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Abstract

Despite methodological advances in studying the relationship between religious attendance and volunteering, its dynamic nature still needs to be elucidated. We apply growth curve modeling to examine whether trajectories of religious attendance and volunteering are related to each other over a 15-year period in a nationally representative sample from the Americans' Changing Lives data (1986-2002). Multivariate results showed that the rates of change in religious attendance and volunteering were positively related, and excluding religious volunteering did not alter the finding. It was also found that the initial level of religious attendance was positively associated with the rate of increase in volunteer hours over the period. Mediation analyses revealed that participation in voluntary associations explained the dynamic relationships between religious attendance and volunteering. These results provide evidence that involvement in organized religion and volunteering are dual activities that change together over the adult life course.

Keywords

religious service attendance, volunteering, social integration, growth curve analysis

In the volunteering literature, perhaps no relationship has been established more than that between religious service attendance and volunteering. Numerous cross-sectional and a few longitudinal studies have shown that, by every conceivable measure, volunteering is predicted by attending religious services (e.g., Campbell & Yonish, 2003; Putnam & Campbell, 2010). Recent advances in longitudinal modeling have begun to address some of the thorny issues plaguing cross-sectional studies, such as reverse

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causation and omitted variable bias (Johnston, 2013; Meißner & Traunmüller, 2010). Although recent longitudinal studies shed some light on these issues, one important aspect of the relationship between religious attendance and volunteering has not been investigated: the dynamic nature of the relationship, that is, the way in which the relationship unfolds over time.

We address this gap in research using a multivariate growth model (Bollen & Curran, 2006), which estimates growth of religious attendance and volunteering trajectories over time. Examining growth patterns of two constructs is nothing new, but it has not been done in the field of religion and volunteering. Studying their trajectories is important because neither religious attendance nor volunteering is a discrete life event. Rather, attending religious services and participating in volunteer activities, both of which usually begin in childhood or adolescence, continue through adulthood, forming longitudinal patterns (Dillon & Wink, 2007; Mustillo, Wilson, & Lynch, 2004). In light of cross-sectional evidence for the positive relationship between religious attendance and volunteering, we expect trajectories of volunteering and religious attendance to be related positively to each other over the adult life course.

In addition to establishing the relationship between trajectories of religious attendance and volunteering, we propose to examine whether the relationship can be explained. Specifically, given the previous studies showing the role of social integration in mediating the relationship between religious attendance and volunteering (e.g., Lewis, MacGregor, & Putnam, 2013), we intend to test whether trajectories of informal social contact and formal group participation mediate the relationship between trajectories of religious attendance and volunteering.

Our modeling approach enables us to answer the following questions: (a) Is the initial level of religious attendance associated with the rate of change in volunteering? (b) Is the rate of change in religious attendance associated with the rate of change in volunteering? (c) Is the relationship between trajectories of religious attendance and volunteering explained by the trajectory of social integration? These questions were addressed by analyzing four-wave panel data from the Americans' Changing Lives (ACL) survey collected in 1986, 1989, 1994, and 2002. To our knowledge, this study is the first to examine the relationship between trajectories of religious attendance and volunteering and to explore a causal mechanism underlying the relationship.

Literature Review

Limitations of Previous Research

The relationship between religious attendance and volunteering is well established in the cross-sectional research literature, but only a few studies have examined the relationship longitudinally. Using the first two waves of ACL data, Wilson and Musick (1997) found that religious attendance measured at Time 1 (1986) had a positive effect on volunteering measured at Time 2 (1989), even after controlling for the lagged dependent variable from Time 1. More recently, a similar result was obtained from another two-wave study that used a change-score model: Using the 2006 and 2007

Faith Matters data, Putnam and Campbell (2010) found that change in religious attendance between 2006 and 2007 was positively related to change in volunteering between 2006 and 2007.

Although these studies yield similar results with different models, a fuller understanding of the relationship between religious attendance and volunteering is hampered by the panel structure of the data in two ways. First, examining inter-individual differences in change in religious attendance and volunteering over time requires at least three repeated measures of religious attendance and volunteering (Singer & Willett, 2003), but they were measured only twice.[1] Second, the short time span of the data—3 years for Wilson and Musick and 1 year for Putnam and Campbell—is insufficient to capture the rate of change in religious attendance and volunteering over time as they are known to change slowly in adulthood (Hayward & Krause, 2013; Mustillo et al., 2004). To detect and study such change, it is preferable to use data with a longer period of observation, such as decade-long data (Little, Bovaird, & Slegers, 2006).

Only recently have researchers begun to investigate the longitudinal relationship between religious attendance and volunteering with decade-long multiwave data. Applying cross-lagged structural equation modeling to analyze 10-wave panel data of the German Socio-Economic Panel, Meißner and Traunmüller (2010) found the effect of religious attendance on volunteering to be stronger than the effect of volunteering on religious attendance. In addition, using fixed-effects modeling, they found that religious attendance increases the likelihood of volunteering over 15 years. Similarly, estimating fixed-effects models, Johnston (2013) found evidence of the effect of religious attendance on volunteering with four waves of ACL data spanning over a 15-year period.

Although 15 years is a sufficient period to investigate the relationship between trajectories of religious attendance and volunteering across adulthood, Meißner and Traunmüller (2010) and Johnston (2013) used fixed-effects models that allowed for estimating only within-individual differences. The main advantage of this modeling approach is to control for all unmeasured, stable characteristics of individuals that potentially confound the relationship between religious attendance and volunteering, such as personality traits (Allison, 2005; Vaisey & Miles, 2017). Extraversion, for example, could be correlated with both volunteering and religious attendance as extraverts, who have a higher propensity of volunteering, could also attend religious services more often than introverts (Bekkers, 2005). Controlling for such variables, these two studies were better able to address omitted variable bias, thereby making a more convincing casual interpretation about the relationship between religious attendance and volunteering, compared with studies based on cross-sectional data.

However, fixed-effects models do not allow us to answer the question of how within-individual change in religious attendance and volunteering varies *across* individuals. Growth curve modeling is designed to answer this question as it estimates between-individual differences *in* within-individual change over time (Bollen & Curran, 2006). Answering this question is important because not everyone changes in the same way. For some, trajectories of religious involvement and volunteering may systematically increase or decrease over time, whereas for others, the trajectories may

show no change (Lerner, Lewin-Bizan, & Warren, 2011). In the next section, we present some evidence of substantial individual differences in change in each construct, beginning with religious attendance.

Trajectories of Religious Attendance and Volunteering

The level of religious attendance is likely to change over time at a different rate across individuals. Hayward and Krause (2013) provided empirical evidence of such individual differences. Using data from the Longitudinal Study of Generations, they tracked 3,652 Californians over a 34-year period and found that religious attendance declined sharply until young adulthood and thereafter increased and then remained stable until late-middle adulthood, after which it gradually decreased. McCullough, Enders, Brion, and Jain (2005) found similar evidence in a Californian sample of intellectually gifted children who were tracked over a 50-year period. The study identified three distinct trajectories of religious development: (a) increase in religiousness until midlife and decrease in later adulthood (40%), (b) low religiousness in early adulthood and decrease in later adulthood (41%), and (c) high religiousness in early adulthood and increase in later adulthood (19%). This study reported that the three trajectories of religiousness did not overlap at every single time point, providing evidence of substantial individual differences in change in religiousness over time.[2]

An individual's volunteer behavior is also likely to change over time and the rate of change will vary across individuals. Mustillo et al. (2004) found substantial individual variation in change in volunteer hours in a sample of U.S. female adolescents who were tracked until they reached midlife. Although this is the only evidence from panel data, we can speculate about between-individual differences in within-individual change in volunteering based on cross-sectional research that has shown individual differences in volunteering across the adult life course. As Musick and Wilson (2008) summarized, on average, volunteering remains low during the early adulthood due to time pressures related to work and newly married life, and thereafter it gradually increases and remains stable throughout the middle adulthood as people begin to settle down. During the late adulthood stage, people become less active than in their middle age, but they still do volunteer work as long as their health permits. From these observations, it is plausible to expect individuals to show different rates of change in their volunteer behavior over time. If trajectories of religious attendance and volunteering are systematically related to each other, what would account for this relationship?

Explaining the Relationship Between Trajectories of Religious Attendance and Volunteering

Are people who attend religious services increasingly more likely to increase their volunteer work because they become more integrated in social networks over time? Although no research has investigated this question with multiwave panel data, there is some cross-sectional and short-term longitudinal evidence suggesting that social integration plays an important role in mediating the effect of religious attendance on

volunteering. Using data from various years of the Independent Sector's Giving and Volunteering surveys, one study reported that informal and formal social interaction partly mediated the relationship between religious attendance and volunteering (Musick & Wilson, 2008). Using cross-sectional data from the Portraits of American Life Study, a recent study found religious social networks to account for 50% of the effect of religious attendance on the likelihood of volunteering (Lewis et al., 2013). Recent evidence from a panel study also showed that religious social networks measured in 2006 fully mediated the relationship between religious attendance in 2006 and volunteering in 2007 (Putnam & Campbell, 2010).

These findings suggest that the congregation serves as a gateway to volunteering as it provides an opportunity to meet people who are volunteering in the community (Cnaan, 2002). The single most important predictor of volunteering is being asked to volunteer; getting to know a person who is active in a congregation increases the likelihood of being invited to volunteer, regardless of level of involvement in congregations (Merino, 2013). Therefore, it is expected that people who become more involved in congregations are more likely to be asked to volunteer through informal and formal social networks, and this in turn will foster greater involvement in volunteering.

The Current Study

Using growth curve modeling, we first aim to establish the relationship between trajectories of religious attendance and volunteering, and then investigate the role of social integration in explaining the relationship between trajectories of religious attendance and volunteering. Accordingly, our first set of hypotheses, as stated below, centers on the relationship between trajectories of religious attendance and volunteering.

Hypothesis 1: The initial level of religious attendance is associated with a subsequent increase in the rate of volunteering.
Hypothesis 2: The greater the rate of increase in religious attendance, the greater the increase in the rate of volunteering.

In a second set of hypotheses, we examine whether social integration mediates the relationship between trajectories of religious attendance and volunteering.

Hypothesis 3: The initial level of religious attendance is associated with a subsequent increase in the rate of social integration, which in turn will lead to an increase in the rate of volunteering.
Hypothesis 4: The greater the rate of increase in religious attendance, the greater the increase in the rate of social integration, thus, the greater the increase in the rate of volunteering.

To test these hypotheses, we use two measures of volunteering: volunteer hours and the number of volunteer organization types,[3] which we call "the range of

volunteering." It is important to use the alternative measures because they capture different aspects of volunteering. That is, the measure of volunteer hours assesses the depth of commitment to volunteer work, whereas the range of volunteering taps the breadth of volunteer work. Because it is possible for some people to contribute almost all volunteer hours to only one organization and for others to allocate their time to two or more organizations (Musick & Wilson, 2008), we believe that these measures complement each other.

We control for several variables that are associated with religious attendance and/or volunteering. We include religious denominations and salience measured in the baseline survey in our model to estimate the effect of religious attendance on volunteering controlling for these time-invariant covariates. Although the question on religious salience was asked at all waves, given our focus on religious attendance, it is suffice to examine whether baseline religious salience is associated with either the intercept or slope parameters of volunteering. Besides basic demographic variables, we included three types of "resource variables" found to be important predictors of volunteering: *human* (education, family income, health, and employment status), *cultural* (helping values), and *social* resources (informal social contact and formal group participation). Controlling for these resource variables is important because they are regarded as necessary individual characteristics that make it possible to produce volunteer work (see Musick & Wilson, 2008). Regarding health measures, we included a measure of mental health (i.e., depression) instead of physical health, because the former predicts volunteering more than the latter (Thoits & Hewitt, 2001). Supplemental analysis shows that the inclusion of self-rated health does not change the results.

Data

We used four waves of panel data spanning 15 years (1986-2002) from the ACL survey (House, 2002). In 1986, a nationally representative sample of adults aged 25 years and older was selected through a multistage stratified area probability sampling with an oversampling of African Americans and those aged 60 and older ($N = 3,617$). At Wave 2, which was collected 3 years later in 1989, 2,867 original respondents were reinterviewed. At Wave 3, another attempt was made to contact all the respondents from Waves 1 and 2, and 2,398 original respondents were reinterviewed in 1994 (164 proxy respondents were also interviewed and were included in this study). Finally, the fourth wave of the survey was completed by 1,692 original respondents between 2001 and 2003 (95 proxy respondents were also included).[4] Our analysis focused on a total of 1,594 respondents who completed all four waves of interview. To consider potential panel bias, attrition *t*-test analyses were conducted to determine the characteristics of people who left the sample. The results (not shown) indicated that individuals who left the sample were more likely to be Black, older, have less education, have lower family income, have greater depression, and have lower social participation. To correct for panel attrition, we used a panel weight variable (V12968) that ensures the representativeness of the sample.

Measures

Volunteering

The range of volunteering. This measure assesses the extent to which respondents are involved in different volunteer organizations. The ACL data contain a set of questions about whether respondents volunteered for one religious and four secular types of organizations in the previous year. At each time point, respondents were asked whether or not they did volunteer work for (a) a church, synagogue, or other religious organization; (b) a school or educational organization; (c) a political group or labor union; (d) a senior citizens group or related organization; and (e) any other national or local organization, including United Fund, hospitals, and the like. These five items were summed up to a final score ranging from 0 to 5 (for this approach, see also Wilson & Musick, 1997).

The range of secular volunteering. We also measured the range of secular volunteering by excluding religious volunteering. Thus, this construct ranged from 0 to 4, with a higher score indicating involvement in a wider range of secular volunteer organizations. This is an important measure in understanding whether religious attendance promotes secular volunteering over time.

Volunteer hours. At each interview, respondents were asked to report the number of hours they spent on all types of volunteering activities in the previous year. Response choices were 1 = less than 20 hr, 2 = 20 to 39 hr, 3 = 40 to 79 hr, 4 = 80 to 159 hr, 5 = 160 hr or more. Following Thoits and Hewitt (2001), we converted the ordinal scores to interval scale measures by assigning midpoints, 10, 30, 60, 120, except the last category, which was coded as 200 hr, with 0 hr being assigned to those who did not volunteer. Then, we took the natural log of the variable to adjust for skewness in the distribution.

Religious Attendance

At each wave, respondents were asked how often they usually attended religious services. Response categories were 1 = never, 2 = less than once a month, 3 = about once a month, 4 = 2 or 3 times a month, 5 = once a week, and 6 = more than once a week.

Explanatory and Control Variables

Denominational affiliation. At the first wave, respondents were asked about their denominational affiliation. Using a religious classification scheme by Steensland et al. (2000), we constructed dummy variables of religious affiliation, using mainline Protestant as the omitted category because they are among the most active volunteers for secular organizations (Wuthnow, 1999).

Religious salience. At each wave, respondents were asked, "In general, how important are religious or spiritual beliefs in your day-to-day life?" Response choices ranged from 1 = not at all important to 4 = very important.

Resource variables. Based on previous research, we included human, cultural, and social resources variables. *Education* (years of schooling) ranged from 0 to 17 and *family income* was measured based on a 10-point ordinal scale that ranged from 1 = *less than US$5,000* to 10 = *US$80,000 or more*.[5] For *employment status*, two dummy variables were constructed (employed part-time, not employed, employed full-time [omitted category]). *Depression* was measured using the Center for Epidemiological Studies Depression (CES-D) scale (Radloff, 1977). Next, the value of helping others was measured using an item asking respondents how strongly they agree or disagree with the statement "Life is not worth living if one cannot contribute to the well-being of other people" (1 = strongly disagree, 4 = strongly agree). Finally, *informal social contact* and *formal social participation* were measured based on a single item asking, "How often do you get together with friends, neighbors, or relatives and do things like go out together or visit in each other's homes?" and "How often do you attend meetings or programs of groups, clubs, or organizations that you belong to?" respectively. The response categories ranged from 1 = never to 6 = more than once a week.

Demographic controls. The following background characteristics were included in the model: *gender* (female = 1), *race* (Black = 1), *age* (in years), *marital status* (divorced, widowed, never married, with married being the omitted category), *the number of children aged 0 to 5 in the household*, *the number of children aged 6 to 17 in the household*, *homeownership status* (homeowner = 1), and *residential mobility* (moved during the past 3 years = 1).

Analysis

We used latent growth modeling to examine the development of religious attendance and volunteering across four time points. Our growth models are based on the structural equation model approach that enables us to examine structural relationships, controlling for measurement errors of observed variables. To estimate the models, we used Mplus 7.3 (Muthén & Muthén, 1998-2012) that incorporates Muthén's (1983) "general structural equation model" and full information maximum likelihood (FIML) estimation, which allows not only continuous but also dichotomous and ordered polytomous variables to be indicators of latent variables. Because our key variables are measured as ordered categorical (religious attendance) and count (e.g., the range of volunteering) and continuous (volunteer hours) variables, we employed the estimator of MLR: "maximum likelihood parameter estimates with standard errors . . . that are robust to non-normality and non-independence of observations" (Muthén & Muthén, 1998-2012, p. 484). We also used FIML to treat missing data (Graham, 2009). Finally, for data-model fit assessment, we focused on joint criteria using three types of fit index (Hu & Bentler, 1999)—incremental (CFI: comparative fit index), absolute (SRMR: standardized root mean squared residual), and parsimonious (RMSEA: root mean squared error of approximation)—while also reporting chi-square. Specifically, a model was determined to have a good fit to data if one of two joint criteria, (CFI $\geq$ .96 *and* SRMR $\leq$ .09) or (SRMR $\leq$ .09 *and* RMSEA $\leq$ .06), was met.

Results

Descriptive Statistics

Table 1 provides unweighted descriptive statistics for variables used in analysis. The total sample was 63.9% female and 23.1% Black. The respondents averaged 47 years old and 13 years of schooling (i.e., slightly more than high school education). The average of family income (5.274) was between "US$20,000–US$24,999" (= 5) and "US$25,000–US$29,999" (= 6), whereas 32.5% of respondents were not employed. At the time of initial survey, almost two thirds of respondents were married (64.3%), whereas the others were divorced (15.7%), widowed (9.5%), or never married (10.5%). Regarding religious affiliation, mainline Protestant was the largest group (26.8%), followed by evangelical Protestant (25.1%), Catholic (20.0%), Black Protestant (16.5%), no affiliation (6.2%), other religion (3.5%), and Jewish (1.9%). Finally, the means of volunteering measures generally increased across the waves, while those of religious attendance did not show any pattern of change.

Multivariate Growth Model: Hypotheses 1 and 2

Figure 1 presents the results of a multivariate growth model involving religious attendance and volunteer hours. Because of space concerns, we do not report figures for the other two volunteering measures, but their results are presented in Table 2. As hypothesized, this model simultaneously estimates the two sets of growth factors: the intercept and slope factors. Intercept factor loadings were all fixed 1.0 to represent the initial starting point of the growth trajectory of volunteer hours, whereas slope factor loadings were fixed at 0, 0.3, 0.8, and 1.5 to specify a linear trajectory of volunteer hours measured at four waves with three follow-ups being conducted 3, 8, and 15 years after the initial survey.[6] The factor loadings of religious attendance were fixed in the same way as those of volunteer hours, and measurement error correlations of both repeated measures (e.g., $e_1 \leftrightarrow e_2$, $e_2 \leftrightarrow e_3$, and $e_3 \leftrightarrow e_4$) were estimated as well. The growth factors were not only regressed on the time-invariant covariates (see "Covariates Time 1" in Figure 1) but also causally related as hypothesized above, with each set of growth factors being correlated via residuals (i.e., $D_1 \leftrightarrow D_2$ and $D_3 \leftrightarrow D_4$). The negative residual correlations (−.217 and −.456) indicate that respondents who reported higher levels of religious attendance and volunteer hours at Time 1 were likely to change at a smaller rate compared with those who reported lower levels at the initial survey. The model fits the data well ($\chi^2 = 186.401$, $df = 117$, $p = .000$, RMSEA = .018, CFI = .986, SRMR = .010).

The mean of the intercept factor indicates the average starting point of the trajectory, whereas the mean of the slope factor shows the average rate of change. On the contrary, the variance of the intercept factor shows between-individual difference in the individual intercept and the variance of the slope factor shows between-individual differences in the individual slope. If we take an example of religious attendance, we see that respondents reported at Time 1 that they typically attended religious services

Table 1. Unweighted Descriptive Statistics for Variables Used in the Analysis.

Variable	Observations	*M*	*SD*	Minimum	Maximum
Log of volunteer hours (T1)	1,594	−0.471	4.165	−4.605	5.298
Log of volunteer hours (T2)	1,594	−0.448	4.209	−4.605	5.298
Log of volunteer hours (T3)	1,570	−0.194	4.121	−4.605	5.298
Log of volunteer hours (T4)	1,505	−0.195	4.140	−4.605	5.298
Range of volunteering (T1)	1,590	0.874	1.079	0.000	5.000
Range of volunteering (T2)	1,593	0.884	1.113	0.000	5.000
Range of volunteering (T3)	1,570	0.943	1.088	0.000	5.000
Range of volunteering (T4)	1,510	0.967	1.123	0.000	5.000
Range of secular volunteering (T1)	1,590	0.587	0.845	0.000	4.000
Range of secular volunteering (T2)	1,593	0.578	0.871	0.000	4.000
Range of secular volunteering (T3)	1,570	0.606	0.862	0.000	4.000
Range of secular volunteering (T4)	1,510	0.619	0.881	0.000	4.000
Religious service attendance (T1)	1,593	3.571	1.771	1.000	6.000
Religious service attendance (T2)	1,594	3.555	1.798	1.000	6.000
Religious service attendance (T3)	1,570	3.592	1.749	1.000	6.000
Religious service attendance (T4)	1,516	3.584	1.821	1.000	6.000
Other religious variables (T1)					
Evangelical Protestant	1,592	0.251	0.434	0.000	1.000
Black Protestant	1,592	0.165	0.371	0.000	1.000
Catholic	1,592	0.200	0.400	0.000	1.000
Jewish	1,592	0.019	0.136	0.000	1.000
Other religion	1,592	0.035	0.184	0.000	1.000
No affiliation	1,592	0.062	0.242	0.000	1.000
Religious salience	1,594	3.371	0.829	1.000	4.000
Resource variables (T1)					
Education	1,594	12.620	2.844	0.000	17.000
Family income	1,594	5.274	2.588	1.000	10.000
Employed, part-time	1,594	0.154	0.361	0.000	1.000
Not employed	1,594	0.325	0.469	0.000	1.000
Depression CES-D index (*z* scores)	1,594	−0.020	1.014	−1.160	4.470
Helping others	1,590	3.478	0.782	1.000	4.000
Informal social contact	1,593	4.510	1.379	1.000	6.000
Formal social participation	1,594	2.980	1.796	1.000	6.000

(continued)

Table 1. (continued)

Variable	Observations	*M*	*SD*	Minimum	Maximum
Demographic variables (T1)					
Female	1,594	0.639	0.480	0.000	1.000
Black	1,594	0.231	0.422	0.000	1.000
Age	1,594	47.301	14.856	24.000	83.000
Divorced	1,594	0.157	0.364	0.000	1.000
Widowed	1,594	0.095	0.293	0.000	1.000
Never married	1,594	0.105	0.306	0.000	1.000
No. of children aged 0-5 at home	1,594	0.232	0.569	0.000	5.000
No. of children aged 6-17 at home	1,594	0.506	0.892	0.000	7.000
Homeowner	1,594	0.718	0.450	0.000	1.000
Moved in past 3 years	1,594	0.279	0.448	0.000	1.000

Note. CES-D = Center for Epidemiological Studies Depression.

once a month (3.286), and the frequency of their religious attendance did not change (.023, $p > .05$) between Times 1 and 4. The significant variance of the slope factor (.408) indicates that the average of no change reported in Table 1 was due to some respondents increasing in religious attendance (i.e., positive slope) and others decreasing (i.e., negative slope), canceling each other out and resulting in, on average, no change (i.e., "zero" slope). Altogether, these results show significant individual variation in the trajectories of both religious attendance and volunteer hours over the 15-year period of observation.

In Table 2, we present the results from estimating multivariate growth models. The first panel presents our estimates of the relationship between trajectories of religious attendance and three alternative measures of volunteering: volunteer hours, the range of volunteering, and the range of secular volunteering. Whereas the "intercept" column shows the baseline coefficients, the "slope" column indicates the coefficients stated in our hypotheses. Beginning with volunteer hours, consistent with Hypothesis 1, the initial level of religious attendance was positively associated with the rate of change in volunteer hours over 15 years ($b = 0.297$). That is, respondents who attended religious services more often than others at Time 1 were more likely to increase their volunteer hours between Times 1 and 4. Figure 2 visualizes this difference, showing the predicted trajectories of volunteer hours for two initial levels of religious attendance: one standard deviation above and below the mean. That is, those who attended religious services more often at Time 1 increased their volunteer hours at a faster rate over time than those who attended religious services less frequently. Referring back to Table 2, the rate of change in religious attendance is positively associated with the rate of change in volunteer hours over the study period ($b = 1.665$). This result supports Hypothesis 2.

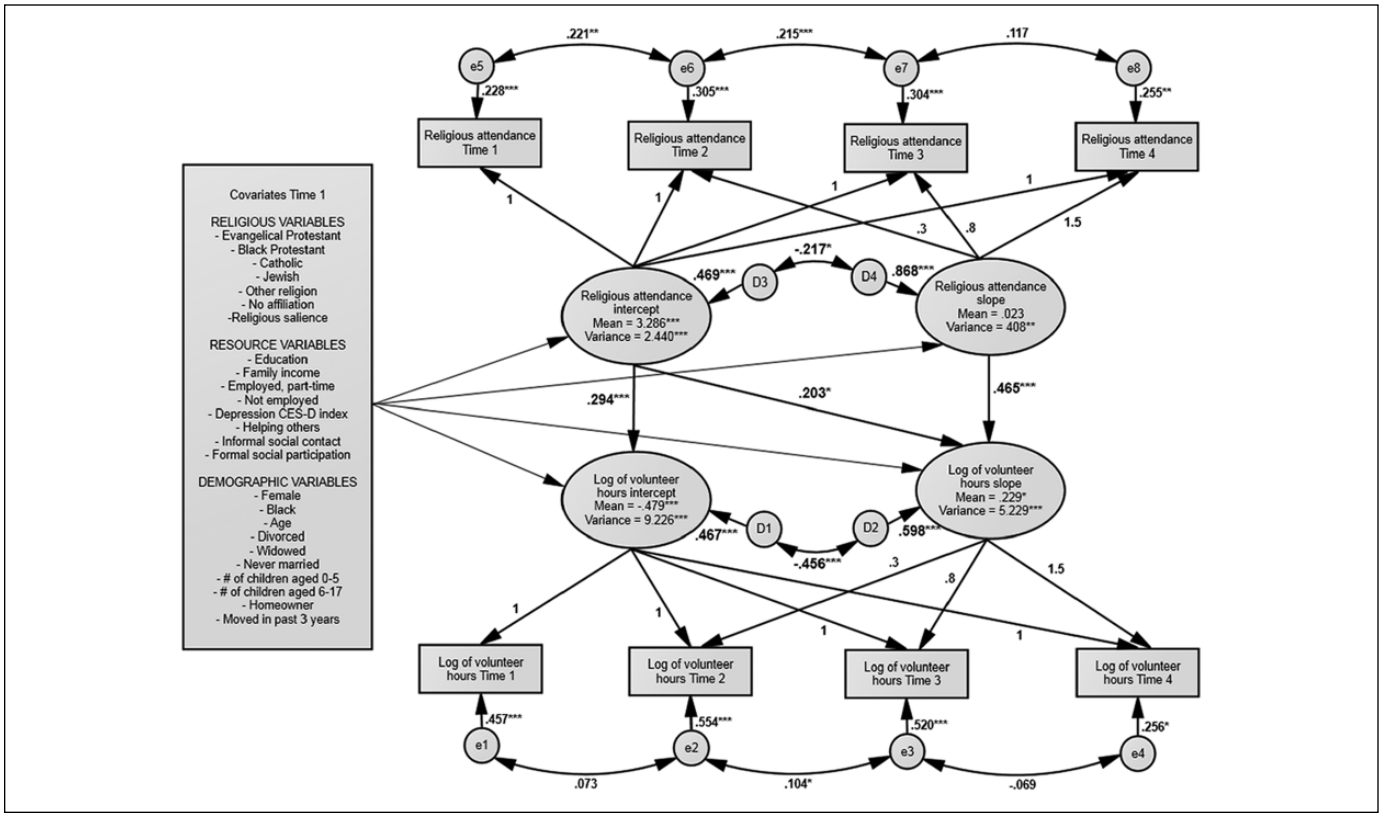

Figure 1. A multivariate growth model of religious service attendance and volunteer hours (logged) (n = 1,594).
Note. All values are in standardized metric except for the fixed factor loadings and the adjusted factor means and variances; χ^2 = 186.401 (df = 117, p = .000); RMSEA = .018 (90% CI = [.014, .024]); CFI = .986; SRMR = .010. CES-D = Center for Epidemiological Studies Depression; RMSEA = root mean squared error of approximation; CI = confidence interval; CFI = comparative fit index; SRMR = standardized root mean squared residual.
*p < .05. **p < .01. ***p < .001 (two-tailed test).

Table 2. Religious Service Attendance and Volunteering: A Multivariate Growth Model (n = 1,594).

	Log of volunteer hours				The range of volunteering				The range of secular volunteering			
	(1) Intercept		(2) Slope		(3) Intercept		(4) Slope		(5) Intercept		(6) Slope	
	b	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Religious service attendance												
Intercept	0.573***	.113	0.297*	.123	0.165***	.031	0.048	.028	−0.006	.027	0.035	.022
Slope			1.665*	.664			0.349**	.125			0.091*	.045
Other religious variables												
Evangelical Protestant	−0.192	.273	−0.635*	.269	−0.050	.075	−0.160*	.068	0.008	.065	−0.140*	.057
Black Protestant	0.184	.461	0.044	.531	0.082	.141	0.076	.140	0.034	.117	0.093	.106
Catholic	0.188	.276	−0.843**	.277	0.029	.071	−0.213**	.068	0.146*	.059	−0.186**	.056
Jewish	−0.363	.593	−0.452	.615	−0.135	.130	−0.102	.139	−0.140	.121	−0.072	.117
Other religion	0.177	.426	−0.472	.517	−0.298**	.101	−0.088	.113	−0.345***	.097	−0.065	.086
No affiliation	0.223	.488	−0.371	.486	0.072	.115	−0.155	.117	0.032	.106	−0.091	.107
Religious salience	−0.028	.159	0.029	.161	0.026	.039	−0.027	.037	0.059	.034	−0.045	.030
Resource variables												
Education	0.207***	.044	0.040	.049	0.073***	.012	0.006	.011	0.065***	.010	0.009	.009
Family income	0.134**	.048	−0.039	.050	0.044**	.013	−0.031*	.013	0.036**	.011	−0.027*	.011
Employed, part-time	0.843**	.286	−0.398	.274	0.240**	.075	−0.129	.072	0.190**	.065	−0.092	.058
Not employed	0.068	.264	−0.059	.281	0.049	.071	−0.042	.065	0.051	.059	−0.045	.053
Depression CES-D index (z scores)	−0.044	.103	−0.039	.102	−0.018	.027	−0.014	.026	−0.014	.023	−0.011	.021
Helping others	0.312*	.120	−0.112	.121	0.022	.043	0.031	.031	−0.008	.038	0.047	.026
Informal social contact	0.188**	.072	−0.072	.075	0.044*	.018	−0.004	.017	0.039**	.015	−0.003	.014

(continued)

Table 2. (continued)

	Log of volunteer hours				The range of volunteering				The range of secular volunteering			
	(1) Intercept		(2) Slope		(3) Intercept		(4) Slope		(5) Intercept		(6) Slope	
	b	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Formal social participation	0.613***	.074	−0.159*	.078	0.141***	.019	−0.032	.018	0.118***	.017	−0.030*	.015
Demographic variables												
Female	−0.070	.221	0.161	.218	0.061	.058	−0.009	.052	0.088	.051	−0.024	.044
Black	−0.742	.385	−0.522	.526	−0.162	.116	−0.048	.126	−0.086	.097	0.012	.088
Age	0.011	.010	−0.044***	.010	0.003	.003	−0.011***	.002	0.002	.002	−0.008***	.002
Divorced	0.168	.313	−0.164	.314	0.096	.084	−0.091	.079	0.096	.077	−0.080	.075
Widowed	−0.295	.344	−0.037	.416	0.006	.088	−0.108	.102	0.024	.073	−0.082	.076
Never married	0.256	.410	−0.480	.355	0.216	.133	−0.258**	.094	0.154	.118	−0.246**	.084
No. of children aged 0-5 at home	0.103	.203	0.137	.166	0.059	.057	0.025	.050	0.053	.046	0.003	.043
No. of children aged 6-17 at home	0.745***	.115	−0.563***	.135	0.168***	.033	−0.135***	.036	0.133***	.031	−0.116***	.033
Homeowner	0.255	.253	−0.391	.252	0.066	.069	−0.072	.064	0.038	.058	−0.049	.054
Moved	−0.405	.237	0.315	.245	−0.080	.060	0.026	.059	−0.053	.052	0.036	.049
Model fit indices												
χ^2 (*df*, *p* value)	186.401		(117, .000)		206.375		(117, .000)		160.804		(117, .005)	
RMSEA [90% CI]	.018		[.014, .024]		.022		[.017, .027]		.015		[.009, .021]	
CFI	.986				.984				.991			
SRMR	.010				.010				.009			

Note. Reference categories are mainline Protestants, employed full-time, male, non-Black, married, non-homeowner, and not moved in the past 3 years.
CES-D = Center for Epidemiological Studies Depression; RMSEA = root mean squared error of approximation; CI = confidence interval; CFI = comparative fit index; SRMR = standardized root mean squared residual.
*p < .05. **p < .01. ***p < .001 (two-tailed test).

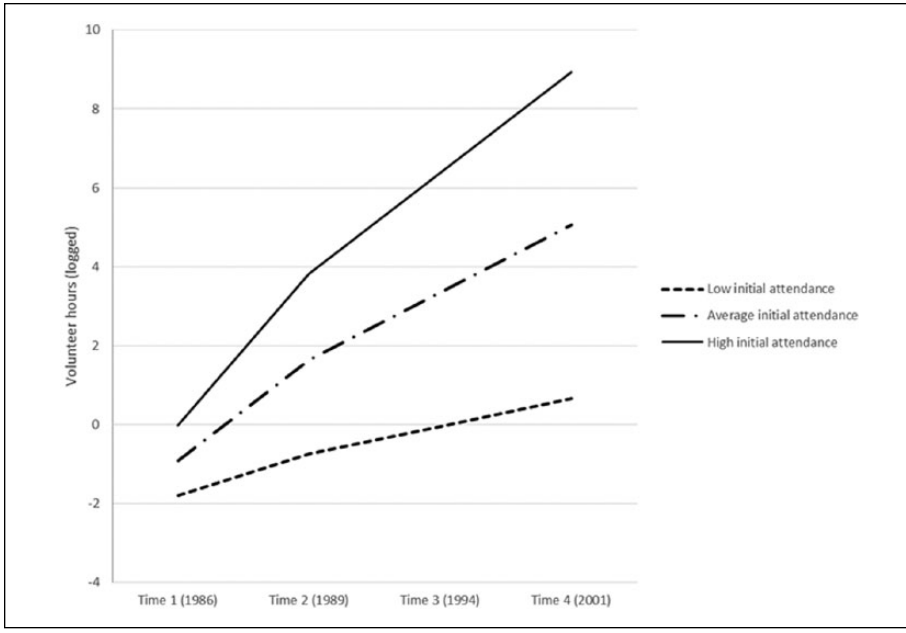

Figure 2. Predicted trajectories of volunteer hours (logged), by initial levels of religious attendance.
Note. Low and high religious attendance refer to 1 standard deviation below and above the mean, respectively.

Columns 4 and 6 in Table 2 show that initial level of religious attendance is not significantly associated with the slope of either range of volunteering ($b = 0.048$ and 0.035, both $p > .05$). Thus, Hypothesis 1 is not supported for the case of two volunteering range measures. Consistent with Hypothesis 2, however, columns 4 and 6 show a significant relationship between the slope of religious attendance and both measures of the volunteering range ($b = 0.349$ and 0.091). Taken together, these results show that the rate of change in religious attendance is positively associated with the rate of change in the range of volunteering, whether religious volunteering is included or not.

The next three panels present the effects of time-invariant covariates on the growth factors of volunteering. For space reasons, we discuss only the results of secular volunteering. First, column 5 replicates results of previous cross-sectional studies: Education ($b = 0.065$), family income ($b = 0.036$), part-time employment ($b = 0.190$), informal social contact ($b = 0.039$), formal social participation ($b = 0.118$), and number of school-aged children ($b = 0.133$) are positively associated with the initial level of secular volunteering. Some of the more interesting results are presented in column 6. Compared with mainline Protestants, evangelical Protestants and Catholics show less growth in secular volunteering ($b = -0.140$ and -0.186, respectively). We also see that initial involvement in voluntary associations is associated with a faster rate of decrease in secular volunteering over time ($b = -0.030$). Perhaps this is partly because people who showed a higher

level of participation at baseline are more likely to increase volunteering at a slower rate than those who showed lower levels of participation at baseline. The same pattern is observed for the number of school-aged children ($b = -0.116$). This may reflect the "empty nest" stage in which those who had school-aged children at baseline experienced a faster rate of decrease in volunteering as children left parents.

Mediation Model: Hypotheses 3 and 4

Table 3 summarizes the results of mediation analyses examining the role of social integration in explaining the link between the religious attendance and volunteering trajectories. For this test, the growth factors of each mediator (informal social contact and formal social participation) were added to the existing model shown in Table 2. The top panel ("baseline model") repeats the first panel of Table 2 and the next two panels consist of two subpanels, one showing results after adding each mediator to the baseline model and the other showing indirect effects of religious attendance on volunteering via each mediator and their significance test.

Focusing on the results of second subpanels relevant to the last two hypotheses, column 2 shows that the slope factor of formal social participation mediates the effects of both intercept and slope factors of religious attendance on the slope factor of volunteer hours ($b = 0.191$ and 1.151). That is, respondents who attended religious services more often than others at Time 1 or those who increased religious attendance between Times 1 and 4 were more likely to increase their volunteer hours during the 15-year period as a result of their increasing attendance at meetings or programs of groups, clubs, or organizations that they belong to between Times 1 and 4. Therefore, Hypotheses 3 and 4 were both supported. On the contrary, no mediation of informal social contact was found.

The hypotheses also received empirical support for the range of volunteering, as column 4 shows evidence of mediation of formal social participation ($b = 0.047$ and 0.281). That is, the more frequent religious attendance at Time 1 or the greater increase in religious attendance between Times 1 and 4, the greater increase in attending formal group meetings or programs, the greater increase in the range of volunteering. On the contrary, we found again no evidence of mediation by either measure of social integration for the range of secular volunteering.

Discussion

Previous studies have established the relationship between religious attendance and volunteering, yet no study has examined its dynamics. Using growth curve modeling, we filled this gap by examining whether trajectories of religious attendance and volunteering interweave over the course of adult life and what accounted for this longitudinal relationship. We summarize our findings in three ways.

First, baseline religious attendance predicted a subsequent increase in volunteer hours over 15 years. This finding suggests that earlier exposure to organized religion has greater consequences for future commitment to volunteer work. While this finding is noteworthy in its own right, perhaps more intriguing is the comparison with the finding

Table 3. Indirect Effects of Religious Service Attendance on Volunteering via ISC and FSP (n = 1,594).

	Log of volunteer hours				The range of volunteering				The range of secular volunteering			
	(1) Intercept		(2) Slope		(3) Intercept		(4) Slope		(5) Intercept		(6) Slope	
	b	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Baseline model												
Religious attendance intercept	0.573***	.113	0.297*	.123	0.165***	.031	0.048	.028	−0.006	.027	0.035	.022
Religious attendance slope			1.665*	.664			0.349**	.125			0.091*	.045
ISC added												
Religious attendance intercept	0.534***	.113	0.352**	.129	0.153***	.031	0.059*	.029	−0.016	.027	0.046*	.024
Religious attendance slope			1.593*	.653			0.338**	.124			0.081	.046
Indirect effects of												
Religious attendance intercept												
via ISC intercept	0.055*	.024			0.015*	.007			0.013*	.006		
via ISC intercept			−0.003	.017			0.000	.004			0.001	.003
via ISC slope			−0.057	.055			−0.012	.011			−0.012	.011
Religious attendance slope												
via ISC slope			0.097	.103			0.016	.018			0.015	.018
FSP added												
Religious attendance intercept	0.046	.127	0.074	.184	0.032	.034	−0.012	.042	−0.110***	.029	−0.037	.041
Religious attendance slope			0.386	.492			0.062	.109			−0.159	.113
Indirect effects of												

(continued)

Table 3. (continued)

	Log of volunteer hours				The range of volunteering				The range of secular volunteering			
	(1) Intercept		(2) Slope		(3) Intercept		(4) Slope		(5) Intercept		(6) Slope	
	b	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Religious attendance intercept												
via FSP intercept	0.834***	.105			0.203***	.026			0.163*	.023		
via FSP intercept			−0.060	.093			−0.002	.022			0.012	.020
via FSP slope			0.191*	.094			0.047*	.024			0.045	.025
Religious attendance slope												
via FSP slope			1.151*	.461			0.281*	.117			0.256	.131
Model fit indices												
χ^2 (*df*, *p* value)	186.401		[117, .000]		206.375		[.117, .000]		160.804		[117, .004]	
RMSEA [90% CI]	.019		[.014, .024]		.022		[.017, .027]		.015		[.009, .021]	
CFI	.986				.984				.991			
SRMR	.010				.010				.009			

Note. All models include control variables used in the estimation of Table 2. ISC = informal social contact; FSP = formal social participation; RMSEA = root mean squared error of approximation; CI = confidence interval; CFI = comparative fit index; SRMR = standardized root mean squared residual.
*p < .05. **p < .01. ***p < .001 (two-tailed test).

that education, another strong determinant of volunteering, did not predict the rate of change in volunteer hours over time (see also Lancee & Radl, 2014). This is perhaps because there is relatively little variation in education in adulthood compared with religious attendance. Whereas only a few people continue their education beyond young adulthood, relatively many become more involved in organized religion as they embark on adulthood (Stolzenberg, Blair-Loy, & Waite, 1995), often accelerated by a particular life event, such as having a child who begins to go to school (Schleifer & Chaves, 2017). Taken together, these findings suggest that religious attendance has more explanatory power than education for understanding the trajectory of volunteering over time.

Second, those who reported a faster rate of increase in religious attendance showed a faster rate of increase in all three measures of volunteering over 15 years. Conversely, these results indicate that those whose religious attendance declined at a faster rate decreased their volunteering at a faster rate over those years. Because these relationships may vary across age groups, we further explored whether that is the case. Multiple group analyses (not shown) revealed that the slope of religious attendance was positively associated with the slope of volunteer hours among those who are 45 to 54 years old.[7] This finding supports the view that volunteering blossoms in midlife (Wilson, 2012) when participation in organized religion is high (Hayward & Krause, 2013).

Third, we found evidence of mediation by formal social participation. Our results showed that initial religious attendance was associated with a later increase in volunteer hours and the range of volunteering mainly through an increase in involvement in voluntary associations. Similarly, we also found that those who increased religious attendance at a faster rate increased group participation at a faster rate as well, thereby increasing volunteer hours and the range of volunteering at a faster rate. Previous research has provided evidence that religious social networks mediate the relationship between religious attendance and volunteering using cross-sectional (Lewis et al., 2013) and two-wave short-term panel data (Putnam & Campbell, 2010), but our study is the first to provide more reliable estimates of long-term change in social integration.

Although religious attendance was our primary interest, it is worth discussing the results related to two other religious variables: religious affiliation and religious salience. First, religious salience had no effect on either the intercept or slope of all measures of volunteering. This result can be interpreted in terms of mediation or spuriousness. As Johnston (2013) interpreted, religious salience may have an indirect effect on volunteering through religious attendance. Or it may represent a spurious relationship: that is, those who report higher religious attendance tend to report higher religious salience *and* a higher level of volunteering. Regardless of which interpretation is correct, it seems clear that the participatory dimension of religiosity has more explanatory ability than the subjective dimension of religiosity in predicting trajectories of volunteering (see also Putnam & Campbell, 2010). Next, regarding religious affiliation, a consistent pattern emerges across measures of volunteering. Compared with mainline Protestants, evangelical Protestants and Catholics show less growth in volunteering over time. This finding suggests that mainline Protestantism is increasingly likely to utilize their congregational resources for the wider community (for cross-sectional evidence, see Ammerman, 2002; Driskell, Lyon, & Embry, 2008; McClure, 2014).

Like any study using secondary data, ours has limitations. Our data contain no information about the number of hours respondents spent in *each* type of volunteer organizations. It is possible that some volunteers contribute hours to only one organization while others allocate their time to multiple organizations. This limitation does not allow us to determine the amount of hours respondents volunteer for secular versus religious organizations. We can only speculate on the basis of our knowledge of national statistics. According to the 2014 September Volunteering Supplement of the Current Population Survey, American volunteers spent most hours serving religious organizations (33.3%), followed by educational (25.1%), community service (14.4%), hospital (7.4%), and so on (U.S. Bureau of Labor Statistics, 2015). Because this pattern has consistently been observed since 2002 when the volunteering supplement data were collected annually, we speculate that religious volunteering might have taken up most of the hours respondents reported even before 2002. Because religious people, who share their religious identity, tend to volunteer more for religious organizations, this speculation seems to be consistent with the notion of ingroup favoritism (Galen, 2012) in which fellow congregants, rather than people outside the fold, benefit most from the volunteer work of regular worshippers.

However, our analysis has already yielded results that counter this idea: The slope of religious attendance is positively associated with that of the range of secular volunteering, which supports the idea that regular worshippers do volunteer work for a wider range of secular organizations over time. This result appears to be inconsistent with the ingroup favoritism hypothesis but rather corroborate the conclusion of Putnam and Campbell (2010): People mostly choose between volunteering and not volunteering, and if they volunteer, they do both religious and secular volunteering. Because it is less likely that irregular worshippers or nonworshippers volunteer for religious organizations, it seems obvious that active members of congregations, who do volunteer work in religious organizations, also do volunteer work for secular organizations over time (Johnston, 2013).[8] With measures of volunteer hours spent on religious versus secular volunteering, future research may investigate whether the slope of religious attendance is positively associated with the slope of secular volunteer hours.[9]

Another limitation is that, despite its statistical significance, the measure of formal social participation is too crude to capture the exact mechanism of social integration. The question wording—"How often do you attend meetings or programs of groups, clubs, or organizations that you belong to?"—does not allow us to distinguish specific types of voluntary associations respondents had in mind—whether it is the kind that connects to other organizations or isolated from them (Paxton, 2007), or whether it is secular or religious. The latter point is especially important because researchers, who use the ACL data, often interpret this measure as secular organizations (e.g., Thoits & Hewitt, 2001). This assumption, however, is potentially misleading because it is unclear from the wording of the question whether respondents had only secular voluntary associations in mind when answering this question. It is possible that some of them might have thought of religious groups such as Bible studies and prayer meetings, because involvement in congregational activities besides religious services has more explanatory power than religious attendance in predicting secular volunteering (Jackson, Bachmeier, Wood, & Craft, 1995; Park & Smith, 2000; Wuthnow, 2004). Addressing the ambiguity of the

social integration mechanism requires a collection of new data, which would enable researchers to identify the exact mechanism underlying the beneficial effect of group participation—whether it is a matter of any kind of voluntary association or a particular type of association (for similar concerns, see Galen, Sharp, & McNulty, 2015).

In conclusion, involvement in organized religion has long been part of American civic and social life as it provides various opportunities for participation in the community. Although early socialization in the family plays a pivotal role in the formation of religious and volunteering practices, our modeling approach provides evidence that the relationship between religious attendance and volunteering keeps changing even beyond adolescence. This study also improves on previous work by demonstrating that increased involvement in voluntary associations helps to account for the relationship between trajectories of religious attendance and volunteering over the adult life course. It appears that religious involvement and volunteer activities are a dynamic duo: They go together, so they change together.

Authors' Note

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Notes

1. Wilson and Janoski (1995) used three waves of data collected in 1965, 1973, and 1982, but religious attendance and volunteering were measured twice (1973 and 1982).
2. Although McCullough et al. (2005) examined subjective religiousness, they reported that mean levels of religiousness were highly correlated with those of formal religious participation over time ($r = .64$). Within-individual change in religious participation was also significantly associated with within-individual change in religiousness. From these results, we speculate that there could have been substantial individual differences in change in religious participation had the authors examined religious participation.
3. Of those organization types, we separate nonreligious organizations (i.e., educational, political, senior, and other organizations) from religious ones and estimate the relationship between trajectories of religious attendance and the range of secular volunteering as well.

4. Although the fifth wave of the Americans' Changing Lives (ACL) data were recently released, unfortunately, the existing questions on volunteering were collapsed into one question. However, our results on volunteer hours can be replicated with that question.
5. It should be noted that the highest family income category (US$80,000 or more) is somewhat limited because the top 20% reported family income greater than US$80,000 according to U.S. Census Bureau statistics (2014 estimates).
6. The fourth wave survey was conducted over 3 years between 2001 and 2003 (15, 16, and 17 years after the baseline survey). Because the majority of the respondents (70.3%) completed the survey in 2001, we used 15 as the basis of time score representing the fourth wave survey (i.e., 1.5).
7. For age-group analysis, respondents were grouped into the following six categories based on the U.S. Census Bureau age breakdown: 25 to 34 ($n = 417$), 35 to 44 ($n = 369$), 45 to 54 ($n = 220$), 55 to 64 ($n = 331$), 65 to 74 ($n = 219$), and 75 to 96 ($n = 38$). We excluded the last category from our analysis because its sample size is too small to apply structural equation modeling (results available upon request).
8. To examine which type of secular organization is more likely to be linked to religious attendance, we estimated each type of secular volunteering separately. Supplemental Table 1 (available online) shows that, while the slope of religious attendance was not related, initial religious attendance was positively associated with the slope of volunteering for other types of organizations not listed as response options, which may include community service, health-related, cultural, or environmental organizations.
9. Such data were collected by the Philanthropy Panel Study (PPS) and the September Volunteering Supplement of the Current Population Survey (CPS), but they do not answer our research questions because CPS is not a panel study and PPS includes our key variables measured in shorter time intervals (for more details, see Nesbit, 2010).

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