Haley McCreary

Who is Acting Pro-socially During the Coronavirus Pandemic (and Why)?

Summary

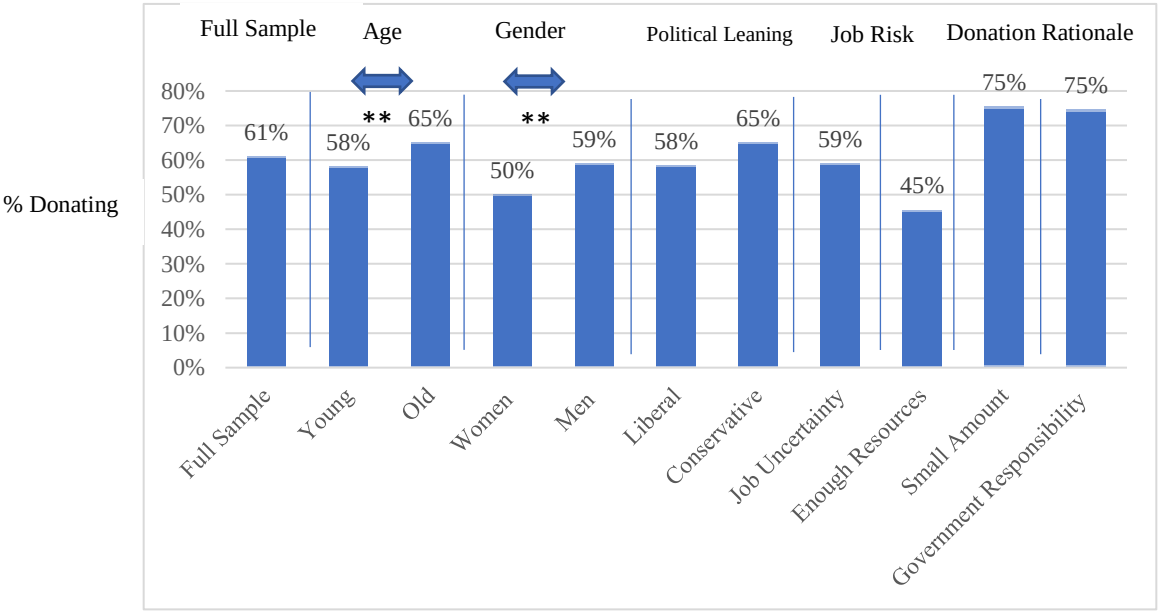
The COVID-19 pandemic has created extraordinarily challenging circumstances. The disease has impacted all industries and has caused the highest levels of unemployment since the Great Depression. According to the Bureau of Labor Statistics, the unemployment level has already risen to 14.7% as of the end of April, up from 3.5% before the pandemic began ("The Employment Situation - April 2020" 2020). A study by Main Street America projected that 7.5 million small businesses across the U.S. are at risk of closing permanently, leaving approximately 35.7 million Americans in the small business industry at risk of unemployment (Powe and Wagner 2020). Even the health care industry is taking a financial hit. A study conducted by FAIR Health estimated that hospitalized COVID-19 patients would cost the U.S. health care system between $362 billion and $1.449 trillion to treat over the duration of the pandemic (LaPointe 2020). Being forced to shutdown lucrative elective procedures and imaging means that even hospitals are at risk for closing or consolidating (Kliff 2020). With these difficulties, people can either turn inwards and focus solely on their own needs, or they can choose to help those most affected. The latter is more desirable from a societal perspective, as it creates positive externalities such as inspiring others to donate.

Using data collected from an online experiment, I examine if there are underlying characteristics associated with who is acting pro-socially, measured as donating, volunteering, and acting with concern towards their community. More specifically, I examine how demographic information, political leaning, and job security dictates whether someone donates to COVID-19 aid, whether they watch videos about how to stop the spread of COVID-19, and whether they are likely to cancel dinner plans. I begin with a simplistic graph as shown below to depict the averages among demographics who decide in the experiment to donate towards COVID-19 relief efforts. I then improve upon these findings by controlling for demographic variables simultaneously using a series of multivariate OLS regressions.

I find that age and being female are significant predictors of whether individuals act pro-socially. These findings support the literature as to who donates and volunteers. Going against the literature, I find that conservatives and those who are college-educated are not more likely to act pro-socially. Whether an individual faces job uncertainty is also not associated with pro-social behavior. After establishing relationships between who acts pro-socially, I then determine if there is a correlation between the rationale an individual bases their donation on and whether they donate. My results suggest that when individuals consider whether they have enough resources, they are less likely to donate and donate less.

These results are important as they elucidate which demographics should be targeted to solicit volunteers and donations. They also shed light on who is not donating and why, which may be important from a policy perspective to consider how to encourage these demographics to act more pro-socially. These findings can be used by policymakers to help determine the most effective ways to save lives and industries by knowing which people to look to for aid.

Demographics of Those Who Donated



Note: The outcome was measured as whether respondents donated or not. "Young" are respondents under 40 while "Old" are respondents over 40. "Job Uncertainty" includes those who had job uncertainty and those who were not sure if they had job uncertainty. "Enough Resources" measured whether the respondent considered whether they had enough resources when deciding to donate. "Small Amount" measured whether the respondent believed that donating a small amount made a difference/ "Government Responsibility" measured whether the respondent believed it was the government's or their own responsibility to provide resources. "**" indicates a 5% significance level.

Background

In my research, I aim to answer the question of what types of people are acting pro-socially and in what ways are they demonstrating pro-social behavior. I measure pro-social behavior by three different measures: whether survey respondents donated their survey earnings to COVID-19 relief efforts, whether they completed videos regarding how to stop the spread of disease and protect vulnerable populations, and whether they were likely to cancel a planned dinner during the pandemic. A recent study by the Charities Aid Foundation found that the United States was one of the most charitable countries in the world ("CAF World Giving Index 2017: A Global View of Giving Trends" 2017). However, there is substantial variation in the characteristics of those who donate. Although little work has been done on pro-social behavior during COVID-19, given the recency of the disease, there is literature that can be draw on regarding the characteristics of individuals who typically donate and volunteer. Numerous studies have found that charitable giving generally increased with age (Wunnava and Lauze 2001; Auten and Joulfaian 1996; Wu, Huang, and Kao 2004; Yao 2015). Some studies have further delineated at what ages donations start to decrease. Auten and Joulfaian found that those aged 40-84 tend to donate more than those either older or younger, while Wu, Huang, and Kao found that donations increase until age 65 and then start declining (Auten and Joulfaian 1996; Wu, Huang, and Kao 2004).

Evidence is more mixed regarding gender's role in donations. According to a review study by Bekkers and Wiepking, most research finds that there are no statistical differences between males and females in donation amounts (René Bekkers and Wiepking 2007). However, there have been a number of studies which indicate that donation behavior may be different between males and females. One study found that white women are more likely to give any amount, whereas males are more likely to give larger amounts (Andreoni 2004). Regnerus et al. found that women were more likely than men to give to the needy and poor, and Einolf found that women were more likely to volunteer (Regnerus, Smith, and Sikkink 1998; Einolf 2011). In contrast, Bekkers found that males were more likely to give to health charities in the Netherlands (Rene Bekkers 2007).

Evidence suggests that those who are more educated and those who identify as Republican are more likely to act charitably. In their review article, Bekkers and Wiepking note that there is generally a positive relationship between philanthropy and education level, and individuals with more education are more likely to give a larger portion of their income (René Bekkers and Wiepking 2007). The field of study of an individual's education has also been shown to matter, as Wunnava and Lauze and Hillygus found that social science majors are more likely to volunteer than graduates from other majors, and Bekkers and de Graaf further add that graduates in these fields are more likely to donate greater amounts (Wunnava and Lauze 2001; Sunshine Hillygus 2005; René Bekkers and de Graaf 2005). A recent study using county-level data found that Republican districts are more likely to be charitable compared to Democratic districts (Paarlberg et al. 2019). Margolis and Sances reached similar conclusions when examining donations on an individual level (Margolis and Sances 2017).

Research Design

The study was conducted in late March and early April 2020, shortly after states started to enact shelter-in-place and social distancing orders. Approximately 1,650 participants located in 49 U.S. states were recruited via Amazon's Mechanical Turk. The dataset combines surveys from two different studies. Therefore, some questions were only asked for a subset of the sample. The average age of the population is 37, slightly below the national average of 38.2. 40% are female and 70% of the sample identifies as "white," compared to the national average of 60%. 55% of participants completed a four-year college degree, far above the national average of 35%.

As previously mentioned, I run three separate regressions and look at various measures of pro-social behavior: donations, volunteering, and willingness to wear a mask. Upon the completion of the survey, respondents were compensated 50 cents for their time. They were then given the opportunity to donate any amount of the 50 cents to the CDC Foundation's Emergency Response Fund and were told that the funds would support personal protective equipment and critical response supplies, which could be used to help prevent the spread of the coronavirus. Donations were measured in this regression in two ways: whether individuals donated at all, a

binary variable, and how much money they gave, a continuous variable. Respondents were also asked if they wanted to learn more about volunteering opportunities by clicking on a link. Within this link were two videos that respondents could watch. The first video ("V1") presented general information about effective strategies to stop the spread of the disease. The second video ("V2") offered information about the particular risks the elderly population face with respect to the coronavirus and measures that can be taken to protect this demographic. The "V1" and "V2" in the regression are binary variables measuring whether respondents finished each of these videos. The last measure of pro-social behavior I measure is the likeliness of them cancelling dinner. Participants respond to the hypothetical question of how likely they would be to cancel a planned dinner if everyone felt healthy.

I control for the same variables in each of my outcomes, including measures for demographics, political leaning, and job characteristics. I create age ranges including 18-29, 30-39, 40-49, and over 50-year-old brackets. I then control for if the respondent is female. In terms of demographic information, I finally control for if the respondent received a 4-year college degree. I then control for whether the respondent is very liberal or slightly liberal ("Liberal") and whether they are very conservative or slightly conservative ("Conservative"). I then control for whether the respondent had uncertainty about losing their job. With these variables, I run a series of OLS regressions to determine whether there are patterns among individuals' characteristics which determine their likeliness of acting pro-socially, and if personal characteristics determining pro-social behavior vary between the three outcomes.

After examining the characteristics of who acts pro-socially, I then sought to determine the rationale people used when deciding to donate. Within the survey, participants responded with which decisions influenced their choice of how much to donate, including the options "Do I have enough resources myself in the current situation?", "Does that small amount make a difference?", and "Is it my or the government's responsibility to provide services?." I then ran regressions with the donation rationale and demographic information as the independent variables and whether an individual donated and how much they donated as the dependent variables.

Results

I first examine what individual characteristics are correlated with whether individuals donate and how much they donate. Those aged 40-49 and older than 50 were statistically more likely than those aged 18-29 to donate to COVID-19 relief efforts in the first 3 columns of Table 1. Even once controlling for political leaning and job conditions, the coefficients remain fairly stable for each age category, where those aged 40-49 and over 50 are between 7 and 8 percentage points more likely to donate and those aged 18-29. However, while the 40-49-year-olds have statistically higher levels of donating with in columns 1-3, significance does not remain after controlling for political affiliation and job uncertainty for those over 50 years old. These findings support the literature, where donations increase with higher age, although there is almost no difference in the probability of donating between the 40-49 and 50 plus age brackets (significant at 5% level). This may be because the differences between ages in these two brackets is not that large. While females had higher probabilities of donating than males, it was not statistically significant. Having a college degree did not matter as well, which goes against the findings of the literature. Political leaning was not statistically significant, although conservatives were more likely to donate compared to moderates. Similar treads emerged when examining the amounts that individuals donated. As was the case when examining whether or not individuals donated, older survey participants donated larger amounts. 40-49-year-olds and those older than 50 donated approximately 4 cents more compared to adults less than 29, which remained significant in models 4-6. Those aged 50 or older donated more than those aged 40-49, which is significant at the 5% level and is in line with the findings of Wu, Huang, and Kao that the older people are, the more they tend to donate. As in columns 1-3, being female, going to college, political leaning, and job uncertainty are not associated with statistically different levels of donations.

I then focus on the associations between personal characteristics and the likeliness of finishing the videos in Table 2. For watching Video 1, which was about how to prevent the spread of the coronavirus, each age bracket was more likely to finish the video compared to 18-29-year-olds. Additionally, for each of the controls within columns 1-3, the higher the age bracket, the increased probability of finishing the video, with probabilities ranging between 11 to 23 percentage points higher than those aged 18-29. 40-49-year-olds were statistically more

likely than 30-39-year-olds to donate (significant at the 5% level), but those over 50 were not statistically more likely to donate that 40-49-year-olds. This may be because the older you are, the higher your risk for contracting COVID-19 and the worse your prospects are ("Coronavirus Age, Sex, Demographics (COVID-19) - Worldometer" 2020). Given that older age groups are more likely to have worse outcomes, they may be more concerned with preventing the disease's spread. Unlike with donations, females were about 11 percentage points more likely to finish the videos compared to males with all controls and was significant at the 1% level. This goes along with the findings of Regus, Smith, and Sikkink and Einolf, who found that females were more likely than males to volunteer (Regnerus, Smith, and Sikkink 1998; Einolf 2011). In columns 4-6, which examined the association between demographics and the likelihood of watching videos about how to protect the elderly, those aged 40-49 and over 50 were between 11 and 16 percentage points more likely to finish the videos compared to 18-29-year-olds. This is similar to the patterns from Video 1, other than 30-39-year-olds not being statistically more likely. Being liberal led to an 11 percentage points lower likelihood of finishing videos compared to moderates, which is supported by the findings of Margolis and Sances (Margolis and Sances 2017).

Next, I evaluate the characteristics associated with cancelling dinner in Table 3. As in the other measures of pro-social behavior, those aged 40-49 and over 50 were between 7 and 12 percentage points more likely to cancel a planned dinner in all controls from columns 1-3. As was the case for watching Video 1, and although not statistically significant similar to watching Video 2 and donating, being female was strongly statistically significantly predictive of cancelling dinner, being between 24 and 26 percentage points more likely. Against the findings of other literature and of the other measures of pro-social behavior I examined, liberals were 24 percentage points more likely to cancel compared to moderates, and conservatives were less likely to cancel, although the coefficient was not significant. In each of these models, attending college and having job uncertainty was not predictive acting pro-socially.

I then aimed to determine the rationale used when people decide whether to donate and how much to donate in Table 4. Compared to people whose donation rationale was either "Other" or "How much do people expect me to give?", those whose decision was based on

whether they had enough resources were 22 percentage points less likely to donate at all. These results were significant at the 1% level and remained after controlling for age, gender, and college education. A similar pattern emerged when examining the amount given, as those who considered whether they had enough resources donated about 8 cents less compared to those whose consideration was based on something else or how much others expected them to give. Although both those who considered whether their small donation would make a difference and whether it was theirs or the government's responsibility to provide finances were more likely to give and give more, none were statistically significant.

Conclusion

In conclusion, some clear patterns did emerge in terms of who is acting pro-socially during COVID-19. Across all measures of pro-social behavior, those aged 40-49 and over 50 donated more than those aged 18-29, and in some cases, those aged 30-39 also acted pro-socially, which is in line with the literature. Conversely, none of my results suggested that those who were college-educated acted more pro-socially, which goes against the literature. Surprisingly, especially for donation measure, having job uncertainty did not significantly contribute to the likeliness of acting pro-socially. It is possible that this result stemmed from two counteracting effects: some having less financial security, causing fewer donations, and some recognizing the severity of the situation, causing increased donations. Evidence was mixed across the political spectrum. In some cases, there were no differences in pro-social behaviors between liberals and conservatives, such as with donations, whereas in other cases liberals either gave significantly more or less. These results go against the findings that Republicans, which overlap highly with conservatives, are more likely to donate. In all measures of pro-social behavior, females acted more pro-socially compared to males, although there was not always statistical significance. The decision of whether to donate and how much to give was driven by whether people had enough resources or not. Interestingly, having job uncertainty, which may be correlated with the amount of resources an individual has, was not a significant determinant in acting pro-socially.

These findings have implications for which demographics should be solicited for donations and volunteer opportunities. Policymakers should target these demographics to get the

most “bang for their buck.” The findings also have implications for who is not acting pro-socially. This may suggest that the current methods used to encourage them to behave pro-socially have not been effective, and alternative means may need to be tested. It would be interesting to further examine why political affiliation only mattered in some cases of pro-social behavior, and in cases where there was a statistical difference, why partisans reacted in the way they did. It would also be interesting to examine pro-social behavior by race and on a state-level basis to determine whether policies in place, the severity of health crisis, and the leaders of the state impact pro-social behavior. Finally, it could be beneficial to determine if personal interactions with the disease, such as knowing someone affected by it, influences pro-social behavior.

Table 1

Determinants of Donations

	(1) Donate Pos	(2) Politc	(3) Donate Job	(4) Amount Don	(5) Politc	(6) Amount Job
_30_39	0.017	0.016	0.018	1.450	1.467	1.250
	(0.031)	(0.031)	(0.031)	(1.061)	(1.060)	(1.051)
_40_49	0.080**	0.075**	0.076**	4.022***	4.017***	3.885***
	(0.037)	(0.037)	(0.037)	(1.333)	(1.339)	(1.321)
_50_plus	0.080**	0.075*	0.075*	4.952***	4.938***	4.901***
	(0.038)	(0.038)	(0.038)	(1.417)	(1.418)	(1.412)
1=Female	0.043*	0.046*	0.044*	2.455***	2.447***	2.635***
	(0.025)	(0.025)	(0.025)	(0.936)	(0.937)	(0.928)
1=4 yr college	0.024	0.021	0.023	0.171	0.142	-0.031
	(0.025)	(0.025)	(0.025)	(0.881)	(0.883)	(0.875)
Liberal		-0.014	-0.010		0.575	0.087
		(0.033)	(0.033)		(1.159)	(1.148)
Conservative		0.047	0.048		0.686	0.728
		(0.035)	(0.035)		(1.242)	(1.226)
job_uncertainty_b			0.013			-0.392
			(0.022)			(0.903)
uncertain_mis			0.047*			-5.407***
			(0.026)			(0.930)
r2	0.008	0.011	0.013	0.018	0.018	0.040
N	1597	1597	1597	1590	1590	1590

Note: The first 3 columns measures whether participants donated at all. Columns 4–6 measure how much individuals donated
* p<0.10, ** p<0.05, *** p<0.01

Table 2

Determinants of Watching Videos

	(1) V1 Finish	(2) V1 Politc	(3) V1 Job	(4) V2 Finish	(5) V2 Politc	(6) V2 Job
_30_39	0.116***	0.114***	0.117***	0.051	0.046	0.047
	(0.040)	(0.040)	(0.040)	(0.037)	(0.037)	(0.037)
_40_49	0.182***	0.179***	0.180***	0.162***	0.156***	0.153***
	(0.048)	(0.048)	(0.048)	(0.047)	(0.047)	(0.047)
_50_plus	0.237***	0.234***	0.233***	0.117**	0.115**	0.116**
	(0.049)	(0.050)	(0.050)	(0.048)	(0.048)	(0.049)
1=Female	0.118***	0.120***	0.119***	0.049	0.051	0.049
	(0.033)	(0.033)	(0.033)	(0.032)	(0.032)	(0.032)
1=4 yr college	0.030	0.030	0.032	−0.025	−0.023	−0.023
	(0.032)	(0.032)	(0.032)	(0.031)	(0.030)	(0.031)
Liberal		−0.049	−0.048		−0.108**	−0.110***
		(0.043)	(0.043)		(0.042)	(0.042)
Conservative		−0.018	−0.016		−0.068	−0.066
		(0.049)	(0.049)		(0.047)	(0.047)
job_uncertainty_b			0.012			0.051**
			(0.022)			(0.021)
uncertain_mis			0.049			−0.011
			(0.053)			(0.050)
r2	0.047	0.049	0.050	0.021	0.028	0.035
N	928	928	928	944	944	944

Note: V1 and V2 finish were recorded as participant completing videos
* p<0.10, ** p<0.05, *** p<0.01

Table 3

Determinants of Canceling Dinner

	(1) Canl Din	(2) Din Politc	(3) Din Job
_30_39	0.164*	0.177*	0.181*
	(0.092)	(0.092)	(0.092)
_40_49	0.312***	0.339***	0.337***
	(0.106)	(0.105)	(0.106)
_50_plus	0.433***	0.463***	0.464***
	(0.107)	(0.103)	(0.103)
1=Female	0.263***	0.246***	0.244***
	(0.072)	(0.072)	(0.072)
1=4 yr college	-0.007	-0.004	-0.003
	(0.072)	(0.072)	(0.072)
Liberal		0.248**	0.247**
		(0.101)	(0.100)
Conservative		-0.028	-0.025
		(0.115)	(0.115)
job_uncertainty_b			0.054
			(0.048)
uncertain_mis			0.025
			(0.123)
r2	0.037	0.051	0.052
N	928	928	928

Note: Likeliness of canceling dinner was recorded on a 5-point scale ranging from extremely unlikely to extremely likely
* p<0.10, ** p<0.05, *** p<0.01

Table 4

Donation Rationale

	(1) Don Pos	(2) Don Pos ~m	(3) Amount Don	(4) Amount D~m
don_enough_resou~s	-0.224***	-0.221***	-8.098***	-7.991***
	(0.038)	(0.038)	(1.360)	(1.356)
don_small_amount	0.075**	0.080**	2.318	2.507*
	(0.038)	(0.038)	(1.494)	(1.471)
don_gov_respons	0.067	0.076*	1.352	1.917
	(0.043)	(0.043)	(1.634)	(1.639)
r2	0.082	0.091	0.075	0.096
N	1461	1451	1454	1444

Note: Columns 1 and 2 measure donations as a binary variable and columns 3 and 4 measure donations as a continuous variable
* p<0.10, ** p<0.05, *** p<0.01

Works Cited

Andreoni, James. 2004. “Philanthropy.” February 2004. https://econweb.ucsd.edu/~jandreon/WorkingPapers/Philanthropy.pdf.

Auten, Gerald, and David Joulfaian. 1996. “Charitable Contributions and Intergenerational Transfers.” *Journal of Public Economics*.

Bekkers, Rene. 2007. “Measuring Altruistic Behavior in Surveys: The All-or-Nothing Dictator Game,” 6.

Bekkers, René, and Nan Dirk de Graaf. 2005. “Field of Education and Prosocial Behavior,” June, 24.

Bekkers, René, and Pamala Wiepking. 2007. “Generosity and Philanthropy: A Literature Review.” *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1015507.

“CAF World Giving Index 2017: A Global View of Giving Trends.” 2017. 2017. https://www.cafonline.org/docs/default-source/about-us-publications/cafworldgivingindex2017_2167a_web_210917.pdf?sfvrsn=ed1dac40_10.

“Coronavirus Age, Sex, Demographics (COVID-19) - Worldometer.” 2020. February 2020. https://www.worldometers.info/coronavirus/coronavirus-age-sex-demographics/.

Einolf, Christopher J. 2011. “Gender Differences in the Correlates of Volunteering and Charitable Giving.” *Nonprofit and Voluntary Sector Quarterly* 40 (6): 1092–1112. https://doi.org/10.1177/0899764010385949.

Kliff, Sarah. 2020. “Hospitals Knew How to Make Money. Then Coronavirus Happened.” *The New York Times*, May 15, 2020, sec. U.S. https://www.nytimes.com/2020/05/15/us/hospitals-revenue-coronavirus.html.

LaPointe, Jacqueline. 2020. “How Much Will the COVID-19 Pandemic Cost Hospitals?” RevCycleIntelligence. March 31, 2020. https://revcycleintelligence.com/news/how-much-will-the-covid-19-pandemic-cost-hospitals.

Margolis, Michele F., and Michael W. Sances. 2017. “Partisan Differences in Nonpartisan Activity: The Case of Charitable Giving.” *Political Behavior* 39 (4): 839–64. https://doi.org/10.1007/s11109-016-9382-4.

Paarlberg, Laurie E., Rebecca Nesbit, Richard M. Clerkin, and Robert K. Christensen. 2019. “The Politics of Donations: Are Red Counties More Donative Than Blue Counties?” *Nonprofit and Voluntary Sector Quarterly* 48 (2): 283–308. https://doi.org/10.1177/0899764018804088.

Powe, Michael, and Matthew Wagner. 2020. “The Impact of COVID-19 on Small Business.” April 2020. https://higherlogicdownload.s3.amazonaws.com/NMSC/390e0055-2395-4d3b-af60-81b53974430d/UploadedImages/Resource_Center/COVID_19/NMSC57_MSA_COVID19IMAPCTSURVEY_F.pdf.

Regnerus, Mark D., Christian Smith, and David Sikkink. 1998. “Who Gives to the Poor? The Influence of Religious Tradition and Political Location on the Personal Generosity of Americans toward the Poor.” *Journal for the Scientific Study of Religion* 37 (3): 481–93. https://doi.org/10.2307/1388055.

Sunshine Hillygus, D. 2005. “The MISSING LINK: Exploring the Relationship Between Higher Education and Political Engagement.” *Political Behavior* 27 (1): 25–47. https://doi.org/10.1007/s11109-005-3075-8.

“The Employment Situation - April 2020.” 2020, May, 42.

Wu, Shih-Ying, Jr-Tsung Huang, and An-Pang Kao. 2004. “An Analysis of the Peer Effects in Charitable Giving: The Case of Taiwan.” *Early Childhood Education Journal* 25 (4): 483–505. https://doi.org/10.1007/s10834-004-5492-y.

Wunnava, Phanindra V., and Michael A. Lauze. 2001. “Alumni Giving at a Small Liberal Arts College: Evidence from Consistent and Occasional Donors.” *Economics of Education Review* 20 (6): 533–43. https://doi.org/10.1016/S0272-7757(00)00023-6.

Yao, Kimberly. 2015. “Who Gives? The Determinants of Charitable Giving, Volunteering, and Their Relationship,” May, 35.