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Revisiting the religiosity and generosity relationship in the United States: Takeaways from the COVID-19 pandemic

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Abstract

A large body of literature supports a connection between religiosity and generous behaviors such as donating and volunteering. However, the inability of congregations to convene in person during COVID-19 suggests a potential attenuation of the impact of religiosity on generosity in the United States. Furthermore, debates exist about whether this generosity is primarily an ingroup behavior in which groups favor members of their own identity, potentially challenging the assertion that religious individuals are more generous, or whether this also includes outgroup generosity. Using a nationally representative sample (N = 1954), first, this study investigated if religiosity continues to

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influence generosity in the context of the pandemic. Second, the impact of religiosity on starting or stopping generous behaviors after the onset of the pandemic was explored. Finally, this study tested whether religious individuals are engaged in ingroup or outgroup generosity, answering the question of whether religious individuals are inherently more generous. The findings indicate that religious individuals were more involved in generous behaviors (volunteering and donating) and more likely to maintain their generosity even after the onset of the pandemic. Results also show outgroup religiosity was significant in both periods even, after controlling for ingroup generosity.

Keywords
COVID-19, donating, generosity, in-group generosity, religiosity, volunteering

Résumé
De nombreuses publications établissent un lien entre la religiosité et les comportements généreux tels que les dons et le bénévolat. Cependant, l'impossibilité pour les congrégations de se réunir en personne pendant la pandémie de COVID-19 suggère une atténuation potentielle de l'impact de la religiosité sur la générosité aux États-Unis. En outre, il existe un débat sur la question de savoir si cette générosité est principalement un comportement intra-groupe, dans lequel les groupes favorisent les membres de leur propre identité, ce qui pourrait remettre en cause l'affirmation selon laquelle les personnes religieuses sont plus généreuses, ou si cela inclut également la générosité extra-groupe. À partir d'un échantillon représentatif à l'échelle nationale (N = 1 954), cette étude a cherché à déterminer si la religiosité continuait d'influencer la générosité dans le contexte de la pandémie. Elle a ensuite examiné l'impact de la religiosité sur le fait de commencer ou d'arrêter d'adopter des comportements généreux après le début de la pandémie. Enfin, cette étude a cherché à déterminer si les personnes religieuses faisaient preuve de générosité envers les membres de leur groupe ou envers les personnes extérieures à leur groupe, afin de répondre à la question de savoir si les personnes religieuses étaient intrinsèquement plus généreuses. Les résultats indiquent que les personnes religieuses étaient plus enclines à adopter des comportements généreux (volontariat et dons) et plus susceptibles de maintenir leur générosité même après le début de la pandémie. Les résultats montrent également que la religiosité hors groupe était significative au cours des deux périodes, même après avoir tenu compte de la générosité au sein du groupe.

Mots-clés
COVID-19, don, générosité, générosité au sein d'un groupe, religiosité, volontariat

Introduction

The linkage between religiosity and generous behaviors – such as volunteering and donating – is well established in the United States (Bekkers and Wiepking, 2011; Wilson

and Musick, 1997). Although this relationship is well established, it is also quite complex and multifaceted. On one hand, many religions emphasize values associated with generous behaviors such as altruism and hospitality (Cnaan et al., 2016; Grönlund and Pessi, 2015; Putnam and Campbell, 2010). On the other hand, religious communities provide opportunities to volunteer and donate that individuals might not encounter otherwise (Grönlund, 2019; Lim and MacGregor, 2012; Putnam and Campbell, 2010) and most congregations participate in some form of social services (Chaves and Tsitsos, 2001; Cnaan and Boddie, 2001). As such, it would stand to reason that attendance to religious services generates opportunities for individuals to engage in generous behaviors. Given the ideals of religiosity and the accompanying opportunities for generosity, the question arises as to whether religiosity vis-à-vis attendance to religious congregations influences generosity or if congregational attendance is superfluous. The COVID-19 pandemic serves as a natural experiment and provides a unique context to study this question within the US context. Like much of the world, the United States experienced widespread disruption, with nearly all aspects of life moving to virtual platforms. State governments implemented shutdowns in March 2020, with some states reopening as soon as early April and others as late as May of 2020. Despite reopening, in-person gatherings, including worship services, remained limited to some extent, potentially suggesting a decline in generosity (Gallup, 2024).

Some researchers have also suggested that although religious individuals may be characterized as being more generous, the net effect of their generosity on the wider society is debatable. Research indicates that while religious people are more generous with their time and money, their efforts are typically kept 'in house' (Reddish and Tong, 2023; Tsang et al., 2021). Given the nature of the pandemic, and with in-person services limited, this research examines the following questions:

1. How did the pandemic affect the generosity of religious and non-religious individuals?
2. In the context of the COVID-19 pandemic, to what extent is generosity (donating and volunteering) explained by religiosity?
3. Does religiosity still explain generosity after controlling for ingroup generosity?

In the next section, the literature that elucidates the factors related to the nexus of religiosity and volunteering and donating is presented. This is followed by sections on the research methods and findings. Next is a discussion of the findings, limitations of this research, and then conclude.

Literature review

Most world religions foster prosocial behaviors such as generosity, donation, and helping strangers. As such, many religious people report higher levels of prosocial behaviors compared to non-religious people (Harrell, 2012; Zhang et al., 2024). Beginning in the 1990s, research on the impact of religiosity on giving and volunteering flourished, resulting in a multitude of empirical studies devoted to the topic (e.g., Bekkers and Wiepking, 2011; Dogan and Tiltay, 2020; Koenig et al., 2014; Lim and MacGregor,

2012; Luria et al., 2017; Putnam and Campbell, 2010; Son, 2023). Even though some scholars doubt this connection (see, for example, Sablosky, 2014; Soubelet and Salthouse, 2011), this connection is supported by most studies, especially in the United States where this research is based.

Generosity, crises, and religion

Among religious individuals, findings revealed that reduced in-person gatherings brought by the pandemic were associated with a decline in giving (Lake Institute on Faith and Giving, 2020). However, congregations were able to mitigate this decline by leveraging creative solicitations via technology (Lake Institute on Faith and Giving, 2020). Baker et al. (2020) add that religious congregations and individuals served as important sources of formal and informal social support. Regarding internal or private religiosity (to be discussed in a later section), those with greater internal religious beliefs were more likely to donate in response to COVID-19 specific solicitations (Sarea and Bin-Nashwan, 2020).

Overall, the literature on how religious individuals responded to the pandemic is limited. As such, this study relies on what limited literature exists and previous literature on the relationship on religiosity and generosity absent the pandemic. Given the literature on the association between religiosity and generosity (volunteering and donating), and the nature of the pandemic this research hypothesizes:

H_1: Religious individuals are less likely to stop volunteering after the onset of the pandemic relative to non-religious individuals, unconditionally.

H_2: Religious individuals are less likely to stop donating after the onset of the pandemic relative to non-religious individuals, unconditionally.

H_3: Religious individuals are more likely to start volunteering after the onset of the pandemic, relative to non-religious individuals, unconditionally.

H_4: Religious individuals are more likely to start donating after the onset of the pandemic, relative to non-religious individuals, unconditionally.

$H_{5:}$ Religious people will exhibit higher rates of volunteering relative to non-religious individuals, both pre-pandemic and during the first year of the pandemic.

$H_{6:}$ Religious people will exhibit higher rates of donating relative to non-religious individuals, both pre-pandemic and during the first year of the pandemic.

Private versus public religiosity

Private religiosity. Previously, significant research found that religious people were more likely to volunteer in both their congregations but also in wider society (Bekkers, 2004; Cnaan et al., 2016). Bennett and Einolf (2017) found that religion promoted prosocial norms and values which motivate individuals to help strangers. However, more recent research found that private religiosity often has marginal or no effect on generosity

(Greenway et al., 2018). In studying generous behaviors among adults, Yeung (2018) found that private religiosity affected volunteering, but this was not as strong as an effect as public religiosity.

Public religiosity. Public/external religious activities are those carried out in the presence of others and involve public engagement in activities such as attending congregations, prayer groups, Bible studies, and/or Sunday schools. Becker and Dhingra explored the relationship between religious attendance and volunteering and reported that 'social networks, rather than beliefs, dominate as the mechanism leading to volunteering, and it is the social networks formed within congregations that make congregation members more likely to volunteer' (2001: 329). Additional research examining nationally representative samples of US adults further supports the linkage between attendance to religious services and volunteering activity (Guo et al., 2013; Yeung, 2018). Putnam and Campbell (2010: 453–454) asserted that 'Any way you slice it, religious people are simply more generous'.

Based on this, this study hypothesizes that:

H_7: Only public religiosity (measured by attendance to religious services and activities), not private, will explain generosity before and during the first year of the pandemic.

Ingroup generosity

There is some emerging research suggesting that while religious individuals appear to be more generous, this may be misleading. In a critical review of the relationship between religious and generous behaviors, Tsang et al. (2021) found that while religious people are more generous, they favor ingroup volunteering and donations over outgroups. Similarly, Reddish and Tong (2023) conducted a longitudinal study of adults and found that while religious service participation robustly predicted later charitable behavior, it was only toward one's local religious groups and not to other groups or nonreligious organizations. Combined, these authors found that when ingroup volunteering and donating are excluded, religiously active people are not more generous than non-religious people who are members of secular groups. They referred to this phenomenon as parochial generosity. This perspective views congregations as private clubs in which members help each other and exclude non-community members from the circle of beneficiaries (see Campbell et al., 2007; Chaves and Tsitsos, 2001; Cnaan and Boddie, 2001).

However, it is important to note that there are also other studies that would counter this sentiment. Religious persons were found to be more likely to help strangers and be involved in volunteering in other secular organizations, outside their congregations (Bekkers, 2004; Bennett and Einolf, 2017; Cnaan et al., 2016; Putnam and Campbell, 2010). This discrepancy necessitates a nuanced view regarding the true net value of religious individuals' contributions.

H_8: The majority of religious individuals' generosity is directed to ingroup behavior, defined as generosity toward religious organizations.

Demographics variables

To test the hypotheses, the impact of several variables that are important when studying generosity is controlled for. This includes the following demographic variables and generalized social trust.

Gender: Research suggests that women volunteer more than men (Bureau of Labor Statistics, 2024; Cnaan et al., 2023; Hyde et al., 2014) and donate more than men (Dietz and Grimm, 2023; Herzog and Price, 2016; Mesch et al., 2006; Yao, 2015).

Marital and parental status: In contrast to previous research, more recent research suggest that married individuals are more charitable and willing to volunteer than single individuals (Mesch et al., 2006; Yao, 2015). Furthermore, individuals and families with children are more likely to be involved in charitable activity by nature of their children's involvement (Dietz and Grimm, 2023; Einolf, 2018; Herzog and Price, 2016; Lancee and Radl, 2014; Yao, 2015).

Age: Propensity to volunteer appears to increase with age, peaking between 30 and 40 years old and then subsequently declines, following a bell-shaped curve (Cnaan et al., 2023; Dietz and Grimm, 2023; Lancee and Radl, 2014). Research has generally agreed that age and donation behavior follow a positive relationship (Herzog and Price, 2016; Mesch et al., 2006).

Race: In the United States, white, non-Hispanic individuals are more likely to volunteer and donate than other minorities (Dietz and Grimm, 2023; Herzog and Price, 2016). However, it is been established previously that after controlling for variables of human capital such as income, education, and occupational status, such racial differences disappear (Musick et al., 2000; O'Neill, 2001).

Education: Education has been shown to be a significant predictor of volunteering (Ariza-Montes et al., 2015; Dietz and Grimm, 2023) and donating (Dietz and Grimm, 2023; Herzog and Price, 2016).

Income/employment status: Income was found to be positively correlated with volunteering and donating (Van Elk et al., 2016; Yao, 2015). This can be partially explained by the positive relationship between income and education level (Torpey, 2018). Moreover, those that were more worried about their finances and focused on saving money were less likely to donate, suggesting that those with greater income are more likely to donate (Dietz and Grimm, 2023; Wiepking and Breeze, 2011). To that end, those that were employed are more likely to donate as they receive a steady income and are more likely to have discretionary income and time (Yao, 2015).

Generalized social trust: Trust has been receiving increased attention regarding civic engagement. Generalized social trust is defined as one's belief that others can be trusted and is often seen as one of the most important societal factors for democracy to work (Lundmark et al., 2015). Individuals, especially younger adults, appear to value trust when choosing to engage civically (Cnaan et al., 2023). The literature, though still emerging and appears to lack a consensus. Litofcenko et al. (2023) found that generalized social trust had a negative impact on charitable giving. Bekkers (2012) found that trust and volunteering remained positively correlated, and Maraviglia et al. (2021) found that generalized social trust was positively correlated to civic and religious volunteering.

Methods

Data and analysis

This article draws on a study commissioned by the Generosity Commission (Giving USA). Data were collected on generous behaviors in the United States to reflect on trends the year prior to the COVID-19 pandemic and the year following the onset of the pandemic. This study considers March 2020 to be the onset of the pandemic since this was the month in which many states began to implement shutdown orders to combat the spread of COVID-19. This survey was waived the requirement of approval by the University of Pennsylvania Institutional Review Board (#850612). Pretest interviews were conducted March 24 to March 28. Surveys were administered between April 1 to April 18, 2022.

A total of 5858 individuals were invited to participate and 2538 completed responses were received, yielding a response rate of 43%. After robust cleaning, 1954 responses remained (n = 1954). To address sample designs and patterns of nonresponse, the data were weighted to meet population benchmarks sourced from the Current Population Survey (CPS) and the Pew Research Center's National Public Opinion Reference Survey. Survey weights reflected the US population according to sex, age, education, race, geographical region, population density, religion, Internet use frequency, and political affiliation.

Once cleaned, the first step was to run chi-square analysis, a nonparametric test of difference to test the first four hypotheses unconditionally. The subsequent analysis involved utilizing binary logistic regression, a parametric test to model the relationship between the predictor variables and outcome variables (volunteer or donating) in both before and during the pandemic periods.

Appendix 1 contains additional information on sampling procedures, questionnaire administration, and data weighting. Table 1 displays the summary statistics for the total sample. To validate our findings in Table 2, we also studied a group of 250 individuals who were asked only about pre-pandemic behaviors and 250 who were asked about during pandemic behaviors. These individuals were not related to the original sample but on all measures, these two groups reported the same results and trends of the full, original sample. In addition to validating our findings, this served to mitigate against recall bias in the full sample, as those respondents were asked about their behaviors in both periods.

Measures

Dependent variables. The dependent variables focus on one's reported generous behaviors and are measured for two periods: (1) the year prior to the pandemic: between March 2019 and March 16, 2020 and (2) the first year of the pandemic: between March 17, 2020, and March 2021. To help respondents recall their volunteering and donating behaviors, they were provided with an exhaustive list of possible areas/recipients of generosity including volunteering/donating to arts and culture or public safety organizations or immigration and refugee assistance organizations. This method of assisting with recall is considered optimal to elicit recollection of events (Cnaan et al., 2010).

Table 1. Descriptive statistics.

Demographics	Count	Percentage	Mean	Median	SD	Min	Max
Gender	(n = 1954)						
Male	937	48.0	-	-	-	-	-
Female	1017	52.0	-	-	-	-	-
Marital status							
Single	604	30.9	-	-	-	-	-
Separated/widowed	375	19.2	-	-	-	-	-
Married	975	49.9	-	-	-	-	-
Education							
HS or less	705	36.1	-	-	-	-	-
Some college	537	27.5	-	-	-	-	-
College degree	712	36.4	-	-	-	-	-
Age			48.79	49	17.13	18	90
18–29	346	17.7	-	-	-	-	-
30–49	635	32.5	-	-	-	-	-
50–64	519	26.6	-	-	-	-	-
65+	454	23.2	-	-	-	-	-
Race/ethnicity							
White non-Hispanic	1274	65.2	-	-	-	-	-
Black	237	12.1	-	-	-	-	-
Hispanic	297	15.2	-	-	-	-	-
Other	146	7.5	-	-	-	-	-
Employment status							
Full-time	908	46.5	-	-	-	-	-
Part-time	268	13.7	-	-	-	-	-
Unemployed	234	12.0	-	-	-	-	-
Other	544	27.8	-	-	-	-	-
Income							
Less than $50,000	841	43.0	-	-	-	-	-
$50,000–$100,000	650	33.3	-	-	-	-	-
$100,000+	463	23.7	-	-	-	-	-
Parent/child in HH							
No	1385	70.9	-	-	-	-	-
Yes	569	29.1	-	-	-	-	-
Religiosity, public							
Pre-pandemic score	1.65	-	1.65	1	0.88	1	5
During pandemic score	1.59	-	1.588	1	0.87	1	5
Religiosity, private			5.21	6	3.80	0	10
Religiosity, public (binary variable): pre-pandemic							
Not religious	1182	60.5	-	-	-	-	-
Religious	772	39.5	-	-	-	-	-

(Continued)

Table 1. (Continued)

Demographics	Count	Percentage	Mean	Median	SD	Min	Max
Religiosity, public (binary variable): during pandemic							
Not religious	1284	65.8	-	-	-	-	-
Religious	669	34.2	-	-	-	-	-
General social trust			3.05	3	1.05	1	5
Volunteer activity: before pandemic							
Yes	1358	69.5	-	-	-	-	-
No	596	30.5	-	-	-	-	-
Volunteer activity: during pandemic							
Yes	1279	65.5	-	-	-	-	-
No	675	34.5	-	-	-	-	-
Donation activity: before pandemic							
Yes	1603	82.0	-	-	-	-	-
No	351	18.0	-	-	-	-	-
Donation activity: during pandemic							
Yes	1577	80.7	-	-	-	-	-
No	377	19.3	-	-	-	-	-

A composite variable of volunteering was created by aggregating informal and formal volunteering activity in either period before or during the pandemic. Respondents were asked if they performed any unpaid activities (except perhaps for expenses) virtually or in-person to benefit others either through an organization (formal volunteering) or independent of an organization (informal volunteering). Regarding formal volunteering, respondents indicated the type of organizations they volunteered with from a static list (i.e. civic, religious, disaster relief, etc.) and could specify additional types in a text box. For informal volunteering, respondents were asked which types of informal volunteering activities they engaged in (i.e. coaching, tutoring, etc.); they could also specify additional activities in a text box. Responses were categorized '0' for no activities and '1' if individuals indicated performing at least one (formal or informal) volunteer activity. Responding to none of the listed volunteering activities reflected '0'.

A composite variable of donating was created by aggregating informal and formal donation activity in either period before or during the pandemic. Respondents were asked if they gave money without the expectation of goods or services in return. Regarding formal donating, respondents indicated which type of organizations they donated at least $25 (the standard threshold set by the CPS) to (i.e., civic, religious, disaster relief, etc.) and could also specify further organization types in a text box. For informal donating, respondents indicated the types of informal donation activities they engaged in (i.e., giving money to others, giving above average tips, etc.); they could also specify additional activities in a text box. Responses were categorized '0' for no and '1' for yes, and aggregated such that any form of either formal or informal donation activity reflected '1' for general donating activity. Responding to none of the listed donation activities reflected '0'.

Table 2. Results of logistic regression.

	Model 1		Model 2		Model 3		Model 4	
	Volunteer activity before pandemic		Donation activity before pandemic		Volunteer activity during pandemic		Donation activity during pandemic	
	Coef.	OR	Coef.	OR	Coef.	OR	Coef.	OR
Public religiosity	0.39***	1.48	0.37***	1.44	0.55***	1.74	0.36***	1.44
Private religiosity	0.02	1.02	–0.04*	0.96	0.00	1.00	–0.03	0.97
Ingroup variable	15.60	5.99e6	16.00	8.89e6	15.59	5.88e6	16.14	1.02e7
Gender[a]	0.20	1.22	0.41**	1.50	0.16	1.18	0.22	1.25
Marital status[b]								
Separated/widowed	0.47*	1.59	–0.02	0.98	0.35	1.42	–0.32	0.73
Married	0.11	1.12	0.17	1.19	0.18	1.20	–0.09	0.91
Education[c]								
High school or less	–0.73***	0.48	–0.74***	0.48	–0.65***	0.52	–0.52**	0.60
Some college	0.07	1.07	–0.10	0.90	0.07	1.07	–0.24	0.78
Age	–0.01**	0.99	0.02***	1.02	–0.01*	0.99	0.02***	1.02
Race/ethnicity[d]								
Black	0.12	1.13	–0.25	0.78	0.01	1.01	–0.35	0.70
Hispanic	–0.56***	0.57	–0.51**	0.60	–0.61***	0.55	–0.39*	0.68
Other	0.16	1.18	0.16	1.17	–0.06	0.94	0.07	1.07
Employment[e]								
Other	–0.11	0.89	–0.37*	0.69	–0.19	0.83	–0.38*	0.68
Part-time	–0.07	0.93	–0.43*	0.65	0.15	1.17	–0.63**	0.53
Unemployed	–0.20	0.82	–0.32	0.73	–0.07	0.93	–0.62***	0.54

(Continued)

Table 2. (Continued)

	Model 1		Model 2		Model 3		Model 4	
	Volunteer activity before pandemic		Donation activity before pandemic		Volunteer activity during pandemic		Donation activity during pandemic	
	Coef.	OR	Coef.	OR	Coef.	OR	Coef.	OR
Income level[f]								
$50,000–$100,000	0.05	1.05	0.49**	1.63	0.16	1.18	0.52***	1.68
>$100,000	0.24	1.27	0.61**	1.84	0.36*	1.43	1.03***	2.80
Parent	0.34*	1.40	–0.11	0.90	0.18	1.20	–0.05	0.96
General social trust	0.14**	1.15	–0.01	0.99	0.10*	1.11	–0.02	0.98
Constant	0.1385797		0.180260		–0.403530		0.149850	
N	1954		1954		1954		1954	
R^2	0.190		0.160		0.194		0.163	
AIC	1986.2		1586.6		2069.7		1644.8	
Log likelihood	–973.0798		–773.3095		–1014.84		–802.4236	

[a]Reference is male.
[b]Reference is single.
[c]Reference is college degree.
[d]Reference is white non-Hispanic.
[e]Reference is full-time employed.
[f]Reference is <$50,000.
*p < 0.05; **p < 0.01; ***p < 0.001.

Independent variables. Most of the explanatory variables were pre-recorded through the survey firm's panel system. This included gender, marital status, level of education, age, race, employment status, income, and presence of at least one child in the household – these are discussed below. In addition, General Social Trust and religiosity variables were added, which are discussed below.

Public religiosity: composite score ranging from 1 – *no public religiosity*, to 5 – *high public religiosity*. Respondents were asked how often they attended such religious services, ranging from *never* (1) to *basically every day* (5). A composite score was created by aggregating the respondent's attendance to online and in-person religious services in either period, pre- or during the pandemic. The greater the score, the greater the respondent's frequency of attendance and public religiosity score. Individuals are categorized as religious if their public religiosity composite score is 2 or higher. To note: during the COVID-19 Pandemic, restrictions on in-person gatherings were enforced, preventing congregations from gathering in-person for various periods of time. Although an imperfect replacement, online services were included in the measurement of public religiosity, as this became the de facto substitute for in-person services.

Private religiosity: 10-point Likert-type scale, ranging from 1 – *no private religiosity*, to 10 – *high private religiosity*, stratified by time period. Respondents were asked: 'On a scale from 1 to 10, how influential is religion in your daily actions?'. Responses ranged from 1 (*Does not influence any of my daily actions*) to 10 (*Influences all my daily actions*).

Ingroup indicator: coded as a binary variable, 0 = did not volunteer with or donate exclusively to religious organizations, 1 = only volunteered with or donated to religious organizations. It was measured using a binary, numeric variable specific to volunteer and donation behavior, stratified by time period. If the respondent only volunteered with or donated to religious organizations, this variable shows '1'. Otherwise, this variable shows '0'. Non-religious individuals are always categorized as '0'. This is controlled for by interacting the ingroup indicator with a religious indicator (0 = *not religious*, 1 = *religious*).

Age: recorded as a numeric value at the time of survey completion.

Gender: coded as a binary variable, 0 = male, 1 = female.

Marital Status: *Single used as the reference group*, compared to 'Separated/Widowed', 'Married'.

Education: *College Degree used as the reference group*, compared to 'High school or less' and 'Some college'.

Race: *White non-Hispanic used as the reference group*, compared to Black, Hispanic, and Other.

Employment Status: *Full-time used as the reference g*roup, compared to 'Other', 'Part-time', and 'Unemployed'.

Income: *Less than $50,000 used as the reference gr*oup, compared to '$50,000-$100,000' and '$100,000+'.

Parent: coded as a binary variable, 0 = none, 1 = at least one child present in the household.

General social trust was based on a scale by Litofcenko et al. (2023). The scale was modified to a 5-point Likert-type scale, ranging from 1 – *low generalized social trust* to 5 – *high generalized social trust*. It was measured according to a Likert-type scale. Respondents were asked: 'In your opinion, to what extent is it generally possible to trust people?'. Responses ranged from 1 (People cannot be generally trusted) to 5 (People can generally be trusted).

Results

The first question asked how the pandemic affected the generosity of religious and non-religious individuals. To determine this, this study analyzed those who stopped and started generous behaviors (volunteering and donating) following the onset of the pandemic. To test for this and provide answers to the first four hypotheses unconditionally, chi-square tests were performed. A chi-square test is a nonparametric analysis that analyzes the dependence between two variables, in this case, religiosity and generous behavior.

This study began with those who *stopped* volunteering and donating after the onset of the pandemic. For the group of religious individuals who volunteered before the pandemic (n = 624), 8.3% of them stopped volunteering after the onset of the pandemic. For the group of non-religious individuals (n = 734), 13.8% of them stopped volunteering. Running a chi-square on these proportions showed significant differences, and the null hypothesis that these variables were independent ($\chi^2 = 9.4$, df = 1, $p < .05$) was rejected. This implies that there is a significant association between religiosity and the stopping of volunteering after the pandemic began. More specifically, that religious individuals were less likely to stop volunteering after the onset of the pandemic, supporting the first hypothesis.

For the group of religious individuals who donated before the pandemic (n = 693), 5.8% of them stopped donating after the onset of the pandemic. For the group of non-religious individuals (n = 910), 6.9% of them stopped donating. The chi-square test on these proportions shows these proportions were not significantly different from each other ($\chi^2 = 0.69$, df = 1, $p > .05$). Thus, the analysis failed to find an association between religiosity and the stopping of donating after the pandemic began, failing to support the second hypothesis.

This study then analyzed the differences in those who *started* volunteering and donating after the onset of the pandemic. For the group of religious individuals who volunteered during the first year of the pandemic (n = 526), 3.6% of them started volunteering after the onset of the pandemic. For the group of non-religious individuals (n = 753), 7.3% of them started volunteering after the onset of the pandemic. Running a chi-square on these proportions shows these portions were significantly different from each other ($\chi^2 = 7.08$, df = 1, $p < .05$). This implies that there is a significant association between religiosity and the start of volunteer behavior. More specifically, non-religious individuals were more likely to start volunteering after the onset of the pandemic, failing to support the third hypothesis.

For the group of religious individuals who donated during the first year of the pandemic (n = 620), 5% of them started donating after the onset of the pandemic. For the

group of non-religious individuals (n = 1,059), 6.7% of them started donating. The chi-square test on these proportions was not significant ($X^2 = 1.7$, df = 1, $p > .05$). This research failed to find an association between religiosity and the start of donating after the pandemic began, thus failing to support the fourth.

The second question asked if generosity is explained by religiosity in the context of the pandemic. To test for this and provide answers to the fifth and sixth hypotheses, the researchers performed binary logistic regression. This is a parametric test used to model the relationship between the predictor variables and the binary outcome variable (volunteering or donating). Table 2 displays the coefficients from the binary logistic regression and the respective odds ratios for volunteering and donating both before and during the pandemic. Models 1 and 2 reflect volunteer and donation activity *before* the pandemic, respectively. Models 3 and 4 reflect volunteer and donation activity *during* the pandemic, respectively.

This paper's focus was on religiosity, but it is important to briefly note other demographic results. High school or less, Hispanic, and age across the four models returned significant. Employment and income level also return significant in at least half of the models, potentially reflecting broader economic trends that resulted from the pandemic.

Even after controlling for a set of explanatory variables that are discussed above, public religiosity was found to be significant in all four models at the 0.01 level. Before the pandemic, a one unit increase in public religiosity increased the odds of volunteering and donating by 48% and 44%, respectively. During the first year of the pandemic, a one unit increase in public religiosity increased the odds of volunteering and donating by 74% and 44%, respectively. Private religiosity, on the contrary, was only significant for donation activity before the pandemic. A one unit increase private religiosity decreased the odds of donating by 4%. This was significant at the 0.05 level. Taken together, this provides support for the fifth and sixth hypotheses and finds that before and during the pandemic, religious individuals exhibited higher rates of generosity, that is, volunteering and donating. Furthermore, this provides support for the seventh hypothesis and finds that it is indeed public religiosity, not private religiosity, that explained generosity in both time periods.

The third question asked if religiosity would still be significant after accounting for ingroup generosity. To test for this and provide answers for the eighth hypothesis, this study highlights the ingroup specific variable in the binary logistic regression models. In all four binary logistic regression models, the analysis did not find the ingroup variable to be significant, failing to provide support for the eighth hypothesis.

Discussion and conclusion

This study sought to better understand the relationship between religiosity and generosity in times of national crisis. Extant literature states that religiosity and in-person attendance promote generous behaviors. However, because in-person services were limited during the pandemic, this study sought to understand if this relationship would still hold. Furthermore, it was the intent of the study to understand how religious and non-religious individuals changed their generosity after the pandemic, and if religious individuals engaged in outgroup generosity.

In analyzing those that changed their generosity (volunteering and donating) by either stopping or starting, significant differences regarding volunteering were found. Religious individuals were less likely to stop their volunteering after the onset of the pandemic. In addition, non-religious individuals were more likely to start volunteering after the onset of the pandemic. It is known from previous research that religious individuals are often more exposed to opportunities to engage in acts of generosity on a consistent basis (Becker and Dhingra, 2001; Dogan and Tiltay, 2020; Luria et al., 2017; Putnam and Campbell, 2010; Son, 2023). This was especially relevant in the times of the COVID-19 pandemic. Congregational members may have been made aware of someone in their congregation in need of food delivery, or a partner organization in need of volunteers. Furthermore, congregational members may have been exposed to more teachings about helping others and 'living out their faith', especially in the time of crisis (Johnson, 2021). This could potentially explain why religious individuals were less likely to discontinue their volunteering. Furthermore, though non-religious individuals were more likely to start volunteering after the onset of the pandemic, this can be viewed alternatively from the perspective that more religious individuals were already engaged in volunteering. In fact, this is further supported by the findings of the binary logistic regression analyses, discussed below. Finally, it must be emphasized that overall few people changed their generosity behavior at the onset of the pandemic, contrary to some expectations that such a crisis with wide reaching ramifications would drastically affect generosity. This falls in line with some other COVID-19-specific generosity research. Yang et al. (2022) found that a large portion of Americans did not change their generosity, that is, both volunteering and donating. However, the effects of the pandemic, financial and beyond, are still felt years after its peak. This provides an opportunity to further examine if this lack of change in generosity holds over the years post-crisis.

Regarding public and private religiosity, uncertainty remained if the disruption of in-person worshipping reduced people's generosity behavior. In the binary logistic regression analysis, it was found that public religiosity was a significant predictor across all four models, suggesting that individuals that attended more religious services (both in-person and virtual) were more engaged in volunteering and donating before and during the pandemic. This underscores existing literature (Dogan and Tiltay, 2020; Lim and MacGregor, 2012; Luria et al., 2017; Putnam and Campbell, 2010) but also serves as a potential avenue of interest for the future. Because public religiosity in this study was created as a composite score of in-person and virtual service attendance, the extent to which virtual service attendance bears explanatory power relative to in-person attendance remains to be seen.

Regarding private religiosity as a variable, previous literature found that private religiosity was less significant in predicting generosity (Greenway et al., 2018; Yeung, 2018). As private religiosity failed to return significant among this sample, the findings support the relationship between public religiosity and generosity, but not private religiosity. Again, the analysis found support for the religion and generosity nexus; the impact of the religiosity on such behaviors was sustained even during the height of the pandemic.

The overall impact of religiosity on generosity should not be undermined, as the analysis found that religious individuals are not solely contributing to religious

organizations. The majority of religious people in this study supported religious organizations, likely their congregations, but also non-religious organizations. They did so at a level that surpassed non-religious people.

Although these demographic factors were not the focus of this paper, some of the findings from this research are discussed because they offer a unique insight into the circumstances surrounding the pandemic, potentially serving as a springboard for future research. As expected from the literature, income (see Wiepking and Breeze, 2011) and level of education (see Mak and Fancourt, 2022; Mao et al., 2021) were strongly associated with all aspects of generosity. Similarly, those who did not work full-time were significantly less likely to donate before and during the pandemic (see International Policy Center for Inclusive Growth (IP Center), 2022; Yao, 2015). Age returned with a negative correlation with volunteering, especially after the pandemic. This can be a result of the proliferation of protective measures to mitigate risk to COVID-19 exposure, especially relevant for older individuals who can be more prone to health complications (Miller, 2020; Probst et al., 2021). However, older people increased their donations during the pandemic. These findings could suggest that as individuals get older, they are less physically capable of volunteering but more capable of donating in lieu of that.

In conclusion, this study aimed to find out the effect of the COVID-19 pandemic on the nexus of religion and generosity. This study provides evidence that even after the pandemic, religious individuals that actively engage in their congregations are still more likely to be generous than their non-religious counterparts. Furthermore, the generosity of religious individuals should not be discounted as ingroup generosity.

Limitations

This study carries several limitations. First, social desirability and recall bias cannot be minimized as this was a survey requiring participants to recall past generous behaviors. Furthermore, this study was unable to capture additional measures of how individuals changed their generosity in response to the pandemic, that is, how much less money they gave, how many more hours they volunteered, and the like. This study was unable to distinguish between monetary donations to places of worship and to secular causes. This limits our understanding of how the COVID-19 pandemic may have impacted the way people donate if they were already donating to places of worship. Regarding income, there is no history of pre-pandemic data, preventing from controlling for any changes in income after the onset of the pandemic. This creates the possibility for endogeneity bias as many monetary donations decreased after the onset of the pandemic. It is also noted that after robust cleaning, eligible response rate for the survey was 33%. Regarding the public religiosity composite score, this study did not distinguish between in-person and virtual attendance. Researching the potential differences in effects of the two forms of religious service attendance could be a future research project which would provide much more nuance that is relevant in this post-COVID society. Initially in the survey, careful attention was paid to differentiate and capture formal and informal volunteering and donating. However, for the purposes of this study, this study aggregated the formal and informal volunteering and donation activity, with the hopes of exploring the possible

nuances between the two in the future. Finally, given the complexity of the COVID-19 pandemic and its wide-ranging and long-lasting effects on society and everyday life, we acknowledge that this study is not exhaustive. There may be unobserved variables related to the pandemic and life at that time that were not captured which could influence the findings.

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Appendix 1

Introduction

The research team partnered with the firm SSRS to collect and process the data used in this paper. Survey administration was performed April 1 through April 18, 2022, and the final sample consisted of 2538 US adults. Information in this appendix details the sample and questionnaire design, survey administration, and quality control measures.

Sample design

Respondents were reached through SSRS' opinion panel, a probability-based web panel comprised of a nationally representative group of individuals. Members were recruited for this survey through either mailed invitations sent to randomly sampled addresses or dual-frame random digit dialing. The SSRS Omnibus survey platform assisted in this sampling procedure.

Questionnaire design

The questionnaire was developed by the research team. A list of questions was created then sent out to top researchers in the fields of volunteering, philanthropy, and third sector research. After incorporating their feedback, collaboration was held with SSRS to determine question formats and programming. SSRS held 11 pretest cognitive interviews to ensure feasibility of the survey. Feedback from these interviews was made available to the researchers and necessary changes were made. The final survey was programmed in Confirmit Computer Assisted Web Interviewing and extensive checking was performed to ensure correct skip patterns and sample splits were in place.

Survey administration

Respondents were incentivized with an electronic gift card of $5 value for this 10-minute survey. Pretest interviews were conducted March 24 through 28. This was followed by a soft launch of the survey on April 1 with subsequent email invitations and reminders. The survey closed on April 18, 2022.

Response rate/cooperation rate

Around 5858 panelists were invited to take this survey, and 2538 completed it. A total of 68 respondents took the survey in Spanish.

Quality control

The following processes were included to ensure the highest quality of data.

- Pre-administration testing of the survey to check skip patterns.
- Data cleaning for out of range values, errors in data fields, insufficient time-to-completion, failed quality control questions.

Weighting procedures

Weighting was used to compensate for patterns of non-response. The aim of weighting was to ensure the demographics of the respondents matched the US population. Weighting was performed by SSRS and was comprised of three major steps: (1) base wages, (2) non-Internet adjustment, and (3) calibration to population. Further information on weighting procedures is available upon request.