

Qualities of Volunteering and Life Satisfaction: A multiple linear regression model*

Insights from the 2018 Canadian General Social Survey

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Abstract

Volunteering has been linked to many benefits including health, happiness and life satisfaction; however, there is limited research on the precise aspects of volunteering associated with these benefits. In this paper, we investigate how different aspects of volunteering including frequency, reasons and quality of experience in volunteering are correlated with life satisfaction using a multiple linear regression model. We find that among people who volunteer, people who use their skills in their volunteering experience and volunteer at least once a week had higher life satisfaction. Our findings have implications for the general public in making the most out of their volunteer experience.

Keywords: volunteering, life satisfaction, multiple linear regression, canadian general social survey, canada

1 Introduction

Life satisfaction is an indicator of well-being, and although it has many different definitions, I like the one by Sumner (1966) as cited in Prasoon and Chaturvedi (2016), which is “A positive evaluation of the conditions of your life, a judgment that at least on balance, it measures up favorably against your standards or expectations.” Volunteering, which is giving of your time and effort freely towards helping others outside of your household without compensation, has been positively associated with life satisfaction (Thoits and Hewitt 2001). However, previous studies have mainly investigated the effect of volunteer status alone and not the different aspects of volunteering beyond number of hours/frequency (Borgonovi 2008; Hansen et al. 2018), as well as prefer to examine older populations (Hansen et al. 2018; Huang 2019). However, the few studies that have investigated the aspects of volunteering associated with well-being have found being appreciated for their volunteer work and believing that others benefit from their efforts (Jongenelis and Pettigrew 2021), volunteering 2-3 hours per week (Morrow-Howell et al. 2003), organizational support (Tang, Choi, and Morrow-Howell 2010), volunteering for causes they believe to be important, and meaningful volunteer activities (Jongenelis et al. 2021) were positive predictors of well-being.

In this paper we analyze data from the 2018 Canadian General Social Survey on Giving, Volunteering & Participating to investigate the effects of volunteering and the different aspects of volunteering on life satisfaction. Specifically we will compare how different forms of volunteering (formal vs informal) as well as other altruistic behaviour such as giving financially are correlated with life satisfaction. We construct a multiple linear regression model to do this. We will also create another multiple linear regression model where life satisfaction is explained by certain aspects of volunteering including number of organizations, frequency, and different qualities of the volunteer experience. We find that while formal volunteering, informal volunteering and giving were all positively correlated with life satisfaction, formal volunteering had the strongest effect.

*Code and data are available at: <https://github.com/KCtt457/gssvolunteering2018>.

Our second model revealed that among people who volunteer, believing you made a contribution to the community and being involved in meaningful ways in the work of the organization were significant aspects of volunteering that predicted higher life satisfaction. This adds to the literature since we investigated the population in Canada whereas previous studies looked at other parts of the world (US (Tang, Choi, and Morrow-Howell 2010), Australia (Jongenelis et al. 2021), Europe (Hansen et al. 2018), Asia (Huang 2019)), we compared different types of volunteering whereas other studies usually chose one type (formal) and we looked at other aspects of volunteering not commonly explored before: improvement of job opportunities and use of skills and experience.

The rest of the paper has the following structure: Section 2 describes the data from the 2018 Canadian General Social Survey on Giving, Volunteering & Participating, Section 3 discusses the multiple linear regression models used in the data analysis, Section 4 presents the results of our analysis and Section 5 discusses the findings and limitations. R (R Core Team 2020) and the R packages `tidyverse` (Wickham et al. 2019) and `kableExtra` (Zhu 2021) were used for data processing and to make the plots and tables in this paper.

2 Data

2.1 Data Source

The data is from the 2018 Canadian General Social Survey (GSS) on Giving, Volunteering & Participating. Canada’s GSS program conducts independent cross-sectional surveys each year on a specific topic. The main objectives of the program are to gather data on social trends in order to monitor changes in the living conditions and well-being of Canadians and to provide information on specific social policy issues [cite]. The topic for 2018 was Giving, Volunteering & Participating, which was the seventh time data on this topic has been collected at the national level.

2.2 Data Collection and Methodology

Data was collected by Statistics Canada during the period of September 4th to December 28th, 2018. The target population included individuals 15 years and over in Canada, excluding institutionalized persons and residents of the Yukon, Northwest Territories, and Nunavut. For sampling, the ten provinces were divided into strata by geographical area. The survey frame was developed by combining lists of telephone numbers from various sources and lists of dwellings from the Address Register. Each record in the survey frame was assigned a stratum within its province. Households were then randomly sampled within each stratum and a single respondent from each household was chosen using an age-order method to either complete an electronic questionnaire or telephone interview.

Due the low prevalence of volunteers in the population, rejective sampling was also used to obtain a larger number of respondents in the population of interest which is volunteers. There were 16,149 respondents in the survey, excluding ‘rejected’ respondents.

2.3 Key Features

There are 956 variables and 16,149 observations in the dataset.

The variables include basic demographic information, such as age, gender, marital status, province, as well as depict the topics of volunteer specifics and details, reasons for volunteering or not volunteering, quality and history of volunteering, financial giving and youth experiences.

A subset of the variables is shown in table 1.

Since we are interested in the relationship between volunteering and life satisfaction, we do some data exploration of these features. Figure 1 shows the number of (formal) volunteers and non-volunteers in the

Table 1: Some key features

Age group of respondent	Gender	Volunteer Flag	Number of Organizations	Volunteer Frequency	Reasons for Volunteering-To use skills	Quality of Volunteer Experience-Community Contribution
65 years and over	Male	Non-volunteer				
65 years and over	Male	Volunteer	1	At least once a week	Yes	Agree
65 years and over	Female	Volunteer	1	At least once a week	Yes	Agree
65 years and over	Male	Non-volunteer				
65 years and over	Male	Volunteer	2	At least once a week	Yes	Strongly agree
65 years and over	Male	Non-volunteer				
65 years and over	Female	Non-volunteer				
65 years and over	Male	Volunteer	3	At least three or four times in the past 12 months	Yes	Agree
65 years and over	Male	Volunteer	5	Daily or almost daily	Yes	Strongly agree
65 years and over	Female	Non-volunteer				

sample. Formal volunteers are individuals who do work within a volunteer organization whereas informal volunteers are not members of an organization but do engage in activities that help people or the community directly.

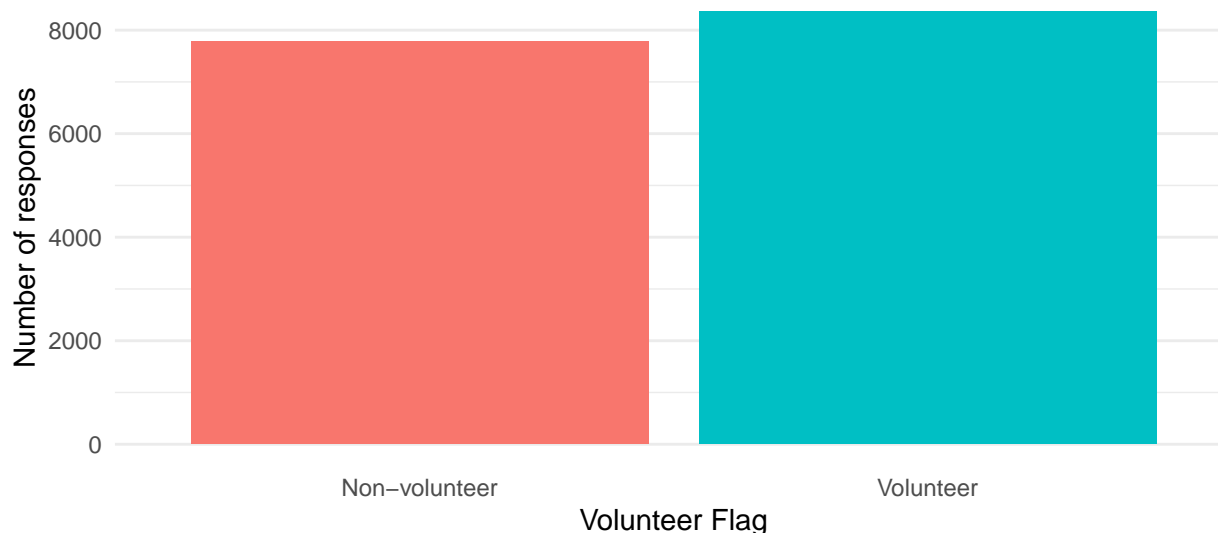


Figure 1: Number of Volunteers and Non-Volunteers in the Sample

There is about a 50-50 split between the volunteers and non-volunteers in our sample. However, this should be looked at with caution when making generalizations to the wider population given that the data was obtained via rejective sampling.

Figure 2 shows life satisfaction by volunteer status. Life satisfaction was rated on a scale from 0 to 10, where 0 means very dissatisfied with life, and 10 means very satisfied with life. Overall, the majority of respondents had relatively high satisfaction ratings about 7-10. It can clearly be seen from the graph that in the lower life satisfaction ratings 0-6, the percentage of non-volunteers was greater than volunteers. Interestingly at a rating of 7 it appears to be about an even split, and for higher life satisfaction ratings the percentage of volunteers is greater than the percentage of non-volunteers.

Therefore this brief glimpse of data hints at a relationship between being a volunteer and life satisfaction.

We would also like to explore more of the characteristics of volunteering that may be involved in this relationship. We will restrict our sample to volunteers only when exploring the characteristics of volunteering, since it is not applicable to non-volunteers. It now begs the question, which aspects of volunteering to investigate? The data includes dozens of variables on the types of organizations and types of volunteer activities respondents are involved in. The large number of variables would thus make it difficult to fit to a concise statistical model, and since a person may be involved in multiple organizations and activities, it may also be difficult to measure the individual effects of certain activities.

Some features we could consider instead include number of organizations, frequency of volunteering, and different benefits experienced from volunteering, which are the variables labelled 'Quality of the Volunteering Experience' in the dataset. The different 'qualities' which are rated on a 5-degree scale from Strongly disagree to Strongly agree include networking, job opportunities, community contribution, health improved, meaningful involvement and use of skills and experience. We convert these to binary variables with 'Yes' if they agreed to experiencing the benefit and 'No' otherwise for conciseness.

We also considered the idea of the reasons people choose to volunteer and if they get what they wanted out of their volunteer experience, that is, if their volunteer experience was fulfilling. This can be done by matching

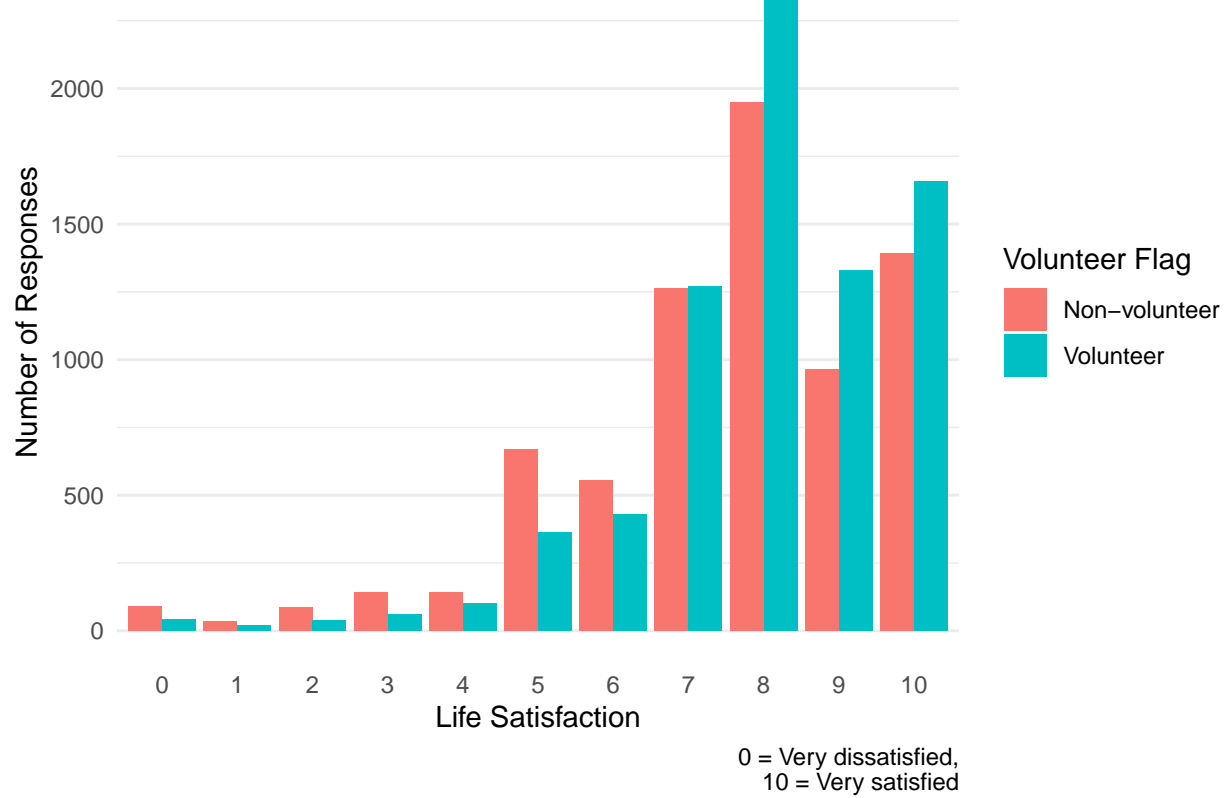


Figure 2: Life satisfaction by Volunteer Status

the stated reasons for volunteering with the variables for the quality of their experience (e.g. reason ‘to network’ is matched with the quality ‘networking’). The aggregated counts are shown in figure 3. However, since the reasons are almost always fulfilled by the volunteer experience for the majority of participants, we exclude this from our model analysis since it does not add much additional information given the benefits themselves.

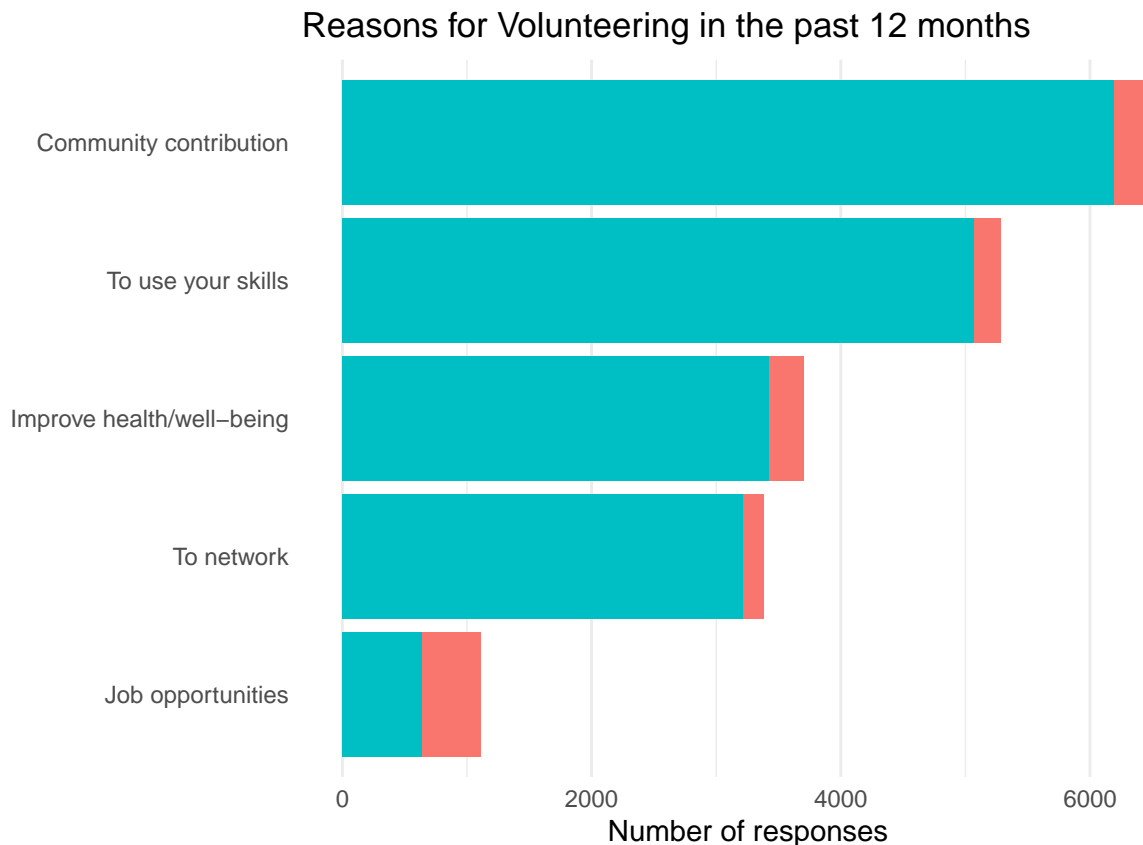


Figure 3: Reasons for Volunteering that were fulfilled

2.4 Strengths and Weaknesses

Some strengths of the data include that it is a large sample, it explores multiple different variables on the topic of interest which is giving, volunteering and participating in detail and also although volunteers were the subject of interest, data on non-volunteers were also included such as their reasons for not volunteering or other similar activities (such as helping at home) that they may undertake instead.

3 Model

3.1 Model 1: Life Satisfaction and Volunteer Flag

For our first model, we are interested in how volunteer status is correlated with life satisfaction. We construct a multiple linear regression model with life satisfaction as the dependent variable, and the main independent variables of interest are formal volunteer flag, informal volunteer flag and giver flag. We include informal

volunteer and giver in our analysis as points of comparison to formal volunteering. The other dependent variables in our model are various socio-demographic variables including gender, age, education level, marital status, if there are children at home, employment status and family income as these have been found to be relevant in previous research (Thoits and Hewitt 2001; Borgonovi 2008). The model is shown in (1) follows:

$$\begin{aligned} life_satisfaction = & \beta_1 formal_volunteer + \beta_2 informal_volunteer + \beta_3 giver + \beta_4 gender + \beta_5 age \\ & + \beta_6 education + \beta_7 married + \beta_8 children_at_home + \beta_9 employment_status + \beta_{10} income_level \end{aligned} \quad (1)$$

3.2 Model 2: Life Satisfaction and Volunteer Characteristics

For our second model, we construct a multiple linear regression model to investigate what specific characteristics of formal volunteering might be correlated with life satisfaction. For this model, we restrict the datapoints to volunteers only (since non-volunteers do not have volunteer characteristics). Our independent variable is life satisfaction again, and the dependent variables include number of volunteer organizations, volunteer frequency and different benefits of volunteering experienced including networking, improvement in job opportunities, community contribution, meaningful involvement, improved health and use of skills and experience. The model is shown in (2) follows:

$$\begin{aligned} life_satisfaction = & \beta_1 num_organizations + \beta_2 frequency + \beta_3 network + \beta_4 jobops \\ & + \beta_5 community + \beta_6 meaningful + \beta_7 health + \beta_8 skills \end{aligned} \quad (2)$$

4 Results

Table 2 shows the results of our first model with volunteer status and the socio-demographic variables. The baseline represents the life satisfaction score of male, unmarried and employed Canadians who do not volunteer, are in the age range 25-34 years, have a highschool degree, no children at home and have a family income of \$50,000 to \$74,999. Recall that life satisfaction is rated on a scale of 0-10. Using a significance level of 0.05, significant variables that were associated with an increase in life satisfaction in descending order of largest coefficient include being married, volunteering, 65 years or older, earning an income of \$125,000 and more, and being female. Being married vs not married from the baseline resulted in an increase of 0.42 points in life satisfaction and being a volunteer increased life satisfaction by 0.36 points.

Significant variables associated with a decrease in life satisfaction include being not employed, having a family income of less than \$50,000, having less than a highschool degree, being 35-54 years of age, and having children at home. Being unemployed vs employed resulted in a decrease of 0.85 points from the baseline whereas having children at home only had a small negative effect of 0.09 points decrease on life satisfaction.

Table 3 shows the results of our second model which considers the characteristics of volunteering. The baseline here represents the life satisfaction score of individuals that volunteer at least once a month, and experienced none of the listed 5 benefits of volunteering. Making a community contribution has an estimated 0.42 point increase in life satisfaction score and being meaningfully involved in the organization has a 0.32 increase in life satisfaction score from the baseline. Having benefited from improved job opportunities was associated with 0.21 point decrease.

5 Discussion

The present study investigated the effect of volunteering on life satisfaction, with three main research questions in mind: 1) Are volunteers more satisfied with life than non-volunteers?, 2) How do different types of altruistic behaviour affect life satisfaction? and 3) Among volunteers, what specific characteristics of

Table 2: Estimated Coefficients for predictors of Model 1

		Estimate	p-value
Baseline Life Satisfaction Score		7.19	0.00e+00
Formal Volunteer		0.30	1.41e-19
Informal Volunteer		0.13	6.87e-04
Giver		0.25	2.29e-11
Female		0.17	2.33e-08
Age Group	15-24 years	0.10	2.36e-01
	35-44 years	-0.17	5.95e-03
	45-54 years	-0.30	7.42e-07
	55-64 years	-0.09	1.11e-01
	65 years and over	0.31	1.29e-06
Education	Less than High School	-0.09	1.11e-01
	Post-secondary diploma	-0.01	8.13e-01
	University Diploma	-0.04	3.67e-01
Married		0.41	2.58e-31
Children at home		-0.08	3.74e-02
Employment Status	Not in labour force	-0.18	1.62e-05
	Unable to determine	-0.32	2.14e-03
	Unemployed	-0.84	3.17e-16
Family income	Less than \$25,000	-0.40	7.85e-11
	\$25,000 to \$49,999	-0.25	2.34e-06
	\$75,000 to \$99,999	-0.03	5.90e-01
	\$100,000 to \$124,999	0.09	1.34e-01
	\$125,000 and more	0.26	3.13e-07

Table 3: Estimated Coefficients for predictors of Model 2

		Estimate	p-value
Baseline Life Satisfaction Score		7.53	0.00e+00
Number of Organizations		0.05	1.46e-03
Frequency	At least once a week	-0.02	7.34e-01
	At least three or four times in the past 12 months	-0.20	9.05e-04
	Daily or almost daily	0.12	1.37e-01
	Once or twice in the past 12 months	-0.10	1.27e-01
Networking		-0.01	8.37e-01
Job opportunities		-0.22	3.48e-03
Community Contribution		0.26	1.38e-05
Improved Health		-0.07	1.37e-01
Meaningful Involvement		0.29	1.70e-05
Use Skills and Experience		0.07	3.13e-01

volunteering are associated with higher life satisfaction? We created two multiple linear regression model using data from Canada's 2018 General Social Survey on Giving, Volunteering & Participating to address these questions. The results showed that compared to non-volunteers, the life satisfaction score of volunteers was 0.36 points higher, which was the second strongest positive effect among all the explanatory variables included in the model. Thus, the answer to the first research question is yes. Formal volunteering, informal volunteering and giving were all positively correlated with life satisfaction, but formal volunteering had the strongest effect. To address the third question, we considered the number of organizations volunteered with, frequency of volunteering, and various benefits obtained from the volunteer experience such as improved

job opportunities and community contribution. The results showed that being meaningfully involved in the volunteer organization and contributing to the community were positively correlated with life satisfaction, whereas obtaining job opportunities was negatively correlated with life satisfaction. This suggests that volunteering that concerns itself with the growth and development of the community gives more life satisfaction than volunteering for one's own personal benefit. This has implications for making the most out of your volunteer experience.

5.1 Volunteering increases life satisfaction

From our first model, we see that taking into account the effects of various socio-demographic variables, being a volunteer was still significant in predicting life satisfaction, and was positively correlated with it. In fact, it was the second strongest effect after marriage. This aligns with previous studies. Informal volunteering also had an effect but it was smaller than for formal volunteering, and giving donations had a significant effect as well. So in general it appears that any form of helping others results in higher life satisfaction, but out of the different types, formal volunteering gives the highest increase in life satisfaction. So what is it about formal volunteering that increases satisfaction? We discuss this in the analysis of our second model.

5.2 Community and Meaning: the secret to life satisfaction?

From the second model, having a meaningful involvement in the volunteer organization and contributing to the community were the significant predictors of life satisfaction among volunteers. On the other hand, benefiting from job opportunities was associated with a decrease in life satisfaction. Use of skills and experience, networking and improved health and well-being were not significant predictors compared to the other variables.

This hints at the idea that volunteering should be a self-less act if you want to derive life satisfaction from it, or perhaps it is just that altruistic people become volunteers to engage in self-less acts and hence get more life satisfaction. This is an interesting idea to consider given that in Western cultures promote the idea of self-actualization, so it is natural to think that developing yourself should make you have a more satisfied life. However, life also needs balance, too much of anything is not good, so the proportion of selflessness demonstrated through volunteering may only be one piece of the cake that makes life satisfactory.

Coupling this with insights from our first model, there is just something about the self-less organizational community contributions of formal volunteering that leads to higher life satisfaction that you don't get through informally helping others or financial donations. More research into this theme can investigate the amount of value persons put on their own self-development vs group/community development and how this varies across different personalities and cultures, as this would influence what aspects of life they derive satisfaction from. It is also important to keep in mind that life satisfaction varies from person to person and that these conclusions we draw are from general trends in the population.

5.3 Weaknesses and next steps

A limitation of this study is that many of the variables used in the analysis are subjective responses of the participants so they may not provide the most accurate true measure of certain variables. For example, there was only one question on life satisfaction in the survey where participants rated for themselves their life satisfaction on a scale of 0-10. However, there exist better measures of life satisfaction such as the Satisfaction with Life Scale (SWLS) [cite].

6 Conclusion

Appendix

A Additional details

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