disagree	10	3.01
Pressure	Strongly Agree	31	9.34
	Agree	111	33.43
	Neutral	72	21.69
	Disagree	86	25.90
	Strongly Disagree	32	9.64

Gender	Male	177	53.31
	Female	155	46.69
Religiosity	Very	31	9.34
	Fairly	118	35.54
	Not	183	55.12
Occupation	Student	252	75.9
	Employed	79	23.8
	Unemployed	1	0.3
Level of education	Secondary School	5	1.505
	College/Sixth Form	36	10.84
	Undergraduate Degree	212	63.855
	Postgraduate Degree	79	23.8

Appendix 6 [20]

Logit Regression (3) results without 'robust covariances' command.

Dependent Variable: DONATED
Method: ML - Binary Logit (Quadratic hill climbing)
Included observations: 332

	Coefficient	Std. Error	z-Statistic	Prob.
C	-2.449360	0.915228	-2.676229	0.0074
VOLUNTEER	1.269479	0.296461	4.282114	0.0000
RISK-TAKER	1.518452	0.295011	5.147108	0.0000
NON-EMPATHETIC	-0.619928	0.649151	-0.954982	0.3396
ESTEEM(+)AGREE	0.664104	0.398955	1.664610	0.0960
ESTEEM(+)N	0.587642	0.444507	1.322010	0.1862
ESTEEM(-)DISAGREE	-0.315316	0.323928	-0.973413	0.3303
ESTEEM(-)N	-0.360553	0.382853	-0.941753	0.3463
MALE	0.565654	0.274277	2.062343	0.0392
RELIGIOUSN	-0.705138	0.518028	-1.361196	0.1735
RELIGIOUSF	-0.729965	0.527772	-1.383107	0.1666
AGE	0.074550	0.026774	2.784438	0.0054
FEELGOODN	0.151164	0.313544	0.482114	0.6297
FEELGOODD	-0.151339	0.563512	-0.268564	0.7883
FEELGOODSD	-1.822865	1.182781	-1.541169	0.1233
DUTYN	-0.031133	0.332492	-0.093634	0.9254
DUTYD	-0.967635	0.390078	-2.480619	0.0131
DUTYSD	-0.473020	0.780511	-0.606038	0.5445
PRESSUREAGREE	-0.198219	0.308048	-0.643469	0.5199
PRESSUREN	-0.398223	0.365366	-1.089929	0.2757
EDUCATIONNOTUNI	-0.452540	0.476444	-0.949828	0.3422
EDUCATIONPOST	-0.599557	0.381846	-1.570154	0.1164
WORKERS	0.612027	0.436218	1.403031	0.1606

McFadden R-squared	0.196823	Mean dependent var	0.575301

[20] Note in EViews6 esteem(+) variables are esteem1 variables; and esteem(-) variables are esteem2 variables.

Appendix 7

Note: This regression includes some interaction terms that were tested. However, they were highly insignificant and so were left out.

Dependent Variable: DONATED
Method: ML - Binary Logit (Quadratic hill climbing)
Included observations: 332
QML (Huber/White) standard errors & covariance

	Coefficient	Std. Error	z-Statistic	Prob.
C	-4.341630	0.915936	-4.740104	0.0000
VOLUNTEER	1.248522	0.309604	4.032643	0.0001
RISKTAKER	1.467178	0.291779	5.028390	0.0000
EMPATH3	0.005460	0.336970	0.016203	0.9871
NONEMPATHETIC	-0.579847	0.724073	-0.800813	0.4232
ESTEEM1AGREE	0.664443	0.440128	1.509660	0.1311
ESTEEM1N	0.731607	0.460259	1.589554	0.1119
ESTEEM2AGREE	0.613941	0.539051	1.138929	0.2547
ESTEEM2N	0.359048	0.578513	0.620640	0.5348
MALE	0.582376	0.288320	2.019895	0.0434
RELIGIOUSV	0.654002	0.523952	1.248211	0.2120
RELIGIOUSF	-0.073132	0.285416	-0.256231	0.7978
AGE	0.079483	0.018035	4.407250	0.0000
FEELGOODSA	-0.289664	0.416238	-0.695910	0.4865
FEELGOODSD	-2.238544	1.362510	-1.642956	0.1004
DUTYSA	0.399463	0.404057	0.988630	0.3228
DUTYDISAGREE	-0.755179	0.332091	-2.274011	0.0230
PRESSURESA	0.890705	0.466287	1.910207	0.0561
PRESSUREDISAGREE	0.374511	0.293265	1.277040	0.2016
ESTEEM1AGREE*ESTEEM2DISAGREE	0.500254	0.626991	0.797864	0.4249
MALE*WORKERS	-0.480249	0.460424	-1.043058	0.2969

McFadden R-squared	0.198127	Mean dependent var	0.575301

Appendix 8 – Hypothesis Tests for LPM Regression (1)

c(5)=esteem(+)agree
Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	4.628301	(1, 324)	0.0322
Chi-square	4.628301	1	0.0314

Reject the null at 5% level, esteem(+) variables are likely to affect decision to donate.

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(5)	0.166155	0.077233

C(7)=esteem(-)disagree
Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	0.052726	(1, 324)	0.8185
Chi-square	0.052726	1	0.8184

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(7)	-0.014093	0.061373

Cannot reject the null, esteem(-) variables are unlikely to affect decision to donate.

Appendix 9 - Hypothesis Tests for Logit Regression (4)

- C(9)= *MALE;* Null is *MALE*=0

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	4.102154	(1, 309)	0.0437
Chi-square	4.102154	1	0.0428

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(9)	0.565654	0.279283

Reject the null at 5% level, gender does affect a person's decision to donate.

- C(2)=*VOLUNTEER*; Null is *VOLUNTEER*=0

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	17.43299	(1, 309)	0.0000
Chi-square	17.43299	1	0.0000

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(2)	1.269479	0.304046

Reject the null, whether a person has volunteered or not does affect a person's decision to donate.

- C(3)=*RISK-TAKER;* Null is *RISK-TAKER*=0

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	26.97274	(1, 309)	0.0000
Chi-square	26.97274	1	0.0000

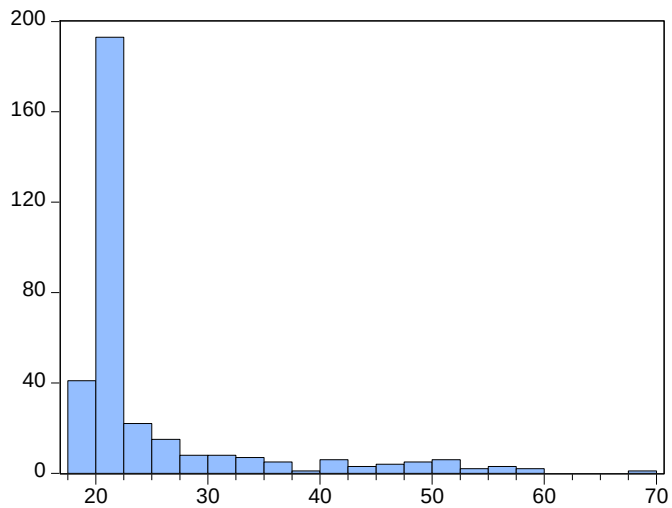
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(3)	1.518452	0.292374

Unambiguously reject the null, a person's decision to take risk or not does affect their decision to donate.

Appendix 10

Histogram displaying the *AGE* variable



Series: AGE
Sample 1 332
Observations 332

Mean	24.60542
Median	21.00000
Maximum	68.00000
Minimum	18.00000
Std. Dev.	8.968779
Skewness	2.365646
Kurtosis	8.014458
Jarque-Bera	657.4972
Probability	0.000000