

# The Contingent Effects of Mental Well-being and Education on Volunteering

Matthew A. Andersson<sup>1</sup> and Jennifer L. Glanville<sup>2</sup>

## Abstract

Mental health or well-being provides individuals with an enhanced agentic capacity for formal volunteering. However, this capacity may be realized more effectively through the structural resources for volunteering provided by education. Analyzing white respondents from the 1995-2005 National Survey of Midlife Development Panel Study (N = 1,431), we examine the contingent effects of mental well-being and education on the probability of formal volunteering. In longitudinal models, we find that mental well-being has a role in volunteering only at higher levels of education and that deficits in mental well-being reduce the effect of education. This holds across three representative indicators of mental well-being capturing the absence of negative symptoms as well as the presence of thriving or positive emotion. As a whole, our findings suggest that agency and structure are intertwined in determining who volunteers.

## Keywords

distress, mental well-being, education, formal volunteering

Volunteer work is a vital form of civic engagement that contributes to social capital and community well-being more generally (Putnam 2000; Wilson 2012). Because volunteer work helps ensure the continued thriving of communities and nations, scholars across disciplines seek to understand why people volunteer or do not. Some research finds that physical or mental well-being is linked to higher levels of volunteering, suggesting that well-adjusted individuals are more likely to select into and persist at volunteering opportunities (Helliwell and Putnam 2004; Li and Ferraro 2006; Snyder and Omoto 2008; Son and Wilson 2012; Thoits 2003; Thoits and Hewitt 2001; Wilson 2012). Whether measured in terms of positive emotion, the absence of negative emotion or depressive symptoms, or psychological characteristics such as a sense of control or purpose in life, mental well-being contributes to an agentic capacity for productive activity or helping others, making it a widely researched antecedent of volunteer activity (Li and Ferraro 2005; Piliavin

and Siegl 2007; Son and Wilson 2012; Thoits and Hewitt 2001).

Rather than being a factor to be explained away or ruled out, agency is quintessentially important to volunteer activity (Thoits and Hewitt 2001). Net of structural or sociodemographic constraints on volunteering, individuals vary markedly in their happiness, depression, satisfaction with life, resilience, motivations to help, empathic concern, and other social-psychological characteristics that indicate differences in agentic capacity (Bekkers 2005; Penner 2002; Snyder and Omoto 2008; Thoits and Hewitt 2001; Wilson 2012). Rarely considered, however, is the confluence of agency

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and structure in producing voluntary labor. This is a vital oversight given that the choice to volunteer is an exceedingly complex process that is reducible neither to lived individuality nor structural determinism alone (Penner 2002; Thoits and Hewitt 2001). More broadly, social action represents the commingling of agency and structure (Adkins and Vaisey 2009; Sewell 1992).

In this study, we merge agency and structure in the study of voluntary labor by investigating how mental well-being interacts with educational resources. Prior work focused on the agentic potential of mental well-being has overlooked whether capitals or resources may be important to realizing the benefits of mental well-being for civic engagement (Wilson 2012). A volunteer capital perspective has long focused on social, cultural, and human resources as prime determinants of who volunteers and on education in particular as a dominant resource for initiating and sustaining formal volunteering (Bekkers 2010; Musick and Wilson 2008; Smith 1994; Wilson and Musick 1997a). Education produces resources as well as dispositions for volunteering, and highly educated individuals have more social connections and are more likely to be recruited as volunteers (e.g., Brand 2010; Dee 2004; Horowitz 2015; Oesterle, Johnson, and Mortimer 2004). In fact, some scholars have concluded that education is the strongest predictor of who volunteers in Western societies (Putnam 1995; Wilson 2012).

Building on this perspective, we argue here that the enhanced capacity for volunteering provided by mental health or well-being (Thoits 2003; Thoits and Hewitt 2001) may be realized more effectively through educational resources. This important notion remains overlooked by research on volunteering and mental health, which treats education either as an independent form of volunteer capital or merely as a demographic variable to be controlled. Instead, we contend here that mental health produces substantially different rates of volunteering depending on the level of education held by potential volunteers. This occurs because higher education creates structural, dispositional, and social conditions that realize the capacity of well-being to promote volunteering.

## BACKGROUND

Formal volunteer work is unpaid work that is freely chosen, deliberate, extends over time, is “engaged in without expectation of reward or

other compensation and often through formal organizations,” and is “performed on behalf of causes or individuals who desire assistance” (Snyder and Omoto 2008:3). Volunteer work conducted through organizations is clearly only one aspect of volunteering (Wilson and Musick 1997a); many individuals also volunteer their time informally in activities such helping a friend move or taking an elderly neighbor to the doctor. Here, we focus on formal volunteering given how it is directly relevant to community life and the public good and because education is less consequential for informal helping or volunteering (Brady, Verba, and Schlozman 1995; Brand 2010; Wilson and Musick 1997a).

According to a volunteer process model (Omoto, Snyder, and Hackett 2010; Snyder and Omoto 2008), formal volunteer activity can be understood in terms of antecedents, experiences, and consequences of volunteering. Traits, motives, and personal characteristics serve as important antecedents of who volunteers (Omoto et al. 2010; Thoits and Hewitt 2001). While research has long recognized that improved mental well-being may be a consequence of volunteering, supporting a social causation perspective on volunteering and mental health (e.g., Piliavin and Siegl 2007; Thoits and Hewitt 2001; Wilson 2012), mental well-being is likely to facilitate volunteering as well, supporting a social selection perspective (Helliwell and Putnam 2004; Li and Ferraro 2005; Thoits 2003; Thoits and Hewitt 2001).

Although prior work has examined differing mental well-being selection and causation processes due to life-course factors such as age or social integration (Kim and Pai 2010; Li and Ferraro 2006; Omoto et al. 2010; Piliavin and Siegl 2007), other resources remain overlooked. Because education is one of the strongest human resources or capitals for volunteering (Wilson 2012), mental health may more effectively lead to volunteering given higher levels of education. Education is a “resource that lowers the costs of doing volunteer work” through multifaceted resource pathways (Dee 2004; Musick and Wilson 2008:124). While mental health provides a broad capacity for daily cognitive and social functioning that enhances agentic capacity (Thoits 2003; Thoits and Hewitt 2001), this foundation may not be optimal for volunteering unless accompanied by the cognitive and civic skills and non-kin social inducements linked to education.

However, education remains unexamined as a pivotal translator of mental well-being to voluntary action. The precise nature or extent of this potentially vital interplay between agency and structure has yet to be demonstrated. Sociological theory and research have long maintained that agentic capacity or potential depends on structural resources and opportunities in order to realize outcomes (Adkins and Vaisey 2009; Sewell 1992; Thoits 2003). Moreover, while scholars of volunteering and related civic activity maintain that volunteering reflects a confluence of agency and structure (Helliwell and Putnam 2004; Thoits and Hewitt 2001; Wilson 2012), they rarely implement this core insight.

### *Volunteer Capitals: Education and Formal Volunteering*

A focus on mental health selection and causation in studies of formal volunteering has yet to benefit from the core insights afforded by volunteer capital theory. In summarizing a capital-based approach to understanding who volunteers, Musick and Wilson (2008:6) state: "people cannot volunteer if they lack the individual resources needed, they will not volunteer if they are not disposed, or motivated to do so, and they are unlikely to volunteer if nobody asks them to do so." These precursors to volunteering are distilled from abundant research on volunteering, which illuminates who volunteers in terms of personal and socioeconomic resources, individual motivations, dispositions, values, or identities and also in terms of social capital and the inducements and norms of voluntary labor it promulgates (e.g., Bekkers 2005; Brady et al. 1995; Freeman 1997; Gesthuizen and Scheepers 2012; Thoits and Hewitt 2001; Wilson and Musick 1997a).

With respect to these pillars of volunteering—resources, dispositions, and recruitment through social networks—education figures prominently. Indeed, a volunteer capital perspective has long focused on education and in particular on the numerous and diverse resources for volunteering that education provides, offering a multifaceted explanation for its very strong and robust association with volunteering. With regard to resources, higher education channels individuals into jobs that are more autonomous, higher in status, and more encouraging of occupational self-direction, all of which may enhance the tendency to

volunteer (Wilson and Musick 1997b). Furthermore, education contributes to cognitive competence (Dee 2004; Gesthuizen and Scheepers 2012; Hauser 2000) and allows for the development of a number of civic and problem-solving skills, such as effective communication, information gathering, management of organizational funds and resources, and the ability to run meetings (Brand 2010; Hout 2012; Mirowsky and Ross 2003), that facilitate volunteering.<sup>1</sup>

Regarding dispositions to volunteer, a primary mission of educational institutions is to develop good citizens (Brand 2010; Dewey 1916). As such, longer exposure to education results in greater orientation toward volunteering through the socialization of norms and values oriented toward helping others (Gesthuizen and Scheepers 2012). This orientation also includes greater awareness of social issues and more cosmopolitan attitudes (Musick and Wilson 2008). Network-based mechanisms involve the strong association between higher education and the number and heterogeneity of non-kin social ties (Fischer 2011; Huang, van den Brink, and Groot 2009; Musick and Wilson 2008) and in turn the strong link between larger and more heterogeneous networks and being asked or expected to volunteer or participate civically (Paik and Navarre-Jackson 2011; Wilson 2012; Wilson and Musick 1997a).

Here, we argue that whether mental well-being promotes volunteering may depend on educational resources. Education provides structural conditions for volunteering by furnishing skill, dispositional, and network-based mechanisms that promote volunteering. In turn, mental well-being enhances the agentic capacity for volunteering. While mental well-being should lower the opportunity costs and heighten the personal rewards of voluntary action in general (Bekkers 2005, 2010), we expect this effect to be manifested to a greater extent among the highly educated because they have more opportunities and inducements to volunteer than those with lower levels of education.<sup>2</sup>

## METHOD

To investigate whether the link between mental well-being and formal volunteering differs according to educational resources, we use the 1995 and 2005 National Survey of Midlife Development in the United States (MIDUS) panel survey. The

panel design allows us to better establish temporal ordering between volunteering and well-being by observing change in voluntary activity across one decade. In addition, it offers multiple indicators of mental well-being capturing distress or negative emotion as well as the presence of thriving or positive emotion, enabling us to examine whether interaction effects between education and well-being are robust across these indicators.

The main component of the 1995-2005 MIDUS panel is a probability sample consisting of English-speaking, noninstitutionalized adults aged 25 to 75 residing in the contiguous United States (referred to herein as the random-digit-dial or RDD sample), with an oversample of individuals aged 65 to 74 and males. In 1995, about 70 percent of initially chosen RDD informants agreed to a phone interview that gathered basic information. Eighty-seven percent of this phone-response sample then also agreed to complete additional questionnaires, for an overall response rate of 61 percent, which is quite similar to other national surveys utilizing similar designs (Braveman and Barclay 2009; Morton, Mustillo, and Ferraro 2014). In 2005, 2,038 of the original respondents in 1995 (69.5 percent) completed a telephone interview, and 83 percent of these individuals also completed additional questionnaires required for the analysis. Once this level of attrition is corrected for rates of mortality typically seen among older individuals, it is comparable to panel response rates observed in other national surveys (see Braveman and Barclay 2009; Schafer, Wilkinson, and Ferraro 2013).

Following prior work on formal volunteering, we restrict our analyses to white respondents. Several key mechanisms of formal volunteering pertaining to social class and religious attendance may differ fundamentally across racial groups (Musick, Wilson, and Bynum 2000), thus potentially complicating the analysis and interpretation of heterogeneous effects of mental well-being or education. In addition, only about 5 percent of respondents in the MIDUS panel elected a non-white racial classification.<sup>3</sup>

Upon restricting our sample to white respondents who completed the MIDUS panel,  $N = 1,579$  observations are available. While no key covariate had greater than 10 percent nonresponse, some respondents had missing data on one or more key variables for the analysis, resulting in a listwise sample of  $N = 1,431$ . Because diligent survey participation arguably is a form of volunteering

(Radler and Ryff 2010), we take attrition into account explicitly by utilizing an inverse weighting procedure (Cornwell and Laumann 2015).<sup>4</sup>

### *Dependent Variable: Any Volunteering in 2005*

In 1995 and again in 2005, MIDUS respondents were asked about how often they engage in formal volunteer work: "On average, about how many hours per month do you spend doing formal volunteer work of any of the following types?": (a) hospital, nursing home, or other health care-oriented work; (b) school or other youth-related work; (c) political organizations or causes; (d) any other organization, cause, or charity. We constructed a binary measure of any volunteering during the past year (1 or more hours for any type of volunteering). In additional models, we also analyzed total monthly hours of volunteering.

### *Independent Variables*

**Education.** MIDUS surveys education mainly in terms of credential points (i.e., completion of high school, GED, associate's degree, bachelor's, master's, or doctorate), with degree midpoints also present (e.g., 1 or 2 years of college, no degree yet). We recoded this measure to years of education (10 to 20 years). Conclusions do not differ when we measure education as a dichotomous variable indicating a four-year college degree and above versus less education (e.g., Brand 2010).

**Mental Well-being.** We employ three measures of mental well-being that are representative of measures employed in other longitudinal studies of volunteering (Li and Ferraro 2005; Son and Wilson 2012; Thoits and Hewitt 2001): psychological distress, positive emotion, and psychological well-being. In keeping with prior work, we treat these scales separately, as they are conceptually and empirically distinct manifestations of well-being.<sup>5</sup>

First, MIDUS respondents completed the Kessler K-6 scale of nonspecific psychological distress, which has been used internationally for screening current and prospective mental illness risk (Kessler et al. 2002). Distress has been used widely as a general indicator of mental health as well (e.g.,

Bierman and Kelty 2014; Caputo and Simon 2013; Kessler 1982). Respondents were asked "During the past 30 days, how much of the time did you feel . . ." nervous, restless or fidgety, hopeless, worthless, that everything was an effort, and so sad that nothing could cheer you up (5 = all of the time, 4 = most of the time, 3 = some of the time, 2 = a little of the time, 1 = none of the time;  $\alpha > .85$ ). After averaging across all six distress items to obtain a distress score, we took the natural logarithm to help correct for skewed scores (most respondents report low levels of distress).

Next, given how the absence of distress does not equate with the presence of thriving, we focused on positive affect or emotion. MIDUS assesses positive affect during the past month using a six-item scale, as validated in prior work (Diener and Chan 2011; Tellegen, Watson, and Clark 1999). Respondents were asked "During the past 30 days, how much of the time did you feel . . ." cheerful, in good spirits, extremely happy, calm and peaceful, satisfied, and full of life (5 = all of the time, 4 = most of the time, 3 = some of the time, 2 = a little of the time, 1 = none of the time;  $\alpha = .91$ ). As for distress, we averaged responses to these items.

Finally, we considered a more comprehensive measure of psychological well-being, based on Ryff and Keyes's (1995) approach developed in the MIDUS data. This measure consists of six subscales: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. Each of the six subscales is based on three items, which are presented in the appendix. Because follow-up work has documented high or extremely high latent correlations among the subscales (Springer and Hauser 2006), we averaged all six subscores to obtain an overall well-being score (subscore  $\alpha = .76$ ).<sup>6</sup>

**Sociodemographic Covariates.** In all equations, we include basic demographic and social covariates that are commonly controlled in analyses of volunteering (Bekkers 2010; Li and Ferraro 2005; Piliavin and Siegl 2007; Son and Wilson 2012; Wilson and Musick 1997a). Gender is measured as an indicator for male; age is measured in years and specified as age groupings in models to allow for nonlinearities.<sup>7</sup> Marital status is assessed by whether the respondent was currently married at the time of the interview. Marital involvement

carries strong implications for non-kin social relations (Fischer 2011; Rotolo and Wilson 2006). Further, we account for whether the respondent has children, as childrearing is linked to distinctive patterns of social and community involvement (Rotolo and Wilson 2006). We distinguish between children's age groups (i.e., 0-6 years old vs. 7-17) in order to separate young children from those who are likely to leave the household (e.g., for college) between 1995 and 2005.<sup>8</sup> Models that instead focused on number of children in the household did not alter the findings presented here.

Labor force status is assessed by whether the respondent works full- or part-time for pay. In addition, we control for work hours per week at the respondent's main job in order to account for time-related job demands and effort that may restrict one's availability for voluntary labor. Because a handful of respondents reported an extremely high number of work hours per week (>70 hours), we take the natural logarithm of work hours for our analyses. Next, controlling for self-rated physical health (1 = poor to 5 = excellent) helps reduce any omitted variable bias due to functional limitations that seriously constrain one's ability to engage in voluntary labor (Helliwell and Putnam 2004).<sup>9</sup> Occupational prestige is measured using the Duncan Socioeconomic Index (SEI) score; if the respondent is not currently working, previous SEI is used. Household income for the past year (logged) is used to distinguish effects of education from those of financial capital.

Next to education, religious attendance is one of the most potent predictors of volunteering and is among the covariates typically included in analyses of volunteering. MIDUS assessed attendance of religious or spiritual services on a 5-point ordinal scale (1 = once a day or more, 2 = a few times a week, 3 = once a week, 4 = 1-3 times/month, 5 = less than once/month). This ordinal format was rescaled to days per year (logged for analyses).

Parental socioeconomic status (SES) is related both to educational attainment and life-course mental health (Bauldry 2015; Schafer et al. 2013). It also may have persistent effects on civic participation due to primary socialization experiences and ongoing inducements from living parents to participate in community affairs (Brand 2010). We take into account parental SES by way of education in years and occupational SEI



(maximum of mother's and father's values or the available value when one is missing).

### Analytic Strategy

For our volunteering outcome (any volunteering during the past year), we fit a series of logistic regression models.<sup>10</sup> In the models, covariates and the lagged volunteering outcome are observed in 1995. A lagged dependent variable (LDV) helps limit endogeneity due to any improvements in psychological well-being brought about by volunteering or other civic activity (Musick and Wilson 2003; Putnam 2000). The LDV specification treats mental well-being in 1995 as a static variable, which is reasonable given the moderate stability of well-being (Frech and Williams 2007; Musick and Wilson 2003; Thoits and Hewitt 2001).<sup>11</sup>

Because education and other determinants of voluntary labor are related to survey participation, we weight MIDUS models to help correct for attrition from 1995 to 2005. To calculate attrition weights, we estimated a probit equation of follow-up participation in 2005 on all variables observed in 1995. Based on this equation, we generated probabilities for all observations and took the inverse so that individuals least likely to participate in 2005 receive the greatest weight. While by no means a full correction, this helps adjust parameter estimates to simulate what would have been observed had all respondents been retained (e.g., Cornwell and Laumann 2015). Under weighting, standard errors are robust, and traditional nonlinear model fit statistics such as chi-square or pseudo  $R^2$  are inapplicable. Instead we present  $F$ -ratios with corresponding  $p$  values (e.g., Cui et al. 2012). Results do not differ without this attrition correction.

For each mental well-being indicator, we estimate two logistic regressions of volunteering. In the first model, volunteering in 2005 is regressed on the well-being indicator and all covariates in 1995. In the second model, an education  $\times$  well-being interaction term is added to the equation to test the hypothesis that education and mental well-being interact to determine volunteer activity. Both models use mean-centered values for the education and well-being terms and include the lagged observation of volunteer status from 1995. Simpler models using only a limited set of demographic covariates (male, age, parental SEI, and parental education) revealed larger main

effects of education and mental well-being on volunteering probability in 2005, which is consistent with partial mediation by control variables, but they produced the same findings regarding interaction effects involving education and mental well-being (available on request). In visualizing our results, we focus on how the association between volunteering and mental well-being varies according to level of education. This places the analytic focus on whether and to what extent structural resources conveyed by education enhance the agentic capacity of mental well-being.<sup>12</sup>

## RESULTS

Descriptive statistics are summarized in Table 1. Forty-five percent of respondents volunteered in 1995 and 48 percent in 2005.<sup>13</sup> In terms of education, respondents averaged some college (about 14 years). Respondents experienced psychological distress a little more often than none of the time, on average.<sup>14</sup> Levels of positive emotion and psychological well-being were moderate. Demographically, respondents were 46 percent male and about 48 years old on average at baseline. Respondents tended to be married, working, and to attend church two to three times per month.

### Psychological Distress

The logistic regression results are summarized in Table 2. Because these regressions model any volunteering in 2005 controlling for a lagged (1995) observation of the dependent variable, they estimate volunteering in 2005 holding prior volunteer activity constant. Unstandardized beta coefficients are shown.

In Model 1, education is linked to a higher probability of volunteering in 2005, with each additional year of education predicting a 12 percent increase, all else equal (odds ratio [ $e^b$ ] =  $e^{0.114}$  = 1.121;  $p < .01$ ). Meanwhile, psychological distress shows a negative though nonsignificant link to prospective probability of volunteering (logged; OR = 0.728, *ns*). A number of covariates show significant links to probabilities of volunteering. Men are less likely to volunteer, and respondent SEI shows a significant positive link to volunteering ( $ps < .05$ ). Parental SEI and self-rated health also positively predict volunteering ( $p < .10$ ), as does religious attendance

**Table 1.** Descriptive Statistics: 1995-2005 National Survey of Midlife Development in the United States (MIDUS Panel).

Variable	M	SD	Minimum	Maximum
Is volunteer (1995)	0.45	0.50	0	1
Is volunteer (2005)	0.48	0.50	0	1
Education (years)	14.21	2.48	10	20
Psychological distress	1.53	0.59	1	5
Positive affect	3.38	0.71	1	5
Psychological well-being	16.67	2.30	7.67	21
Male	0.46	0.50	0	1
Age	48.05	12.68	25	74
Married	0.69	0.46	0	1
Child: 6 or younger	0.15	0.35	0	1
Child: 7 to 17 years	0.29	0.46	0	1
Working	0.62	0.49	0	1
Work hours/week	31.21	21.37	0	168
Self-rated health	3.58	0.93	1	5
Occupation (SEI)	40.09	14.34	7.13	80.53
Household income	73.03	60.56	0	300
Church attendance (days/year)	29.94	40.36	0	360
Parent education (years)	12.84	2.62	10	20
Parent occupation (SEI)	38.45	13.49	9.56	80.53

Note. *N*s = 1,487 to 1,579 (white respondents aged 25 or older). All MIDUS panel variables are observed in 1995 except for follow-up volunteering outcome (2005). SEI = socioeconomic index.

(OR = 1.130,  $p < .01$ ). Children have countervailing effects on volunteering probability, with having a child under age 7 positively predicting volunteering one decade later, while having an older child negatively predicts volunteering.

Model 2 adds an education  $\times$  distress term to the equation, which is both large and statistically significant ( $b = -0.214$ ,  $p < .05$ ). Figure 1 visualizes this interaction effect by showing the contingent effect of psychological distress. Here, volunteering predictions are generated separately by level of education (less than college degree vs. college degree or higher). Distress has no discernible impact on volunteering probability among individuals without a college degree (slope  $p = .477$ ). However, among college graduates reporting no or mild distress, predicted probabilities of volunteering are significantly higher (0.59 for college graduates reporting no distress compared to 0.44 for non-graduates; 95 percent confidence bands shown in figure). Educational group differences in volunteering are present at levels of distress below the 75th percentile (i.e., about  $<1.65$  on 5-point distress scale; see 95 percent confidence bands in figure). In sum, mental well-being in terms of lack of distress increases

the odds of voluntary labor but only given higher education.

### Positive Affect

Results for positive affect are presented in Models 3 and 4. In Model 3, education shows a positive association to volunteering in 2005 (OR = 1.120,  $p < .01$ ), as does baseline positive affect (PA) (OR = 1.167,  $p < .05$ ). In Model 4, an education  $\times$  PA term is both large and significant ( $b = 0.058$ ,  $p < .05$ ). Figure 2 depicts this interaction term, again by focusing on contingent effects of positive affect. Increasing positive affect produces a modest but nonsignificant gain in predicted probability of volunteering among individuals with less than a college degree (probability gain across entire domain = 0.04; slope  $p = .292$ ). Among individuals with a college degree or higher, the gain is both much larger and statistically significant (probability gain = 0.18; slope  $p = .002$ ). Educational group differences emerge beginning at levels of positive affect above the 36th percentile (i.e., about  $>3.25$  on 5-point positive affect scale). As for low distress, positive affect significantly

**Table 2.** Logistic Regression Models of Volunteering.

Variable	1	2	3	4	5	6
Education (years)	0.114**	0.112**	0.113**	0.109**	0.111**	0.108**
Log psychological distress	-0.318	-0.355+				
Positive affect (PA)			0.155*	0.157*		
Psychological well-being (PWB)					0.068**	0.071**
Education × distress		-0.214*				
Education × PA				0.058*		
Education × PWB						0.022*
Male	-0.354**	-0.354**	-0.343*	-0.345*	-0.366**	-0.362**
Age: 25 to 34	-0.001	0.002	-0.052	-0.057	-0.057	-0.06
Age: 35 to 44	-0.004	0.001	-0.005	-0.016	-0.03	-0.039
Age: 55 to 64	-0.024	-0.034	-0.034	-0.039	-0.035	-0.043
Age: 65 or higher	-0.132	-0.13	-0.157	-0.126	-0.141	-0.136
Parental education	-0.026	-0.028	-0.027	-0.028	-0.025	-0.027
Parental SEI	0.012+	0.013*	0.012+	0.013*	0.012+	0.012+
Married	0.145	0.145	0.144	0.154	0.142	0.14
Child: 6 or younger	1.052**	1.039**	1.086**	1.083**	1.114**	1.112**
Child: 7 to 17 years	-0.669**	-0.680**	-0.669**	-0.660**	-0.650**	-0.645**
Working	0.267	0.271	0.282	0.282	0.282	0.288
Log work hours	-0.014	-0.011	-0.015	-0.01	-0.012	-0.015
Self-rated health	0.126+	0.139+	0.118	0.128+	0.127+	0.130+
Respondent SEI	0.014*	0.014*	0.013*	0.014*	0.013*	0.013*
Log household income	0.08	0.078	0.081	0.081	0.07	0.071
Log religious attendance	0.122**	0.118**	0.116**	0.117**	0.129**	0.129**
Is volunteer (1995)	1.736**	1.752**	1.765**	1.763**	1.729**	1.732**
Constant	-3.150**	-3.187**	-3.116**	-3.182**	-3.018**	-3.048**
N	1,431	1,431	1,429	1,429	1,431	1,431
F	15.54	14.76	15.74	15.00	15.54	14.99
p	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

Note. Unstandardized beta coefficients are shown. Standard errors are robust. Education and well-being variables are mean-centered. Observations are weighted by attrition probability. SEI = Socioeconomic Index. + $p < .10$ , \* $p < .05$ , \*\* $p < .01$  (two-tailed significance tests).

enhances the odds of volunteering given higher levels of educational resources.

**Psychological Well-being**

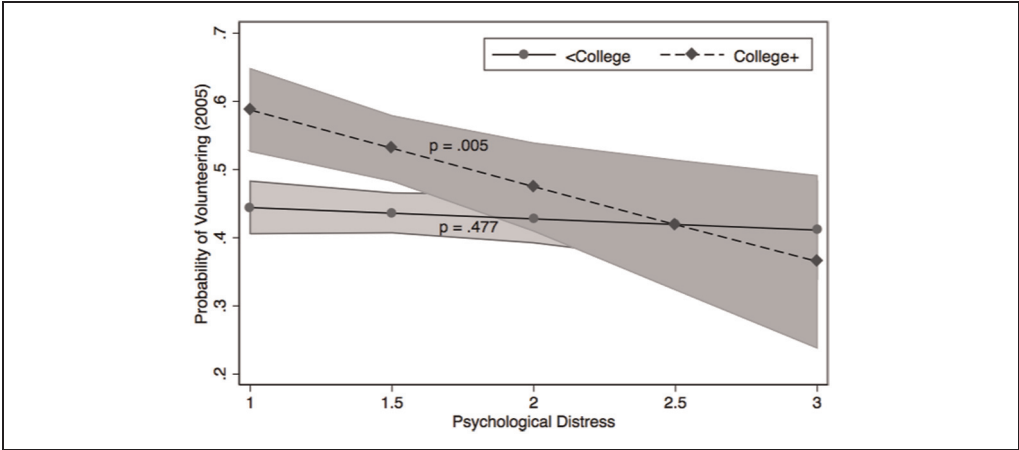
Finally, results for the psychological well-being (PWB) composite measure are presented in Models 5 and 6. Model 5 reveals a main effect of years of education on volunteering in 2005 (OR = 1.118,  $p < .01$ ) as well as a significant positive effect of the PWB composite (OR = 1.070,  $p < .01$ ). Model 6 in turn reveals a strong education × PWB interaction ( $b = 0.022$ ,  $p < .05$ ). Figure 3 visualizes this contingent effect. Here, psychological well-being is linked to higher probabilities of volunteering among college graduates (probability gain = 0.26;

slope  $p < .001$ ) than among adults with less than a college degree (probability gain = 0.05; slope  $p = .137$ ). Educational group differences in volunteering are present beginning at levels of psychological well-being just below the median score (i.e., >16 on PWB scale, 44th percentile). This corroborates the other findings, such that mental well-being is linked to greater rates of volunteering but only in the presence of higher education.

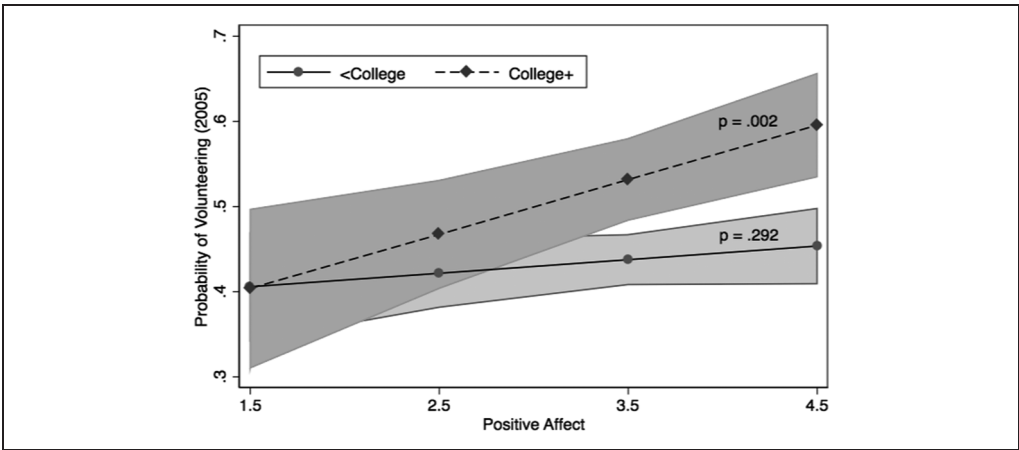
**Additional Results: Monthly Hours of Volunteering**

Because distinctions in frequency of volunteering among those who volunteer at all are also important to understand, in further analyses, we modeled





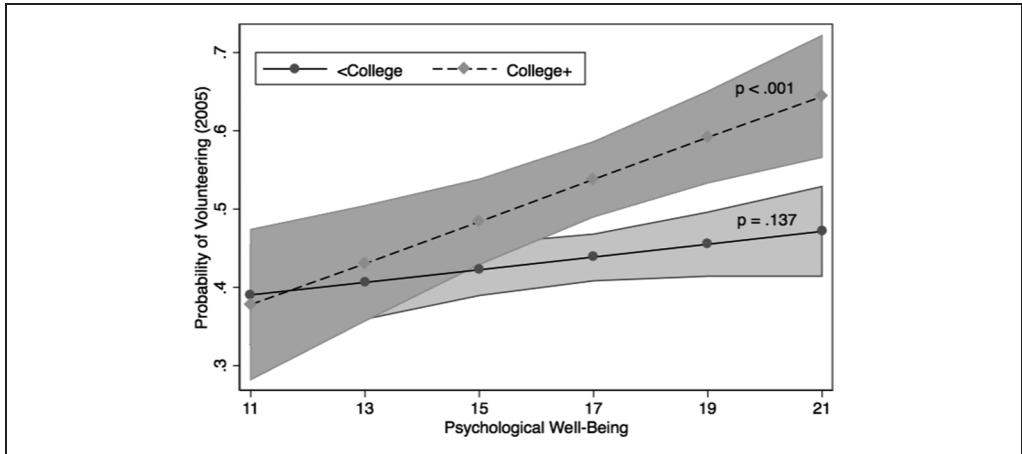
**Figure 1.** Contingent effects of psychological distress and education on volunteering in 2005. Note. Predicted probabilities of volunteering are shown, bounded by 95 percent confidence bands. All covariates are held at their means. Distress lines are visualized for values between 2nd and 98th percentile.



**Figure 2.** Contingent effects of positive affect and education on volunteering in 2005. Note. Predicted probabilities of volunteering are shown. All covariates are held at their means.

monthly volunteer hours in 2005 as a count outcome using negative binomial regression. We implemented a traditional negative binomial model as well as zero-inflated and zero-truncated models (Ajrouch, Antonucci, and Webster 2016; Son and Wilson 2012) in order to test for robustness to how non-volunteers (i.e., those reporting zero hours in 2005) are treated. For each mental well-being indicator, we used the same covariates and interaction terms as for our logistic regression models and also included monthly hours in 1995, estimating two models for each well-being

indicator as described previously. While these results often revealed main effects for education or mental well-being, they did not reveal any education  $\times$  well-being interaction effects for the count of volunteer hours. Thus, while our aforementioned logistic regression results reveal the importance of interaction effects to the probability of any volunteering, our negative binomial results did not suggest that education and mental well-being work in tandem to determine the precise extent or level of volunteering (available on request).



**Figure 3.** Contingent effects of psychological well-being and education on volunteering in 2005.

Note. Predicted probabilities of volunteering are shown. All covariates are held at their means. Well-being lines are visualized for values between 2nd and 98th percentile.

## DISCUSSION

Prominent perspectives on volunteering posit that mental well-being is both an antecedent and a consequence of volunteer activity (Omoto et al. 2010; Thoits and Hewitt 2001). While numerous studies have demonstrated this dual role of mental well-being, few have focused on the interplay of agency and structure as it relates to voluntary labor. Across three representative indicators of well-being, we find that mental well-being is linked to volunteering only at higher levels of education. Individuals who combine education and higher levels of well-being show the highest probabilities of volunteering. Our findings suggest that educational resources provide structural conditions for realizing the agentic capacity for civic work provided by well-being. Moreover, the similarity of our findings across three empirically and conceptually distinct indicators of mental well-being suggests that mental well-being in general—rather than in a specific form such as lack of psychological distress—conveys enhanced value for volunteering when coupled with educational resources.

By showing that mental well-being is an antecedent of volunteering only when coupled with higher levels of education, we provide evidence for a new mechanism by which volunteering occurs. Although selection into volunteering on the basis of mental well-being has been well established, heterogeneous selection on mental well-being due to education represents a new way of

understanding antecedent conditions of volunteering and volunteer selection. By merging agency and structure, we provide a more complex view of the volunteer process that integrates prior insights from volunteer capital theory.

Our results also highlight the important distinction between deciding to volunteer at all and deciding exactly how much of one's time to give. Most Americans do not volunteer formally. According to our results, the interaction between education and mental well-being is more pertinent to understanding the likelihood of volunteering at all rather than the precise level. A compelling reason for this difference could be that social-psychological factors such as sociability, pessimism, and efficacy are strongly related to mental well-being and more relevant to any volunteering rather than volunteering extent (see Forbes and Zampelli 2014).

In addition to shedding new light on mental health selection relevant to volunteering, our study illustrates a novel approach to heterogeneous effects of education. Education provides a broad set of structural conditions that promotes volunteering. Yet, these structural conditions may rely on certain facets of agency in order to translate effectively to voluntary labor. Prior work on heterogeneous effects focuses on conditions prior to educational attainment, under the guiding idea that college completion is related positively to early-life advantages and that those least likely to complete college in the first place may exhibit

the greatest returns to education, in terms of health, income, or volunteering, for example (Brand 2010; Brand and Xie 2010; Schafer et al. 2013; but see Bauldry 2015). However, there has been no examination of heterogeneity in civic activity based on factors after attainment is complete. As Musick and Wilson (2008) propose, resources, dispositions, and network-based recruitment all are important pathways by which education enhances volunteering. Mental well-being is likely to impact the effectiveness of all three of these pathways, by shaping problem solving and situational coping (Connor-Smith and Flachsbart 2007; Mirowsky and Ross 2003), one's felt obligation to volunteer or focus on social concerns (Connor-Smith and Flachsbart 2007; Mor and Winquist 2002), and also the odds of forming ties to potential recruiters or being asked to volunteer by those whom one already knows (Andersson 2012; Steptoe et al. 2008; Turner and Stets 2006).

Moreover, our results carry practical community implications, as one-third of the MIDUS panel sample reported some level of psychological distress.<sup>15</sup> While not strictly a measure of depression, psychological distress taps the broad experience of negative emotion and is used routinely as a screening instrument for mental illness risk. The degree to which adult mental health or well-being may moderate the contribution of education to volunteering is particularly timely to assess in light of evidence that psychological distress may have increased during recent decades among American adults (Kessler et al. 2003; Klerman and Weissman 1989).<sup>16</sup> While clearly an important public health issue in its own right, if this increase in distress has dampened the overall effect of education on volunteering and other forms of civic engagement, its societal impact is all the more consequential. If education relies on mental well-being to manifest its influence on volunteering, then increased education in an increasingly distressed population will not lead to greater volunteering or will not lead to the expected increase in volunteering. According to our results, psychological distress is negatively though not significantly associated with a lower subsequent probability of volunteering (similar to longitudinal null associations between depression and volunteering in Li and Ferraro 2005 and Thoits and Hewitt 2001). However, due to an interaction with education, our results concerning distress still clearly demonstrate the possibility that mental illness risk undermines civic participation in the United States.

While MIDUS has a number of strengths for uncovering contingent effects of mental well-being and education, it unfortunately does not permit the observation of mediating processes, nor does it provide an adequate sample for robust analyses of racial differences in contingent effects. Future research will need to convincingly show that educational mechanisms linked to civic participation are in fact enabled by general mental health as indicated by low distress and other well-being indicators. Likewise, although MIDUS provides temporal ordering between well-being and volunteering one decade later, it still does not illuminate the relative timing of changes in mental well-being and changes in volunteering. A variety of longitudinal designs might be implemented to gain greater insight into the issue of relative timing. Meanwhile, research should also draw on existing knowledge about racial differences in educational pathways to volunteering (e.g., Musick et al. 2000).

As an alternative explanation of our results, the observed interactions between education and mental well-being may represent heterogeneous gains in human capital during the schooling process. Although this is a mechanism prior to adulthood, it also would also be broadly consistent with our contingent effects argument in that individuals with higher mental well-being may be better able to derive skills and benefits from academic contexts (e.g., McLeod and Fettes 2007), resulting in better schooling and more robust contributions to civic engagement. Future research that enlists an early life-course panel design would be poised to distinguish differential acquisition of civic resources during attainment from the application of these same civic resources *after* attainment.

It remains to be seen whether distress or negative affect also dampens other civic returns to education. For instance, voting behavior in response to education may not be similarly moderated by mental health differences. Future research also should examine moderation effects for other civic capital. For instance, religiosity may be a form of civic capital that has multiple facets (e.g., public vs. private religiosity; prayer vs. belief; Lam 2002; Paxton, Reith, and Glanville 2014). Its influence on civic engagement may in turn be influenced by aspects of individual functioning, though not necessarily by mental health in particular. A variety of individual dispositions potentially are relevant (Bekkers 2005, 2010; Wilson 2012).

Another important area for future research is heterogeneous social causation processes relevant

to mental health and volunteering. While we develop and test a heterogeneous social selection perspective in this study, prior work on causation has found that volunteering may yield mental health benefits especially for individuals who do not possess other forms of social integration in their lives (Piliavin and Siegl 2007). However, much more work remains to be done in this area. For instance, the mental health benefits of volunteering may also hinge on type of volunteering, personal values, and life-course factors such as age (Bekkers 2005; Piliavin and Siegl 2007). Gender also remains worthy of examination given that gender not only patterns the experience and reporting of mental well-being but also the educational, occupational, and familial commitments that individuals hold in society.

A final, interesting possibility for social causation research on volunteering concerns the stress process (Pearlin and Bierman 2013). It may be the case that individuals who are experiencing personal, familial, or occupational stress in their lives may benefit especially from what volunteering has to offer in terms of finding purpose in life and feeling integrated as part of a larger community. If this is true, then the stress process may further causation and selection research on volunteering. That is, ongoing social stressors may not only determine the well-being rewards of volunteering, which would be a form of heterogeneous social causation, but also may determine the very starting levels of well-being that individuals bring to volunteering for activating their educational resources, making stress relevant to heterogeneous selection as well.

While our results focus on the capacity for volunteering that mental well-being provides, they also speak to the potential of education to produce a civically engaged society. Education, one of the strongest forms of capital contributing to community well-being in America, does not uniformly produce voluntary labor. Another individual factor, mental well-being, seems pivotal to realizing civic returns to education. This raises the possibility that higher education without adequate mental health offers a less robust contribution to the public good.

## APPENDIX: PSYCHOLOGICAL WELL-BEING ITEMS

### *Positive Relations with Others*

“Maintaining close relationships has been difficult and frustrating for me.”

“People would describe me as a giving person, willing to share my time with others.”(R)

“I have not experienced many warm and trusting relationships with others.”

### *Self-acceptance*

“I like most parts of my personality.” (R)

“When I look at the story of my life, I am pleased with how things have turned out so far.” (R)

“In many ways I feel disappointed about my achievements in life.”

### *Autonomy*

“I tend to be influenced by people with strong opinions.”

“I have confidence in my own opinions, even if they are different from the way most other people think.” (R)

“I judge myself by what I think is important, not by the values of what others think is important.” (R)

### *Personal Growth*

“For me, life has been a continuous process of learning, changing, and growth.” (R)

“I think it is important to have new experiences that challenge how I think about myself and the world.” (R)

“I gave up trying to make big improvements or changes in my life a long time ago.”

### *Environmental Mastery*

“The demands of everyday life often get me down.”

“In general, I feel I am in charge of the situation in which I live.” (R)

“I am good at managing the responsibilities of daily life.” (R)

### *Purpose in Life*

“Some people wander aimlessly through life, but I am not one of them.” (R)

“I live life one day at a time and don’t really think about the future.”

“I sometimes feel as if I’ve done all there is to do in life.”

For each item, respondents selected: 1, strongly agree; 2, somewhat agree; 3, a little agree; 4,

don't know; 5, a little disagree; 6, somewhat disagree; 7, strongly disagree. Items marked (R) are reverse-scored.

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## NOTES

1. Also, educated individuals may have pertinent experiential skills that come from community internships or volunteering during their undergraduate or graduate educations.
2. Similarly, Bekkers (2005, 2006, 2010) has proposed that voluntary social participation due to capitals or resources is more likely to happen as personal opportunity costs decrease. To date, tests of this perspective have been focused on income and religious attendance and have conceived of opportunity costs in terms of specific personality dispositions, yielding mixed empirical findings (Bekkers 2010; Hustinx, Cnaan, and Handy 2010).
3. Results are highly similar when all respondents are retained and race is included as a covariate.
4. To address item nonresponse conditional on panel participation, we conducted multiple imputation as well. Results did not differ from those presented.
5. In the National Survey of Midlife Development in the United States (MIDUS) sample, psychological distress, positive emotion, and psychological well-being are moderately intercorrelated ( $|r|s = 0.53$  to  $0.65$ ). Confirmatory factor analyses using the MIDUS data showed that correlations among latent constructs are moderate but do not approach unity. Constraining correlations among the measures to unity, as would be necessary for a unidimensional approach to mental well-being, drastically reduced the overall fit of the model.
6. In MIDUS, the positive affect and psychological well-being distributions show slight negative

skew. Following prior work, we leave them untransformed for the empirical analysis.

7. Some research has suggested that education has differential effects on certain forms of civic participation depending on the prevalence of higher education for different cohorts (Horowitz 2015). Additional analyses showed that contingent effects of education and well-being on volunteering do not differ significantly by age.
8. About 10 percent of respondents had children between 1995 and 2005. Findings are unchanged when having children is introduced into the equation.
9. Adding in further physical health covariates available in MIDUS (e.g., chronic disease burden, physical limitations) does not change substantive findings.
10. Due to concerns that have been raised about the interpretation of interaction terms in nonlinear models such as logit (Mood 2010), in additional analyses, we used linear probability models (LPMs). These models produced the same key findings and similar predicted probabilities (available on request).
11. A fixed-effects approach regressing changes in volunteering on changes in the independent variables, even run separately by college degree status to investigate the interaction of distress with education, is not an appropriate alternative modeling strategy here. Treating differences in coefficients between educational groups as evidence of an interaction effect would require untenable assumptions about a lack of correlation between education and change scores and a lack of correlation between education and other aspects of socioeconomic status that also may be time-invariant, such as parental education (Halaby 2004). Further, in using change scores, there is no temporal ordering between volunteering and mental well-being.
12. Alternatively, we produced figures in which the association between education and volunteering is visualized at low versus high levels of mental well-being. In these figures (available on request), we found that estimated civic returns to education were two to three times higher at the top quartile of mental well-being than at the bottom well-being quartile.
13. Twenty-nine percent of respondents ( $N = 435$ ) changed their volunteer status from 1995 to 2005. In particular, 193 individuals volunteered in 1995 but not in 2005, and 242 individuals volunteered in 2005 but not in 1995.
14. While prior research demonstrates that higher education is linked to better mental health (e.g., Bauldry 2015; Mirowsky and Ross 2003), most variation in distress is independent of education. For example, level of education (years) is inversely but weakly correlated with a logged measure of baseline psychological distress ( $r = -0.08$ ,  $p < .001$ ).
15. Thirty-three percent of the MIDUS sample experienced one or more distress symptoms at least some of the time.

16. Though, there is debate as to whether there has been an increase in the prevalence of depressive or distress symptoms in the United States population because increases in diagnosis or in diagnostic drift are possible confounders, as is sensitivity to measures or administration methods of community illness surveys such as ECA, NCS, or NHIS (see Keyes et al. 2014 for recent estimates and a detailed methodological discussion).

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