

Volunteerism during the COVID-19 Pandemic: A look at Risk Perceptions, Health Behaviors,
and Quality of Life

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Abstract:

Objective: The COVID-19 pandemic has had effects on individuals and society with thousands of citizens volunteering to fill the gaps in their communities' infrastructure and services. It is unclear how volunteering during the pandemic has impacted the health of volunteers. This study sets out to examine the effect volunteering has on quality of life during the pandemic.

Methods: The measurement tool (N=173) was an online survey that was distributed to a sample of volunteers via email. Participant's time spent volunteering and how COVID-19 has impacted their quality of life, health behaviors, and risk perceptions were assessed. Data was analyzed using general frequencies, bivariate correlations, and an adjusted linear regression model.

Results: A significant positive correlation between volunteering and an individual's overall quality of life ($p=.045$) was found. An adjusted regression model showed the relationship was not significant ($p=.47$) after controlling for covariates.

Conclusion: The COVID-19 pandemic has had a negative effect on individual health behaviors that contribute quality of life. The act of volunteering may offset these impacts and promote individual wellbeing. Actions should be taken to promote volunteerism. Additional research is needed, and volunteer organizations should consider taking further steps to promote healthy behaviors in their operations, training, and engagement.

INTRODUCTION

Volunteerism is a crucial part of all communities and populations¹. In general, volunteering provides for needed services where current infrastructure and resources may be lacking. In 2018, 77 million adults (roughly $\frac{1}{3}$ of the US population) volunteered through a community organization¹. The COVID-19 pandemic has shown the need and impact of volunteers, especially those relating to healthcare and public health services. In 2020, as the number of COVID-19 infections rose, so did the number of community volunteers². Communities have a finite amount of emergency, health, and other essential services. As the pandemic has exacerbated these resources, volunteers have stepped up to address community shortcomings².

Those who volunteer experience improved self-perceptions, personal confidence, social networks/capital, and developed new skills³. Volunteering empowers individuals to understand their role in a community, and to see the positive impacts of their actions. However, those who volunteer in a disaster setting and can be witness to extremely stressful and chaotic situations that may have negative mental health impacts⁴. During COVID-19 pandemic, volunteers could have continued exposure by working in these stressful conditions. Negative health outcomes include depression, anxiety, and other mental health issues⁴. This can decrease motivation, perceived health, and overall quality of life of an individual who volunteers. There are limited amounts of evidence on how volunteering during the COVID-19 pandemic impacts an individual's physical health, behaviors, and perceived risks.

The purpose of this study is to examine how volunteering during the time of and in response to COVID-19 is related to the quality of life and other health factors of volunteers. The

study hypothesizes that an increase in volunteer time supports a positive quality of life for those who volunteer.

METHODS

Measurement Tool

COVID-19 Perceived Risk Assessment

The survey asked questions to gauge an individual's perceived risks that relate to COVID-19. The study used the “knowledge & attitudes toward COVID-19” guidance of the NIH COVID-19 Community Response Survey to measure these factors⁵. The six questions assessed perceived risks such as catching the virus, severity of disease, and impacts to friends and family. Statements were responded to with the participants belief on the chance of the situation occurring based on a 7-point Likert scale from “no chance” of occurring to “absolutely sure”, as well as an indication if the risk factor has already occurred.

Quality of Life Assessment

The measurement tool contained six questions that covered the impacts on participants' quality of life due to the spread of COVID-19. This scale has been validated for non-clinical use, such as with this study's sample⁶. The assessment contained questions asking if the pandemic has lowered different aspects of mental health, perceived quality of life, and physical health and safety. Participants responded with their agreement of the statement based on a 5-point Likert scale. A participant's overall quality of life was found through a mean of the responses to the six questions.

Health Behavior Assessment

The measurement tool had a twenty-question assessment that created an overview of a participant's changes in health behaviors as a result of COVID-19. This questionnaire was previously used in a COVID-19 lifestyle behavior study and was found valid and consistent⁷. The assessment examines different aspects of a participant's diet, nutrition, and physical activity, which are based on a 5-point Likert scale ranged from "significantly decreased" to "significantly increased". Sleep quantity was also included in the assessment and was scored on a 3-point Likert scale of "significantly decrease/increase", "slightly decrease/increase", and "similar".

Demographics

Participant demographics were collected through questions pulled from the 2019 Behavioral Risk Factor Surveillance Survey⁸. Questions examined aspects such as age, race, and employment status. Study-specific questions were added to identify participants' backgrounds and amount of time spent volunteering.

Data Collection & Analysis

Volunteers of the Medical Reserve Corps of Kansas City (MRCKC) (173 participants) were recruited via email to participate in a 10-minute online survey. Institutional Review Board approval was obtained at the University of Kansas- City (protocol: 2047242) and was found to be IRB exempt. The measurement tool was distributed to the sample through mass email and was made available for one week. A reminder email was also sent during the open period to promote participation. Data was collected through Qualtrics and was then exported to IBM SPSS

Statistics for Windows, Version 26 for analysis. One survey response was not included in the analysis because it had no responses to any questions.

General frequency analysis included mean, standard deviation, and percentages. This was used to examine univariate variables (demographics, frequency of volunteering, survey assessment results). The amount of volunteering and time per shift variables were combined to provide an overview of a participants volunteer frequency. For simplicity, the quality of life scale was re-coded from an disagree- agree format to an agree- disagree scale. A two tailed bivariate Pearson correlation was conducted between quality of life and volunteer time as well as between various other variables. Furthermore, an adjusted linear regression was conducted between the volunteer time/quality of life relationship and demographic values. Correlations were analyzed using an alpha level of .05.

RESULTS

173 responses were collected, a response rate of 16.9%. The majority of participants were white (94.7%), non-Hispanic (97.1%), married (78.5%), and employed for wages (44.3%). Roughly, a quarter of the sample are current medical providers. The reported frequency of volunteering was infrequent, with the most common response being less than one day a week. The greater part of responses reported an average volunteer shift of 4 hours. The results of the survey indicated the pandemic had a negative impact on health behaviors of exercise, sleep quality and quantity, and having a healthy diet. Average responses to perceived risks of COVID-19 indicated a small to medium risk of individual infection, hospitalization, infecting someone else, and that someone in a participant's direct environment will die. A medium to high chance of risk was shown for factors of someone in the participants direct environment being infected as

well as the participant being forced to quarantine. In regard to the quality of life assessment, responses indicate agreement that the pandemic had negative impacts on participants' mental health, anxiety, depression, and general perceived quality of life. Factors of physical health and risk to personal safety had a response of “neither agree nor disagree”. The average of the samples mean quality of life score indicates slight agreement that the pandemic has negatively impacted a participant’s quality of life. Sample demographics, survey results, and univariate analyses are presented in Figure 1.

The Pearson bivariate correlation was conducted between various factors of the survey. Individual health behaviors (diet, exercise, and sleep patterns) all maintained a significant correlation with quality of life. Additionally, there were correlations between quality of life and age ($p=.001$) as well as between volunteer time and age ($p= .012$). Participants mean quality of life was compared to overall volunteer frequency. These factors had a significant correlation ($p=.045$) and had a positive relationship.

A further adjusted linear regression compared the relationship between volunteer time and quality of life with demographic covariates. The results of this analysis showed the relationship as non- significant ($p= .47$). The regression output is presented in Figure 2.

Figure 1: Survey Results

Variable	Mean or N	SD or %
Age	53.9	13.3
Race		
White	161	94.7%

	Black	2	1.2%
	American Indian/ Alaskan Native	3	1.8%
	Asian	3	1.8%
	Other	1	0.6%
Ethnicity	Hispanic	5	2.9%
	Non-Hispanic	166	97.1%
Employment	Employed for wages	77	44.3%
	Self employed	19	10.9%
	Out of work for less than 1 year	14	8.1%
	Out of work for more than 1 year	34	19.5%
	Homemaker	22	12.6%
	Student	8	4.6%
Marital Status	Married	135	78.5%
	Divorced	17	9.9%

Widowed	5	2.9%
Never Married	15	8.7%
Healthcare Worker		
Yes	48	27.9%
No	124	72.1%
Volunteer Frequency (per week)		
Less than 1 day	112	65.5%
1 day	29	17.0%
2 days	20	11.7%
3 days	4	2.3%
4 days	2	1.2%
5 days	3	1.8%
6 days	0	0.0%
7 days	1	0.6%
Time per shift		
Less than 1 hour	22	13.3%
1 hour	2	1.2%
2 hours	5	3.0%
3 hours	12	7.3%

4 hours	93	56.4%
5 hours	12	7.3%
More than 5 hours	19	11.5%
Quality of life assessment		
Quality of life is lower	2.3	1.2
Mental health has deteriorated	2.8	1.2
Physical health has deteriorated	3.0	1.2
Feel more tense	2.5	1.2
More depressed than before	2.8	1.2
Personal safety is at risk	3.0	1.1
Overall QOL	2.7	0.9
Health Behaviors*		
Sleep Quality	-0.3	0.8
Sleep Quantity**	-0.5	6.7
Healthy Diet	-0.04	0.6
Exercise	-0.2	1.0
Perceived COVID Risk		
You will be infected	2.7	1.0
Someone in direct	3.9	1.8

environment will get infected		
You will be hospitalized	2.5	0.9
You will have to quarantine	3.4	1.6
You will infect someone else	2.6	0.8
Someone in your direct environment will die	2.7	1.3

*-Scale -2 to 2; **- Scale -2 to 0

Figure 2: Adjusted Linear Regression for Volunteer Time and Demographics

<u>Effect</u>	<u>Estimate</u>	<u>Standard Error</u>	<u>Lower Limit</u>	<u>Upper Limit</u>	<u>p</u>
Volunteer Time	0.07	0.01	-0.02	0.03	0.47
Age	0.18	0.01	0.00	0.02	0.04
Race	0.09	0.06	-0.05	0.18	0.30
Ethnicity	-0.06	0.54	-1.43	0.71	0.50
Employment Status	0.05	0.04	-0.05	0.09	0.59
Marital Status	-0.05	0.06	-0.16	0.09	0.56
Healthcare Worker Status	0.01	0.17	-0.30	0.35	0.90

Confidence Level= 95%

DISCUSSION

Along with the priceless impacts volunteer service has on a community, there are numerous benefits provided to the individual volunteer. The purpose of this study was to examine how volunteering during the COVID-19 pandemic relates to quality of life. The study results show that volunteerism in itself has a positive correlation on how COVID-19 has affected an individual's quality of life. The greater frequency of volunteering coincides with a less impacted quality of life. But, when adjusting for demographic and social factors, the effect has no impact. Because of this, the study cannot accept the stated hypothesis.

Positive health behaviors such as having a healthy diet, maintaining sleep practices, and exercising minimize the potential impact to quality of life. The study showed that COVID-19 has had a negative impact on all of the different behaviors. The reasoning behind these factors could be contributed to what current literature refers to as “pandemic burnout”⁹. These prolonged stressors include societal-wide impacts such as loss of jobs, limited social interaction, and restrictions to recreation activities and opportunities⁹. Perceived risk to COVID-19 plays a great part in overall health behaviors. A study conducted roughly a year ago during the beginning of the pandemic captured perceived risk during that time¹⁰. Comparing studies such as this to findings from this research helps show the change in individual risks over the course of the pandemic. Aspects such as the chance of personal infection, severity, and transmitting the disease shifted from high risk to the reported low-medium chance that was shown in this study. There is a common factor between the studies and the two points in time- the perceived risk to others was higher than the perceived risk to oneself¹⁰. Our findings presented that the risk of someone in your direct environment was perceived as a medium-high chance, rather than the individual risk of low-medium.

Implications of this research include highlighting the need to support volunteer health and quality of life. Long term impacts of COVID-19 may expand the need for volunteers in a community². While volunteering may reduce the pandemic's impact on quality of life, additional actions should be taken to support volunteer forces. Mitigation methods should be placed to support service workers⁴. These support programs could focus on a variety of health aspects, such as promoting healthy behaviors, health education, and mental health check ins.

Strengths and Limitations: Strengths of this study include the use of survey methods. This allowed for an effective collection of primary data which required minimal effort from the participant. The study's data, results, and findings can pilot future research on topics such as volunteerism and COVID-19 impact to health. The internal validity of the health behavior assessment is impacted due to the inadvertent incident of leaving a question out when surveying the population. This specific question that was excluded was "During COVID pandemic, how was your participation in leisure and household chores changed". The sample demographics hold limited diversity and could introduce bias. It should be noted that the study examines the impact COVID-19 has specifically had on quality of life and has a sample of individuals who's volunteer duties specifically related to COVID-19 response.

Conclusion: The work of volunteers has an invaluable impact on a community. The act of volunteering may support a beneficial quality of life during the pandemic. The purpose of most volunteer activities is to combat social inequities, but to achieve the most benefits of volunteering, demographic and social implications should be considered regarding volunteers themselves. Additional action needs to be taken by volunteer organizations to support healthy behavior. Further research should include samples with volunteers who work in service fields other than disaster services, as well as outside of the context and setting of COVID-19.

Conflicts of Interest: None

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