Research Article

Journal of Public and Nonprofit Affairs
Vol. 9, No. 3

Does Maslow's Hierarchy of Needs Explain Volunteer Time Allocations? An Exploration of Motivational Time Allowances Using the American Time Use Survey

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This study examines whether there is an optimal set point along Maslow's (1943) hierarchy of needs associated with disaggregated forms of volunteerism. Taniguchi's (2012) study examined major life domains (e.g., work, education, and religion) for associations with formal and informal volunteerism. An alternative approach is to include life domains with variables measuring motivational concerns to better identify time allocation patterns for disaggregated volunteerism. This study analyzed the results of 9,435 time diaries recorded on the 2019 American Time Use Survey (ATUS). The time allocated to formal and informal volunteerism associates with intermediate belongingness concerns. There is no association between time spent on self-esteem and self-actualization concerns and informal volunteering. Tertiary education as a baseline measure for self-actualization shares a weaker association than belonging with formal volunteering. The data suggest that research into maximizing formal volunteerism may be searching at the wrong point at self-actualization. Implications are discussed for motivating volunteerism.

Keywords: Maslow, USA, Human Needs, Volunteerism, American Time Use Survey

Introduction

This research focuses on associations between time allocations spent on pursuing human needs and volunteerism among a sample of Americans. The role of human motivation is critically important when examining the time spent on volunteerism. Wilson (2012) elaborated on the importance of this topic by stating, "Having the right motivation can mitigate stressful effects of volunteer work" (p. 22). Wilson (2012) also indicates that volunteers' experiences are less researched among social scientists than studying the antecedents and consequences of volunteerism. It follows that one way to identify one or more motivational levels associated with volunteerism is to see how people at certain motivational states spend their time volunteering. The ability to identify peak volunteer time allocations paralleling motivational development might help to prevent people from becoming overtaxed by volunteer activities while investigating methods to improve retention, satisfaction, and volunteer effectiveness.

Babula, M., & Muschert, G. (2023). Does Maslow's hierarchy of needs explain volunteer time allocation? An exploration of motivational time allowances using the American Time Use Survey. *Journal of Public and Nonprofit Affairs*, *9*(3), 297–316. https://doi.org/10.20899/jpna.9.3.297–316

One of the earliest models to describe a sequence of human motivational development was defined by Maslow (1943), who posited that people develop by satisfying decreasing percentages of needs gratification along a hierarchy of needs. The original hierarchy comprised five needs: physiological (e.g., food, water, sex), security (e.g., shelter and protection from crime and economic insecurity), belongingness (e.g., friendship and companionship), self-esteem (e.g., competence, recognition, and confidence) and self-actualization (e.g., free expression, maximization of human potential, wisdom, and maximization of self-interest). Maslow's paradigm drew upon arousal theory in psychology to argue that once people's basic physiological and security needs are gratified, they search out higher states of arousal by pursuing social, self-esteem, and self-actualization concerns, and Inglehart (1977) referred to these as second tier (e.g., post-materialist) needs. In theory, the second tier of the hierarchy provides a useable motivational construct to examine possible set points for time spent volunteering.

The hierarchy model assumes that no one is a hundred percent satisfied with any one need at a time and that people are pursuing a combination of motivational pursuits, with the most pressing need creating a drive to satisfy it. Although an individual may pursue a combination of needs, a motivational concern, such as lacking friends or companionship, would capture most of the individual's attention and produce within the person the drive to meet that need pursuit before concentrating on other motivational concerns. This is related to volunteerism because Babula (2013) argues that different forms of altruism parallel the hierarchy of needs. For instance, if an individual wants to gain a larger social grouping, they may volunteer at a food bank to gain friends. Alternatively, suppose an individual seeks to obtain a raise at work to satisfy self-esteem needs. In that case, they may volunteer at a homeless shelter hoping their boss will read about their volunteerism and give them a salary increase.

The paradoxical theme of Maslow's (1943) paradigm was that as people developed to the maximization of self-interest at self-actualization, they would also become more prosocial. The reasons offered were that self-actualizers would derive pleasure from helping others and possess a big brotherly or sisterly attitude that they know what is best for others, having achieved a certain level of accomplishment in life. This is paradoxical owing to Maslow's (1987) observations that possessing a sense of accomplishment may cause self-actualizers to view others with a sense of condescension. Self-actualizers can also be quick to detach from people or organizations who displease them if they do not experience a deep sense of achievement. Under the descriptions given for self-actualizers, they would need to participate in volunteer activities that match their participation goals.

Notably, for this research study, the sequence of motivational development may link to volunteer time allocations. However, the paradoxical nature of self-actualization may have been misconstrued with assumptions about prosocial behavior, at least when it comes to planned activity such as volunteerism. Belongingness needs might enhance volunteerism at the intermediate stage along Maslow's (1943) needs hierarchy as people form and participate in social networks. Instead of searching for volunteers among self-actualizers with higher education who have free time to attend museums, cinema, and musical venues, a more fruitful approach may be to find and retain volunteers who are more limited on time but seek friendship and companionship and the comfort of others.

The American Time Use Survey (ATUS) is an excellent resource for identifying variables that measure motivational states along Maslow's (1943) model and volunteerism. This research examines variables associated with higher-order needs gratification, such as time spent on income-generating activities, financial services, leisure, and artistic engagement.

Motivation Theory Offers a Better Approach to Study Volunteerism

The use of motivation theory may discern peak volunteer time allocation patterns that were previously overlooked using other social science approaches. One approach taken by the Taniguchi (2012) study uses constraint and resource concepts to argue that people are limited on time, resources are scarce, and that the time spent on a life domain would come at a cost to the time available to volunteer. The use of life domains (e.g., education, work, and religion) alone to associate with volunteerism does not result in observing patterns to optimize volunteerism and does little to explain some of the counterintuitive observations Taniguchi discusses such as how those in the labor force are more likely to volunteer than the unemployed despite constraints on time due to employment. This is not to say that the life domains are not useful. Many life domains already measure aspects of human motivational concerns, as discussed in the literature below. It is contended in this study that a better approach is to use human motivation theory by incorporating major life domains along with a mix of key variables that measure social, self-esteem, or self-actualization concerns. In doing so, it becomes possible to build a more dynamic model to pinpoint observable constructs affecting forms of volunteering differently.

The Taniguchi (2012) study uses a bifurcated approach to explore disaggregated volunteerism: Informal volunteerism serves family and extended social networks (e.g., mentoring kids, cooking food for elderly neighbors, or, more recently, raising money for friends on crowdfunding websites) and contrasts with formal volunteerism for an organization (e.g., school, church, or women's shelter), although there may be some overlap between both forms. We agree that there is value in disaggregating volunteerism because understanding its different forms may help to recruit, train, and retain volunteers based on different requirements. However, we contend that life domain variables, when not viewed through the lens of human motivation theory, may misplace optimized volunteer time allocations.

For example, according to Taniguchi (2012), the major difference between informal and formal volunteering is that the latter form is "broader in scope" and gives rise to self-expression as individuals may volunteer at places such as non-governmental organizations for political purposes or to express the self via art, culture, or music (p. 922). We endeavor to test the assumption that self-expression is key to formal volunteering because those attempting to maximize individual self-interest, such as a retired famous musician with plenty of time to donate, may not be keen to allocate time to serve others at a local music school if the plan is for a career revival.

There are several important research questions arising from this study: Does human motivation theory that incorporates life domains represent a better approach to estimating optimized time allocations for volunteerism? Have previous models prematurely assumed that formal volunteerism would peak with self-expression interests? Does belongingness impact informal and formal volunteering differently, and why is this important to the potential recruitment of volunteers?

At intermediate belongingness needs, affiliation is assumed to constitute informal volunteerism because such individuals "want to help people and develop warm and friendly relationships" (Henderson, 1981, p. 63 as cited by Boz & Palaz, 2007, p. 646). A sense of belonging has also empirically underpinned specific alumni associations' formal volunteering activities. Drezner and Pizmony-Levy (2020) used multivariate analysis to report that, "Alumni with a higher Sense of Belonging are also more likely to engage with their graduate alma mater through helping students, participating in events, and volunteering time" (p. 17). However, similar to other studies on the topic, Drezner and Pizmony-Levy do not contrast the impact of belonging with higher needs such as self-esteem and self-actualization.

People pursuing self-esteem goals may undertake formal volunteering as "power motivates individuals to be concerned with their reputation or position, to establish authority and control over others, to give advice, and to make their ideas dominant" (Boz & Palaz, 2007, p. 646). Additional research on self-esteem, such as Crocker and Park (2004), suggests that high or low self-esteem is less of an issue than how one sets their self-esteem goals (e.g., to benefit the self, to help others, or a combination of both). As one progresses through greater self-esteem gratification and develops healthy self-esteem, that individual would set healthy self-esteem goals that benefit the self and others while developing to self-actualization. The privilege or power aspects of self-esteem are not necessarily present or needed as people advance to self-actualization, but other factors, such as self-preservation, may inhibit prosocial behavior at self-actualization, a point which we shall return to when discussing the literature.

The literature has also not formed a consensus on whether self-actualization fosters volunteering. The Boz and Palaz (2007) study supports Taniguchi (2012) on the potential association between self-actualization and volunteerism. They summarize McClelland (1992), who proposed that Maslow's second-tier needs drive people to seek achievement and affiliation. From this perspective, formal volunteerism may facilitate achievers' desires to set tasks and use their problem-solving ability at self-actualization to help others. Contrarily, self-actualizers are not perfect people, and they are capable of "surgical coldness" towards others and prefer individual self-expression as opposed to participating in organizations, raising questions as to how much time they may spend formally volunteering (Maslow, 1987, p. 146, as cited by Babula, 2022). The self-actualizer is a person who has built up a store of maximized individual self-interest and will be very much preoccupied with preserving individual ability as they age. Although some self-actualizers derive pleasure from volunteering, the paradoxical nature of this motivational state would suggest that other self-actualizers may turn inward for self-preservation, especially if individual ability and skills decline with age (see Babula, 2013).

While the Taniguchi (2012) study suggested that formal volunteerism would be necessary for social and liberal democratic countries that value self-expression, there appears to be more evidence that nations that value family and social belonging are more likely to facilitate informal and formal volunteering. Alexander et al. (2011) indicated that countries with a healthy democracy and the rule of law, such as the U.S., are further along the post-materialist continuum and, by extension, pursuing higher-order motivational concerns. Other large democracies with a weak rule of law, such as India, are closer to intermediate order needs gratification. Although greater self-expression may result from economic well-being, expansion of higher education, and participation in the arts, heightened volunteerism levels may not be one of the corresponding benefits of effective democracies.

Formal and informal volunteerism may be more critical to ineffective democracies such as India and countries that Alexander and colleagues (2011) label rational autocracies with less democracy but a fair legal system and the rule of law (e.g., wealthier Middle Eastern countries). These countries tend to place a heavy emphasis on belongingness. Ghose and Kassam (2012) reported the results on the motivations for college students volunteering in India and observed that, "Students volunteered more frequently in order to make social contacts. Mirroring these motivations to volunteer in order to expand social contacts, hybrid volunteers who reported wanting to make social contacts through volunteering were 38% more likely to volunteer" (p. 38). Jiang et al. (2017) examined motivations for volunteerism in Saudi Arabia, a traditional collectivist culture, and found individualistic reasons, noting that, "Participants motivated by the social function [meeting new friends] of volunteering are more likely to volunteer continuously" (p. 152).

Measurement Variables for Sequence of Needs Achievement and Volunteerism

To reiterate, our study contrasts with Taniguchi (2012), who speculated that self-expression underlies formal volunteering, and we suspect that a socialization hypothesis explains a peak level of motivation to optimize volunteer time allocations. Having expanded opportunities to express oneself, often touted in the U.S., does not necessarily facilitate cross-pollinating time resources to formal volunteerism. We built models of time allocations based on sequential motivational development and examine associations with corresponding formal and informal volunteerism. Hagerty (1999) established a precedent by identifying variables used to measure Maslow's sequence of needs achievement, and some of the variables which are similar to the ATUS and could be used in this study. That research used quality of life measures across 88 countries using Maslow's (1943) hierarchy of needs and found consistency with the order of needs achievement. This study builds models using variables for marital status, socializing, religion, financial services, income-generating activities, self-expression, and tertiary education to test the effects on formal and informal volunteerism with areas of conceptual convergence and divergence from Hagerty's methodology. To reiterate, no one is completely satisfied in any one motivational pursuit, and it is anticipated that there will be an overlap between close motivational pursuits. One could take the approach of Fleury et al. (2021) and interpret the results in our study by combining self-esteem and self-actualization under a category of 'personal mastery,' which would not impact the outcome of our research or a contrast between middle-order needs such as belonging and the upper echelon of the hierarchy at self-actualization in examining volunteerism.

Hagerty used tertiary educational achievement as a baseline measure for self-actualization. There is also precedent for placing heavy emphasis on educational achievement and volunteerism. Wilson (2012) reviews the literature by stating, "Educational achievement is perhaps the most important asset as far as volunteering is concerned" (p. 185). Although Wilson applies the literature to say that education produces increased cognitive competence, attention to current affairs, and more vital aspirations, the skills acquired during education are thought to contribute equally with a duty to help others (e.g., a well-educated dentist may volunteer to do pro bono work for poor communities because others do not possess the skill set to do the job).

The Hagerty (1999) study used political freedom to measure self-esteem, but such variables were unavailable via the ATUS. Turning to the economic literature, it has been observed that self-esteem is positively linked to higher earnings (see Drago, 2008; Girtz, 2014; Graham et al., 2004; Murnane et al., 2001; Waddell, 2006, as cited by Botea et al., 2021 as well as Drago, 2011). Thus, income-generating activities that contribute to higher earnings and engaging in financial services to increase earnings can serve as a proxy to measure self-esteem, although self-esteem itself may not associate with volunteerism. Wilson (2012) discusses this point: "Volunteering is a contribution of one's time and it is not obvious that income would have much effect on it" (p. 187). Nonetheless, Wilson refers to Lee and Brudney (2009) that the effect of income is not linear and that middle-class households are more likely to engage in volunteerism. This finding indirectly supports the notion that additive effects of higher motivational development on volunteer time allocations at self-esteem are not present and raises the need to test if volunteerism may peak at social needs gratification.

There are multiple ways to test the effects of social needs on volunteerism while controlling for confounding variables. Hagerty estimated that divorce rates are negatively associated with social needs. As a result, we can assume that marital status is associated somewhat with social needs and volunteering. People might become more committed to their community by electing to get married and raise a family. This finding conforms to Wilson's (2012) observations that volunteerism peaks in midlife and declines after retirement. While age varies across all age groups, it might play some residual role. For example, if midlife is when people concentrate

on the success of the family unit, aging may enhance the effects of socializing to help one's relatives.

Employment status is another variable that potentially affords larger social networks, which may encourage volunteering. Bandura's (1986) concept of social-cognitive theory suggests that having a group of co-workers who volunteer represents an environmental factor that could influence volunteer behavior from at least a formal perspective. It is possible that race and ethnicity may also play some role in volunteerism as a confounding variable. Lough (2006) indicated that respondents who identified as members of a racial/ethnic group other than White or Black were 1.5 times more likely than Whites and 2.53 times more likely than Blacks to volunteer. The race and ethnicity findings may relate to individuals of self-reported other races and ethnicities belonging to religious groups or engaged with religion that spurs formal and informal volunteering, respectively. Forbes and Zampelli (2014) examined whether social capital and religion predicted volunteerism, arguing that "estimates suggest strongly that greater diversity in friendships, more informal social networking, and more formal group involvement increase the likelihood that individuals will choose to engage in voluntary activity" (p. 239).

A further noted controversy in the literature on volunteering appears in the work of Galen et al. (2014). They argue that the difference in volunteerism between religious and non-religious individuals is reduced when controlling for confounding variables. The Galen et al. study's underlying theme is that people will be more likely to volunteer and help others similar to them (e.g., same gender, similar age range, or sports team affiliations). The literature further adds that taking care of children or having children attend the same school can increase volunteerism (see Gee, 2010; Einolf, 2010; as cited by Wilson, 2012). The presence of children might cause a parent, even constrained on time owing to work or childcare duties, to volunteer in activities that promote their children's well-being. The demographic research generally contrasted with Forbes and Zampelli (2014), who emphasize the role of religion in volunteerism, as follows: "intriguingly, there is now evidence to suggest that the importance of religion in one's life is a positive and significant influence on a person's decision about how much to volunteer" (p. 243).

Although various sources may motivate volunteerism, there is a distinction between in-group and out-group factors. Religious factors may differ in motivating each of these. Religious factors may motivate formal volunteerism (i.e., out-group) differently from informal volunteerism (i.e., in-group). The Galen et al. (2014) study may indicate that religion plays less of a role in formal volunteering, where people are less likely to identify with others. Other scholars (Graham & Haidt, 2010; Pepper et al., 2010; Saroglou, 2006) agree that religious participation has an in-group increase in voluntarism, not observed among out-groups. To point, Galen et al. (2014) state, "The contrast between the simple correlations between prosociality and belief in God versus the regression analysis is instructive regarding explanations for the apparent prosocial advantages for the religious. These advantages were best-predicted by demographic and group-related aspects, with religious belief itself playing an ancillary role, depending on the type of prosociality" (p. 422). The Galen et al. (2014) study used a single numerical variable for volunteer hours without disaggregating volunteerism, and it is entirely possible that the group aspects of religion may be more relevant to the mechanizations of an organization and formal volunteerism compared with informal volunteerism.

Given the lack of consensus in the literature, there is a need to examine socializing and religion's interaction associated with volunteerism. While intrinsic religiosity may sometimes be considered self-actualizing or even transpersonal, many people may use religion extrinsically to satisfy social needs. In studies on happiness, Yorulmaz (2016) agreed with the Okulicz-Kozaryn (2010) study that religion may increase well-being due to the social setting it offers. By parity of reasoning, testing is required to examine if religion may associate with

volunteerism owing to the need to belong at an intermediate stage of motivational development.

Compared to earlier studies, the present study provides an underlying psychological theory to explain the time allocations for informal and formal volunteerism. This analysis of the ATUS indicates that socialization, whether via friends, family, and religion, has the most substantial effect on all volunteerism forms. There also emerges support in the analysis that self-esteem goals and self-expression do not associate with informal volunteering behavior. At self-actualization, tertiary education provides some additive effect on religious activities and formal volunteerism. The findings will highlight that the clusters of human need associations with formal volunteering also reside at belongingness.

Method

One of the best ways to address the questions raised about time allocations between pursuing human needs and volunteerism is to use the American Time Use Survey (ATUS). The U.S. Bureau of Labor Statistics conducts the ATUS. A stratified, three-stage sample of respondents describe their use time, with subjects contacted via computer-assisted telephone interviewing (CATI). ATUS respondents produce a diary of their time use for the previous 24-hour period.

Participants

Time diaries reflect the time use patterns of a sample of 9,435 participants, with subjects contacted via computer-assisted telephone interviewing (CATI). The sample comprised more females (54.3%) than males (45.7%). More participants were unmarried (51.2%) than married (48.8%). The age range for the sample was 15 to 85 years of age.

Procedure

The 2019 ATUS draws a sample from all residents living in the USA, excluding active military personnel and residents of institutions like nursing homes and prisons. In the first sampling stage, the ATUS oversamples in less-populated states to produce reliable estimates at the state and national levels. In the second stage, households are stratified based on race/ethnicity, presence and age of children, and the number of adults in adult-only homes. In the third stage, an eligible person from each household was randomly chosen to be the second stage.

Dependent Variables

Based on Taniguchi's (2012) research on disaggregating volunteerism, formal and informal volunteerism were assessed as dichotomous variables and coded as follows: volunteer=1, non-volunteer=0. This study uses the same dependent variable definitions that Taniguchi defined:

> The ATUS defines formal volunteering as being carried out for or through an organization (U.S. Census Bureau 2010). Specifically, it includes providing administrative support, social service, indoor/outdoor maintenance, building, and clean-up operations, participating in performance and cultural activities, attending meetings, conferences, and training, and working in the areas of public health and safety. In this study, informal volunteering is defined as caring for and providing help to non-household members including both children and adults (p. 927).

Independent Variables

We assessed Maslow's (1943) hierarchy of needs by examining the time allocated by participants to three measures: (a) belongingness (e.g., marital status, socializing, religious attendance, and participation), (b) self-esteem (e.g., wealth-generating activities, and financial services), and (c) self-actualization (e.g., tertiary education, arts, and entertainment).

Socialization activities include socializing and communicating with others, attending or hosting parties, receptions, and ceremonies, attending meetings for personal interest, and attending or hosting social events classified elsewhere. Religious activities include attending religious services, participation in religious practices, religious education activities, and religious and spiritual activities not elsewhere classified. Income-generating activities focus on items associated with pursuing self-esteem goals and include income-generating hobbies, arts, crafts, and foods, performances, services, rental property activities, or other activities not elsewhere classified. Self-expression was assessed by using arts and crafts as a hobby, attending performing arts, attending museums, and attending movies. Similarly, financial services were examined by using the item for other financial services (e.g., meeting with an accountant, stockbroker, and insurance agent). The independent time variables were originally continuous, but because these variables are non-normally distributed, a decision was made to code as binary outcome variables: 0=no engagement with the activity, 1=engagement with the activity.

Demographic Characteristics

On the ATUS, participants reported their gender (1=male, 2=female); marital status (1=unmarried, 2=married); tertiary educational achievement (0=secondary educational attainment and below, 1=post-secondary educational attainment); race (0=White, 1=Black, and 2=other); ethnicity (0=Hispanic, 1=Non-Hispanic); presence of children under 18 (0=no children, 1=children), employment status (0=unemployed, 1=employed); and age which was coded as a numerical variable. The SPSS data file contains one record per household member for all households where an individual participated, and the file also contains the ATUS case identification number per household. There is also a weighted variable of the number of person-days the respondent represents where weekdays and weekend days are added up to the number of person-days weekdays and weekend days for subpopulations and the general population.

Data Analysis Plan

The outcome variables, before indexing, for formal and informal volunteering were non-normally distributed. Only 5.4% and 11.6% of participants reported formal and informal volunteer time allocations, respectively. In addition, a lot of the data generally on the ATUS is categorical, and for this reason, the study needed to use non-parametric tests such as chi-square and logistic regression to analyze socioeconomic and sociodemographic variables. Two four-block logistic regression models were run to examine the independent variables' influence on formal and informal volunteering. For the first model predicting formal volunteerism, confounding variables such as gender, age, race, ethnicity, and children under 18 in the household were added to the first block, employment status, marital status, time spent socializing, and religious attendance and participation were added to the second block, income-generating activities and planning for financial services were added to the third block, and tertiary education and the self-expression were added to the fourth block. The confounding and independent variables appear in the same order for the second model predicting informal volunteerism.

Table 1. 2019 American Time Use Survey (ATUS) Demographic Characteristics of Participants Who Engage in Volunteerism

	Formal Volunteering			Informal Volunteering		
	Yes No. (%) or Mean	No No. (%), or Mean	*P*[a]	Yes No. (%) or Mean	No No. (%), or Mean	*P*[a]
Total Number, no. (%)	514 (5.4)	8,921 (94.6)		1,095 (11.6)	8,340 (88.4)	
Gender, no. (%)			0.000***			0.000***
Male	189 (36.8)	4,122 (46.2)		412 (37.6)	3,899 (46.8)	
Female	325 (63.2)	4,799 (53.8)		683 (62.4)	4,441 (53.2)	
Age, y, mean	56.96	50.75	0.000***	54.49	50.64	0.000***
Education Level, no. (%)			0.000***			0.139
Tertiary Education Achieved	412 (80.2)	5,850 (65.6)		705 (64.4)	5,557 (66.6)	
Secondary Education and Below	102 (19.8)	3,071 (34.4)		390 (35.6)	2,783 (34.4)	
Race, no. (%)			0.102			0.175
White	431 (83.9)	7,149 (80.1)		877 (80.1)	6,703 (80.4)	
Black	53 (10.3)	1,189 (13.3)		158 (14.4)	1,084 (13.0)	
Other	30 (5.8)	583 (6.5)		60 (5.5)	553 (6.6)	
Ethnicity			0.000***			0.017*
Hispanic	38 (7.4)	1,250 (14.0)		124 (11.3)	1,164 (14.0)	
Non-Hispanic	476 (92.6)	7,671 (86.0)		971 (88.7)	7,176 (86.0)	
Marital Status, no. (%)			0.000***			0.000***
Married	314 (61.1)	4,291 (48.1)		480 (43.8)	4,115 (49.5)	
Unmarried	200 (38.9)	4,630 (51.9)		615 (56.2)	4,215 (50.5)	
Children<18 in household, no. (%)			0.261			0.000***
Yes	175 (34.0)	3,256 (36.5)		293 (26.8)	3,138 (37.6)	
No	339 (66.0)	5,665 (63.5)		802 (73.2)	5,202 (62.4)	
Employment Status, no. (%)			0.043			0.000
Employed	290 (56.4)	5,433 (60.9)		598 (54.6)	5,125 (61.5)	
Unemployed	224 (43.6)	3,488 (39.1)		497 (45.4)	3,215 (38.5)	

[a] Significance for the $\chi 2$ test for categorical variables examining significant differences between participants who volunteer and those who do not volunteer, t-test was used for the continuous variable (age). *p≤0.05, **p≤0.01, ***p≤0.001.

Table 2. Unstandardized Regression Weights of the Determinants of Volunteerism

Variable	Formal Volunteerism	Informal Volunteerism
Age	−0.021 (0.005)***	−0.009 (0.003)***
Socializing	0.256 (0.120)*	0.841 (0.087)***
Religious Activity	1.049 (0.132)***	0.252 (0.121)*
Gender	0.313 (0.123)**	0.335 (0.089)***
Marital Status	−0.415 (0.135)**	0.110 (0.090)
Employment	0.022 (0.145)	−0.086 (0.096)
Tertiary Education	0.573 (0.147)***	−0.210 (0.094)*
Children<18 in Household	0.255 (0.156)	−0.353 (0.113)**
Ethnicity (Hispanic)	−0.183 (0.234)	−0.312 (0.147)*
Race		
White		
Black	0.159 (0.264)*	0.061 (0.185)
Other	0.615 (0.319)	−0.019 (0.212)
Self-Expression	−0.035 (0.271)	0.325 (0.213)
Income Generating Activities	0.337 (0.406)	−0.130 (0.354)
Financial Services	0.257 (1.005)	−0.976 (0.985)
Nagelkerke R^2	0.081	0.062

Notes. Nagelkerke R^2 is reported for effect size. Standard errors are reported in parentheses. *p≤0.05, **p≤0.01, ***p≤0.001.

Results

Demographic Differences in Volunteerism

The results indicate that more respondents engaged in informal volunteerism (11.6%) than those who participated in formal volunteerism (5.4%). Table 1 provides the averages and frequencies for all demographic variables used in the analysis.

Chi-square tests were used to explore significant associations between participants who volunteered versus those who did not volunteer. A t-test was used to examine for an association between volunteering and the continuous variable (age). The cross-tabulations showed that participants who engaged in formal volunteering tended to be female, older, more educated, employed, non-Hispanic, and married. The comparisons revealed the same for informal volunteering, except that participants were more likely to engage if unmarried and did not have children under 18 in the household.

Participants' Formal and Informal Volunteering

Adam et al. (2021) proposed that logistic regression is used in research for clustering when examining associations between binary outcome variables of covariates, and by extension, our study used complex samples logistic regression in SPSS to estimate clustering at the household level for covariates and binary predictor factors. Table 2 shows the unstandardized regression weights of predictors associated with volunteerism. The weights represent the number of person-days each respondent represents. The standard errors provided in the table account for clustering at the household level.

The key variables, such as religious activity, tertiary education, and socializing, are significantly associated with formal volunteerism. Comparatively, the statistical significance of socializing, religious activity, and to a milder yet noteworthy extent, tertiary education is presented associating with informal volunteerism. These initial results support the block logistic regression results reported below.

Table 3. Hierarchical Logistic Regression Analysis of Maslow's Higher Order Needs' Associations with Formal Volunteerism

Step	NGS[a]	R[b]	Scale	B	SE	Sig	exp b[c] (95% CI)
1. Demographics	0.032	0.026	Age	0.024	0.003	0.000	1.024 (1.018, 1.031)***
			Gender	0.351	0.095	0.000	1.421 (1.180, 1.711)***
			Race				
			White				
			Black	−0.363	0.150	0.016	0.696 (0.518, 0.934)*
			Other Race	−0.052	0.196	0.790	0.949 (0.646, 1.395)
			Ethnicity (Hispanic)	−0.663	0.173	0.000	0.515 (0.367, 0.723)***
			Children<18 in Household	0.404	0.121	0.001	1.497 (1.182, 1.897)***
			Constant	−4.370	0.224	0.000	0.013***
2. Belongingness	0.073	0.061	Age	0.022	0.004	0.000	1.022 (1.014, 1.029)***
			Gender	0.314	0.098	0.001	1.369 (1.130, 1.658)***
			Race				
			White				
			Black	−0.372	0.154	0.016	0.689 (0.509, 0.933)*
			Other Race	−0.028	0.198	0.886	0.972 (0.659, 1.434)
			Ethnicity (Hispanic)	−0.675	0.175	0.000	0.509 (0.362, 0.717)***
			Children<18 in Household	0.200	0.126	0.113	1.222 (0.954, 1.565)
			Employment Status	0.199	0.109	0.069	1.220 (0.984, 1.511)
			Marital Status	0.456	0.100	0.000	1.579 (1.297, 1.920)***
			Socialization	0.339	0.094	0.000	1.404 (1.168, 1.688)***
			Religious Activity	1.037	0.107	0.000	2.822 (2.289, 3.478)***
			Constant	−4.870	0.287	0.000	0.008***
3. Self-Esteem	0.074	0.062	Age	0.022	0.004	0.000	1.022 (1.014, 1.029)***
			Gender	0.317	0.098	0.001	1.373 (1.134, 1.663)***
			Race				
			White				
			Black	−0.368	0.155	0.017	0.692 (0.511, 0.937)*
			Other Race	−0.021	0.198	0.915	0.979 (0.664, 1.444)
			Ethnicity (Hispanic)	−0.672	0.175	0.000	0.511 (0.363, 0.719)***
			Children<18 in Household	0.201	0.126	0.112	1.223 (0.954, 1.566)
			Employment Status	0.197	0.109	0.072	1.217 (0.983, 1.508)
			Marital Status	0.458	0.100	0.000	1.581 (1.299, 1.924)***
			Socialization	0.339	0.094	0.000	1.403 (1.167, 1.687)***

			Religious Activity	1.042	0.107	0.000	2.834 (2.999, 3.495)***
			Income Generating Activities	0.664	0.360	0.065	1.943 (0.960, 3.932)
			Financial Services	0.115	1.039	0.912	1.122 (0.146, 8.600)
			Constant	−4.887	0.287	0.000	0.008***
4. Self-Actualization	0.086	0.072	Age	0.022	0.004	0.000	1.022 (1.015, 1.030)***
			Gender	0.302	0.098	0.002	1.353 (1.116, 1.639)**
			Marital Status	0.394	0.101	0.000	1.483 (1.216, 1.809)***
			Race				
			White				
			Black	−0.313	0.155	0.044	0.731 (0.539, 0.991)*
			Other Race	−0.058	0.199	0.771	0.944 (0.639, 1.393)
			Ethnicity (Hispanic)	−0.496	0.177	0.005	0.609 (0.430, 0.861)**
			Children<18 in Household	0.209	0.126	0.097	1.233 (0.963, 1.579)
			Employment Status	0.098	0.111	0.379	1.103 (0.887, 1.371)
			Socialization	0.327	0.094	0.001	1.387 (1.153, 1.668)***
			Religious Activity	1.067	0.107	0.000	2.908 (2.355, 3.590)***
			Income Generating Activities	0.655	0.360	0.069	1.926 (0.951, 3.901)
			Financial Services	0.063	1.043	0.952	1.065 (0.138, 8.229)
			Self-Expression	0.172	0.236	0.465	1.188 (0.748, 1.886)
			Tertiary Education	0.695	0.119	0.000	2.004 (1.589, 2.528)***
			Constant	−5.355	0.305	0.000	0.005***

Notes. [a]Nagelkerke R^2 is reported for effect size. [b]R_L^2=−2LL(Model)/−2LL(Original) (Hosmer & Lemeshow, 1989). [c]The predicted change in the odds ratio. *p≤0.05, **p≤0.01, ***p≤0.001.

Table 3 shows how the independent variables interact with each other and associate with formal volunteerism. The confounding demographic variables in the first logistic model are significantly related to formal volunteerism. Female participants show a noticeably increased likelihood of spending time on this form of volunteerism.

The second logistic regression model in Table 3 shows that marital status, socialization, and religious activity significantly increase the likelihood of formal volunteerism. Table 3 shows some mildly detectable significant observations for race and ethnicity, although the size effects for these variables are low and do not overall impact the importance of belongingness generally. Having children under 18 in the household and employment status did not significantly associate with formal volunteerism. The effects of gender are weakened in the second logistic regression model, and there is a clustering of increased odds around items believed to associate with belongingness. Engaging in income-generating activities has a minor ancillary additive effect on marital status and religious activity in predicting formal volunteerism in the third logistic regression

Table 4. Hierarchical Logistic Regression Analysis of Maslow's Higher Order Needs' Associations with Informal Volunteerism

Step	NGS[a]	R[b]	Scale	B	SE	Sig	exp b[c] (95% CI)
1. Demographics	0.020	0.015	Age	0.006	0.002	0.009	1.006 (1.001, 1.010)**
			Gender	0.372	0.067	0.000	1.451 (1.273, 1.654)***
			Race				
			White				
			Black	0.036	0.094	0.703	1.036 (0.863, 1.245)
			Other	−0.084	0.142	0.557	0.920 (0.696, 1.216)
			Ethnicity (Hispanic)	−0.175	0.102	0.088	0.840 (0.687, 1.026)
			Children<18 in Household	−0.387	0.084	0.000	0.679 (0.576, 0.800)***
			Constant	−2.389	0.137	0.000	0.092***
2. Belongingness	0.062	0.045	Age	0.005	0.002	0.046	1.005 (1.000, 1.009)*
			Gender	0.283	0.069	0.000	1.327 (1.160, 1.517)***
			Race				
			White				
			Black	0.015	0.096	0.874	1.015 (0.841, 1.227)
			Other	−0.013	0.144	0.926	0.987 (0.744, 1.308)
			Ethnicity (Hispanic)	−0.190	0.104	0.066	0.827 (0.675, 1.013)
			Children<18 in Household	−0.384	0.088	0.000	0.681 (0.573, 0.810)***
			Employment Status	−0.022	0.075	0.764	0.978 (0.845, 1.132)
			Marital Status	−0.187	0.070	0.008	0.830 (0.723, 0.952)**
			Socialization	0.910	0.066	0.000	2.484 (2.181, 2.830)***
			Religion Attendance/Participation	0.205	0.091	0.024	1.228 (1.027, 1.468)*
			Constant	−2.631	0.170	0.000	0.072***
3. Self-Esteem	0.062	0.045	Age	0.005	0.002	0.045	1.005 (1.000, 1.009)*
			Gender	0.283	0.069	0.000	1.328 (1.161, 1.518)***
			Race				
			White				
			Black	0.015	0.096	0.875	1.015 (0.840, 1.227)
			Other	−0.014	0.144	0.925	0.987 (0.744, 1.308)
			Ethnicity (Hispanic)	−0.191	0.104	0.065	0.826 (0.674, 1.012)
			Children<18 in Household	−0.384	0.088	0.000	0.681 (0.573, 0.810)***
			Employment Status	−0.023	0.075	0.762	0.978 (0.844, 1.132)
			Marital Status	−0.187	0.070	0.008	0.830 (0.723, 0.952)**
			Socialization	0.909	0.066	0.000	2.483 (2.179, 2.282)***

			Religion Attendance/Participation	0.205	0.091	0.025	1.227 (1.026, 1.467)*
			Income Generating Activities	0.055	0.314	0.860	1.057 (0.571, 1.955)
			Financial Services	−0.719	1.040	0.489	0.487 (0.063, 3.739)
			Constant	−2.632	0.170	0.000	0.072***
4. Self-Actualization	0.063	0.046	Age	0.005	0.002	0.040	1.005 (1.000, 1.009)*
			Gender	0.283	0.069	0.000	1.327 (1.160, 1.518)***
			Race				
			White				
			Black	0.009	0.097	0.923	1.009 (0.835, 1.220)
			Other	−0.004	0.144	0.980	0.996 (0.751, 1.322)
			Ethnicity (Hispanic)	−0.214	0.105	0.042	0.808 (0.657, 0.992)*
			Children<18 in Household	−0.389	0.088	0.000	0.678 (0.570, 0.806)***
			Employment Status	−0.002	0.076	0.984	0.998 (0.860, 1.159)
			Marital Status	−0.178	0.071	0.012	0.837 (0.729, 0.962)*
			Socialization	0.908	0.067	0.000	2.479 (2.175, 2.824)***
			Religion Attendance/Participation	0.206	0.091	0.024	1.229 (1.028, 1.470)*
			Income Generating Activities	0.054	0.314	0.863	1.056 (0.571, 1.953)
			Financial Services	−0.700	1.039	0.501	0.497 (0.065, 3.808)
			Self-Expression	0.244	0.166	0.140	1.277 (0.923, 1.767)
			Tertiary Education	−0.106	0.072	0.139	0.899 (0.781, 1.035)
			Constant	−2.588	0.174	0.000	0.075***

Notes. [a]Nagelkerke R^2 is reported for effect size. [b]R_L^2=−2LL(Model)/−2LL(Original) (Hosmer & Lemeshow, 1989). [c]The predicted change in the odds ratio. *p≤0.05, **p≤0.01, ***p≤0.001.

model. Tertiary education has an additive impact on religious activity in predicting formal volunteerism in the fourth logistic regression model. The odds ratio for tertiary education is lower than religious activity overall in predicting formal volunteerism.

Table 4 provides the results of the interaction and associations of the independent variables with informal volunteerism.

The confounding demographic variables in the first logistic regression model show association with informal volunteerism, and female participants also indicate a noticeably increased likelihood to engage in informal volunteerism. The effect of gender weakens in the second logistic regression model, and socialization overtakes religion in the probability of associating with informal volunteerism. Married people with children in the household are less likely to volunteer informally, although the size effects are relatively small. The items such as race, ethnicity, and employment status showed insignificant associations with informal volunteerism. The third logistic regression model demonstrates no significant

associations between self-esteem objectives and informal volunteerism. The fourth logistic regression model has no significant associations between variables measuring self-actualization and informal volunteerism.

Discussion

One enduring assumption in the study of volunteerism is the importance of self-expression to the time spent volunteering. For example, Bonjean et al. (1994) related self-expression to women's volunteer organizations' time allocations. The current analysis did not find associations between self-expression and the time spent on formal and informal volunteering, even when exploring possible interactions between self-expression and gender. The role of higher education is also often associated with higher time allocations for volunteerism. Wilson's (2012) review of volunteer research highlighted that education was the strongest predictor of volunteerism. Contrastingly, tertiary education shared no association with informal volunteerism, and it had a mild additive effect on the time allocated to religion associated with formal volunteerism. A study by Son and Wilson (2012) gave some indication that education and religion can create a sense of obligation to volunteer, which conforms to Maslow's (1943) idea that self-actualizers have a sense of duty to help others.

Critically, this study reported the absence of a cluster with self-expression in forming an association with formal volunteerism. The results also show no significant association between time spent on income-generating and financial services activities and informal and formal altruism. Contrarily, human motivations cluster and associate with formal and informal volunteerism for social needs. There are also detectable variations between the two types of disaggregated volunteerism, and the results demonstrate noteworthy differences between social needs and association with formal and informal volunteering.

There is an explanation of why time spent on religious activities plays a substantial role in predicting formal volunteerism. Parboteeah et al. (2004) indicated that religion was one of the most important forms of cultural capital that predict formal volunteerism as it offers a community setting that encourages organized volunteering. There is a similar theme that marriage relates to formal volunteering because it builds up a buy-in to support the larger community (see Flanagan & Levine, 2010; Wilson, 2012). More aptly, most traditional religions tend to have clear rules, hierarchy, and discipline, which broadly transfer to volunteering for other formal organizations. It follows that more volunteer organizations may want to consider partnering with religious organizations to recruit volunteers. The findings also indicate that socializing plays a more significant role in increasing the likelihood of time spent on informal volunteerism. Research has indicated that this is motivated by the reciprocity norm, as informal volunteering entails helping family and friends rather than others outside one's social orbit (see Amato, 1990; Butcher & Einolf, 2016).

One way to improve motivation for informal volunteering among extended social networks wildly proliferating online is to establish reciprocity systems (e.g., one might agree to tutor friends at university if the university provided award recognition). Although the odds of allocating time to informal volunteering are significantly increased by being female and spending time on religious activity, each of these variables alone has an ancillary effect. Religion offers a sense of community where reciprocity also emerges for informal volunteering (e.g., a local religious organization gives a scholarship in exchange for students who volunteer at charity events). It is also apparent that society produces much stress from routine hassles such as long working hours, debt, divorce, and many other issues. Taylor et al. (2009) indicate that women under stress produce more of the bonding neuropeptide oxytocin and seek out others to friend and help, which may explain why this variable increases the odds of time spent on formal and informal volunteering at belonging needs.

It is not evident that people climb Maslow's (1943) hierarchy and simultaneously make time available for volunteerism beyond social needs. Americans in the sample have focused attention on social needs gratification, supporting Osborne's (1999) findings, indicating that formal volunteers seek affiliation. Should America continue to witness high economic growth, we should not expect increased volunteer time allocations among those who reach the self-esteem and self-actualization stages of development.

However, self-actualization may not be the pinnacle of human motivational development, and effective democracies or other forms of government that meet their populations' needs may witness some self-actualizers turn to the negation of self-interest. It is essential to mention here that there have been revisions to Maslow's (1943) model that indicates psychological development beyond self-actualization. Maslow (1962) was the first to revise the hierarchy of needs to include transpersonal motivational states believed to surpass self-actualization. Babula (2013) disagreed that Maslow's revision constitutes an actual addition to the hierarchy as transcendental states at self-actualization fold back into the original concept of self-actualization. Rather, Babula depicted human motivation using a hyperbolic model.

In Babula's (2013) model, and highlighted in the Babula et al. (2020) study, people follow a linear trajectory along Maslow's (1943) original paradigm until they have maximized self-interest at self-actualization. The Babula paradigm agrees with Maslow that people satisfy human needs all along the hierarchy based on decreasing satisfaction percentages. Babula also identifies different endocentric forms (i.e., self-interested altruism) that parallel Maslow's needs hierarchy. Once people reach self-actualization and have maximized self-interest, Babula believes there is an opportunity to negate self-interest to help others out of purely altruistic motivation. Smith (1759/1976) defined pure altruism as exocentric altruism. According to Smith's early cognitive theory, the exocentric altruist would use the imagination to step outside the first station of the self and the second station of the other to help a person from a third imagined spectator position. While Babula says exocentric altruists are very much in the minority in the American population, he gives a case example of people such as real estate tycoon Zell Kravinsky who gave much of his $45 million to charity as well as donated a kidney to an unknown recipient. The hyperbolic model indicates that people can become stuck at self-actualization. With declining ability and age, some self-actualizers turn inward. For reasons only now being investigated, other self-actualizers select to negate the built-up store of self-interest and advance to endless exocentric altruistic motivational pursuits that can take the form of volunteerism.

Babula (2013) provides a series of political values that measure the exocentric personality (i.e., redistribute U.S. wealth, declare Swiss-like military neutrality, and give free treatment to people with HIV in Africa). Nevertheless, the ATUS does not capture variables associated with possible exocentric altruistic motivation. Exocentric altruistic motivation is considered separate from the self-interested motivations traditionally associated with social needs and volunteerism. In theory, future research should explore whether exocentric altruistic motivation leads to a resurgence of volunteerism beyond the point of self-actualization. Given the possibility of greater volunteer participation motivated beyond self-expression, the pursuit of national goals that increases the number of self-actualizers would theoretically result in a brief pause to volunteerism, which would return stronger once self-interest is maximized. One only has to look at the 9/11 attacks in the U.S. to see a generation that came out of the 1990s with many needs provided by strong economic growth. When the terrorist attacks occurred, a massive uptick in spontaneous volunteerism followed (see Steffen & Fothergill, 2009). In the future, double-blind psychological experiments combined with the data drawn from naturalistic observations of volunteering activities might provide a superior methodological framework to understand if there emerges a latent motivational drive stronger than belonging to motivate formal and informal volunteerism.

Limitations and Future Research

Despite the strength of the present investigation, this study is not without limitations. Notably, the ATUS uses time diaries based on self-reports, and human memory can sometimes be inaccurate. As this is an exploratory study based on survey research, causation and directionality (e.g., the motivation to belong produces volunteer time allocations or vice versa) cannot be entirely ascertained. Additional follow-up experiments are needed to examine causality.

It is also important to mention that motivational pursuits such as self-esteem and self-actualization can overlap. For example, an entrepreneur may simultaneously pursue higher income to develop self-worth and maximize creative potential and self-expression (e.g., self-actualization). In this study, the final logistic regression blocks could be viewed through the lens that the variables measuring self-esteem and self-actualization be combined under the Fleury et al. (2021) concept of 'personal mastery' and contrasting this combined category with belongingness does not alter the results that optimal level for volunteerism associates at intermediate order needs rather than the upper end of the hierarchy. Nevertheless, it would be preferential that future research endeavor to disaggregate finer detail between higher level motivational levels and provide improved operational definitions for variables measuring self-esteem and self-actualization to provide an even greater understanding of how these variables impact volunteerism.

Disclosure Statement

The authors declare that there are no conflicts of interest that relate to the research, authorship, or publication of this article.

Ethical Approval and Informed Consent

The American Time Use Survey User's Guide (2020) states that: ATUS data are collected by the Census Bureau under the authority of Title 13, United States Code, Section 8. Section 9 of the law requires that all information about respondents be kept strictly confidential and that the information be used only for statistical purposes. Designated persons are informed of their right to confidentiality under Title 13 in the ATUS advance letter and brochure, mailed approximately 10 days before the interview date. The ATUS advance letter also advises designated persons that this is a voluntary survey.

Data Availability

The datasets generated during this research are available from the ATUS repository, https://www.bls.gov/tus/datafiles-2019.htm.

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