

What Factors Explain Charitable Donation in New Zealand?

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Abstract

There are 114,110 non-profit organisations in New Zealand (Statistics New Zealand, 2015) and the most recent report by Giving New Zealand announces that total personal giving was \$1.53 billion in 2014. To understand why people in New Zealand make monetary donations, this study examines the determinants of individual charitable donation using a sample from New Zealand. I conduct an online survey with 334 participants from Faculty of Business, Economics and Law, Auckland University of Technology. The empirical findings demonstrate that altruism and age have a positive effect on not only the donation amount but also the frequency of making charitable donation. Risk preference positively affect donation amount when people are financially capable. There is no evidence that social factors, such as a desire for public recognition and social reputation, affect donation behaviour. However, females and individuals with lower levels of education donate more frequently. The results of this study have important implications for non-profit organisations to have a better understanding of donors in New Zealand and raise more donation. Specifically, findings of this study may help non-profit organisations to improve their donation campaign and programme designs. Moreover, this study helps people in New Zealand to understand what drive them to make donation decisions.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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1. Introduction

According to Global Trends in Giving Report (2018), overall global charitable contributions in 2018 grew by 4.1% over the past year and 45% of worldwide donors have enrolled in a monthly giving program. Giving New Zealand published the most recent report and it shows a total giving for 2014-2015 tax year was \$2.788 billion, of which, 55% was personal giving. Ninety percent of personal giving is in the form of charitable donations. The report also shows that New Zealand was ranked third in the World Giving Index 5-year ranking by Charities Aid Foundation (Giving New Zealand, 2014–2015), followed by Australia, Canada and the U.K. The USA and Ireland were ranked first and second respectively.

Compared to the U.S., the U.K., Canada and Australia, New Zealand is a relatively small country in terms of population, gross domestic product (GDP) and consumer spending. According to Giving New Zealand (2015), total personal giving made by New Zealanders in 2014 was \$1.53 billion, which equivalent of 4.8 percent of consumer spending. Charities Aid Foundation (2016) compares the level of individual donation as percentage of GDP among countries using the latest statistic available (2013 and 2014). The report states that New Zealand (0.79%) ranked in second place for levels of individual charitable donation as percentage of GDP. It also indicates that individual giving in the U.S. was 1.44% of GDP, 0.77% in Canada, 0.68% in Australia¹, 0.54% in the U. K. and 0.22% in Ireland. The statistics above shows that compares to other developed countries New Zealand has a high level of charitable donation. Therefore, it is vital to understand what the determinants of charitable giving behaviour in New Zealand are.

Why do individuals make charitable donations and what kind of people are more likely to donate? Charitable donation is an important form of prosocial behaviour. Prosocial behaviour is intentional and voluntary action that benefit others (Eisenberg, 1982; Penner et al., 2005) and it covers a wide range of actions, such as, helping, volunteering, sharing and donating. Belk (2010) suggests that

¹ GDP of Australia was from Giving Australia 2016

people learn the concept of right and wrong when she or he is a child, and this experience will affect them to behave in a prosocial way or not. Social exchange theory of Druckman (1998) explains the prosocial behaviour in economic perspective. According to this theory, individuals assess the monetary cost or time spending before they help. Individual may choose not to help when the costs, for example, physical risks, mental effort, time and monetary expenses are higher than they expected. Many determinants of donation behaviour have been examined in the literature. Several studies show that social reputation, public recognition, altruistic feeling, self-image, desire to help or generosity could motivate individual charitable donation (Bekkers & Wiepking, 2011a; Bekkers & Schuyt, 2008; Germain et al., 2007; Bennett, 2003; Michel & Rieunier, 2012; Konow, 2010). Apart from motives mentioned above, the literature also examines relations between individual's risk attitude and donation behaviour. Researchers argue that risk seeking individual is more likely to make charitable donation (Angerer et al., 2014; Fahle & Sauté, 2017; Cettolin et al., 2017). In my study, I use lottery experiment and self-assessed statement to capture individual's risk preference (Riedl, 2017; Dohmen, 2010).

People from different countries may donate for different reasons. Most of the studies on charitable donors' characteristics and the determinates of charitable giving are from North America and Europe (Schlegelmilch et al., 1997; Sargeant, 1999; Exley, 2015). There is a limited amount of studies examine the determinants of individual charitable donation behaviour within Asia- Pacific (Lwin and Phau, 2010; Knowles et al., 2012). People in New Zealand donate large amounts of money to charities each year. However, no study has yet been conducted on what are the driving factors for their donation behaviour. The aim of this study is to investigate the determinants of individual's charitable donation behaviour in New Zealand. Specifically, I examine how social factors, psychological factors, behavioural factors and demographic factors are related to individual's donation behaviour. This study also examines the relationship between people's donation behaviour and their attitude towards risk. I consider three dimensions of individual donation behaviour: 1) the frequency of donation; 2)

the amount of donation and 3) the amount of donation if an individual had financial capability. My empirical evidence from an online survey of 334 participants show that altruism and age play an important role in explaining both the frequency of donation and the amount of charitable donation. Specifically, older individuals and individuals with altruistic feelings tend to make larger amount and more frequent charitable donations. My findings suggest that women and individual with relatively lower qualification make more frequent donation. My results indicate that staff participants and student participants have different determinants of donation behaviour. The results for staff participants contrast the findings of Bennett (2003) and Andreoni (1990), who document that seeking to be respected and a desire to create positive self-image can motive individual to donate. Consistent with previous literature, I find education and risk preference are positively correlated to donation amount. Specifically, individuals with higher qualification and higher level of risk tolerance are more likely to donate if they had financial capability. However, social factors are not correlated with individual's donation behaviour, suggesting a desire for public recognition and social reputation are not affecting either the level of donate nor donation frequency in my study.

To the best of my knowledge, this is the first study on individual donation behaviour and its determinants using a sample from New Zealand. This study contributes to the finance literature by providing more information on how people make financial decisions, such as charitable donation. My study also contributes to the psychological literature by showing links between psychological factors and behaviour relates to monetary donations. Furthermore, the findings of this study are valuable to charities and charitable agencies, such as Philanthropy New Zealand and Red cross New Zealand. My findings suggest that older and more altruistic individuals tend to be frequent donors and make larger amount of donations. This has implications for donation campaigns and programmes design for non-profit organisations.

2. Literature Review

2.1 The definition of charitable donation

In the literature, donation is studied in many different terms, such as, giving time, giving blood, donating organs and donating money (Liu & Aaker, 2008; Reid & Wood, 2008; Lamanna, 1997). Donation is viewed as a prosocial or altruistic behaviour and it has been defined in different ways. Reece (1979) defines charitable donation as “voluntary one-way transfer of economic goods to individuals or organizations” (p. 142), it needs to be volunteered and not happen within a family unit. Knack (1992) suggests that charitable donation is social altruism behaviour and Brewer (2003) defines it as a cognitive activity to help others. Webb et al. (2000) study donation as a financial contribution to an organization that benefit others. Similar to Webb et al. (2000), Bekkers and Wiepking (2010) define charitable donation as donating money to a not-for-profit organization. Other studies consider monetary donations to a charity made by individuals (Burnett & Wood, 1988; Sargeant & Woodliffe, 2007). In order to be more specific in the definition of charitable donation, Lee and Chang (2007) suggest that charitable donation needs to comply with two conditions: (1) the donation is volunteered; (2) the donation is monetary. In this study, I focus on volunteered monetary donation by individuals.

2.2 Factors that affect charitable donation

A growing number of studies have examined various factors affecting donation behaviour. Grace and Griffin (2006) propose the concept of conspicuous donation behaviour and define it as displaying merchandise from charities to show that they have donated to charities, for example, wearing an empathy ribbon and red nose. Grace and Griffin (2006) suggest that individual donation behaviour can be predicted by individual characteristics, such as age, education and personal satisfaction. By looking into over 500 articles from the literature, Bekkers and Wiepking (2011a) also suggest that charitable donation is motivated by individual characteristics. Following Bekkers and Wiepking (2011a), Mainardes et al. (2015) develop a model that identifies a very comprehensive set of variables

that could explain an individual's donation behaviour. These factors generally fall into four groups: (1) social factors; (2) psychological factors; (3) behavioural factors; (4) demographic factors.

2.2.1 Social factors

Regarding the social factors, Amato (1985) and Bekkers and Wiepking (2011) state that factors related to social characteristics such as, social reputation, social responsibility and desire for public recognition, influence individual donation behaviour. Andreoni and Petrie (2004) examine whether removing anonymity impacts donating. The results of their experiment show that people prefer their donation to be announced in public in order to obtain prestige and recognition. Bekkers and Schuyt (2008) state that individual's donation behaviour may be motivated by a desire for public recognition. Bekkers and Wiepking (2011a) believe that social reputation and public recognition are social consequences of individual donation behaviour.

2.2.2 Psychological factors

Olson (2009) believes that charitable donation may be motivated by psychological objectives. Consistent with Olson (2009), Sargeant and Woodliffe (2007) state that psychological factors, such as, guilt, fear and prestige, play an important role explaining charitable donation behaviour. Many other variables could also measure psychological factors, such as, personal satisfaction, altruism and egoism (Grace & Griffin, 2009; Sargeant, 1999; Germain et al., 2007; Bennett, 2003). Egoism and altruism stand out as the most significant psychological determinants for charitable donation behaviour in the literature. According to White and Peloza (2009), charitable donation is often motivated by either egoistic ideas or altruistic reasons.

Trivers (1971) defines altruistic behaviour as benefits to another individual who is not closely related. According to the altruism theory (Simmons & Emanuele, 2007), charitable donation or the simple act of giving is accredited to the human helping behaviour. Ranganathan and Henley (2008) find that in general, altruism can be a desire, an attitude or a motive. Germain et al. (2007) also corroborate this

finding by suggesting that altruistic feeling is one of the important factors for individuals to make charitable donation. Compatible with Germain et al. (2007), the study of Mainardes et al. (2015) shows that altruism is the most cited variable among psychological factors. These studies highlighted the importance of altruism in explaining individual's donation behaviour. In line with prior literature, Yamasaki et al. (2015) find a significantly positive relationship between altruism and individual's charitable giving amount by conducting a laboratory experiment on a sample of 207 participants from British.

Egoism also play an important role in explaining charitable donation according to past studies (Bennett, 2003; Andreoni, 1990). Andreoni (1990) suggests that people may gain benefit from the act of giving when they make donations to charity. Andreoni (1990) introduces a theory of impure altruism and warm glow giving which states that people gain a sense of satisfaction when helping others. Consistent with Andreoni (1990), the theory of self-interest (Holmes, 1990) states that the motivation of individual's charitable donation behaviour includes some selfish desires, such as, personal happiness, reputation or the anticipation of rewards. Motivated by social exchange theory (Holmes et al., 2002), Ye et al. (2015) conclude that people make more charitable donation when donation outcomes are framed around benefit to self rather than benefit to others. However, Bekkers et al. (2007) suggest that individual's giving behaviour can be led by both altruism and egoism as they are motivational states.

2.2.3 Behavioural factors

A large number of studies have looked into how charitable giving can be explained by behavioural factors. The behavioural factors include self-image, obligation, generosity, desire to help, desire to feel respected and family tradition (Bennett 2003; Bekkers and Wiepking 2007; Sargeant and Woodliffe 2007), which motivate the individual to donate. Unlike psychological factors, behavioural factors focus on donors' perception and if they make any difference by donating. Many studies show that a desire to create a positive self-image is one of the behavioural factors that motivate charitable

giving. For example, Sargeant and Woodliffe (2007) conclude that individuals want to improve their self-image and seek public prestige when making charitable donation. The literature also finds that family tradition can explain charitable donation. For instance, Sargeant and Woodliffe (2007) argue that individuals who grow up in a family with strong donation tradition are more likely to make charitable donations. Consistent with Sargeant and Woodliffe (2007), Mainardes et al. (2015) show that family tradition is the most highlighted variable in behaviour factors.

2.2.4 Demographic factors

Many studies have found that demographics is a significant factor in explaining charitable donation. Literature suggests that age, gender, ethnic origin, income, religion and educational background can influence charitable donation (Bennett 2003; Grace and Griffin 2006; Simmons and Emanuele 2007; Bekkers and Wiepking, 2007; Apinunmahakul and Devlin 2008; Wiepking, 2010; Bekkers and Wiepking, 2011c). The literature documents that age has a significant effect on donating behaviour. Specifically, studies suggest that charitable donation is more likely to be made by older people than younger people (Bennett, 2003; Grace and Griffin, 2006; Simmons and Emanuele, 2007; Apinunmahakul and Devlin, 2008). However, few studies find age has no relationship with donation behaviour. For instance, Louie and Obermiller (2000) suggests that age is not a factor affecting charitable donation.

Literature also demonstrates that charitable donation can be predicted by gender. By conducting a dictator experiment on a sample of 29 students from University of Arizona, Eckel and Grossman (1998) report that females are less selfish than males, and women donate twice as much as men. In line with Eckel and Grossman (1998), Andreoni and Vesterlund (2001) conduct a dictator game and find that there is a gender difference in altruism behaviour and donation is one of the important types of altruism behaviour. Lee and Chang (2007) also find that gender may influence donations. Specifically, males are less likely to donate than females. Consistent with the findings by Lee and Chang (2007), the study of Muller and Rau (2016) also provides experimental evidence that women

are more likely to give than men and donate significantly more. However, studies do not always agree that gender will make a difference in charitable giving. Ben-Ner et al. (2006) argue that women tend to give less than men when the donation recipients are females.

Past studies also show that donors' income, ethnic background and religion are significant determinants of charitable donation. According to Apinunmahakul and Devlin (2008), income of donors has a positive relation with the decision to donate and the donation amount. Yörük (2012) reports that white individuals are more likely involved in charitable donation behaviour. Empirical evidence shows that religion plays an important role in explaining charitable giving. Studies suggest that religious individuals are more likely to make charitable donations and give more regularly (Bekkers and Wiepking, 2011c; Abreu, 2012). According to the most recent census in New Zealand, 48.2 percent of New Zealanders do not have a religion (Statistics New Zealand, 2018). Due to the high percentage of non-religious New Zealanders, the significance of religion in explaining charitable donation behaviour may vary in New Zealand.

Furthermore, empirical studies show that education background can affect charitable donation behaviour. Chua and Chung (1999) report that in Singapore, the level of education has a positive and significant impact on individual's charitable giving behaviour. They suggest that individuals with higher educational attainment have a better understanding of social responsibility. Consistent with Chua and Chung (1999), Russell (2007) finds that education background has a significant influence on giving behaviour by examining sample of households in the US. Wiepking (2010) observes that the higher level of education individuals obtained, the more donations they make. Schlegelmilch et al. (1997) analysis the survey about individual giving with a sample of 1000 households in the U.K. Contrary to other findings, Schlegelmilch et al. (1997) find that individuals with lower education backgrounds² are more likely to donate in the U.K.

² Individuals who left school at 16.

2.3 Risk aversion and charitable donation

Risk aversion is a key factor of many aspects in finance literature and it influences investors' choices and decision making on investment and consumption. Hofstede and Bond (1984) define risk aversion as individual tendency to avoid riskiness when they feel threatened by ambiguous situation. In finance literature, risk attitude indicates the level of investors' willingness of taking risk during their financial decision making. Schooley and Worden (1996) use a sample of 2,239 American households and show that households' asset allocation choices can be predicted by their risk preferences. By calculating individual risk attitude from the household portfolio allocation, Schooley and Worden (1996) find that individuals' risk attitude affect how they allocate their assets. Risk aversion also plays a significant role in consumers' decision making. For example, consumers with higher risk-aversion are more likely to seek more information about quality of product when making purchase decisions (Shimp & Bearden, 1982).

The relationship between risk attitude and charitable donation, which is an important form of decision making, has been studied in the literature. Theory of reciprocal altruism (Trivers, 1971) states that an individual engages in reciprocal altruism if he or she helps another person and expects to receive a payoff in the future. However, Angerer et al. (2014) suggest that individuals who donate do not necessarily expect to be repaid by the recipients in the future. Risk attitudes are potentially important for reciprocal altruism. Angerer et al. (2014) suggests that individuals with higher risk tolerance could be more likely to engage in altruism behaviour. If an individual help another and expects to be paid in the future, the individual needs to bear with the risk that he or she will not be reciprocated. Many other studies also suggest that individual risk preference is positively related to charitable donation behaviour. For example, Krawczyk and Le Lec (2010) examine giving behaviour by conducting a dictator game with 128 students from University of Amsterdam and suggest that giving behaviour is affected by risk aversion. Specifically, high risk aversion causes a decrease in giving. In addition, the model of Yamasaki et al. (2015) focuses on how individual's social preferences and

beliefs, such as individual risk preference, explain charitable donation behaviour. The study finds that risk-seeking individuals are willing to give more money in the charitable giving task. The finding of Yamasaki et al. (2015) is supported by other studies. Cettolin et al. (2017) investigate the relation between individual's giving behaviour and individual's risk preferences. The study suggests in giving behaviour, giver's risk preferences are an important determinant. Focusing on the joint analysis of male and female differences in giving and risk taking, Mesch et al. (2011) and Muller and Rau (2016) examine the impact of risk attitude on charitable donation and provide evidence that risk preference is an important potential determinant of gender differences in charitable giving. Moreover, A recent study by Freundt & Lange (2017) investigates the role of risk preference in giving behaviour. The study finds a significant difference between the amount given by higher risk tolerance and lower risk tolerance individuals, suggesting that giving behaviour is highly correlated with attitude towards risk.

3. Hypotheses Development

In my study, I examine how social factors, such as a desire to gain social reputation and public recognition affect charitable giving. Bekkers and Wiepking (2010a) introduce eight important determinants of charitable donation and social reputation is one of them. It is a positive thing to make charitable giving and it helps reduce inequality (Charities Aid Foundation, 2015; Brickman & Bryan, 1975). In social environment, one's reputation among peers will be damaged by not donating (Bekkers & Wiepking, 2007). Thus, individual can obtain positive social reputation from others by making charitable donations (Bekkers & Wiepking, 2011b). A desire for public recognition can be another important social motivation for donation behaviour. People who make charitable giving can gain recognition from their peers (Bruce, 2005; Wiepking, 2008). Gaining social reputation and public recognition for donations has been made easier with the appearance of ribbons, for example, Remembrance Poppy for Anzac Day and Pink Ribbon for Breast Cancer Foundation. Based on these studies, the first hypothesis is as follows:

H1: Charitable donation behaviour is motivated by social factors, such as a desire for social reputation and public recognition.

I also examine how altruism and egoism are related to charitable giving. Previous studies argue that making donation does not only have social benefits but also bring psychological benefits, such as altruistic and egoistic feelings (Andreoni, 1990; Bennett, 2003). There is some debate in the literature regarding whether people donate entirely because of their altruism or their egoism (Batson, 2014; Bendapudi et al., 1996; Hibbert & Horne, 1996). The relationship between altruism and donation behaviour has been examined by many researchers. Findings of these studies show that altruism can

motivates individual to make charitable donations (Baston & Shaw, 1991; Germain et al., 2007). However, some studies argue that egoism is also a motivation for individual's charitable donation (Bennett, 2003; Bekkers et al., 2007). Therefore, I believe that psychological factors, such as altruism and egoism will have an impact for my sample, and I have the following hypothesis:

H2: Charitable donation behaviour is related to psychological factors, such as altruism and egoism.

Some behavioural factors are found important in donation decision making, such as seeking to be respected, building a positive self-image, wishing to contribute to the general welfare and family tradition (Andreoni, 1990; Bennett, 2003; Michel & Rieunier, 2012; Sargeant & Woodliffe, 2007). Self-image is found positively related to charitable donation (Bekkers and Wiepking, 2010a). Besides the desire to build positive self-image, another significant variable that relates to donation is family tradition. According to Charities Aid Foundation (2015), New Zealand ranked third overall on World Giving Index and ninth regarding donating money. New Zealanders donate generously, and people may donate because they follow their family tradition. Empirical evidence shows that there is a significant positive correlation between family tradition and donation behaviour (Sargeant & Woodliffe, 2007; Mainardes et al., 2016).

H3: Charitable donation behaviour can be explained by behavioural factors, such as want to be respected, want to create good self-image, have a family tradition of donation and have a desire to contribute to society's general welfare.

Next, an individual's risk preference has also been examined as one of the most important variables that may influence donation behaviour. Attitude towards risk plays an important role in people's decision making. Thus, whether people are willing to donate or not and the amount of donation may be predicted by one's risk preference. A number of studies find that risk aversion affects investor decision making in a number of ways including donation behaviour. The literature suggests that individual's risk tolerance has a positive impact on individual's donation behaviour (Krawczyk & Le

Lec, 2010; Yamasaki et al., 2015; Fahle & Sautua, 2017; Cettolin et al., 2017). In my study, I include risk preference as a factor to explain donation behaviour.

H4: Charitable donation behaviour can be explained by individual risk preferences.

Lastly, there is evidence in the literature that demographic characteristics affect individual's charitable donation behaviour (Apinunmahakul & Devlin, 2008; Eckel & Grossman, 1998). Among those characteristics, age, gender, ethnicity and education are relatively more influential. Gender is apparently the most popular variable within the field of charitable giving (Muller & Rau, 2006; Mesch et al., 2011; Willer et al., 2015). Empirical studies suggest that women are more likely to be engaged in donation behaviour (Andreoni & Vesterlund, 2001; Belfield & Beney, 2000). The last hypothesis may be stated as below:

H5: Charitable donation behaviour is associated with demographic factors, such as age, gender, ethnic origin and education background.

4. Data and Methodology

To examine the main factors that motivate charitable donation and the relationship between charitable donation and individual risk attitude, I conduct an online survey using the Qualtrics Survey Software. Chang and Vowles (2013) suggests that online survey method has several advantages, such as time efficient, flexible, personalized questions and no interviewer bias. Survey questions are presented in Appendix A. The ethics application³ for the survey in this study has been approved by Auckland University of Technology Ethics Committee on 20 September 2019. It takes approximately 10 to 15 minutes to complete the survey, and each participant has a chance to win one of ten \$50 Countdown vouchers after completing the survey. The target potential participants for this study are all students and staff of the Faculty of Business, Economics and Law at Auckland University of Technology. The recruitment of student participants is conducted through a “Call for Participants” announcement on the Blackboard within the Faculty. Blackboard is an internal communication platform between the university and students. In addition, an invitation email was sent to the Faculty’s employees through internal mail system.

The online survey consists of 39 questions (See Appendix A) and there are four sections in the questionnaire: (1) donation motivation factors, (2) donation behaviour, (3) risk preferences and (4) demographic information. Motivated by Mainardes et al. (2015), my study uses demographic, social, psychological and behavioural factors to explain individual charitable donation behaviour for a New Zealand sample. The online survey also captures individual risk preference as an additional explanatory variable. The first section of the survey is designed to measure social, psychological and behavioural factors that influence charitable donation. The second section in the survey includes

³ A copy of my ethics approval letter is presented in Appendix B.

questions related to participants' donation behaviour (the dependent variables). In the third section, there is a multiple price list lotteries experiment and a self-reported statement that elicits participants' risk preferences. The last section, personal information section, captures participants' demographics information.

To measure the dependent variable, donation behaviour, there are three constructs: (1) participants' donation frequency; (2) the amount they have donated over the last year; and (3) the amount they are willing to donate if they had the financial capability. I use three constructs to make results robust and each construct shows different dimension of donation behaviour. The third construct is measured by a hypothetical question asking the amount of donation participants are willing to make if they had financial capability. This is because the majority of participants in my study are students and they may not have income. To measure donation frequency, I ask participants whether they have made any charitable donation during the past twelve months. There are four choices about donation frequency: "Never", "Occasionally", "At least once a year" and "More than once a year". The time frame of one calendar year is consistent with Lee and Chang (2007) and Bekkers and Schuyt (2008). Regarding the donation amount, Bekkers and Schuyt (2008) shows that 73 Euros per year is the average amount of donation in Netherlands in 2002 while Abreu (2012) uses 50 Euros to divide low donation and high donation in her survey questions. Considering the literature and the donation culture of New Zealand, I decide to ask participants how much they have donated in the past year with the following options: "0 NZD"; "1 NZD-50 NZD"; "50 NZD -200 NZD"; "200 NZD- 500 NZD"; "More than 500 NZD". Because dependent variables are captured by ordered response categories. I run ordinal regression to estimate the relationships between dependent variables and independent variables.

Social Factors include social reputation and desire for public recognition. There are two statements with a five-point Likert scale to measure participants' *Social Factors* (SF1- SF2). As a proxy for selfish desire and benefit to others (Ye et al., 2015), *Psychological Factors* include two constructs:

egoism and altruism. In order to capture egoism and altruism, there are 13 statements with a five-point Likert scale following Abreu (2012) and Rushton et al. (2008). They are: 1= “Strongly disagree”; 2= “Disagree”; 3= “Neither disagree nor agree”; 4= “Agree”; 5= “Strongly agree”. These 13 statements are transferred from Boston’s empathy- altruism hypothesis (1989). Ten of those statements are related to egoism dimension and 3 of them are related to altruism dimension. PF1-PF10 in Section A of the questionnaire capture egoism and PF11-PF13 capture altruism. The egoism dimension ranges from 1 (“Not egoistic motivated”) to 5 (“Very egoistic motivated”) and the altruism dimension is from 1 (“Not altruistic motivated”) to 5 (“Very altruistic motivated”). Next, *Behavioural Factors* are measured by feeling respected, self-image creating, family tradition and desire to contribute to society’s general welfare. To capture these four variables, participants need to rate their agreement from 1 “Strongly disagree” to 5 “Strongly agree” on four statements relates to *Behavioural Factors* (BF1- BF4).

To analyse the impact of social, psychological and behavioural factors, I follow Abreu (2012) and sum up all the constructs in each factor group⁴ and divide that by the number of statements. Specifically, *Social Factor* = (SF1 + SF2) / 2; *Psychological Factor (egoism)* = $\sum_{i=1}^{10} PF_i / 10$ *Psychological Factor (altruism)* = $\sum_{i=1}^3 PF_i / 3$; *Behavioural Factor* = $\sum_{i=1}^4 BF_i / 4$.

To measure risk preference factor, participants are asked to complete a lottery experiment motivated by Dohmen et al. (2010) and Riedl and Steem (2017). The choice table for risk experiment is presented with the survey questions (Section C) in Appendix A. There are 9 decision situations including two options for each situation. Participants must choose whether they prefer a safe payment or play a lottery with a 50% probability of winning a certain amount of money and a 50% probability of winning nothing. The minimum amount of safe payment is 0 NZD and maximum amount is 200 NZD with a 25 NZD increment. Participants need to make decisions in all 9 situations. Because the safe payment in the first row is \$0, participants should start with the lottery option until the safe

⁴ A summary table with each factor and its measurements are shown in Appendix C.

payment they prefer to switch to and then keep choosing the safe payment in all subsequent rows of the experiment. A participant's risk preference is measured by the amount of safe payment at which the participant switches from choosing the risky lottery to choosing the risk-free option in the risk preferences section. A higher amount suggests that the participant is more risk tolerant. In addition, I include a self-assessed statement "I am prepared to take higher risks for higher return" with a five-point Likert scale ranging from 1 "Strongly disagree" till 5 "Strongly agree". These questions allow me to construct variables to examine the relationship between charitable donation and individual risk preference.

To measure *Demographic Factors*, I use the variables *Age*, *Female*, *Education* and *Self_Financial_Support* (financial situation for students only), based on their significance from the literature (Eckel & Grossman, 1998; Apinunmahakul & Devlin, 2008; Wiepking, 2010). Because staff generally have higher levels of education than students, I also include a dummy variable *Staff* to control for the differences between students and staff in my sample. I do not include personal income in demographic factors because many students are not financially stable during their study. However, I use dummy variable *Self_Financial_Support* to substitute for income in my study. Religion is not included in this study due to the large number of non-religious New Zealanders (48.2%) and insignificant results from similar studies in Australia (Lwin and Phau, 2010). Education is measured by question "What is the highest level of education you have attained?". There is a question whether students financially support themselves or not. It is expected that they have very limited fund to donate if they support themselves financially. Questions relating to demographic characteristics are asked in the last section of the questionnaire. I also measure self-assessed financial literacy with the statement "I have good understanding of finance". Participants rate their agreement on a five-point Likert scale from 1 "Strongly disagree" to 5 "Strongly agree".

After the survey has been completed by participants, the data are collected directly from the online survey software used in this study, Qualtrics Survey Software. First, I present descriptive statistics of

all completed survey data. Second, I run ordinal regressions with donation frequency, donation amount and donation amount on condition that if participants had financial capability as a dependent variable respectively. Independent variables in this study are social factors, psychological factors, behavioural factors, individual risk preferences and demographic factors.

The full model used in this study is presented in the formula below:

$$\text{Donation Behaviour} = \beta_0 + \beta_1 \text{Social Factors} + \beta_2 \text{Psychological Factors} + \beta_3 \text{Behavioural Factors} + \beta_4 \text{Risk Preferences} + \beta_5 \text{Demographic Factors} + \epsilon$$

5. Results

5.1 Scales reliability of Factors: Cronbach's Alpha

In order to test the scales reliability of the social factors, psychological factors, behavioural factors, risk preference, and donation behaviour, I conduct Cronbach's Alpha (Hair et al., 2010). Cronbach's Alpha is ranging from 0 to 1 and it is suggested that the set reliability should be higher than 0.7 (Nunnally, 1978). A low Cronbach's Alpha indicates that the items have a low level of internal consistency. The overall Alpha of Cronbach for donation behaviour, social factors, psychological factors, behavioural factors and risk preference is 0.8, which indicates there is a good internal consistency within all survey items. For donation behaviour, the Cronbach's Alpha displays a value of 0.71. Furthermore, the Cronbach's Alpha for social factors is the highest among independent variables and reaches 0.84. The scales for other factors are also reliable in this survey. Specifically, Cronbach's Alpha for psychological factors and behavioural factors are 0.77 and 0.73 respectively. Risk preference has a relatively low Cronbach's Alpha (0.72) but it is still acceptable (Nunnally, 1978).

5.2 Demographic profile

A total number of 334 participants have completed the online survey. Of these participants, 225 (67.37%) finish the online survey with no error, whereas 109 (32.63%) apparently misunderstood⁵ the lottery experiment questions, which makes it difficult to assess their risk preference. I exclude these 109 participants whenever "*Risk preference (Lottery experiment)*" is part of a regression.

The demographic profile of the participants is shown in Table 1. Out of 334 participants, 47.01% fall between 18 and 24 years of age. In terms of gender, the number of male participants is relatively

⁵ Participants' risk preference in the lottery experiment is measured by the switching point where they switch from choosing the risky lottery to choosing the risk-free option. Participants should start with risky option and switch to preferred safe payment option. Participants should only switch once from risky option to risk-free option and keep choosing the safe payment in all subsequent rows. Participants who start from choosing 0 NZD in the first row or jumping more than twice between two options are considered as misunderstanding.

smaller than the number of female participants, 44.91% versus 55.09% respectively. The majority of participants are AUT students (88.92%), only 11.08% respondents are AUT staff. This explains the high proportion of young participants in my sample. 89.52% of the participants hold⁶ a bachelor's degree or higher (including Honours, Postgraduate diploma, Master's degree and Doctoral degree). In addition, 69.46% of participants chose "Agree" or "Strongly agree" for the question "I have good understanding of finance", which indicates that most participants believe that they have relatively good financial knowledge. However, 32.62% of the sample respond to the lottery experiment erroneously, which suggests that participants in this study are overconfident about their financial knowledge. Moreover, 53.89% of participants are Asian while 25.75% are New Zealand European, other European or Caucasian. The rest of participants are Pacifica (7.19%), Maori (4.49%), Middle Eastern/Latin American/African (3.89%) and other (4.79%).

⁶ There seems to be a misunderstanding about the question "What is the highest level of education you have attained?". A high possibility that participants may choose the qualification they are studying towards instead of what they hold. If 30.54% of participants hold a master's degree means they are studying towards a doctoral degree. The result for the variable *Education* needs to be interpreted with caution.

Table 1. Respondents' Profile

	Completed without error		Completed with erroneous risk experiment		Completed total	
<u>Age</u>	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
18-24	103	45.78%	54	49.54%	157	47.01%
25-34	82	36.44%	35	32.11%	117	35.03%
43-44	27	12.00%	11	10.09%	38	11.38%
45-54	7	3.11%	4	3.67%	11	3.29%
55-64	6	2.67%	5	4.59%	11	3.29%
65+	0	0.00%	0	0.00%	0	0.00%
Total	225		109		334	
<u>Gender</u>						
Male	107	47.56%	43	39.45%	150	44.91%
Female	118	52.44%	66	60.55%	184	55.09%
Total	225		109		334	
<u>AUT student or staff</u>						
AUT Student	196	87.11%	101	92.66%	297	88.92%
AUT staff	29	12.89%	8	7.34%	37	11.08%
Total	225		109		334	
<u>Education</u>						
Doctoral Degree	19	8.44%	1	0.92%	20	5.99%
Master's Degree	67	29.78%	35	32.11%	102	30.54%
Postgraduate Diploma	27	12.00%	22	20.18%	49	14.67%
Bachelor's Degree with Honours	7	3.11%	4	3.67%	11	3.29%
Bachelor's Degree	82	36.44%	35	32.11%	117	35.03%
Graduate Diploma	23	10.22%	12	11.01%	35	10.48%
Total	225		109		334	
<u>I have good understanding of finance.</u>						
Strongly Disagree	2	0.89%	1	0.92%	3	0.90%
Disagree	14	6.22%	8	7.34%	22	6.59%
Neither Agree nor Disagree	42	18.67%	35	32.11%	77	23.05%
Agree	134	59.56%	53	48.62%	187	55.99%
Strongly Agree	33	14.67%	12	11.01%	45	13.47%
Total	225		109		334	
<u>Ethnicity</u>						
Maori	11	4.89%	4	3.67%	15	4.49%
Pacifica	13	5.78%	11	10.09%	24	7.19%
New Zealand European, other European or Caucasian	69	30.67%	17	15.60%	86	25.75%
Asian	113	50.22%	67	61.47%	180	53.89%
Middle Eastern/Latin American/African	9	4.00%	4	3.67%	13	3.89%
Other	10	4.44%	6	5.50%	16	4.79%
Total	225		109		334	

Previous literature suggests that gender and ethnicity can affect donation behaviour (Lee and Chang, 2007; Yörük, 2012). Therefore, I also examine these sub-samples in my study. Table 2 presents the participants' donation frequency and the level of donation for the full sample and sub-samples by gender and ethnic background. As shown in the table, the distribution skews towards participants who make donation at least once a year or more (53.89%) while only 4.79% never donate. Regarding the level of donation, slightly more than half of participants (50.30%) have donated between 1 NZD and 50 NZD while only 6.29% have donated more than 500 NZD over the 12 months leading to the survey time. Since students may not have the financial capability to donate, there is question on "how much are you willing to donate yearly if you have the financial capability". For this question, participants who choose "More than 500 NZD" increase dramatically from 6.29% to 36.23%. The results are comparable to Knowles et al. (2012) for a group of university students in Victoria, Australia. They find that of all participants (N = 210), 13.8% of them do not donate at all over the past year and 35.2% make 1 to 2 times donation. In terms of amount donated, 12.1% of participants donate 0 Australian dollars and 65.2% donate 40 Australian dollars (42 NZD) or less.

For the sub-samples, donation frequency is similar for females and males who never donate or donate occasionally. Female participants donate at least once a year less than male participants (18.48% vs. 23.33%). However, 36.41% of female participants donate more than once a year, which is more than male participants (29.33%). In terms of the donation amount, female participants donate during the past year over 500 NZD slightly more than male participants (7.61% vs. 4.67%). Interestingly, after adding the assumption of having financial capability, female participants who are willing to donate more than 500 NZD are nearly 10% less than male. This suggests that males tend to donate more money than females when they are financially capable. Asian students (50.56%) who donate 'once a year or more' are less than non-Asian participants (57.79). Only 2.78% of Asian students donate more than 500 NZD over the past twelve months which is less than 10.39% for non-Asian students. If participants are financially capable, Asian students (88.33%) who are willing to donate over 50 NZD are more than non-Asian students (81.82%).

Table 2. Donations Behaviour

	Full sample	Female	Male	Asian students	Non-Asian students
<u>I donate:</u>					
Never	4.79%	4.35%	5.33%	3.89%	5.84%
Occasionally	41.32%	40.76%	42.00%	45.56%	36.36%
At least once a year	20.66%	18.48%	23.33%	22.22%	18.83%
More than once a year	33.23%	36.41%	29.33%	28.33%	38.96%
<u>Level of donations</u>					
0 NZD	8.38%	7.61%	9.33%	9.44%	7.14%
1 NZD- 50 NZD	50.30%	52.17%	48.00%	51.67%	48.70%
50 NZD- 200NZD	23.35%	21.20%	26.00%	25.56%	20.78%
200 NZD- 500 NZD	11.68%	11.41%	12.00%	10.56%	12.99%
More than 500 NZD	6.29%	7.61%	4.67%	2.78%	10.39%
<u>Level of donations (If participants had financial capability)</u>					
0 NZD	2.10%	1.09%	3.33%	1.11%	3.25%
1 NZD- 50 NZD	12.57%	14.13%	10.67%	10.56%	14.94%
50 NZD- 200NZD	29.64%	28.80%	30.67%	26.67%	33.12%
200 NZD- 500 NZD	19.46%	23.91%	14.00%	22.78%	15.58%
More than 500 NZD	36.23%	32.07%	41.33%	38.89%	33.12%

5.3 Regression analysis: Full sample

There are 6 regression models for each of the three dependent variables: (1) donation frequency; (2) donation amount and (3) donation amount if participants had the financial capability. *Social Factors*, *Psychological Factors* (*Altruism* and *Egoism*) and *Behavioural Factors* are measured by the average score participants rated for statements relates to those factors with a five-point Likert scale (1= “Strongly disagree”, 5= “Strongly agree”). The first *Risk Preference* variable captures the switching point where participants choose safe payments instead of risky options in the lottery experiment, while the second *Risk Preference* variable is a self-report attitude of risk and return⁷. I also control for several demographic variables, namely, *Age*, *Female*, *Education* and *Staff*. The variable *Education* captures participant’s educational attainment (6 = “Doctoral degree”, 1 = “Graduate diploma”).

As discussed above, *Psychological Factors* include two constructs: *Altruism* and *Egoism*. Panel A presents the ordinal regression results with donation frequency as dependent variable. *Altruism* and *Age* are positive and statistically significant indicating that they have an impact on frequency of individual donations. This finding suggests that altruistic and older individuals donate more frequently. *Behavioural Factors* significantly influences the donation frequency at 5% level in specification (3). This finding suggests that individuals who want to be respected and improve their self-image tend to donate more frequently. However, its impact is subsumed by others in specification (6). Specification (6) also shows a positive and significant relation between *Egoism* and donation frequency, with a coefficient of 0.25 and significance at the 10% level. This finding is consistent with Bennett (2003) who finds that individuals’ donation behaviour can be motivated by their egoism. In the full regression reported in specification (6), I also observe a weak significant and positive relationship between *Female* and donation frequency. The effect of *Female* indicates that women donate more frequent than men. Interestingly, I find that *Education* is negative and significant in

⁷ A correlation table for independent variables is presented in Appendix D. No correlation coefficient is greater than 0.7 suggesting that there is no multicollinearity among the independent variables in my study.

specification (6) of Panel A. The effect of *Education* suggests that individuals with lower qualifications make more frequent charitable donations than individuals with higher qualifications. Risk preference does not have an impact on the donation frequency.

For specifications (2) and (6) in Panel B, *Altruism* is positively and significantly associated with the dependent variable, donation amount, indicating that more altruistic individual makes larger charitable donation. This finding is in line with Hypothesis 2 that there is a relation between charitable donation behaviour and psychological factors. This result also corroborates the findings of Mainardes et al. (2015) and Germain et al. (2007), who report that altruism plays a significant role in explaining donation. In line with Apinunmahakul and Devlin (2008), I find *Age* is positive and statistically significant at the 1% level indicating that age has a positive impact on the amount of charitable donation, indicating older people tend to make larger amount of charitable donation. This finding supports Hypothesis 5 that charitable donation behaviour is associated with demographic factors. Apart from *Altruism* and *Age*, all other variables in Panel B do not seem to have an impact on the donation amount.

Panel C shows results of ordinal regression for participants' donation amount on a condition that if they had the financial capability. Similar to Germain et al. (2007) and Mainardes et al. (2015), the results in Panel C confirm that *Altruism* is significantly positively related to donation amount if individual had financial capability. There is weak evidence in Panel C that behavioural factors contribute positively to the donation amount if an individual is financially capable. The coefficient of aggregated *Behavioural Factors* is positive and statistically significant at the 5% level in specification (3). Therefore, there is some evidence for Hypothesis 3 that charitable donation behaviour can be explained by behavioural factors. Specifically, individuals behave favourably towards charitable donation when they want to be respected, want to create good self-image, have a family tradition of donation and have a desire to contribute to society's general welfare. This is in line with findings from the literature that behavioural factors are positively related to an individual's donation behaviour

(Andreoni, 1990; Bennett, 2003; Michel and Rieunier, 2012). However, it is not significant in the full model regression shown in specification (6). Consistent with Hypothesis 4 and Yamasaki et al. (2015), I find *Risk Preference* significantly affects charitable donation amount, indicating that individuals with higher risk tolerance tend to make larger donation than risk-averse individuals. This evidence is strong for both measures of risk preference as shown in specifications (4) and (5). Interestingly, *Age* becomes less significant in explaining the amount of donation when participants have the financial capability. The variable *Education* is positively and significantly correlated with the dependent variable, suggesting individuals with higher qualifications donate relatively more. This finding is compatible with Russell (2007) and Wiepking (2010). Similar to previous panels, *Social Factors* is not related to donation behaviour in my sample. Specifically, a desire for social reputation and public recognition do not affect individual's donation behaviour. I therefore do not find evidence to support Hypothesis 1 that charitable donation behaviour is motivated by social factors.

Table 3. Regression results: Full sample

This table reports the ordinal regression results for full sample. The dependent variable in Panel A is donation frequency. In Panel B, the dependent variable is the participant's donation amount over past twelve months prior to the survey. In Panel C, the dependent variable is donation amount if participants are financially capable. *Social Factors*: the average points participants responded with five-point Likert scale for two social statements in the survey; *Altruism*: altruism dimension in psychological factors, the average points participants responded five-point Likert scale for three altruism statements in the survey; *Egoism*: egoism dimension in psychological factors, the average points participants responded five-point Likert scale for ten egoism statements in the survey; *Behavioural Factors*: the average points participants responded five-point Likert scale for four behavioural statements in the survey; *Risk Preference (Lottery Experiment)*: individual's risk tolerance measured by lottery experiment; *Risk Preference (Self-report)*: to what extent a participant agrees with the statement "I am prepared to take higher risks for higher returns"; *Age*: the participants' age; *Female*: dummy variable that equals 1 if the participant is woman; *Education*: the participants' education attainment. *Staff*: dummy variable that equals 1 if the participant is AUT staff. *, **, *** indicate significance at 10%, 5% and 1%, respectively.

Panel A. Regression on donation frequency

	Expected	(1)	(2)	(3)	(4)	(5)	(6)
Social Factors	+	0.0645 (1.11)					-0.0078 (-0.09)
Psychological Factors							
Egoism	-		0.1271 (1.35)				0.2546* (1.79)
Altruism	+		0.2979*** (3.00)				0.2608** (2.08)
Behavioural Factors	+			0.1762** (2.39)			0.0977 (0.89)
Risk Preference (Lottery Experiment)	+				0.0014 (0.79)		0.0005 (0.23)
Risk Preference (Self-report)	+					0.0673 (1.06)	0.0139 (0.16)
Demographic Factors							
Age	+	0.2481*** (2.87)	0.2337*** (2.72)	0.2558*** (2.97)	0.3558*** (2.93)	0.2440*** (2.84)	0.4234*** (3.36)
Female	+	0.1752 (1.41)	0.1352 (1.07)	0.2112* (1.69)	0.2382 (1.57)	0.1744 (1.40)	0.3060* (1.88)
Education	+	-0.0496 (-1.06)	-0.0582 (-1.27)	-0.0607 (-1.32)	-0.0644 (-1.09)	-0.0334 (-0.75)	-0.1381** (-2.08)
Staff	+	0.4271* (1.73)	0.4932** (1.99)	0.4345* (1.77)	0.2254 (0.81)	0.3750 (1.53)	0.35616 (1.25)
Observations		334	334	334	225	334	225
R-squared		0.0282	0.0410	0.0338	0.0319	0.0281	0.0563

Panel B. Regression on donation amount							
	Expected	(1)	(2)	(3)	(4)	(5)	(6)
Social Factors	+	0.0234 (0.42)					-0.0520 (-0.59)
Psychological Factors							
Egoism	-		-0.0101 (-0.11)				0.0070 (0.05)
Altruism	+		0.4910*** (5.00)				0.4938*** (4.01)
Behavioural Factors	+			0.1094 (1.54)			-0.0156 (-0.14)
Risk Preference (Lottery Experiment)	+				0.0009 (0.49)		-0.0002 (-0.12)
Risk Preference (Self-report)	+					0.0700 (1.12)	0.0537 (0.61)
Demographic Factors							
Age	+	0.3546*** (4.40)	0.3473*** (4.32)	0.3636*** (4.55)	0.3474*** (3.16)	0.3617*** (4.51)	0.3515*** (3.08)
Female	+	0.1037 (0.86)	0.0083 (0.07)	0.1321 (1.08)	-0.0326 (-0.22)	0.1188 (0.98)	-0.1267 (-0.79)
Education	+	-0.0182 (-0.41)	-0.0291 (-0.66)	-0.0297 (-0.68)	-0.0169 (-0.30)	-0.0129 (-0.30)	-0.0156 (-0.25)
Staff	+	0.4460** (1.97)	0.5216** (2.29)	0.4619** (2.06)	0.4098 (1.60)	0.4173* (1.86)	0.417622 (1.59)
Observations		334	334	334	225	334	225
R-squared		0.0555	0.0843	0.0580	0.0459	0.0567	0.0804
Panel C. Regression on donation amount (if participants had financial capability)							
	Expected	(1)	(2)	(3)	(4)	(5)	(6)
Social Factors	+	-0.0165 (-0.29)					-0.0908 (-0.99)
Psychological Factors							
Egoism	-		-0.0704 (-0.75)				0.0747 (0.51)
Altruism	+		0.3850*** (3.93)				0.3847*** (3.04)
Behavioural Factors	+			0.1330* (1.83)			0.1850 (1.64)
Risk Preference (Lottery Experiment)	+				0.0057*** (3.06)		0.0047** (2.24)
Risk Preference (Self-report)	+					0.1732*** (2.76)	0.0710 (0.80)
Demographic Factors							
Age	+	0.1123 (1.38)	0.0936 (1.15)	0.1314 (1.62)	0.2056* (1.81)	0.1477* (1.81)	0.2343** (2.01)
Female	+	-0.0596 (-0.49)	-0.1456 (-1.17)	-0.0169 (-0.14)	-0.0976 (-0.65)	-0.0061 (-0.05)	-0.0994 (-0.62)
Education	+	0.1365*** (3.00)	0.1316*** (2.94)	0.1142** (2.57)	0.1637*** (2.82)	0.1337*** (-3.09)	0.1335** (2.09)
Staff	+	0.0576 (0.24)	0.1128 (0.47)	0.101644 (0.43)	-0.2870 (-1.05)	0.0223 (0.09)	-0.2429 (-0.87)
Observations		334	334	334	225	334	225
R-squared		0.0253	0.0423	0.0289	0.0562	0.0334	0.0861

*** p<0.01, ** p<0.05, * p<0.1

5.4 Regression analysis: AUT students vs. AUT staff

Since 89% of the full sample are AUT students, I look at sub-samples of AUT students and AUT staff to examine if their determinants for donation are different. Table 4 presents the regression results for student and staff participants separately. For Table 4, control variables are not only including *Age*, *Female* and *Education*, I also include a variable named *Self_Financial_Support*. The dummy variable *Self_Financial_Support* takes a value of one if students financially support themselves. This variable is included only in the regressions for students. Consistent with the results for full model presented in Table 3, *Age* and *Altruism* stand out and indicate a positive effect on donation frequency at the 10 percent level. As reported in specification (1), there is little evidence showing that the variable *Education* is negatively correlated to donation frequency, suggesting that individuals with higher qualifications make less frequent charitable giving.

As shown in specification (3), the results support the findings in Table 3 that *Altruism* and *Age* have a positive impact on donation amount. Specification (4) of Table 4 show that for AUT staff, *Behavioural Factors* is positive and significant at 1% level suggesting that the behaviour of individuals have a negative effect on donation amount for staff participants. This suggests that staff participants donate not because they want to feel respected, want to improve their self-image, have a family tradition of donation and desire to contribute to society's general welfare. This result is contrary to the findings of Bennett (2003) and Konow (2010), who suggest behavioural factors can influence individual's act of charitable giving. *Risk Preference (Self-report)* is also found to be a significant determinant of donation amount. For participants who are AUT staff, individuals with higher risk tolerance tend to make more charitable donation. Specification (4) further shows that, *Female* is positive and significant at 5% level which suggests that female staff make larger amount of donation than male staff. This finding is consistent with Eckel and Grossman (1998) who find that women are less selfish and donate twice as much as men. *Education* is positively related to donation

amount for staff participants. This confirms the finding of Wiepking (2010) suggesting that individuals with higher qualifications donate a larger amount of money to charity.

Specification (5) of Table 4 presents the regression results of donation amount if an individual has financial capability. Specification (5) confirms the regression results for full sample shown in Panel C of Table 3. Compare to the results for the full sample, not only *Altruism* and *Risk Preference* positively correlated to donation amount, *Behavioural Factors* become positively significant at 10% level for sub-sample AUT students. This indicates that if students had financial capability, their larger amount of donation can be explained by behavioural factors, such as seeking to be respected and a desire to improve their self-image.

Table 4. Regression results: AUT students vs. staff⁸

Specifications (1) and (2) present the ordinal regression results for participants who are AUT students and AUT staff, respectively. The dependent variable is participants' donation frequency. In Specifications (3) and (4), The dependent variable is the participant's donation amount over past twelve months prior to the survey. In specifications (5) and (6), the dependent variable is participants' donation amount if they had financial capability. *Self_Financial_Support*: a dummy variable for student participants only. The dummy variable equals 1 if student participants financially support themselves. For definition of other variables, see Table 3. *, **, *** indicate significance at the 10%, 5% and 1%, respectively.

	Expected	Donation Frequency		Donation Amount		Donation Amount (If financially capable)	
		AUT student (1)	AUT Staff (2)	AUT student (3)	AUT Staff (4)	AUT student (5)	AUT Staff (6)
Social Factors	+	-0.0294 (-0.31)	0.4719 (1.23)	-0.0685 (-0.73)	0.4641 (1.06)	-0.0967 (-1.01)	-0.0201 (-0.04)
Psychological Factors							
Egoism	-	0.2129 (1.40)	0.0935 (0.24)	-0.0375 (-0.25)	-0.1026 (-0.22)	0.0558 (0.35)	-0.0486 (-0.09)
Altruism	+	0.3207** (2.38)	0.0387 (0.12)	0.5647*** (4.19)	0.5446 (1.46)	0.4131*** (3.05)	0.4433 (1.07)
Behavioural Factors	+	0.1946* (1.65)	-0.6333 (-1.97)	0.0838 (0.72)	-1.4042*** (-3.16)	0.2135* (1.77)	-0.2608 (-0.63)
Risk Preference (Lottery Experiment)	+	0.0004 (0.19)	0.0035 (0.70)	-0.0004 (-0.16)	0.0076 (1.27)	0.0051** (2.23)	0.0068 (1.10)
Risk Preference (Self-report)	+	-0.0328 (-0.34)	0.4187 (1.66)	-0.0092 (-0.10)	0.8723*** (2.80)	0.0273 (0.29)	0.5872* (1.89)
Demographic Factors							
Age	+	0.3862*** (2.74)	0.3887 (1.40)	0.3415** (2.57)	0.2658 (0.86)	0.2946** (2.18)	-0.1060 (-0.34)
Female	+	0.1952 (1.11)	0.8036* (2.02)	-0.2794 (-1.58)	1.2526** (2.56)	-0.1276 (-0.73)	0.4910 (1.00)
Education	+	-0.1207* (1.71)	-0.0402 (0.23)	-0.0335 (0.48)	0.3941** (-1.97)	0.0980 (-1.43)	0.4754** (-2.32)
Self_Financial_Support Yes=1	-	0.1688 (1.01)		0.0335 (0.48)		-0.1405 (-0.85)	
Observations		196	29	196	29	297	29
R-squared		0.0506	0.3703	0.0612	0.2616	0.0845	0.1924

*** p<0.01, ** p<0.05, * p<0.1

⁸ There is a limitation due to the small number of staff observations. The results for staff need to be interpreted with caution.

5.5 Regression analysis: Females vs. Males

Some previous studies show that there is a gender difference in charitable giving (Lee and Chang, 2007; Muller and Rau, 2016). Thus, I conduct an analysis for sub-sample females and males. Table 5 provides ordinal regression results presented separately for female participants and male participants. Specifications (1), (3) and (5) illustrate that *Altruism* has a highly significant positive impact on not only donation frequency but also donation amount for women. However, specification (2), (4) and (6) show that there are no such relationships between *Altruism* and donation behaviour for men. This confirms the findings of Eckel and Grossman (1998) reporting that women are kinder and more altruistic than men. The results in specifications (1) and (3) show that for females, *Staff* is positively significant correlated with both donation frequency and donation amount. This suggests that for female participants, staff make larger and more frequent donation than students. Specification (2) of Table 5 shows a positively significant correlation at the 1% level between donation frequency and *Education*. This finding indicates that for men, higher qualification reduces the frequency of donation.

Of the demographic variables in specifications (3) and (4), *Age* display positively significant effect on charitable donation amount for males. This finding indicates that for men, older individuals make a higher dollar amount of donation than younger individuals. This finding is in line with the analysis for full sample from Panel B of Table 3. Specification (5) also shows that *Education* exhibits significant negative effects at the 10% level on donation amount for females, indicating that women with higher qualification make a higher dollar amount of donation if they had financial capability. Of all the variables in specification (6), only *Risk Preference (Lottery Experiment)* displays positively and statistically significant impact on donation amount for male. This result indicates that a male individual with higher risk tolerance would make larger amount of charitable giving. This result again confirms the finding of Yamasaki et al. (2015) and Cettolin et al. (2017).

Table 5. Regression results: Females vs. Males

Specifications (1) and (2) present the ordinal regression results for female participants and male participants, respectively. The dependent variable is participants' donation frequency. In Specifications (3) and (4), the dependent variable is the participant's donation amount over past twelve months prior to the survey. Specifications (5) and (6) present the regression results for female participants and male participants, respectively. The dependent variable is participants' donation amount if they had financial capability. For definition of other variables, see Table 3. *, **, *** indicate significance at 10%, 5% and 1%, respectively.

	Expected	Donation Frequency		Donation Amount		Donation Amount (If financially capable)	
		Female (1)	Male (2)	Female (3)	Male (4)	Female (5)	Male (6)
Social Factors	+	-0.0308 (-0.24)	0.1887 (1.33)	-0.1001 (-0.78)	0.0121 (0.09)	-0.1481 (-1.20)	-0.0604 (-0.40)
Psychological Factors							
Egoism	-	0.2957 (1.24)	0.0431 (0.23)	0.0611 (0.27)	-0.0953 (-0.53)	0.0844 (0.38)	0.0912 (0.43)
Altruism	+	0.6556*** (3.37)	-0.0565 (-0.31)	0.9926*** (4.98)	0.1207 (0.72)	0.5569*** (3.10)	0.2049 (1.10)
Behavioural Factors	+	0.1223 (0.75)	0.1382 (0.84)	-0.1330 (-0.84)	0.1214 (0.75)	0.1189 (0.76)	0.2182 (1.22)
Risk Preference (Lottery Experiment)	+	0.0005 (0.15)	0.0022 (0.77)	-0.0015 (-0.48)	0.0001 (0.05)	0.0034 (1.11)	0.0059** (1.96)
Risk Preference (Self-report)	+	0.0730 (0.57)	-0.0486 (-0.37)	-0.1019 (-0.80)	0.1986 (1.56)	0.0827 (0.68)	0.0665 (0.51)
Demographic Factors							
Age	+	0.2576 (1.54)	0.8426*** (3.70)	0.2373 (1.55)	0.5411*** (2.94)	0.2733* (1.78)	0.1311 (0.65)
Education	+	-0.0447 (-0.52)	-0.3500*** (-2.96)	0.0672 (0.79)	-0.1324 (-1.21)	0.1591* (1.92)	0.1570 (1.38)
Staff	+	0.9446** (2.06)	-0.0505 (-0.13)	1.0997*** (2.78)	0.0060 (0.02)	-0.1482 (-0.36)	-0.2502 (-0.62)
Observations		118	107	118	107	118	107
R-squared		0.1001	0.0691	0.1727	0.0575	0.0914	0.0970

*** p<0.01, ** p<0.05, * p<0.1

5.6 Regression analysis: Asian students vs. All other-ethnic students

Of the full sample, more than half of the participants are Asian students (51%). I conduct an analysis for Asian students and all other-ethnic students to examine if culture differences can lead to different determinants of donation behaviour. The results are presented in Table 6. Specification (1) shows that *Altruism* plays a significant role in explaining donation frequency of Asian students. The results reported in Specification (2) indicate that for non-Asian students, older and higher educated individuals donate more frequently than younger and less educated individuals. Specifications (3) and (4) illustrate that for both Asian students and all students from other ethnic backgrounds, *Altruism* is significantly associated with larger donation amount. This again confirms the finding that altruistic feeling is significant in explain charitable giving behaviour. This result corroborates the findings of Germain et al. (2007) who suggest that altruistic individuals are more likely to make charitable giving. Specifications (2) and (4) also show that *Age* has a significant positive coefficient, indicating that donation becomes larger and more frequently as age increases for non-Asian students.

Specifications (5) and (6) provides the regression analysis using donation amount (if participant had financial capability) as the dependent variable. Specification (5) presents that *Altruism* still has a significant positive effect on the donation amount after adding the condition. Specification (5) further exhibits that for Asian students, *Risk Preference (Lottery Experiment)* is slightly positive and statistically significantly related to donation amount. Interestingly, the dummy variable *Female* displays a negative and significant coefficient for Asian students after controlling for financial situation. Specifically, this result suggests that for Asian students, males donate more than females in terms of dollar amount. This is in contrast with the result from Muller and Rau (2016).

Table 6. Regression results: Asian students vs. All other-ethnic students

Specifications (1) and (2) present the ordinal regression results for participants who are Asian students and non-Asian students, respectively. The dependent variable is participants' donation frequency. In specifications (3) and (4), The dependent variable is the participant's donation amount over past twelve months prior to the survey. In specifications (5) and (6), dependent variable is participants' donation amount if they had financial capability. *Self_Financial_Support*: a dummy variable for student participants only. The dummy variable equals 1 if student participants financially support themselves. For definition of other variables, see Table 3. *, **, *** indicate significance at the 10%, 5% and 1%, respectively.

	Expected	Donation Frequency		Donation Amount		Donation Amount (If financially capable)	
		Asian student	All other-ethnic students	Asian student	All other-ethnic students	Asian student	All other-ethnic students
		(1)	(2)	(3)	(4)	(5)	(6)
Social Factors	+	0.0007	-0.0395	-0.0015	-0.2077	-0.1173	-0.2094
		(0.01)	(-0.29)	(-0.02)	(-1.61)	(-1.20)	(-1.34)
Psychological Factors							
Egoism	-	0.0915	0.1972	-0.0870	0.1616	-0.0062	0.2374
		(0.59)	(0.88)	(-0.59)	(0.75)	(-0.04)	(0.91)
Altruism	+	0.3505**	0.1842	0.4622***	0.5933***	0.2915**	0.4086**
		(2.36)	(1.04)	(3.27)	(3.49)	(2.04)	(1.99)
Behavioural Factors	+	0.1096	0.1419	0.0251	-0.0435	0.1103	0.1295
		(0.84)	(0.94)	(0.20)	(-0.30)	(0.87)	(0.74)
Risk Preference (Lottery Experiment)	+	-0.0009	0.0016	-0.0018	0.0001	0.0044*	0.0051
		(-0.36)	(0.51)	(-0.75)	(0.02)	(1.84)	(1.45)
Risk Preference (Self-report)	+	0.0179	-0.0938	0.0489	-0.0054	0.0678	-0.0643
		(0.17)	(-0.76)	(0.49)	(-0.05)	(0.67)	(-0.45)
Demographic Factors							
Age	+	0.0804	0.6275***	-0.0507	0.6119***	0.1413	0.3349*
		(0.52)	(3.65)	(-0.34)	(3.69)	(0.94)	(1.67)
Female	+	0.1202	0.2492	-0.2486	-0.1296	-0.4638**	0.2777
		(0.59)	(1.16)	(-1.29)	(-0.63)	(-2.38)	(1.12)
Education	+	0.0023	0.1936*	0.0204	0.0197	-0.0496	-0.1040
		(0.03)	(1.72)	(0.28)	(0.18)	(-0.67)	(-0.79)
Self_Financial_Support Yes=1	-	0.0480	0.0579	-0.1579	0.0172	-0.0604	-0.1427
		(0.26)	(0.28)	(-0.89)	(0.09)	(-0.34)	(-0.59)
Observations		107	94	107	94	107	94
R-squared		0.2710	0.1919	0.2710	0.3138	0.2437	0.2019

*** p<0.01, ** p<0.05, * p<0.1

5.7 Robustness Test

In order to examine the robustness of the relation between the independent variables and dependent variables, I also conduct an additional binary logistic regression for full sample to check the robustness of the results to the various estimation method that was used in the study of Abreu (2012). The results of robustness tests are shown in Table 7. Regarding the dependent variable, donation amount, I construct binary variables by grouping the participants' donation level into high level of donation (51 NZD or more) and low level of donation (50 NZD or less). In line with Sargeant and Woodliffe (2007) and Abreu (2012), donation frequency in logistic regression is measured by whether participants made charitable donation or not within the past twelve months. In specification (1), apart from *Altruism* and *Age*, *Egoism* also remain positive and significant. This is again consistent with what I observed from ordinal regression shown in Panel A of Table 3. Specifications (1) and (2) show that *Age* stands out again in explaining both donation amount and donation frequency, which is in line with ordinal regression results shown in Table 3. Specifications (2) and (3) confirm that *Altruism* has a positive and significant relation with donation amount. Specifications (3) confirms that *Education* has a significant effect on donation amount when individuals are financially capable. This supports my earlier finding that individual with higher education tend to make larger charitable giving. In addition to the analysis above, I also conduct an OLS regression to examine the robustness of the relation between donation amount and its determinants. The results are presented in the Appendix E.

Table 7. Logistic regression results for full sample

This table presents the logistic regression results for the full sample. In specification (1), the dependent variable is donation frequency. A participant is a “regular donor” if he or she makes charitable donation at least once a year or more. A participant is a “non-regular donor” if he or she never donate or donate occasionally. In specification (2), the dependent variable is donation amount, which is “high level of donation” if a participant has donated 51 NZD or more and “low level of donation” if he or she has donated less than 50 NZD over the past twelve months. In specification (3), the dependent variable is donation amount made by participants if they are financially capable. The variable is grouped into “high level of donation” and “low level of donation” using same method in specification (2). For definition of other variables, see Table 3. *, **, *** indicate significance at the 10%, 5% and 1%, respectively.

		Donation Frequency	Donation Amount	Donation Amount (If financially capable)
	Expected	(1)	(2)	(3)
Social Factors	+	-0.0217 (-0.13)	-0.0801 (-0.45)	-0.3863 (-1.30)
Psychological Factors				
Egoism	-	0.2978 (1.12)	0.0043 (0.02)	0.2110 (0.43)
Altruism	+	0.3114* (1.33)	0.8573*** (3.32)	0.8847** (2.20)
Behavioural Factors	+	0.3164 (1.53)	0.0501 (0.23)	0.5542 (1.47)
Risk Preference (Lottery Experiment)	+	0.0036 (0.92)	0.0032 (0.78)	-0.0065 (-0.94)
Risk Preference (Self-report)	+	-0.0385 (-0.23)	0.0092 (0.05)	0.3866 (1.34)
Demographic Factors				
Age	+	0.4622** (2.03)	0.4296* (1.86)	0.2587 (0.66)
Female	+	0.3812 (1.25)	-0.3037 (-0.94)	-0.0600 (-0.12)
Education	+	-0.2526** (-2.06)	0.0602 (0.48)	0.4299** (2.05)
Staff	+	0.7528 (1.39)	0.7591 (1.42)	-0.9215 (-1.10)
Observations		225	225	225
R-squared		0.0559	0.1122	0.1596

*** p<0.01, ** p<0.05, * p<0.1

6. Conclusion

To understand what drives individuals to make monetary donation in New Zealand, I investigate the relation between individual charitable donation behaviour, and several factors cited by the literature (Mainardes et al., 2016; Yamasaki, 2015), namely, social factors, psychological factors, behavioural factors, risk preference and demographic factors. 334 participants from Faculty of Business, Economics and Law at Auckland University of Technology are included in my sample after they have undertaken a survey online. The sample includes 297 students and 37 staff. Overall, I find that altruism and age have significant positive effect on both amount and frequency of charitable donation, indicating that older and altruistic individuals tend to make larger donations and donate more frequently. Interestingly, the determinants of charitable giving behaviour for students and staff are very different. For staff participants, *Risk Preference (self-report)* positive and significantly affect donation amount. This result corroborates the findings of Yamasaki et al. (2015) and Cettolin et al. (2017), who document that individual with higher risk tolerance make more donation. Also, *Behavioural Factors*, such as seeking to be respected and desire to create a positive image is significantly negatively correlated to donation amount made by staff. This may be because compare to students, staff are more mature and have stable income. They make large donation but not because of they want to feel respected or desire to create a positive self-image.

Moreover, I find that gender does not affect the amount of donation. This finding differs from Muller and Rau (2016) who suggest that women make a higher amount of donation than men. However, I find little evidence that women donation more frequent than men. The less gender difference in donation behaviour in my study may be caused by the younger sample used. Young generation may have different values and that may reduce the gender difference in donation behaviour. Education is discovered to be an important determinant of donation behaviour. Specifically, higher level of qualification is associated with larger donation amount when individuals are financially capable. However, higher level of qualification would reduce the frequency of making charitable giving.

Behavioural factors play less of a role explaining charitable donation. Risk preference can explain charitable giving on a condition that individuals had financial capability. Specifically, individuals with higher risk tolerance are more likely to make larger donation than risk-averse individuals when they are financially capable. Social factors, such as a desire for social reputation and public recognition, are not related to charitable donation behaviour in my sample. 32.63% of participants complete the risk preference task erroneously while the majority of participants (70%) believe they have good financial knowledge. This suggests my sample participants are relatively overconfident in their understanding of finance.

New Zealanders make larger amount of donation and they may donate unconsciously without knowing what drives them to donate. The main implication of my study is that it helps people in New Zealand to understand what are the driving factors of their act of giving. In addition, findings of this study can be utilised for non-profit organisations to raise more donation and attract philanthropic resource by improving marketing campaigns.

7. References

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8. Appendix

Appendix A: Survey Questions Screenshot

Section A: Donation Motivation. Please answer the following question choosing one of the five possibilities that you think best approximates your behaviour.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I donate because I expect to gain social reputation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I donate because I expect to gain some sort of public recognition for helping.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I donate because I expect getting some sort of reward, such as being paid.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I donate because I expect to obey social rules.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I donate because I expect to avoid criticism.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I donate because I do not want to feel anxious when I see people in need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not donate if someone can do it before I have the chance to do it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not donate if another person's help is more suitable than mine.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I donate because I feel the need to increase my self-esteem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I donate because I want to avoid any kind of punishment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I donate because I want to feel relief from feeling bad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I donate without wanting to know if the money is properly used.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I donate because I feel the position of the person in need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I donate because I feel some sort of empathy for the person in need, such as sympathy, compassion, kindness, goodness, among others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I donate, even if the costs, such as physical risks, discomfort, physical and mental effort, time and monetary expenses are high.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I donate because I want to feel respected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I donate because I expect to create a positive self-image.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I donate because of my family tradition.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I donate because I desire to contribute to the general welfare of society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section B: Donation Behaviour

1. I donate:

- ☐ Never
- ☐ Occasionally
- ☐ At least once a year
- ☐ More than once a year

2. Over the last year, I have donated the total amount of:

- ☐ 0 NZD
- ☐ 1 NZD-50 NZD
- ☐ 50 NZD-200 NZD
- ☐ 200 NZD- 500 NZD
- ☐ More than 500 NZD

3. If you have the financial capability, how much are you willing to donate yearly?

- ☐ 0 NZD
- ☐ 1 NZD-50 NZD
- ☐ 50 NZD-200 NZD
- ☐ 200 NZD- 500 NZD
- ☐ More than 500 NZD

Section C: Choice Experiment.

1. You are participating in a choice experiment in which you will make financial decisions. In the experiment there are no right or wrong decisions and you are free to decide in any way you like. In the tables below you will find two options on each line. You can choose between: -Option A: a fixed amount that you will receive 'with certainty' -Option B: an 'all or nothing' lottery in which you have a 50% chance of winning \$300 and a 50% chance of winning nothing.

In each row you should choose either Option A or Option B.

Example 1. Imagine that in row 8 you choose Option B. In that case you will receive \$300 with a 50% chance and \$0 with a 50% chance.

Example 2. Imagine that in row 6 you choose Option A. In that case you will receive \$125 with certainty.

	Risk Preference Experiment	
	Option A: Amount with Certainty	Option B: 50% chance to win \$300 and 50% chance to win \$0
Row 1: \$0	<input type="radio"/>	<input type="radio"/>
Row 2: \$25	<input type="radio"/>	<input type="radio"/>
Row 3: \$50	<input type="radio"/>	<input type="radio"/>
Row 4: \$75	<input type="radio"/>	<input type="radio"/>
Row 5: \$100	<input type="radio"/>	<input type="radio"/>
Row 6: \$125	<input type="radio"/>	<input type="radio"/>
Row 7: \$150	<input type="radio"/>	<input type="radio"/>
Row 8: \$175	<input type="radio"/>	<input type="radio"/>
Row 9: \$200	<input type="radio"/>	<input type="radio"/>

2. I am prepared to take higher risks for higher return.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section D. Personal Information.

1. What is your age?

- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65+

2. What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other

3. Are you an AUT student or staff?

- ☐ AUT Student
- ☐ AUT Staff
- ☐ Neither

4. What is the highest level of education you have attained?

- ☐ Doctoral Degree
- ☐ Master's Degree
- ☐ Postgraduate Diploma
- ☐ Bachelor's Degree with Honours
- ☐ Bachelor's Degree
- ☐ Graduate Diploma

5. If you are a student, do you financially support yourself?

- ☐ Yes
- ☐ No

6. I have good understanding of finance.

Strongly
Disagree

Disagree

Neither
Agree nor
Disagree

Agree

Fully Agree

☐☐☐☐☐

7. What is your ethnic background?

- ☐ Maori
- ☐ Pacifica
- ☐ New Zealand European, other European or Caucasian
- ☐ Asian
- ☐ Middle Eastern/Latin American/African
- ☐ Other

Appendix B: Ethics Approval Letter
20 September 2019

Nhut (Nick) Nguyen
Faculty of Business Economics and Law

Dear Nhut (Nick)

Ethics Application: 19/349 **What is the relationship between an individual's risk attitude and personal donation behaviour**

I wish to advise you that a subcommittee of the Auckland University of Technology Ethics Committee (AUTEC) has **approved** your ethics application.

This approval is for three years, expiring 17 September 2022.

Non-Standard Conditions of Approval

1. Please include the AUTEC approval wording on the recruitment advertisement;
2. Please consider clarifying the instructions about the risk question in the questionnaire, as it is not entirely clear what is being asked.

Non-standard conditions must be completed before commencing your study. Non-standard conditions do not need to be submitted to or reviewed by AUTEC before commencing your study.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the [Auckland University of Technology Code of Conduct for Research](#) and as approved by AUTEC in this application.
2. A progress report is due annually on the anniversary of the approval date, using the EA2 form.
3. A final report is due at the expiration of the approval period, or, upon completion of project, using the EA3 form.
4. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form.
5. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
6. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.
7. It is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard.

AUTEC grants ethical approval only. You are responsible for obtaining management approval for access for your research from any institution or organisation at which your research is being conducted. When the research is undertaken outside New Zealand, you need to meet all ethical, legal, and locality obligations or requirements for those jurisdictions.

Please quote the application number and title on all future correspondence related to this project.

For any enquiries please contact ethics@aut.ac.nz. The forms mentioned above are available online through <http://www.aut.ac.nz/research/researchethics>

Yours sincerely,



Kate O'Connor
Executive Manager
Auckland University of Technology Ethics Committee

Appendix C: Summary Table of Each Factor

Variables	Code	Measurements
Social Factors	SF1	A desire for social reputation.
	SF2	A desire for public recognition.
Psychological Factors		
Egoism	PF1	I donate because I expect getting some sort of reward, such as being paid.
	PF2	I donate because I expect to obey social rules.
	PF3	I donate because I expect to avoid criticism.
	PF4	I donate because I do not want to feel anxious when I see people in need.
	PF5	I do not donate if someone can do it before I have the chance to do it.
	PF6	I do not donate if another person's help is more suitable than mine.
	PF7	I donate because I feel the need to increase my self-esteem.
	PF8	I donate because I want to avoid any kind of punishment.
	PF9	I donate because I want to feel relief from feeling bad.
	PF10	I donate without wanting to know if the money is properly used.
Altruism	PF11	I donate because I feel the position of the person in need.
	PF12	I donate because I feel some sort of empathy for the person in need, such as sympathy, compassion, kindness, goodness, among others.
	PF13	I donate, even if the costs, such as physical risks, discomfort, physical and mental effort, time and monetary expenses are high.
Behavioural Factors		
	BF1	Want to feel respected.
	BF2	Expected to create a positive self-image.
	BF3	Having family tradition of donating.
	BF4	Desire to contribute to the general welfare of society.

Appendix D: Correlation Table for Independent Variables

Correlation	SOCIO	EGOSIM	ALTRUISM	BEHAV	RISK_EXPERIMENT	RISK_SELFREPORT
SOCIO	1					
EGOSIM	0.5341	1				
ALTRUISM	0.1135	0.0439	1			
BEHAV	0.5525	0.5173	0.2482	1		
RISK_EXPERIMENT	0.2294	0.1565	0.0916	0.1854	1	
RISK_SELFREPORT	0.1751	0.1355	0.0405	0.2004	0.4692	1

Appendix E: OLS regression results for full sample

This table presents the OLS regression results for the full sample. In specification (1), the dependent variable is donation amount, which takes the mean value⁹ of donation over the past twelve months. In specification (2), the dependent variable is donation amount made by participants if they are financially capable, which takes the mean value of donation amount. For definition of other variables, see Table 3. *, **, *** indicate significance at the 10%, 5% and 1%, respectively.

			Donation Amount	Donation Amount (If financially capable)
			(1)	(2)
Social Factors	Expected	+	-6.9112 (-0.63)	-21.4331 (-1.59)
Psychological Factors				
	Egoism	-	-9.0456 (-0.53)	14.7083 (0.71)
	Altruism	+	44.5235*** (2.97)	55.2643*** (3.00)
Behavioural Factors		+	-0.9143 (-0.07)	23.3283 (1.42)
Risk Preference (Lottery Experiment)		+	0.1347 (0.54)	0.7708** (2.49)
Risk Preference (Self-report)		+	7.3708 (0.68)	8.8117 (0.66)
Demographic Factors				
	Age	+	38.2709*** (2.70)	31.8429* (1.83)
	Female	+	-6.3117 (-0.32)	-11.3653 (-0.47)
	Education	+	-1.0617 (-0.13)	22.3926** (2.31)
	Staff	+	80.2782** (2.41)	-42.04433 (-1.03)
Observations			225	225
R-squared			0.1910	0.2114

*** p<0.01, ** p<0.05, * p<0.1

⁹ I take 500 NZD for the index "More than 500 NZD".