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 associated with higher life satisfaction; however, there is limited research on the precise aspects of volunteering associated with life satisfaction. In this paper, we investigate how different aspects of volunteering including number of organizations, frequency and different qualities of experience in volunteering are correlated with life satisfaction using a multiple linear regression model. We find that among people who volunteer, believing that you made a contribution to the community and having been meaningfully involved in the work of the organization were correlated with higher life satisfaction. Our findings have implications for the general public in making the most out of their volunteer experience to increase life satisfaction.

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 or frequency (Borgonovi 2008; Hansen et al. 2018). Many studies also prefer to examine older populations (Hansen et al. 2018; Huang 2019). The few studies that have investigated the aspects of volunteering associated with well-being, however, have found that 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 behavior such as giving financially are correlated with life satisfaction. We construct a multiple linear regression model to do this. We 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

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

and giving were all positively correlated with life satisfaction, formal volunteering had the strongest effect. 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.

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				

Since we are interested in the relationship between volunteering and life satisfaction, we do some data exploration of these features. Figure 1 shows the counts of formal volunteers, informal volunteers and givers compared to their complements in the sample. Formal volunteers are defined as individuals who worked within a volunteer organization in the past 12 months whereas informal volunteers are not members of an organization but engaged in activities that helped people or the community directly during the past 12 months. Givers are respondents who made a donation to charitable or non-profit organization within the past 12 months.

Figure 1: Number of Volunteers (Formal and Informal) and Givers in the Sample

There is about a 50-50 split between the formal volunteers and non-volunteers in our sample. For informal volunteers and givers, the ratio is about the same with 3 informal volunteers/givers to 1 not informal volunteer/non-giver. 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 disatisfied 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,

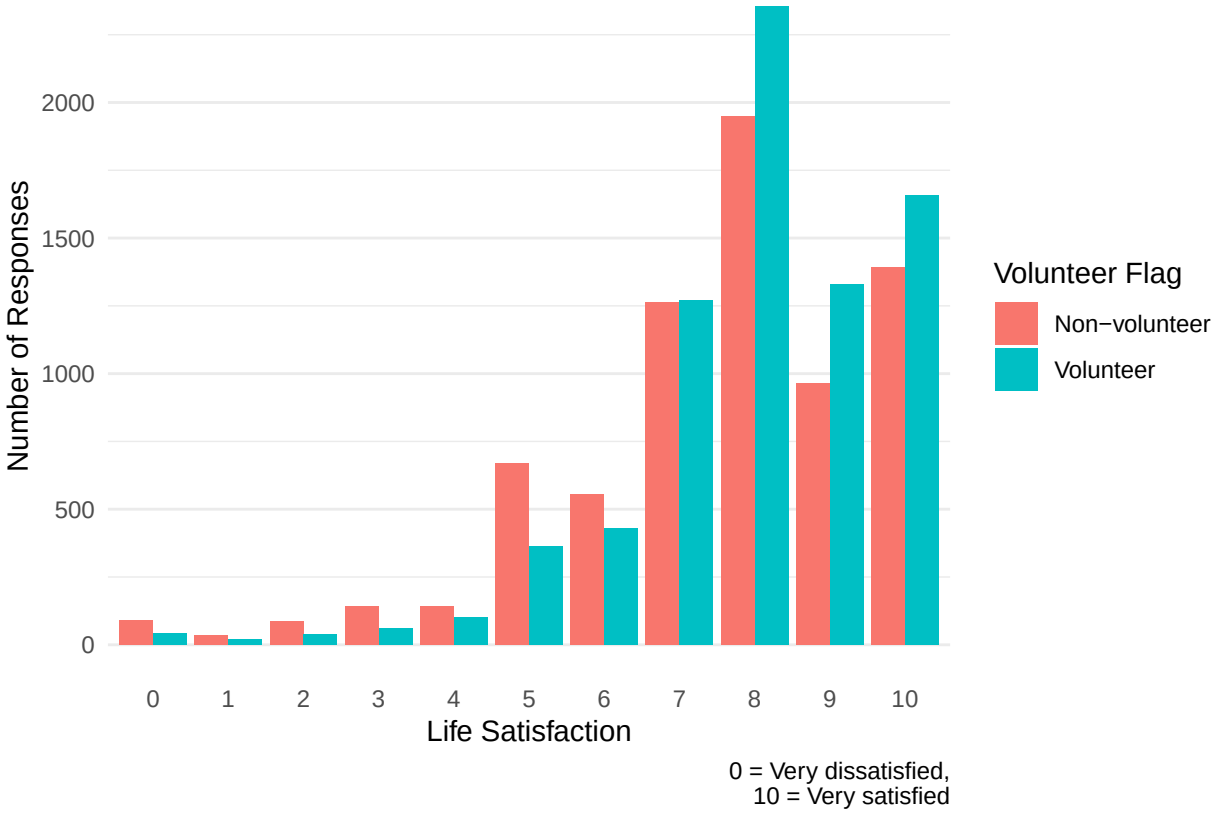

Figure 2: Life satisfaction by Volunteer Status

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 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.

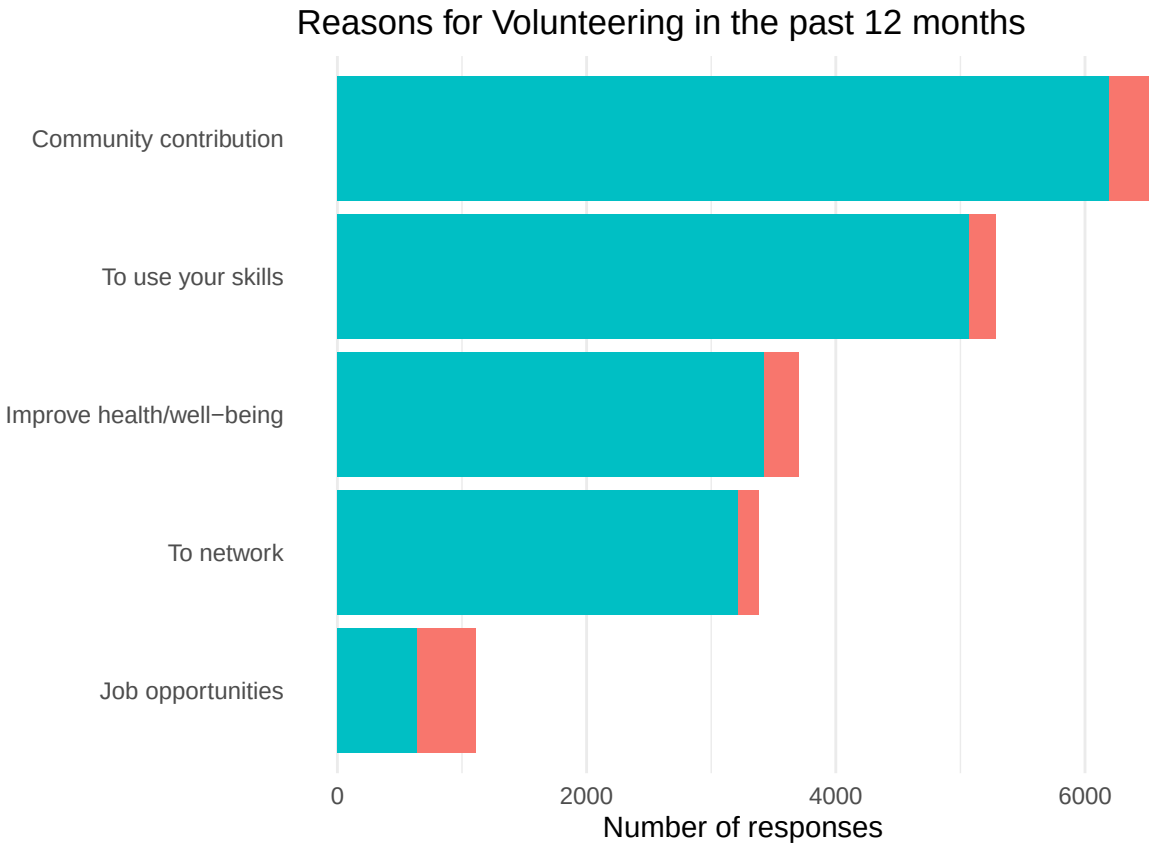

Figure 3: Reasons for Volunteering that were fulfilled

2.4 Strengths and Weaknesses

Some strengths of the data include that it is a fairly 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. I did not encounter any weaknesses in the data, except perhaps that we cannot make generalizations to the wider population of Canada about the proportion of individuals who volunteer since rejective sampling was used.

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 show in (1) follows:

$$\begin{aligned} life\_satisfaction = \beta_1 formal\_volunteer + \beta_2 informal\_volunteer + \beta_3 giver + \beta_4 gender + \beta_5 age \\ + \beta_6 education + \beta_7 married + \beta_8 children\_at\_home + \beta_9 employment\_status + \beta_1 0 income\_level \end{aligned} \tag{1}$$

The β's are the coefficients of our independent variables whose values will be determined when we fit the model.

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 formal volunteers only (since non-volunteers do not have volunteer characteristics). Our dependent variable is life satisfaction again, and the independent 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:

$$\begin{aligned} life\_satisfaction = \beta_1 num\_organizations + \beta_2 frequency + \beta_3 network + \beta_4 jobops \\ + \beta_5 community + \beta_6 meaningful + \beta_7 health + \beta_8 skills \end{aligned} \tag{2}$$

4 Results

Table 2 shows the results of our first model with volunteer status and the socio-demographic variables. Estimates of the coefficients of our dependent variables are shown in the 'Estimate' column, and their corresponding p-values are shown in the 'p-value' column. P-value is defined as "the probability under the assumption of no effect or no difference (null hypothesis), of obtaining a result equal to or more extreme than what was actually observed" (Dahiru 2011). Since it is a probability, the interpretation of p-values close to zero is that the result is unlikely due to chance, which we will call "significant". For our analysis,

we will assume a significance level of 0.05, that is, if the p-value is less than 0.05 we will call the variable significant.

The baseline of 7.19 represents the life satisfaction score of male, unmarried and employed Canadians who do not volunteer formally or informally, do not give financially, 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, so this is already on the higher side of life satisfaction. Significant variables that were associated with an increase in life satisfaction in descending order of largest coefficient include being married, 65 years or older, formal volunteering, earning an income of $125,000 and more, giving financially, being female and being an informal volunteer. Being married vs not married from the baseline resulted in an increase of 0.41 points in life satisfaction and being a formal volunteer increased life satisfaction by 0.30 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 0.84 points from the baseline whereas having children at home only had a small negative effect of 0.09 points decrease in life satisfaction.

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

* p-value is the probability under the assumption of no effect or no difference (null hypothesis), of obtaining a result equal to or more extreme than what was actually observed. If p-value $<$ 0.05, we say the variable is significant.

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. The significant variables include contributing to the community, being meaningfully involved in the work of the organization and increasing number of

organizations. Making a community contribution has an estimated 0.26 point increase in life satisfaction score and being meaningfully involved in the organization has a 0.29 increase in life satisfaction score from the baseline. Each additional organization that a person volunteered with only results in a small increase of 0.05 points in life satisfaction. Significant variables that are negatively correlated with life satisfaction include having experienced an improvement in job opportunities because of the volunteer experience and volunteering at least 3-4 times in the past 12 months but less than once a month. Having benefited from improved job opportunities and volunteering at least 3-4 times in the past 12 months were associated with 0.21 point decrease and 0.20 decrease respectively.

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

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 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 various 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

.1 Datasheet

Motivation

1. *For what purpose was the dataset created? Was there a specific task in mind? Was there a specific gap that needed to be filled? Please provide a description.*
    - The dataset was created to enable analysis of 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 on the topic of Giving, Volunteering and Participating.
2. *Who created the dataset (for example, which team, research group) and on behalf of which entity (for example, company, institution, organization)?*
    - Statistics Canada
3. *Who funded the creation of the dataset? If there is an associated grant, please provide the name of the grantor and the grant name and number.*
    - Government of Canada
4. *Any other comments?*
    - No.

Composition

1. *What do the instances that comprise the dataset represent (for example, documents, photos, people, countries)? Are there multiple types of instances (for example, movies, users, and ratings; people and interactions between them; nodes and edges)? Please provide a description.*
    - The instances represent the survey responses of persons 15 years and over in Canada, excluding institutionalized persons and residents of the Yukon, Northwest Territories, and Nunavut.
2. *How many instances are there in total (of each type, if appropriate)?*
    - 16,149 survey responses
3. *Does the dataset contain all possible instances or is it a sample (not necessarily random) of instances from a larger set? If the dataset is a sample, then what is the larger set? Is the sample representative of the larger set (for example, geographic coverage)? If so, please describe how this representativeness was validated/verified. If it is not representative of the larger set, please describe why not (for example, to cover a more diverse range of instances, because instances were withheld or unavailable).*
    - The survey was completed by a sample of the Canadian population. The sample was obtained by rejective sampling to focus on the subgroup of the population that are volunteers, so it is not representative of the distribution of volunteers in the population.
4. *What data does each instance consist of? "Raw" data (for example, unprocessed text or images) or features? In either case, please provide a description.*
    - Each instance consists of the text answers to the questions in the survey on the topics of volunteering (such as quality of volunteer experience, reasons for volunteering, history of volunteering), giving (number of donations, amounts for each donation, reasons for giving), participating (youth experiences) and other socio-demographic characteristics (such as age, martial status, education, occupation, birthplace).
5. *Is there a label or target associated with each instance? If so, please provide a description.*

- No.

6. *Is any information missing from individual instances? If so, please provide a description, explaining why this information is missing (for example, because it was unavailable). This does not include intentionally removed information, but might include, for example, redacted text.*
   - No.
7. *Are relationships between individual instances made explicit (for example, users' movie ratings, social network links)? If so, please describe how these relationships are made explicit.*
   - N/A
8. *Are there recommended data splits (for example, training, development/validation, testing)? If so, please provide a description of these splits, explaining the rationale behind them.*
   - No.
9. *Are there any errors, sources of noise, or redundancies in the dataset? If so, please provide a description.*
   - No.
10. *Is the dataset self-contained, or does it link to or otherwise rely on external resources (for example, websites, tweets, other datasets)? If it links to or relies on external resources, a) are there guarantees that they will exist, and remain constant, over time; b) are there official archival versions of the complete dataset (that is, including the external resources as they existed at the time the dataset was created); c) are there any restrictions (for example, licenses, fees) associated with any of the external resources that might apply to a dataset consumer? Please provide descriptions of all external resources and any restrictions associated with them, as well as links or other access points, as appropriate.*
    - The dataset is self-contained.
11. *Does the dataset contain data that might be considered confidential (for example, data that is protected by legal privilege or by doctor-patient confidentiality, data that includes the content of individuals' non-public communications)? If so, please provide a description.*
    - The data is a public use microdata file (PUMF) so it has been anonymized.
12. *Does the dataset contain data that, if viewed directly, might be offensive, insulting, threatening, or might otherwise cause anxiety? If so, please describe why.*
    - No.
13. *Does the dataset identify any sub-populations (for example, by age, gender)? If so, please describe how these subpopulations are identified and provide a description of their respective distributions within the dataset.*
    - Yes, there are flags for if the respondent is a formal volunteer, informal volunteer and giver.
14. *Is it possible to identify individuals (that is, one or more natural persons), either directly or indirectly (that is, in combination with other data) from the dataset? If so, please describe how.*
    - No, the data is a public use microdata file (PUMF) so it has been anonymized.
15. *Does the dataset contain data that might be considered sensitive in any way (for example, data that reveals race or ethnic origins, sexual orientations, religious beliefs, political opinions or union memberships, or locations; financial or health data; biometric or genetic data; forms of government identification, such as social security numbers; criminal history)? If so, please provide a description.*
    - No. Although religious affiliation is a flag (has a religious affiliation or not), the specific denomination is not included.
16. *Any other comments?*
    - No.

Collection process

1. *How was the data associated with each instance acquired? Was the data directly observable (for example, raw text, movie ratings), reported by subjects (for example, survey responses), or indirectly inferred/derived from other data (for example, part-of-speech tags, model-based guesses for age or language)? If the data was reported by subjects or indirectly inferred/derived from other data, was the data validated/verified? If so, please describe how.*
    - The data was reported by subjects. At every stage of processing of the data, Statistics Canada made efforts to verify the data such as by identifying and eliminating potential duplicate records and dropping non-response and out-of-scope records.
2. *What mechanisms or procedures were used to collect the data (for example, hardware apparatuses or sensors, manual human curation, software programs, software APIs)? How were these mechanisms or procedures validated?*
    - Data were collected electronically as a self-completed questionnaire (rEQ) and via computer assisted telephone interviews (iEQ).
3. *If the dataset is a sample from a larger set, what was the sampling strategy (for example, deterministic, probabilistic with specific sampling probabilities)?*
    - Participants were first chosen using simple random sampling within geographical strata, and then rejective sampling was used on these samples to obtain more candidates within the population of interest, which is volunteers.
4. *Who was involved in the data collection process (for example, students, crowdworkers, contractors) and how were they compensated (for example, how much were crowdworkers paid)?*
    - There were interviewers in the data collection process, but their compensation was not specified.
5. *Over what timeframe was the data collected? Does this timeframe match the creation timeframe of the data associated with the instances (for example, recent crawl of old news articles)? If not, please describe the timeframe in which the data associated with the instances was created.*
    - September 4th to December 28th, 2018
6. *Were any ethical review processes conducted (for example, by an institutional review board)? If so, please provide a description of these review processes, including the outcomes, as well as a link or other access point to any supporting documentation.*
    - No.
7. *Did you collect the data from the individuals in question directly, or obtain it via third parties or other sources (for example, websites)?*
    - The data was obtained using SDA @ CHASS at the University of Toronto.
8. *Were the individuals in question notified about the data collection? If so, please describe (or show with screenshots or other information) how notice was provided, and provide a link or other access point to, or otherwise reproduce, the exact language of the notification itself.*
    - N/A
9. *Did the individuals in question consent to the collection and use of their data? If so, please describe (or show with screenshots or other information) how consent was requested and provided, and provide a link or other access point to, or otherwise reproduce, the exact language to which the individuals consented.*
    - N/A
10. *If consent was obtained, were the consenting individuals provided with a mechanism to revoke their consent in the future or for certain uses? If so, please provide a description, as well as a link or other access point to the mechanism (if appropriate).*

- N/A

11. *Has an analysis of the potential impact of the dataset and its use on data subjects (for example, a data protection impact analysis) been conducted? If so, please provide a description of this analysis, including the outcomes, as well as a link or other access point to any supporting documentation.*
    - N/A
12. *Any other comments?*
    - No.

Preprocessing/cleaning/labeling

1. *Was any preprocessing/cleaning/labeling of the data done (for example, discretization or bucketing, tokenization, part-of-speech tagging, SIFT feature extraction, removal of instances, processing of missing values)? If so, please provide a description. If not, you may skip the remaining questions in this section.*
    - Statistics Canada: Verification was performed to identify and eliminate potential duplicate records and to drop non-response and out-of-scope records. Records with missing or incorrect information were, in a small number of cases, corrected deterministically or imputed from other information on the questionnaire.
    - Using the provided data, I transformed some variables into binary responses, for example the 'Quality of Volunteer Experience' variables which were originally rated on a 5-degree scale from Strongly disagree to Strongly Agree.
2. *Was the "raw" data saved in addition to the preprocessed/cleaned/labeled data (for example, to support unanticipated future uses)? If so, please provide a link or other access point to the "raw" data.*
    - The raw data has not been made available.
3. *Is the software that was used to preprocess/clean/label the data available? If so, please provide a link or other access point.*
    - I used R (R Core Team 2020) for all data processing.
4. *Any other comments?*
    - No.

Uses

1. *Has the dataset been used for any tasks already? If so, please provide a description.*
    - In this paper, the dataset is used to build multiple linear regression models to investigate the relationship between volunteering and life satisfaction.
2. *Is there a repository that links to any or all papers or systems that use the dataset? If so, please provide a link or other access point.*
    - The repository to reproduce this paper can be found at https://github.com/KCtt457/gssvolunteering2018.
3. *What (other) tasks could the dataset be used for?*
    - Analysis of trends in the patterns of Giving, Volunteering and Participating in Canada.
4. *Is there anything about the composition of the dataset or the way it was collected and preprocessed/cleaned/labeled that might impact future uses? For example, is there anything that a dataset consumer might need to know to avoid uses that could result in unfair treatment of individuals or groups (for example, stereotyping, quality of service issues) or other risks or harms (for example, legal risks, financial harms)? If so, please provide a description. Is there anything a dataset consumer could do to mitigate these risks or harms?*

- Since the data was collected by rejective sampling, one cannot use it to make claims about the distribution of proportion of volunteers in the wider population of Canada. Otherwise, I did not identify any risks or harms of the dataset.

5. *Are there tasks for which the dataset should not be used? If so, please provide a description.*
   - No.
6. *Any other comments?*
   - No.

Distribution

1. *Will the dataset be distributed to third parties outside of the entity (for example, company, institution, organization) on behalf of which the dataset was created? If so, please provide a description.*
   - The dataset is available to subscribing institutions as listed on the Statistics Canada website, Canadian Universities and Colleges participating in the Data Liberation Initiative (DLI) and is also available for order on the Statistics Canada website.
2. *How will the dataset be distributed (for example, tarball on website, API, GitHub)? Does the dataset have a digital object identifier (DOI)?*
   - The dataset is available for download through the SDA @ CHASS website at the University of Toronto to members of the University of Toronto community and is also available in EFT format when ordered from Statistics Canada.
3. *When will the dataset be distributed?*
   - It is already available.
4. *Will the dataset be distributed under a copyright or other intellectual property (IP) license, and/or under applicable terms of use (ToU)? If so, please describe this license and/ or ToU, and provide a link or other access point to, or otherwise reproduce, any relevant licensing terms or ToU, as well as any fees associated with these restrictions.*
   - It is distributed to Canadian Universities and Colleges participating in the Data Liberation Initiative (DLI) under the Data Liberation Initiative - Licence Agreement.
5. *Have any third parties imposed IP-based or other restrictions on the data associated with the instances? If so, please describe these restrictions, and provide a link or other access point to, or otherwise reproduce, any relevant licensing terms, as well as any fees associated with these restrictions.*
   - When accessing data through SDA @ CHASS, links to data are IP-address restricted. Off campus University of Toronto users must first log in to myaccess.
6. *Do any export controls or other regulatory restrictions apply to the dataset or to individual instances? If so, please describe these restrictions, and provide a link or other access point to, or otherwise reproduce, any supporting documentation.*
   - No.
7. *Any other comments?*
   - No.

Maintenance

1. *Who will be supporting/hosting/maintaining the dataset?*
   - Statistics Canada hosts the dataset in their Public Use Microdata File (PUMF) Collection.

2. *How can the owner/curator/manager of the dataset be contacted (for example, email address)?*
    - Contact PUMF at Statistics Canada at statcan.fmgd-pumf.statcan@canada.ca.
3. *Is there an erratum? If so, please provide a link or other access point.*
    - No.
4. *Will the dataset be updated (for example, to correct labeling errors, add new instances, delete instances)? If so, please describe how often, by whom, and how updates will be communicated to dataset consumers (for example, mailing list, GitHub)?*
    - No.
5. *If the dataset relates to people, are there applicable limits on the retention of the data associated with the instances (for example, were the individuals in question told that their data would be retained for a fixed period of time and then deleted)? If so, please describe these limits and explain how they will be enforced.*
    - No.
6. *Will older versions of the dataset continue to be supported/hosted/maintained? If so, please describe how. If not, please describe how its obsolescence will be communicated to dataset consumers.*
    - N/A.
7. *If others want to extend/augment/build on/contribute to the dataset, is there a mechanism for them to do so? If so, please provide a description. Will these contributions be validated/verified? If so, please describe how. If not, why not? Is there a process for communicating/distributing these contributions to dataset consumers? If so, please provide a description.*
    - No.
8. *Any other comments?*
    - No.

A Additional details

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