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A quantitative study: To examine whether religiosity, empathy, gender and age play a role in prosocial behaviour in students

Noorin Tasnim Chowdhury

Supervised by: Andrew Stevenson   April 2015

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ABSTRACT

The current study aimed to investigate the dependent variable, prosocial behaviour and the independent variables, religiosity, empathy, age and to identify any gender differences that may be evident. The study also aimed to discover which predictor variables were strongly predictive of prosocial behaviour. Questionnaires were posted online and data was gathered via a stratified random sampling from undergraduate male and female students aged between 18 years and above. Pearson's correlation coefficients indicated positive correlations between the variables of religiosity, empathy and age. Independent-samples t-test established no significant gender differences and gender was the weakest factor that contributed to prosocial behaviour. Multiple regression analysis indicated that empathy was the strongest predictor of prosocial behaviour, followed by religiosity and age and gender again contributed minimally towards prosocial behaviour. These findings were consistent with past research with some inconsistencies regarding gender and prosocial behaviour. Results are discussed and further implications of research are considered.

KEY WORDS:	PROSOCIAL BEHAVIOUR	RELIGIOSITY	EMPATHY	GENDER	AGE

Background to the project

Prosocial behaviour

Prosocial behaviour, also known as helping behaviour, refers to encompassing actions that are voluntary and are intended to benefit another individual, disregarding the expectations of receiving a reward (Shariff and Norenzayan, 2011). Afolabi (2013) states that prosocial behaviour consists of a broad category of behaviours regarded as beneficial to others or society, such as volunteering, donating and sharing regardless of the helper's motives (Gagné, 2003). As a result, prosocial acts promote positive, interpersonal relationships amongst people (Olivar, 2010).

There is a diverse range of explanation for prosocial behaviour ranging from altruistic to selfish purposes and from a biological to a philosophical perspective (Bowles and Gintis, 2004). Research advocates that many cases regarding prosocial behaviour can be explained by selfish motives; a person may want to create a superficial, virtuous impression or may want to relieve a negative mood (DeCremer et al., 2001). In contrast, some feel they have a sense of personal responsibility to the community rather than a desire for personal gain (Barry and Wentzel, 2006).

History of prosocial behaviour

Psychological research into prosocial behaviour was instigated in the late 1950s, leading to considerations of why people agree to or avoid offering to help (Hogg and Vaughan, 2011). The topic of prosocial behaviour was primarily introduced by social psychologists after the 1964 murder case of Kitty Genovese in New York, whereby 38 individuals witnessed her death and no one intervened or called for assistance (Dovidio et al., 2006). The impact of the murder upon the general public led to a strong degree of interest into the area of prosocial behaviour. In addition, a more recent incident in 2011 reflects similar attitudes, where a toddler named Wang Yue was run over by two vehicles and 18 witnesses did not stop to help the victim (Fischer et al., 2011).

Sociobiological approach to Altruism

One of the main theorists within social psychology argues that individuals are 'born selfish' and that social behaviour is motivated by preserving genetic permanence across generations (Dawkins, 1976). This theory supports studies indicating that prosocial behaviour is directed toward kin or those who closely share one's genes (Trivers, 1971). However, some individuals live a distance away from their families and consistently exhibit altruistic acts of humanity toward strangers with no expectation of reciprocity or advantage to their own genes (Sigmund and Hauert, 2002). There is continuing controversy regarding the selfish gene and prosocial behaviour and whether individuals are equipped with neural mechanisms, adjusted to provide us with an instinctive sense of justice (Henrich et al., 2001).

Social view of prosocial behaviour

Social psychologists attempted to provide explanations of why individuals fail to help in emergency situations. The most common justification is the 'bystander effect' (Latane and Darley, 1968), a social phenomenon where an individual witnessing another person in crisis restrains from helping, expecting others in that situation to come forward (Spinrad et al., 2006). This can be explained by diffusion of

responsibility, meaning the individual feels less responsible whilst others are present. In addition, another interpretation includes pluralistic ignorance involving the consideration of other people's behavioural cues in relation to a current situation and replicating communal misunderstanding (Garcia et al., 2002). There is substantial empirical evidence for the theory of the bystander effect and research suggests it plays an important role in prosocial behaviour (Thornberg, 2007).

Previous research argued that religion, empathy, gender and age predict participation in prosocial activity (Donaldson, 2006) and current research will review these variables within the circumstance of volunteering.

Religiosity and Prosocial Behaviour

Religiosity is recognized as a primary factor of prosocial behaviour defined as a commitment to and participation in a system of religious beliefs including rituals or practices exhibited in places of worship (Zullig et al., 2006). Idler (2003) explains religiosity as also referring to belief and spirituality and is therefore a difficult construct to examine due to the variation of how these numerous references are perceived individually. Minimal investigation based upon religiosity and prosocial behaviour has been conducted and it is still unclear whether religion proclaims prosocial acts (Smith and Denton, 2005). Research has not produced direct answers regarding to what extent or how religiosity is linked with prosocial behaviour and this will be further researched to examine and gain insight into how these variables are associated in terms of volunteering contexts (Argyle, 2000).

Considerable research has found religiosity to be positively linked with prosocial behaviour (Smith and Faris, 2002). Although, there seems to be an association between religiosity and prosocial behaviour, it is complex, in terms of types of behaviour and specific situations (Maclean et al., 2004). Religion comprises of moral values and just world-views; the story of the Good Samaritan commends individuals helping people, particularly victims of calamity or deprivation (Bierhoff, 2002). Evidence suggests that religiosity plays an important role in helping behaviour, and Küppers (1999) argued this is evident in the number of hours a volunteer works. Marris et al., (2000) indicated that religiosity and church attendance were highly associated with citizens volunteering for their community. Bonner, Koven and Patrick (2003) established that religiosity was positively correlated with prosocial behaviour, as personal fulfilment corresponded to individuals' religious beliefs. However, other research questioned whether increased levels of religiosity are indeed associated with prosocial behaviours. Olver (2012) found a weak correlation between religiosity and helping behaviour and claimed that it was not a significant predictor of prosocial behaviour.

Other general patterns in the relations between religiosity and prosocial behaviour may differ according to the type of religious orientation people have (Allport, 1967). This may be categorised as extrinsic or intrinsic religiosity. Individuals that adopt extrinsic orientation view religion for their own gain, such as solace or social status. In contrast, those with an intrinsic orientation view religion as motivating in itself, thus attempt to live their lives according to what their religion preaches (Whitley and Kite, 2010). Maclean et al., (2004) suggests that intrinsic religious individuals engage in helping

behaviour more effectively than extrinsic individuals. The study of Cappellari and Turati (2004) indicates that intrinsic religious people were more likely to volunteer.

Empathy and Prosocial Behaviour

Research based upon the relationship between empathy and prosocial behaviour in students is rare and if research is available, the link between these variables tends to be discussed minimally in distinct literatures (Sze et al., 2011). Therefore, the current research intends to elaborate further on how empathy predicts prosocial behaviour within the student population.

Empathy is another core dispositional trait of prosocial behaviour, characterized by an individual's negative experience of events, leading to attempts to relieve distress (Dovidio et al., 2006). Empathetic individuals' generally exhibit prosocial behaviours that are voluntary, intentional and beneficial to others (Carlo et al., 2003). Prior research has established that there is a strong positive correlation between empathy and prosocial behaviour, particularly volunteering activities (Penner, 2002). Preston and de-Waal (2002) found that those possessing greater empathy are more prone to participating in voluntary work, which demand long-term commitment. Additionally, Hoffman (2000) advocates that experiencing empathy influences individuals to participate in prosocial behaviours.

Empathy is usually referred to as an emotional or cognitive response or an integrated response of both (Baron-Cohen and David, 2004). Emotional empathy refers to experiencing the same or similar emotion as another individual (Naybar, 2008); whereas cognitive empathy refers to the ability to understand another's mental state and recognition of their thoughts and feelings. Cognitive empathy is similar to theory of mind, demonstrating an individual's potential to visualize another person's perspective (Ickes, 2003). A study found an interrelationship between acknowledging another's perspective, greater empathy and increased helping (Maner et al., 2002). Both types of empathy are important, as it encourages an individual to interact effectively in social situations.

Justification of why people help others comes from a biosocial perspective. Gaertner and Dovidio (1977) discuss empathy and explain that a state of arousal is commonly experienced before acting prosocially and involves responses that entail physiological and subjective facets. Research suggests that adults and children react upon signs of distress in others or concern about people's welfare and behave empathetically accordingly (Pavey and Sparks, 2011). However, the negative state relief model (Cialdini, et al., 1987) signifies that one may help others in order to alleviate their own undesirable feelings (Hogg and Vaughan, 2010).

Other discussions of empathy and prosocial behaviour focus on gender differences. Research found that females express higher levels of empathy as compared to males when reacting in an emergency. This is evident in Rueckert's (2011) study where females consistently reported greater levels of empathy and sadness compared to males in response to written explanations of crisis situations. Studies have suggested that these differences may be due to male reluctance to report empathy in order to protect masculinity (Berk, 2006).

Gender and Prosocial Behaviour

Research has established that gender is a consistent factor of prosocial behaviour (Hastings et al., 2007). This study aims to identify whether gender differences are evident in prosocial behaviour within the student population. Worden's (2002) study involved examining the regularity of students' exhibiting prosocial behaviours and found that female students displayed more voluntary acts as compared to male students. Similarly, female students scored highly on altruistic, obedient, anonymous and emotional acts of prosociality as compared to males (Altay and Güre, 2012). Other studies found that females attributed their prosocial acts to external causes, reporting that they felt more pressurized by social media to behave prosocially and to internalise the ideal of altruism (Wentzel et al., 2004). These studies indicate that gender differences are observed when behaving prosocially (Zakriski et al., 2005). However, Eagly (2009) found that when engaging in prosocial behaviours, no gender differences were observed, particularly in volunteering activities.

Gender differences are also explored in terms of the types of situations where help is required. Males are more likely to intervene if help needs to be implemented in risky situations, particularly if requiring initiative or active intercession and in order to gain gratitude and publicity (Eckes and Trautner, 2000). More males were found to intervene in an emergency situation as compared to females and scored highly in public forms of prosocial behaviour (Hausmana et al., 2003).

Pursell et al., (2008) state that gender roles explain the gender differences in prosocial behaviour, supporting Bartini (2006) who states that females are consistently judged and perceived as more prosocial than males. Men are more likely to be involved in business or employed as soldiers and their role is characterised by independence, self-control and is success oriented. Women are more likely to be a housewife and their role is characterised by nurture, responsiveness and interpersonal warmth (Seefeldt, 2008). This widely held 'prosocial gender stereotype' has an impact upon the behaviour of women and men (Berk, 2012). Further research found that in many cultures, females are expected to be more cooperative and understanding and are rewarded when manifesting these behaviours (Pratt et al., 2004). Other studies indicate that the impacts of gender roles on behaviour is motivated by social expectations and individual characteristics (Eagly, 2009).

Age and Prosocial Behaviour

Research has initiated that prosocial behaviour largely increased with age, a predisposition that was existent as the age span between comparison groups increased. Eisenberg et al., (2006) found that children's frequency of displaying prosocial behaviours increased with age. However, McGinley and Carlo (2007) argue that there is no association between age and prosocial behaviour and the current research intends to examine whether there is evidence of an association between these variables when studying the student population.

Studies indicate that older adults often prioritize socio-emotional goals or participate in activities that increases the salience of helping others; a consequence of recognising that their remaining time is limited (Blanchard-Fields, 2007). Therefore, older adults spend more time helping those in need and conducting as many prosocial

behaviours that benefit their own well-being and emotional fulfilment (Phillips et al., 2002). Other reasons for behaving prosocially is that older adults have a greater proportion of free time, particularly when some are unemployed or retired (Lum and Lightfoot, 2005). In addition, older adults exhibited greater prosocial acts via charity by distributing substantial altruistic donations as compared to middle-aged and younger adults (Sze et al., 2012).

Ultimately, it was found that 77% of 22-29 years old and 81% of people aged 30-55 tended to be more prosocial (Brodie, Cowling and Nissen, 2009). However, others argue that 84% of young people, aged 16-19, participate in a number of formal or informal volunteering opportunities and exhibit more prosocial acts as compared to the rest of the working-age population (Bryant, 2011). Conversely, Roalf et al., (2012) examined a student population to assess age and prosocial behaviour, finding that no relationship was established. Studies that have examined the existence of any relationship between age and prosocial acts have revealed differing results.

Student volunteering within the UK population

Penner (2002) defined volunteering as a systematic responsibility or commitment to prosocial behaviour within an organisational context. With this in mind, the remit of volunteering was used in order to specifically identify an individual's religiosity, emotional empathy, gender and age as indicators of prosocial tendencies.

Within the UK population, 95% of university students reported a desire to improve other people's quality of life and 63% of students willingly engage in volunteering organisations to benefit the wider community. A small proportion of students, 38%, were introduced to volunteering via their individual university or student union and 49% of students volunteered prior to commencing university (Brewis, 2010).

Research question

In relation to the research rationale, the previous literature review forms the basis for the current research. The prevailing study intends to examine whether the predictor variables, 'religiosity', 'empathy', 'gender' and 'age' predict the criterion variable, 'prosocial behaviour' in students. There is a small degree of research regarding student volunteering (Volunteering Qld, 2013), but the present study intends to add to the literature. This research aims to identify what influences prosocial behaviour, in addition to determining which predictor variables are strongly predictive of prosocial behaviour. Ultimately, this investigation could encourage advanced literature into the variables of religiosity, empathy, gender and age and their correlation with prosocial behaviour.

Hypotheses

This research set out to achieve the following objectives:

H1: To investigate whether the predictor variable, religiosity, significantly positively correlates with the criterion variable prosocial behaviour. Participants who have high scores on the religiosity questionnaire will report high levels of prosocial tendencies.

H2: To investigate whether the predictor variable, empathy, significantly positively correlates with the criterion prosocial behaviour. Participants who have high scores on levels of empathy will report high levels of prosocial tendencies.

H3: To investigate whether gender differences are evident in the context of prosocial behaviour. Female participants will have higher scores on levels of prosocial behaviour.

H4: To investigate whether the predictor variable, age, significantly positively correlates with the criterion prosocial behaviour. The older the participants, the greater the level of prosocial behaviours indicated.

H5: To investigate which one of the predictor variables are strongly predictive of prosocial behaviour.

Proposed methodology and justification of proposed methodology

Design

The research design was derived from a quantitative paradigm, seeking to 'explain phenomena by collecting numerical data that are analysed using mathematically based methods' (Aliaga and Gunderson, 2000:1). Quantitative methods are particularly advantageous when measuring the degree and scope of attitude of others. It is also beneficial when conducting a large-scale survey, which can then be generalised to a large population of interest (Denscombe, 2004). This method was deemed suitable for the current research as it is concerned with discovering facts regarding a social phenomenon. For instance, in relation to this research the phenomenon 'prosocial behaviour' will be studied. Questions associated with religiosity like 'how often do you attend religious services' may precisely appear suited to being answered using quantitative methods.

Participants

A questionnaire design was employed to gather data from 120 participants. However, the number of participants completing each four individual questionnaires varied; prosocial behaviour (N=126); religiosity (N=128); empathy (N=119); gender (N=152) and age (N=150) (See Appendix 12). Participants were undergraduate students studying at Manchester Metropolitan University (MMU) and were recruited using a stratified random sampling technique. The sample consisted of unequal numbers of males and females, aged 18 and above.

Sampling Method

A stratified random sample was chosen in order to collect data from a sample that includes a subgroup (120 participants) used to represent the whole population (Heiman, 2002). In order to select a subgroup, the population was divided into narrow strata or identifiable groups based on students' shared characteristics and attributes (Thompson, 2012). The present study was particularly interested in the age and gender of participants. This sampling method can indicate greater precision due to less variability within the strata (Levy and Lemeshow, 2008), in addition to increasing the representativeness of a sample (Scheaffer et al., 2006).

Data collection

Procedure

An invitation letter (Appendix 1) was sent to participants meeting the research criteria, inviting them to participate in the research project. Additional materials provided to participants included a participant information sheet (Appendix 2) concerning the nature of the study and an informed consent (Appendix 3). These materials are distributed to ensure that subjects are both fully aware of the aims of the research and are willing to take part. Upon consent, participants were provided a link to the questionnaire through email and informed that completion will take 15 minutes.

Online Questionnaire

Questionnaires were used to obtain information regarding participants' behaviour, social characteristics, attitudes and beliefs with respect to the subject under investigation (Bulmer, 2004). An online questionnaire was deemed suitable for this research for a number of reasons. Firstly, it saves money by presenting the questionnaire electronically rather than on a paper format, making larger samples possible (Couper, 2000). It is relatively quick to collect information from a wider number of people, saving time and allows downloading research data straight into SPSS, making analysis easier (Llieva et al., 2002). This online method resulted in increased response rates, particularly when the questions were clear and concise (Lyons et al., 2003). Subsequently, all the questionnaires were uploaded on the website called, Qualtrics.com, selected as the most applicable mode to administer the questionnaires, based upon time and financial constraints (Simsek and Veiga, 2001).

Measures

A demographic questionnaire was adopted to enquire the participant's gender, age and degree course studied (Appendix 4).

The first questionnaire is the prosocial behaviour scale created by Rushton et al., (1981). Originally, the questionnaire comprised of 20 items, but for the purpose of this research 10 more items were included that were scored negatively (Appendix 5). Responses were scored by 1 to 5 on a Likert scale where higher scores indicated greater levels of prosociality. According to Midlarsky (1983), the prosocial behaviour scale has good internal consistency, with a Cronbach's Alpha coefficient of .84.

The second questionnaire was the Emotional Empathy Scale (Mehrabian and Epstein, 1972). The questionnaire comprised of 33 items of which 17 items were scored negatively (Appendix 6). Responses were scored by 1 to 7 responses on a Likert scale where higher scores revealed greater levels of empathy. According to Mehrabian and Epstein (1972) this questionnaire has good internal consistency, with a Cronbach's Alpha coefficient of .84.

The final questionnaire was the Stanovich Religiosity questionnaire (Stanovich, 1989). The questionnaire comprised of 4 items and responses were scored on a 6 point scale (Appendix 7). All religiosity statements were scored, so greater numbers indicated a strong religious commitment. According to Svensen et al., (1992), this questionnaire has good internal consistency, with a Cronbach's Alpha coefficient of .89.

High internal consistencies were found for all scales; therefore, it was useful to incorporate them in this research. To address the use of negative items is to minimize acquiescence and response biases, thus ensuring participants provide meaningful responses (Finstad, 2010).

Data analysis

Data obtained from the questionnaires were analysed using three quantitative statistical methods via software called the Statistical Package for the Social Sciences (SPSS).

Correlational Analysis

To examine the degree of relationship between two variables and the extent of variation (Creswell, 2002), correlation tests were conducted to test H1, H2 and H4. The correlational method provided statistical technique, such as Pearson product-moment correlation coefficient (r), to represent the absolute value of the strength and direction of a relationship, ranging between -1.00 and +1.00 (Cooper and Schindler, 2001). The association between the predictor variables and the criterion variable was illustrated using scatterplots and a line of best fit was incorporated to display the trend of the data. Lomax (2004) argued that correlational analysis is a popular method within the field of educational and psychological research, mainly due to its capability to examine the associations among a number of variables.

Independent-samples *t*-test

To establish whether the mean differences are significantly different, independent-samples *t*-tests compared the male and female participant scores for prosocial behaviour. Research suggests that *t*-tests are particularly useful for highlighting the comparison of two groups (Watkins et al., 2004). This statistical test was deemed suitable to evaluate research H3; to examine whether there is a statistically significant difference in the mean scores for prosocial behaviour, from two different groups of participants within the same population (Moore and McCabe, 2006). This method is useful for the current study; to discover whether males and females differ significantly in terms of their prosocial behaviour levels.

Multiple Regression

To assess research H5, multiple regression analysis was employed to use more than one independent variable to predict the dependent variable (Cohen et al., 2003). This method was deemed suitable for this research, as convenient statistical techniques such as the regression correlation coefficient 'r' was used to provide a measure of how strong prosocial behaviour could be predicted from the set of scores of independent variables. Other techniques used included the multiple coefficient of determination 'R^2' that explained how much of the variance in prosocial behaviour is predicted by the predictor variables (Darren and Paul, 2012). Therefore, multiple regression allowed the research to examine the extent to which independent variables contribute to prosocial behaviour, in terms of their relative magnitude of prediction. Previous research advocates that multiple regression analysis can contribute to answering research question or hypotheses effectively (Hoyt et al., 2006).

Ethics

Before conducting the research project, an Ethics Approval Form (Appendix 8) and Ethics Check Form (Appendix 9) were completed and sent to the Psychology Ethics Panel at MMU for consideration. According to the BPS (2010) regulations, participants are required to give their consent to partake in the research. Anonymity and confidentiality were guaranteed and personal data were excluded. All subjects were

informed that if discomfort was felt at any point, they had the right to withdraw from the study. The research may include moderate deception in order to encourage honest responses to the questionnaires. Before completing the questionnaires, participants were told that the aim of the research was to look at 'attitudes and expectations towards helping behaviour'. To address this deception, once participants completed the questionnaires, they were debriefed (Appendix 10) about the real purpose of the study and informed of their ability to follow up findings by contacting the researcher through email.

Results

(i). General Overview

Once all data had been gathered and collected through Qualtrics.com, it was downloaded and inputted into SPSS 21. Initially, the procedure involved reversing some of the relevant items (questionnaires of prosocial behaviour, empathy and religiosity) prior to analysis. The total scores for the following variables; prosocial behaviour, religiosity, empathy, gender and age were computed for each participant. Initially zero order correlations were computed between the relevant variables followed by multiple regression; these analyses are presented in separate sections below.

(ii). Correlations between the Variables (Pearson's r)

A Pearson's *r* correlational analysis was conducted in order to assess whether a relationship exists between each predictor variable and the criterion variable from the collected data. This also tested research H1, H2, H4 and thus the Pearson *r* correlation will demonstrate whether the developed hypotheses were supported by the findings. Whilst carrying out the Pearson's *r* method, the output revealed a number of significant correlations (see Table 1).

Table 1: Summary of Pearson Correlation Coefficient Scores for Predicting Prosocial Behaviour Scores

	Prosocial	Empathy	Religiosity	Gender	Age
Prosocial	1	.340**	.25**	.06	.16
Empathy		1	-.11	.21*	-.17

Religiosity	1	-.07	.05
Age			1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

These results are also represented in the form of scatterplots that display the correlations between each predictor variable and the dependent variable and a bar chart exhibiting differences of mean scores between the gender and prosocial behaviour variables. See subsequent pages for illustrations. Please note that on the following pages the exact significance values are shown except where the value is .000 and is cited as < .001.

Religiosity and Prosocial Behaviour

A statistically significant, positive correlation was observed between religiosity and prosocial behaviour, r (114) = .25, p = .008 with high levels of religiosity scores associated with high levels of prosocial scores. This finding supports H3, as a significant positive correlation between religiosity and prosocial behaviour was found. This statistically significant correlation is illustrated in Figure 1.0.
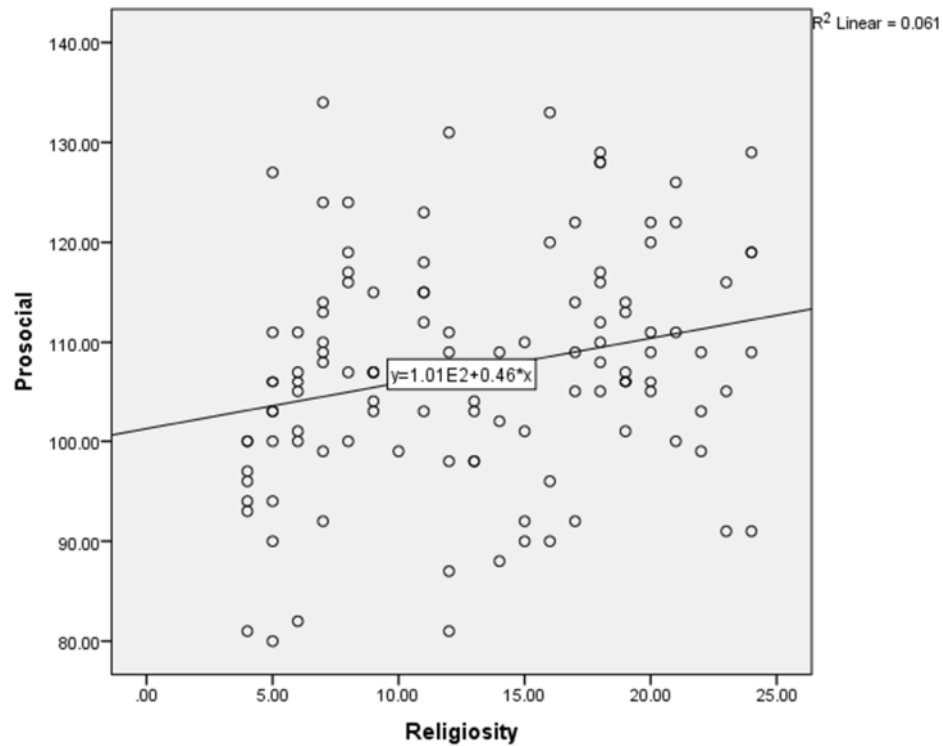
Figure 1.0. Scatterplot of Religiosity and Prosocial Behaviour Scores.

Empathy and Prosocial Behaviour

Another statistically significant, strong positive correlation between empathy and prosocial behaviour was found, r (106) = .34, p < .001 demonstrating empathy as having maximum impact upon prosocial behaviour; thus as levels of measured

empathy increase so do levels of prosocial behaviour. This finding supports H2, as a positive relationship between empathy and prosocial behaviour was observed. This statistically significant correlation is illustrated in Figure 1.1.
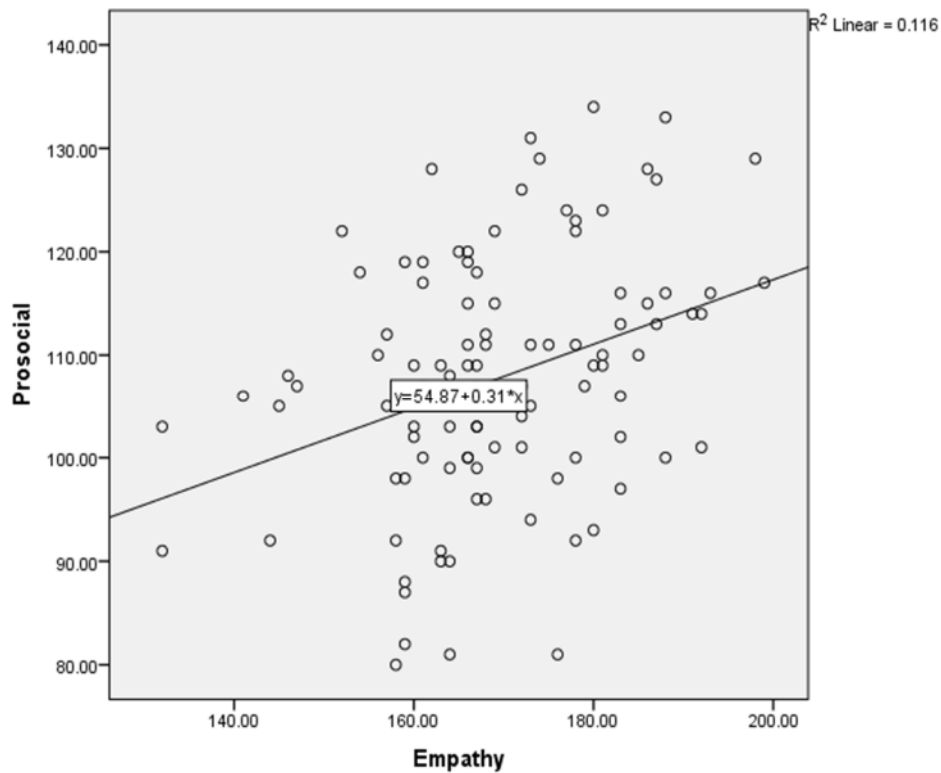

Figure 1.1. Scatterplot of Empathy and Prosocial Behaviour Scores.

Gender and Prosocial Behaviour

An independent-samples t-test was conducted to compare the prosocial behaviour scores for males and females. Results indicate no significant difference in scores for males (M = 105.47, SD = 12.26) and females (M = 107.39, SD = 11.46) in the context

of prosocial behaviour t (124) = -.64, p > .05 (two-tailed). This finding contradicts H3 as it was hypothesized that females would indicate higher prosocial scores as compared to males. The distributions for the two groups is illustrated in Figure 1.2.
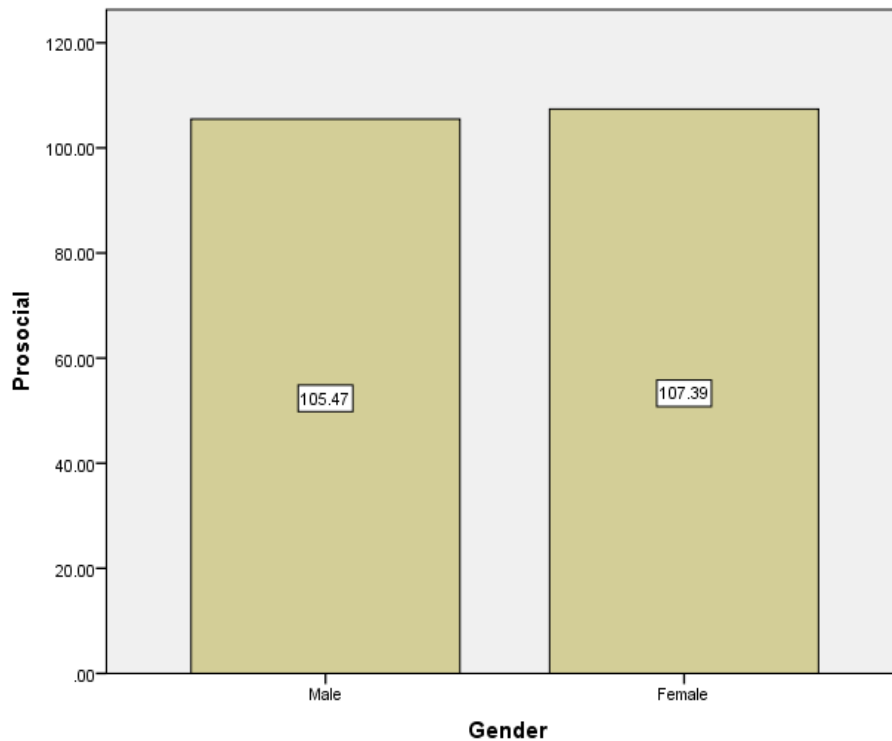

Figure 1.2. A Bar Chart Indicating the Means of Prosocial Behaviour Questionnaire Scores as a Function of Gender.

Age and Prosocial Behaviour

A statistically positive correlation was found between age and prosocial behaviour, r (124) = .16, p = .04 (1-tailed), hence as the age variable increased so did levels of prosocial behaviour. This correlation supports H4, as a relationship between age and

prosocial behaviour exists. This statistically significant correlation is illustrated in Figure 1.3.
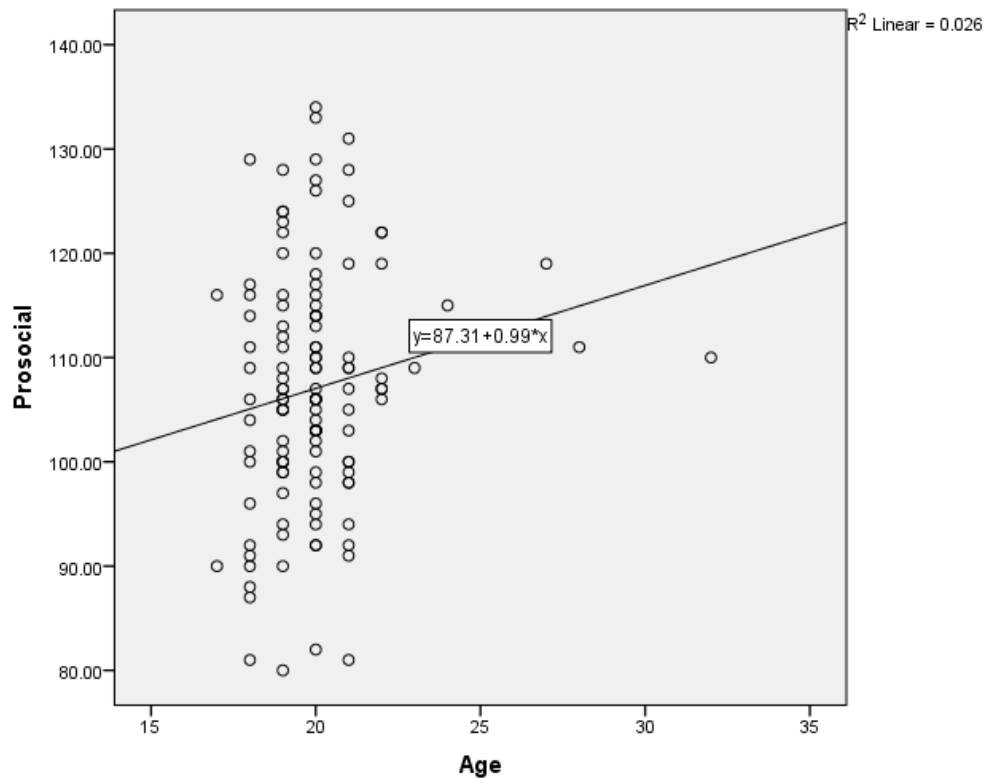

Figure 1.3. Scatterplot of Age and Prosocial Behaviour Scores.

(iii). Multiple Regression

A multiple regression analysis was employed in order to test the extent to which predictor variables 'empathy', 'religiosity', 'gender' and 'age' were strongly predictive of prosocial behaviour. The predictor variables were entered into SPSS and using this method, a significant model emerged $F(4, 100) = 9.24$, $p < .001$) suggesting that the

regression model was statistically significant. This model between all predictor variables and prosocial behaviour explained 24% (adjusted R^2 = 24%) of the variance in prosocial behaviour scores. These results therefore, suggest that all predictor variables were accounted for their contribution to prosocial behaviour (see Table 3).

Table 3: Summary of all Predictor Variable Scores in accounting for the Variance in Prosocial Behaviour

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.520	.270	.241	10.37

Table 4 below illustrates the values for each variable in the multiple regression analysis. This is to determine which one of the predictor variables was the strongest predictor of prosocial behaviour. The significant *t* values will interpret the amount of variance accounted for in Model 1 and the levels of significance. It was found that out of the predictor variables, 'empathy' was the strongest predictor of prosocial behaviour (t = 4.84, p < .001), therefore suggesting that empathy plays the most significant role in prosocial behaviour. Empathy was followed by 'religiosity' (t = 3.15, p < .002), then the 'age' variable which also displayed a significant role in prosocial behaviour (t = 3.09, p < .003). However, 'gender' was the least significant variable in predicting prosocial behaviour (t = 0.776, p > .440), thus indicating a significant weak correlation.

Table 4: Summary of Multiple Regression Analysis for Predicting Prosocial Behaviour Scores

Variable	B	Std. Error	β (beta score)	*Sig. (p)*
Constant	-3.38	19.57		
Empathy	0.40	0.08	.43	.000
Religiosity	0.52	0.16	.27	.002
Gender	2.37	3.05	.07	.440
Age	1.59	0.52	.27	.003

Note: R^2 = 0.27

Summary of the Results

The study findings indicate that following the Pearson's correlation coefficients, a significant positive association between the independent variables of empathy, religiosity, age and the main dependent variable of prosocial behaviour was found. Therefore, as age and levels of empathy and religiosity increased and so did one's level of prosocial behaviour. However, following an independent-samples *t*-test, no significant gender differences in prosocial behaviour were observed.

Similarly, following multiple regression analysis, the independent variables of empathy, religiosity and age were found to significantly predict the dependent variable of prosocial behaviour. However, the variables of gender had no significant impact upon prosocial behaviour (See Appendix 12 for Raw Data of Results).

Discussion

This research intended to examine whether the predictor variables, religiosity, empathy, gender or age predict student prosocial behaviour. As previously discussed, a number of significant correlations were found between the variables of empathy, religiosity, age and prosocial behaviour. These findings are consistent with H1, H2 and H4. Research findings also revealed that no significant gender differences were found in the context of prosocial behaviour, therefore H3 was not supported.

Empathy and Prosocial Behaviour

Empathy had the strongest correlation with prosocial behaviour, consistent with Carlo et al., (2003) whereby a significant positive correlation between participants with high levels of empathy and time committed to volunteering was found (Penner, 2002). This correlation also supports Hoffman's (2000) view where individuals with greater levels of empathy were more predisposed to prosocial acts. Gender differences were also observed in relation to empathy, finding that females indicated higher levels of empathy as compared to males, consistent with the previous findings of Rueckert (2011) and Wheelright (2004). This study also supported past research by Dovidio et al., (2006) who stated that empathy is recognized as a fundamental characteristic of prosocial behaviour.

Religiosity and Prosocial Behaviour

The present investigation also found that religiosity was the second strongest variable, positively correlating with prosocial behaviour in students, or individuals with a greater level of religiosity are susceptible to prosocial behaviours. This current finding supports the trends suggested by Smith and Faris (2002) who discussed that religiosity was a significant predictor of prosocial behaviour. This is also supported by Marris et al., (2000) who found that a greater willingness to help others was present amongst

religious communities. However, this research contradicted Olver's (2012) study who claimed that no correlation was observed between religiosity and prosociality.

Age and Prosocial Behaviour

Research has found that age was also a significant predictor of prosocial behaviour, revealing that the older the participants are, the more prosocial they are. This supports the previous research of Blanchard-Fields (2007) who discussed that older people participate in a range of activities that involve helping others. In addition, this research supports Sze et al., (2012) who found a significant positive correlation between older adults and prosocial behaviour. This study also found that participants aged 20 or above were highly prosocial, consistent with the past research of Brodie et al., (2009) who claimed that 77% of 20 year olds and above were more prosocial. However, the current study contradicted Roalf et al., (2012) who reported that there is no association between age and prosocial behaviour.

Gender and Prosocial Behaviour

This research has found that gender was the weakest variable that contributed to prosocial behaviour, revealing that gender has minimal impact upon students' prosocial behaviour. An interesting finding from this study highlighted that no gender differences were evident in the context of prosocial behaviour. This finding supports Eagly (2009) who suggested that gender differences were not observed when participating in prosocial acts. However, this finding contradicts research of Altay and Güre (2012); Zakriski et al., (2005); Eckes and Trautner (2000) who claimed that females were more prosocial than males.

Evaluation and future directions

Numerous limitations were evident in this prevailing study, but it provides useful avenues for future research. This study only explored prosocial behaviour as defined by four variables and alternative variables (for example, self-esteem) could have been considered in order to give a wider synopsis of the dependent variable. The structure of the statements used in the questionnaire may not accurately describe each variable and therefore may not establish a true measurement of the construct. It cannot be assumed that all participants would hold similar meanings of each variable as each would have different interpretations, leading to confirmation bias (Owad, 2006). This can be improved by implementing a more rigid explanation such as providing a definition of each variable that enables participants to have a cohesive understanding and interpretation of the concept of prosocial behaviour and each predictor variable.

The stratified random sample employed for this study was initially deemed suitable. However, issues such as subject bias arose due to the high representation of psychology students during data collection. In this circumstance, results can only be generalised to the participatory group of people, and hence not representative of the wider population. Future research may need to adopt more wide-ranging sampling methods for greater generalisation of findings. Other issues include the inconsistent number of participants fully completing all four individual questionnaires, which may be due to the lack of forced response applied. For future reference, forced responses

must be considered to ensure that participants answer all questions in each questionnaire.

Another limitation with the study is gender bias. The study sample included 135 females as compared to 17 males; therefore, the sample is not equal. In addition, the study questionnaires were posted on Qualtrics.com and although this website has its own benefits, it was difficult to determine which gender preference a participant had initially selected and was only identified upon completion of the questionnaire's deadline. However, due to time constraints given for data collection, gender equality was not facilitated for this study. For future improvements, a larger sample and distributing the questionnaires in person would have ideally recruited a more equal gender balance.

Caution must be taken when interpreting the data from self-reported measures as social desirability bias may occur, particularly when some individuals wish to present themselves in a favourable light and therefore do not answer truthfully. Consequently, the results may lack reliability and validity as relationships between predictor variables and the criterion variable may be disguised (Podsakoff et al., 2003). Future research can benefit from utilising indirect questions, a projective technique, in order to mitigate the effects of social desirability bias, requiring respondents to answer structured questions from the viewpoint of another individual or group (Fisher, 2000).

Implications for Future Research

The topic of student prosocial behaviour has some significant and practical implications for future reference. There may be curiosity into what actually prompts an individual to engage in voluntary work. Understanding these motivations is valuable to voluntary organisations when recruiting and retaining volunteers (Houle et al., 2005). Research demonstrates that individuals do engage in charitable acts but hold diverse underlying motives. People assume that voluntary work is a form of prosocial action benefiting the community and society with no expected reciprocity (Snyder and Omoto, 2000). However, research found that some volunteers engage in this experience for intrinsic purposes (e.g. a desire to help others) whereas the majority of people participate for extrinsic purposes, particularly students who want to make their CV appear more respectable (Finkelstien, 2009). Therefore, the process of voluntary work aids others as well as the self, thus volunteering is a combination of both altruism and selfishness (Midlarsky, 1991). For future purposes, researchers may want to specifically focus on the link between motivations for volunteering and prosocial behaviour.

Conversely, research suggests that volunteering can alternatively be classified as altruism (Musick and Wilson, 2008). People may confuse prosocial behaviour with altruism, but they are two distinct concepts and must be clearly differentiated. Prosocial behaviour is an action that is conducted, whereas altruism refers to the motivation behind the action to help others (Planalp and Trost, 2009). Alternatively, researchers may want to consider focusing on altruism and prosocial behaviour individually. This will develop an understanding of the differences between the two different constructs. In addition, examining the link between the two diverse variables will facilitate a greater understanding regarding an individuals' motivations for carrying out prosocial behaviour.

Another implication for this research includes studying the relationship between age and altruism. Past research indicates that the tendency to volunteer increases with age and that altruism is stronger in old age (Putnam, 2000). It would be interesting to examine the patterns of volunteering through an individual's life cycle; how people are born egotistic (Dawkins, 1976) and change through socialization and upbringing to become more prosocial (Blanchard-Fields, 2007). This would be useful for voluntary organizations to understand and identify which particular age group of people should be targeted or selected when recruiting volunteers. Future research could also benefit from analysing the correlation between different age groups and prosocial behaviour, as the sample in the present study was limited to the student population. Extending age groups would enable an improved understanding of prosocial behaviour, in addition to making the sample more representative of the wider population.

Questions may arise as to why the variable religiosity was not the dependent variable because it can be measured by the two constructs, belief and behaviour; belief holds an intrinsic value whilst behaviour holds an extrinsic value (Ryan and Deci, 2000). The understanding of both internal and external constructs allows for wider insight into the multifaceted variable of religiosity rather than focusing on the one-dimensional, external construct of prosocial behaviour. Hence, for future research, the consideration of replacing prosocial behaviour with religiosity as the dependent variable would be useful, providing a more holistic approach to examining the construct to include culture, belief, organisation and behaviour (Hadaway et al., 2005).

Another improvement suggested for this study includes developing a criterion of ethnicity in the questionnaire. A question asking for participant's ethnicity would have given insight into the cultural background of the participant, enabling an overall understanding of which ethnic group is more religious (Aronson et al., 2010). Alternatively, further research may also want to consider examining cultural differences as an additional factor that may contribute towards the predisposition to prosocial behaviour (Meijs et al., 2003).

Ultimately, this research may encourage individuals to participate in volunteering activities in order to make a positive contribution to society and themselves. In addition, universities may want to consider volunteering as a statutory requirement of their students. This would equip them with an extensive range of beneficial or employer required skills, as well as extending and encouraging social awareness of prosocial behaviour.

<u>Conclusion</u>

Overall, the present study has provided evidence establishing a significant relationship between the independent variables of empathy, religiosity, age and the dependent variable of prosocial behaviour. The study has particularly enhanced the knowledge surrounding the contributory factors that play a role in determining prosocial behaviour. Implications for future research have been suggested in order to outline a more in-depth and detailed study into this phenomena. Prosocial behaviour is complex and multifaceted; a wider social perspective is required to understand the many factors that influence the development and manifestations of prosocial behaviour.

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