

Who is motivated to volunteer? A latent profile analysis linking volunteer motivation to frequency of volunteering

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Abstract

There has been considerable interest in identifying the motives that spur people to volunteer. We used a person-centered approach – latent profile analysis – to examine the relationship between intrinsic and extrinsic volunteer motivation and frequency of volunteering in American ($N = 589$) and Italian ($N = 993$) college students. Six latent motivation classes were distinguished: Low Intrinsic-Low Extrinsic, Medium Intrinsic-Low Extrinsic, High Intrinsic-Low Extrinsic, High Intrinsic-High Extrinsic, High Amotivation, and a Response Set class. Students in the High Intrinsic-High Extrinsic class volunteered less frequently than students in the High Intrinsic-Low Extrinsic class, suggesting that external incentives may undermine an individual's intrinsic motivation to volunteer. Although males were more prevalent in the High Amotivation class, gender differences in self-reported volunteering frequency were not found. Italian students reported volunteering less frequently overall and were more prevalent in the High Amotivation class.

Key words: volunteer motivation; intrinsic and extrinsic motivation; frequency of volunteering; sex differences; latent profile analysis

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1. Introduction

Formal or organizational volunteering is an unpaid, voluntary activity that involves “taking actions within an institutional framework that potentially provide some service to one or more other people or to the community at large” (Piliavin & Siegel, 2007, p. 454). Volunteering represents a “win-win-win” situation because of the benefits derived by society, by the recipients of the volunteer service, and by the providers of the volunteer service (Snyder, Omoto, & Lindsay, 2004). There has been considerable interest in identifying the motives that spur people to volunteer. Research on the motives of volunteers has been sparked by the notion that matching motives to appeals is a key to effective recruitment of new volunteers and further that the goodness of fit between motives and incentives offered to trained volunteers is critical to retaining them (Clary, Snyder, & Ridge, 1992). In addition, recent research has demonstrated that motives for volunteering can impact the health-related benefits derived from volunteering. For example, whereas volunteers with more other-oriented motives for volunteering experience a reduction in mortality risk compared to non-volunteers, volunteers with more self-oriented motives do not (Konrath, Fuhrel-Forbis, Lou, & Brown, 2012).

In the present study, we examined the relationship between intrinsic and extrinsic motives and frequency of volunteering using a person-centered approach – latent profile analysis. The remainder of the introduction is devoted to (a) reviewing research on volunteer motivation, (b) person-centered versus variable-centered analysis, (c) hypotheses and (d) research questions.

1.1 Early models of volunteer motivation

One of the early models of volunteer motivation conceptualized people as being motivated to volunteer by concerns for the welfare of others (altruistic motives) and by self-interest (egoistic motives) such as the desire to feel good about oneself (Frisch & Gerard, 1981). An alternative bipartite model posited people as being motivated to volunteer by extrinsic and intrinsic factors (Gidron, 1984). Extrinsic motives stem from external incentives that compel people to volunteer such as injunctive social norms. Intrinsic motives propel people to volunteer because of the inherent value, interest, and enjoyment of the activity.

1.2 Functional approach

The functional approach to social psychology has provided the basis for refining the egoistic motives for volunteering (Clary, Snyder, Ridge, Miene, & Haugen, 1994). A key tenet of the functional approach is that people engaged in the same activity may have different underlying motives for doing so (Clary & Snyder, 1991). As applied to volunteering, the functional approach posits that acts of volunteering can be analyzed in terms of differences in the motives that are satisfied, the needs that are met, and the goals that

are reached (Clary et al., 1992). Clary et al. (1994) identified and developed an inventory to measure six primary functions that are relevant to volunteering. These functions include (a) *values* (i.e., expressing deeply held beliefs about the importance of others); (b) *social* (i.e., conforming to the norms of significant others); (c) *career* (i.e., seeking ways to get started or advance in the world of work); (d) *understanding* (i.e., engaging in activities that promote learning); (e) *enhancement* (i.e., enhancing one's sense of self-worth); and (f) *protective* (i.e., escaping negative feelings; Clary, Snyder, Ridge, Copeland, Stukas, Haugen et al., 1998). Based upon a factor analysis, Finkelstein (2009) labeled the factor consisting of items from the career scale "extrinsic motivation" and she labeled the factor consisting of most of the items loading on the other scales "intrinsic motivation." In the present study, we decided to assess intrinsic and extrinsic volunteer motivation using a scale that was derived from self-determination theory because this scale distinguishes among several types of extrinsic motives for volunteering (Deci & Ryan, 2000).

1.3 Self-determination theory

Self-determination theory (Deci & Ryan, 2000) considers the motivational and regulatory processes that are implicated in goal-directed action within a domain of behavior such as academic performance. Self-determination theorists have been able to identify several distinct types of motivation, which vary in terms of their perceived locus of causality and regulatory processes (Ryan & Deci, 2000). Individuals who are unwilling to engage in goal-relevant activity or who go through the motions are labeled *amotivated*. In contrast, when individuals engage in an activity for the inherent satisfaction of performing the activity, they are labeled *intrinsically* motivated and when they engage in an activity as a means to another end, they are said to be *extrinsically* motivated. Self-determination theory distinguishes among four types of extrinsic motivation on the basis of the relative autonomy of the regulatory processes. The least autonomous extrinsic form of motivation is referred to as *external regulation*. For example, external regulation occurs when behavior is regulated by external incentives such as status. Moving along the continuum of relative autonomy, behavior that involves regulation by internal incentives and disincentives such as the desire to maintain feelings of self-worth or to avoid negative affective states represents *introjected regulation*. A more autonomous form of extrinsic motivation reflects *identified regulation*, in which a behavior is valued as important. Finally, the most autonomous form of extrinsic motivation is called *integrated regulation*, as it entails assimilation of the behavior into one's self-concept.

On the basis of self-determination theory, Grano and Lucidi (2005) developed the *Motivation to Volunteer Scale* which consists of six subscales assessing amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic motivation. Framed in terms of reasons for volunteering, sample items include: "I don't know; I can't see what I'm getting out of it" (Amotivation subscale), "For the recognition I get from others" (External Regulation subscale), "Because I would feel guilty if I did not volunteer" (Introjected Regulation subscale), "Because it is a good way

to contribute” (Identified Regulation subscale), “Because this activity has become an integral part of my life” (Integrated Regulation), and “For the pleasure and interest I feel in doing this activity” (Intrinsic Motivation). There is evidence that intrinsic and extrinsic measures of motivation to volunteer are positively correlated (Grano & Lucidi, 2005).

1.4 Variable-centered versus person-centered analyses

Van Til (1988) concluded from his literature review that people volunteer for multiple reasons, a phenomenon he labeled motivational multiplicity. Consistent with the notion of motivational multiplicity, Morrow-Howell and Mui (1989), using an open-ended probe, found that 94% of the older adults in their sample had more than one motive for volunteering. Using a 3-point scale, Okun (1994) found that 78% of the sample endorsed two or more motives as major reasons why they volunteered. These findings suggest it is potentially important to use a person-centered approach to classify people based upon their scores on more than one dimension of volunteer motivation.

With a variable-centered approach, the influence of an entire *set* of volunteer motives on volunteer outcomes is estimated. In contrast to variable-centered approaches, person-centered approaches allow investigating which *combination* of motives is associated with the highest frequency of volunteering. A person-centered approach can thus provide more detailed information on the question of *who* is most likely to volunteer and how the combination of intrinsic and extrinsic motives influences a person’s propensity to volunteer.

The application of latent profile analysis to dimensions of volunteering motivation is of interest, because it goes beyond other, more variable-centered types of analyses (e.g., analysis of variance and multivariate analysis of variance). Latent profile analysis integrates the information from different quantitative subscales into a single latent variable model that allows us to simultaneously consider different sub-dimensions of volunteering motivation and to identify different types of individuals who differ with regard to their motivation to volunteer. Even though variable-centered approaches that test for interactions between variables may be used for this purpose as well, latent profile analysis has the additional advantage of explicitly taking measurement error into account, which is not the case in the analysis of variance framework.

1.5 Hypotheses regarding volunteer motivation and volunteering frequency

Using the *Motivation to Volunteer Scale*, Grano, Lucidi, Zelli, and Violani (2008) reported that intrinsic volunteer motivation ($M = 3.78$, $SD = 0.76$) was rated much higher than extrinsic volunteer motivation ($M = 2.04$, $SD = 0.91$), given the scale’s range from 0 to 4. This is not surprising given that volunteering, by definition, is a freely chosen activity. Given this difference in the means for intrinsic and extrinsic volunteer motives, it was unlikely that we would identify a cluster that is low in intrinsic motivation and high in extrinsic motivation. However, it was reasonable to expect that we would identify

clusters composed of students who are (a) high in intrinsic motivation and low in extrinsic motivation and (b) high in intrinsic motivation and high in extrinsic motivation. In the present study, we tested three competing hypotheses that focused on whether these two clusters will differ with respect to frequency of volunteering.

Research on the overjustification effect proposes that extrinsic motivation undermines intrinsic motivation (Deci, 1971). Overjustification effects have been reported in laboratory studies in which intentions to help were undermined by external inducements (Kunda & Schwartz, 1983). We label the hypothesis that students in the High Intrinsic Motivation-High Extrinsic Motivation (High-High) class will volunteer less frequently than students in the High Intrinsic Motivation-Low Extrinsic Motivation (High-Low) class the *antagonistic* effect. According to this effect, when people are highly intrinsically motivated, extrinsic motivation works in opposition to their intrinsic motivation.

In contrast, Amabile (1993), who studied intrinsic and extrinsic motivational orientations in the work domain, maintains that under certain circumstances, extrinsic motivation can boost the beneficial effects of intrinsic motivation. Okun and Eisenberg (1992) found support for this hypothesis by demonstrating that altruistic motivation to volunteer was positively related to intention to continue volunteering only among volunteers who were also high in understanding and social motivation to volunteer. We label the hypothesis that students in the High-High class will volunteer more frequently than students in the High-Low class the *synergistic* effect. According to this effect, when people are highly intrinsically motivated, extrinsic motivation amplifies the benefit they derive from their intrinsic motivation.

Finally, in a field study, Stukas, Snyder, and Clary (1999) manipulated perceived choice regarding a volunteer task and examined whether it interacted with individual differences in the degree to which students perceived that they were volunteering only because it was required. They found that the effect of perceiving that one had a choice regarding the volunteer task had a positive impact on intent to volunteer only among participants who perceived that they were volunteering because it was required of them. Among students who did not perceive that they were volunteering only because it was required, perceived choice was unrelated to intent to volunteer. This pattern of findings suggests that when intrinsic volunteer motivation is high, level of extrinsic volunteer motivation may not affect frequency of volunteering. We label this hypothesis the *null* effect because the expectation is that frequency of volunteering will be equal in the High-High and High-Low classes.

1.6 Research questions pertaining to sex and nationality differences

1.6.1 Sex differences in volunteer motivation and frequency of volunteering

Fletcher and Major (2004) proposed that women are higher in long-term intrinsic motivation to volunteer than men, whereas men are higher in short-term extrinsic motivation to volunteer than women. However, the findings of studies on sex differences in intrinsic motivation to volunteer have not been consistent (Clary, Snyder, & Stukas, 1996; Kulik,

2006; Robinson, 1999). Similarly, whereas some studies report that women have higher extrinsic motivation to volunteer than men (Switzer, Switzer, Stukas, & Baker, 1999), other researcher have found non-significant sex differences in extrinsic motivation to volunteer (Okun, Barr, & Herzog, 1998). Gerstein, Wilkeson, and Anderson (2004) concluded that, relative to men, women are motivated to volunteer by a combination of intrinsic and extrinsic functions and that these functions help to explain why women volunteer more frequently than men (U.S. Department of Labor, 2011). Given the controversial findings in the literature, one additional goal of the present study was to shed more light on potential sex differences in volunteer motivation and frequency.

1.6.2 Nationality differences in volunteer motivation and frequency of volunteering

In a comparison of North Americans and Europeans, Greely (1997) reported that frequency of volunteering was significantly higher in North America than in Europe. Furthermore, he found that North American volunteers were motivated more than European volunteers by idealistic and moral motives (Greely, 1997). Consequently, another goal of the present study was to examine nationality differences in motives for volunteering and frequency of volunteering.

2. Material and methods

2.1 Samples

2.1.1 American sample

Participants in the American sample were $n = 589$ students who were enrolled in sections of Introduction to Psychology at a large southwestern university in the United States of America. Fifty-three percent of the participants were female. Of the 589 students, 573 provided information on their race. Sixty-three percent were Euro-American, 15% were Hispanic, 8% were Asian, 5% were African American, 3% were Asian American, 3% were from the Mideast, 2% were American Indians, and 1% were of other ethnicities or of mixed heritage. Five-hundred-sixty-five students provided information on their age. The age range was 17 to 51 with a mean of 19.68 ($SD = 3.46$).

2.1.2 Procedure

Students completed a battery of measures on a website as a prelude to participating in various studies that were used to fulfill a course requirement. To reduce respondent burden, students were randomly assigned to one of several versions of the battery. A measure of volunteer motivation and frequency of volunteering was embedded in one version of the battery.

2.1.3 Italian sample

The Italian sample consisted of $n = 993$ psychology college students from a large state university in the centre of Italy. Of these participants, 67.9% were female. With regard to participants' race, 97.8% were European, 0.7% were Hispanic, and the remaining 1.5% were African Italian, Asian Italian, or were of other descent or a combination of the above. Nine-hundred-eighty-three students provided information on their age. The age of the participants ranged from 18 to 59 with a mean of 20.43 ($SD = 3.78$).

2.1.4 Procedure

Students volunteered to complete questionnaires to assess volunteer behavior and motivation to volunteer. Participation was voluntary and anonymous, and no incentives were offered to the participants. The survey was administered as a paper-pencil questionnaire to 95.3% of the students. To control for differences between paper-and-pencil and web-based administration of the questionnaire, 4.7% of the students with similar demographic characteristics were administered a web-based version of the questionnaire. No statistically significant differences in the mean scores of the volunteer motivation scales or in volunteer frequency emerged between the two forms of questionnaire administration in the Italian sample.

The protocol for this study was approved by the institutional review boards at both universities. In the Italian sample, participants read and signed an informed consent form. In the American sample participants read a consent form before beginning the web-based survey and were informed that starting the survey constituted informed consent.

2.2 Measures

2.2.1 Demographics

Participants were asked to indicate their sex, ethnicity, and age.

2.2.2 Volunteering

Students were asked, "During the past year, how often did you perform volunteer service?" The response options were coded on a six point scale: 0 = "never" 1 = "a few days out of the year," 2 = "about a day a month," 3 = "two or three days a month," 4 = "about a day a week," 5 = "two or three days a week," and 6 = "daily or almost daily". In the American sample, 80.5% percent of the participants reported volunteering during the past year. Among American students who reported volunteering during the past year, the mean on the frequency of volunteering scale was 1.92 ($SD = 1.29$). In the Italian sample, 40.3% of the participants reported volunteering during the past year. Among Italian students who reported volunteering during the past year, the mean on the frequency of volunteering scale was 2.09 ($SD = 1.54$).

2.2.3 Motivation to Volunteer Scale

Participants' motivations to volunteer were assessed through the *Motivation to Volunteer Scale* (Grano & Lucidi, 2005). This scale is based on self-determination theory (Deci & Ryan, 1985) and presents 24 potential reasons (e.g., "because I know others are pleased that I volunteer") or lack of reasons (e.g., "I don't know; I can't see how all this helps") for volunteering. Responses are given on a scale ranging from 0 "does not apply to me at all" to 4 "applies to me a great deal". Previous exploratory factor analyses of the 24 items (Grano & Lucidi, 2005) revealed six underlying factors (4 items per subscale) representing, respectively, intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation, and amotivation. Internal consistency estimates for the scales, via coefficient alpha, ranged from .71 to .88 in a sample of older adults (Grano et al, 2008). In addition, the *Motivation to Volunteer Scale* has demonstrated adequate levels of concurrent validity with other volunteer motivation instruments (e.g. the Volunteer Functions Inventory; Clary et al., 1992).

In the American and Italian samples, respectively, the estimates of Cronbach's α were .70 and .75 (Intrinsic motivation), .89 and .86 (Integrated regulation), .77 and .73 (Identified regulation), .84 and .74 (Introjected regulation), .68 and .61 (External regulation) and .85 and .87 (Amotivation). Each subscale score was created by using the mean for all items composing it; thus, all subscales had a range of scores between 0 and 4.

2.3 Statistical analysis

2.3.1 Multivariate analysis of variance

Overall mean differences in volunteering motivation scale scores across genders and nations as well as potential interactions between gender and nation were tested using multivariate analysis of variance. We set alpha to .05 for all statistical tests.

2.3.2 Latent profile analysis

Latent profile analysis (Gibson, 1959; Vermunt & Magidson, 2002) is a classification method that is closely related to classical latent class analysis (Goodman, 1974; Formann, 1982; Lazarsfeld & Henry, 1968). Classical latent class analysis uses categorical latent variables to explain associations between categorical observed variables and to examine typological differences between individuals (i.e., differences in kind rather than degree). Individuals with similar response patterns are grouped into the same latent class, whereas there is maximal dissimilarity of individuals between classes.

Similar to classical latent class analysis, latent profile analysis allows researchers to extract latent classes, but uses continuous variables as latent class indicators (e.g., the scale scores on the *Motivation to Volunteer Scales*). The latent profile analysis model is given by (see, e.g., Vermunt & Magidson, 2002):

$$f(\mathbf{y}_i | \boldsymbol{\theta}) = \sum_{c=1}^C \gamma_c f_c(\mathbf{y}_i | \boldsymbol{\mu}_c, \boldsymbol{\Sigma}_c),$$

where $f(\mathbf{y}_i|\boldsymbol{\theta})$ indicates the distribution of a set of observed scores \mathbf{y}_i given latent parameters $\boldsymbol{\theta}$, γ_c is a class proportion parameter that indicates the unconditional probability of belonging to latent class c , $\boldsymbol{\mu}_c$ and $\boldsymbol{\Sigma}_c$ denote the class-specific mean vector and covariance matrix in class c , respectively, and $f_c(\mathbf{y}_i|\boldsymbol{\mu}_c, \boldsymbol{\Sigma}_c)$ refers to the class-specific distribution of the observed scores. It is typically assumed that the observed variables are normally distributed within each latent class. The latent classes are assumed to be exhaustive (i.e., $\sum_{c=1}^C \gamma_c = 1$, such that each individual has to belong to one of the C classes) and mutually exclusive (i.e., each individual can only be a member of one class). When applying latent profile models to actual data, researchers obtain estimates of the class proportion parameters γ_c , which provide information on the relative size of each latent class c . Furthermore, of key interest are the estimated class-specific means of the observed indicator variables in $\boldsymbol{\mu}_c$, which provide information on the class-specific mean profiles and help the researcher to interpret each class substantively. For example, a class with low means on all volunteering motivation scales except the Amotivation scale could be interpreted as an “amotivation class”. The number of classes to extract is inferred based on fit statistics and substantive considerations, and classes can be related to external variables such as volunteering frequency as part of the analysis.

In the present study, the six continuous *Motivation to Volunteer Scale* scores were used as indicators in the latent profile analysis. The analysis was conducted in Mplus 6.1 using maximum likelihood estimation. Following standard practice, we assumed the class-specific covariance matrices $\boldsymbol{\Sigma}_c$ to be diagonal (assuming zero covariances between indicator variables within each class) and equal across classes (assuming equal indicator variances across classes). These assumptions are helpful to avoid unstable solutions and ensure a meaningful interpretation of the classes.

At least 500 sets of random parameter start values were generated for each model to ensure that the final latent profile analysis solutions reflected global maxima of the likelihood (Muthén, 2001).⁴ Model selection was based on the examination of the currently most recommended statistical model fit criteria (the Bayesian information criterion [BIC], sample-size adjusted BIC [aBIC], bootstrapped likelihood ratio difference test [BLRT], and Lo-Mendell-Rubin test [LMRT]; Nylund et al., 2007; Marsh, Lüdtke, Trautwein, & Morin, 2009) and ease of interpretation of the solution. In particular, we avoided solutions with too many latent classes for reasons of parsimony as well as ease of interpretation and presentation. In addition, we avoided solutions that appeared to be unstable in terms of local maxima and other estimation problems as reported by Mplus.

⁴ In cases in which the solution with the best log likelihood value was not found by at least two different sets of start values, the number of random starts was further increased until the best log likelihood value was replicated at least once. If a single best log likelihood value could not be replicated for 2000 sets of start values, a solution was considered not well-defined for the data and not considered further.

3. Results

3.1 Multivariate analysis of variance

The means, standard deviations, and effect sizes (Cohen's d) for the six volunteering motivation scales as well as the volunteering frequency scale are shown by gender and nation in Table 1. The correlations between the six *Motivation to Volunteer Scale* scores are given in Table 2. Multivariate analysis of variance with gender and nation as factors and all seven scale scores as dependent variables resulted in multivariate F statistics of $F(7, 1524) = 23.11, p < .001$, partial $\eta^2 = .10$ for gender; $F(7, 1524) = 85.44, p < .001$, partial $\eta^2 = .28$ for nation; and $F(7, 1524) = 0.97, p = .45$, partial $\eta^2 = .004$ for the interaction effect. Detailed analyses revealed that sex differences were significant ($.001 < p < .03$) for all scales except volunteering frequency ($p = .50$). Females scored significantly higher than males on all scales except external regulation and amotivation. For external regulation, no significant sex difference was found in the American sample ($d = 0.06, p = .53$), whereas in the Italian sample, males showed higher scores than females, although the effect size was rather small ($d = 0.21, p < .01$). For amotivation, males on average showed higher scores than females in both nations. The overall sex difference in introjected regulation in favor of females was driven mainly by a small but significant mean difference in the American sample ($d = 0.16, p = .05$), whereas it was non-significant in the Italian sample ($d = 0.05, p = .47$).

Overall, Italians showed lower scores than Americans on all scales (all $ps < .001$) except intrinsic motivation ($p = .21$), identified regulation ($p = .70$), and amotivation ($p = .29$). There were no significant interaction effects between gender and nation for any of the scales ($.17 < p < .84$).

Table 1:
Descriptive Statistics and Effect Sizes for Volunteering Motivation Subscales and Volunteering Frequency by Nation and Gender

Scale	USA					Italy				
	Female		Male		d	Female		Male		d
	$N = 303$		$N = 266$			$N = 665$		$N = 300$		
M	SD	M	SD		M	SD	M	SD		
Intrinsically Motivated	2.41	0.91	1.98	0.88	0.48***	2.32	0.84	1.95	0.87	0.44***
Integrated Regulation	1.72	1.12	1.46	1.03	0.24**	1.53	1.04	1.19	0.93	0.35***
Identified Regulation	2.64	0.82	2.31	0.88	0.39***	2.64	0.80	2.35	0.84	0.35***
Introjected Regulation	1.43	0.99	1.27	0.96	0.16*	0.86	0.73	0.82	0.77	0.05
External Regulation	1.13	0.78	1.18	0.78	0.06	0.40	0.52	0.52	0.61	0.21**
Amotivation	0.33	0.57	0.67	0.77	0.50***	0.25	0.53	0.67	0.87	0.54***
Volunteering Frequency	1.60	1.32	1.53	1.45	0.05	0.86	1.42	0.82	1.42	0.03

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2:
Correlations Between Motivation to Volunteer Scale Scores and Volunteer Frequency in the Overall Sample and By Nation

Motivation to Volunteer Scale Score	1.	2.	3.	4.	5.	6.
Overall Sample (n = 1582)						
1. Intrinsic motivation	–					
2. Integrated regulation	.61	–				
3. Identified regulation	.70	.62	–			
4. Introjected regulation	.39	.49	.41	–		
5. External regulation	.17	.25	.15	.50	–	
6. Amotivation	-.26	-.20	-.38	.05 ^a	.30	–
7. Volunteer frequency	.26	.53	.25	.24	.16	-.15
USA (n = 589)						
1. Intrinsic motivation	–					
2. Integrated regulation	.60	–				
3. Identified regulation	.73	.70	–			
4. Introjected regulation	.40	.48	.48	–		
5. External regulation	.25	.32	.28	.52	–	
6. Amotivation	-.14	-.06 ^a	-.23	.11	.35	–
7. Volunteer frequency	.25	.51	.33	.16	.08 ^a	-.12
Italy (n = 993)						
1. Intrinsic motivation	–					
2. Integrated regulation	.62	–				
3. Identified regulation	.68	.59	–			
4. Introjected regulation	.41	.50	.40	–		
5. External regulation	.14	.17	.11	.33	–	
6. Amotivation	-.33	-.31	-.47	-.03 ^a	.26	–
7. Volunteer frequency	.28	.53	.24	.21	.03 ^a	-.20

Note. All correlations were significant at the .01 level, except as indicated. ^a $p > .05$.

3.2 Latent profile analysis

We first estimated the 1- through 7-class solutions for each gender separately in each nation to examine whether different profile solutions would emerge in the four resulting groups. Fit statistics for each model are shown in Table 3. None of the solutions showed a minimum of the BIC or aBIC (i.e., the values of these statistics continued to decrease

Table 3:
Model Fit Statistics For Different Latent Profile Analysis Models

Classes	USA						Italy					
	Females			Males			Females			Males		
	BIC	aBIC	LMRT <i>p</i> -value	BIC	aBIC	LMRT <i>p</i> -value	BIC	aBIC	LMRT <i>p</i> -value	BIC	aBIC	LMRT <i>p</i> -value
1	4640.85	4602.79	—	4184.20	4146.15	—	8877.23	8839.13	—	4620.29	4582.23	—
2	4271.11	4210.85	<.001	3909.36	3849.12	.07	8171.95	8111.62	<.001	4276.48	4216.22	<.001
3	4135.94	4053.48	<.001	3787.71	3705.27	.001	7760.93	7678.37	.44	4171.93	4089.46	.51
4	4066.01	3961.35	.20	3707.35	3602.72	.15	7384.26	7279.48	.02	4055.53	3950.86	.07
5	4024.50	3897.64	.44	3680.77	3553.95	.13	7140.70	7013.70	.04	3963.93	3837.06	.04
6	3939.49	3790.43	.01	3673.98	3524.97	.15	6987.56	6838.33	.01	3955.78	3806.71	.24
7	3931.56 ^a	3760.30 ^a	.45 ^a	3670.94	3499.73	.23	6847.60 ^a	6676.14 ^a	.23 ^a	3950.32	3779.05	.40

Note. BIC = Bayes information criterion; aBIC = sample size adjusted BIC; LMRT = Lo-Mendell-Rubin test; *p*-values < .05 indicate that a solution fits significantly better than the model with one less class according to the LMRT (given an alpha level of .05). The bootstrapped likelihood ratio test (BLRT) was significant for each and every comparison (*p* < .001) and is therefore not reported in the table. ^a In this solution, the standard errors for some parameter estimates were reported to be untrustworthy by Mplus.

beyond the 7-class model in all groups) suggesting a solution with more than seven classes. In addition, the BLRT and LMRT did not lead to consistent results as to the number of classes to retain. In our analyses, the BLRT was significant for each and every model comparison ($p < .001$; not shown in Table 3), again suggesting more than seven classes. However, class solutions with seven or more classes tended to show estimation problems and were difficult to interpret, so that we decided not to consider solutions with seven or more classes. The LMRT resulted in non-significant values for several class solutions with fewer than seven classes, but was inconsistent in terms of showing significant differences again for solutions with a higher number of classes.

We therefore followed Marsh et al.'s (2009) recommendations for deciding on how many classes to retain. One criterion proposed by Marsh et al. (2009) is that the solution should not only reflect quantitative, but also qualitative (typological) differences between individuals. That is, at least some of the classes should differ from each other in terms of profile shape rather than just in profile elevation.

Our inspection of the latent class profiles for all estimated solutions revealed that (1) the profiles were generally similar across groups and (2) the 6-class model was most interpretable and reflected both qualitative and quantitative differences in volunteer motivation. Further, the 6-class model captured all essential volunteering motivation types that emerged in our analyses. Models with more than six classes either did not uncover any additional substantively interesting types or the additional classes were of very small size ($< 1\%$). In addition, solutions with more than six classes tended to be rather unstable in some of the groups (i.e., they were associated with warning messages that indicated problems in the estimation of standard errors). We therefore decided to accept the 6-class model as a meaningful, clearly interpretable, and parsimonious solution for all four (2 [gender] \times 2 [nation]) groups.

In the next step, we analyzed the 6-class model in more detail using multigroup latent profile analysis. Multigroup latent profile analysis allows one to estimate class profiles simultaneously for different groups and to formally test whether the volunteering motivation profiles are invariant across genders and across nations.

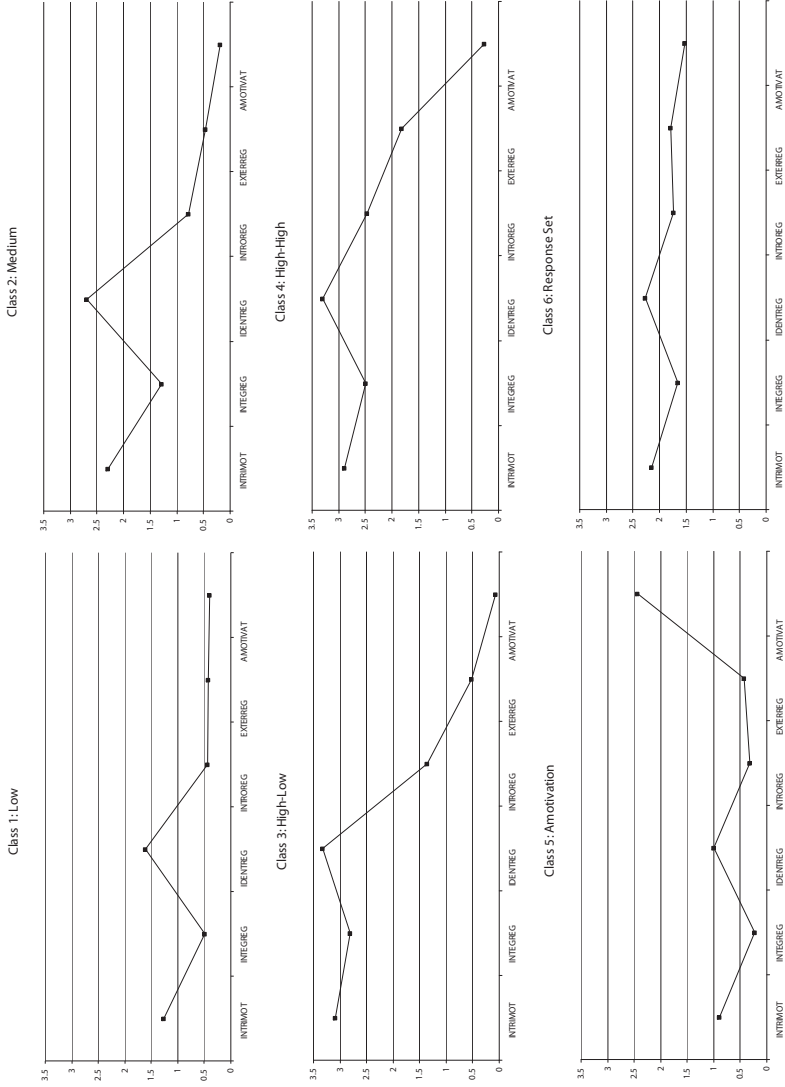
We estimated four different multigroup models. Model 1 was an unconstrained model that allowed the class profiles to be different in all four groups. This model closely corresponds to our previously described single-group analyses, with the exception that it estimates the parameters simultaneously in each group and that it provides a single information statistic (e.g., in terms of BIC or aBIC) based on which the model can be compared to other, more constrained multigroup solutions. For example, the fit of this model can be compared to more constrained models in which parameters are set equal across classes to establish measurement equivalence of classes across groups. Model 2 specified equal classes across genders within each nation, but allowed the class profiles to vary across nations. Model 3 specified equal classes across nations within each gender, but allowed the class profiles to vary across genders. Model 4 assumed that the classes were identical in all four groups, that is, it assumed invariance of class profiles across genders and nations. The class proportions (class sizes) were allowed to vary in all four models.

Results indicated that the unconstrained Model 1 did not lead to a global maximum of the likelihood even when 2000 sets of random start values were used in the analysis. This indicated that the overall solution may not be well-defined for these data and hence the parameter estimates produced by Mplus may not be trustworthy due to a local likelihood maximum (Collins & Lanza, 2010). We therefore did not consider this model further. The BIC values of Models 2, 3, and 4 were 23331.53, 23067.77, and 23298.53, respectively, and thus pointed to Model 2 as the best-fitting model. However, the Mplus output for Model 2 indicated that the standard errors for this model were not trustworthy – pointing to an estimation problem. Furthermore, inspection of the class profiles for different solutions indicated that most class profiles were rather similar for all four groups. We therefore accepted Model 4 (which assumed all classes to be equal across groups, but allowed class sizes to vary) as the most appropriate, interpretable, and parsimonious solution for these data.

The latent class profiles estimated for Model 4 are shown in Figure 1. Class 1 showed a pattern of rather low means on all scales, with particularly low values on the introjected regulation, external regulation, and amotivation scales. We therefore interpreted this class as a class with an overall low motivation to volunteer, albeit with a tendency towards an intrinsic/autonomous rather than extrinsic motivation to volunteer. Class 2 showed a pattern that was similar to Class 1, but with a generally higher level of scores (except for the external regulation and amotivation scale). We therefore interpreted this class as class with medium overall intrinsic/autonomous motivation to volunteer (Medium class). Class 3 was again similar in profile shape to the two previous classes, but showed the highest level of the three classes for the intrinsic motivation, integrated regulation, and identified regulation scales, whereas the means for the introjected regulation, external regulation, and amotivation scales were again rather low. We therefore interpreted Class 3 as high on intrinsic and low on extrinsic motivation (High-Low). In designating Class 3 as high intrinsic and low extrinsic motivation, we acknowledge that our criteria were based on the two lowest autonomous forms of extrinsic motivation – introjected regulation and external regulation. We believe that valuing the activity of volunteering (*identified regulation*) and assimilating the role of being a volunteer into one's self-concept (*integrated regulation*) – the two highest forms of extrinsic motivation – can be conceptualized as reflecting an internal motivational orientation.

Class 4 differed in profile shape from the three previous classes. Although participants in this class showed similarly high scores on the intrinsic motivation scales as did members of Class 3, Class 4 also showed relatively high means on the introjected regulation and extrinsic motivation scales (while the amotivation score in this class was again close to zero). We therefore labeled Class 4 as High-High class. Class 5 showed a completely different pattern than the four previous classes. Participants in Class 5 showed very low scores on all intrinsic and extrinsic motivation scales, but the highest score of all classes on the amotivation scale. We therefore interpreted this class as a group of individuals who are not at all motivated to volunteer (Amotivation class). Class 6 also showed a pattern that differed in profile shape from all of the patterns shown in the remaining classes. The scores in Class 6 fluctuated around the value of 2 on all six scales, including

Figure 1: Latent class profiles in the 6-class latent profile analysis model. The graphs show the estimated volunteering motivation scale means in each class.



Amotivation. The value of 2 is the middle point of the response scale for all scales. We therefore suspected that the pattern in Class 6 may reflect a response set, to the effect that most individuals in this class always chose the middle point of the scale. Hence, Class 6 appeared to mainly consist of individuals who did not really take the questionnaire seriously. In summary, the latent class profiles mirrored both quantitative and qualitative differences: Classes 1 through 3 showed qualitatively similar profiles but differed with respect to the elevation of the profiles, whereas Classes 4 through 6 differed in kind rather than in degree from the other three classes.

Table 4 shows the estimated class proportions for each class and each of the four groups. Consistent with the multivariate analysis of variance findings, males tended to be more frequently assigned to classes with lower levels of volunteering motivation than females. In addition, males were disproportionately represented in the Amotivation and Response Set classes. In contrast, females were disproportionately represented in the High-Low class and in the High-High class (American sample only). On the one hand, the American students tended to be more frequently assigned to the High-High and Response Set classes than the Italian students. On the other hand, the Italian students were disproportionately represented in the Amotivation, Medium, and, unexpectedly, High-Low classes.

Table 4:
Latent Class Proportions and Volunteering Frequency Means in the 6-Class Multigroup Latent Profile Analysis Model

	USA				Italy			
	Female		Male		Female		Male	
	%	VF Mean	%	VF Mean	%	VF Mean	%	VF Mean
Class 1: Low	19.1 (22.6)	0.83	24.2 (28.2)	1.05	17.4 (23.4)	0.33	27.5 (34.8)	0.29
Class 2: Medium	30.8 (31.6)	1.22	24.4 (19.9)	1.22	51.1 (53.9)	0.41	39.2 (31.5)	0.51
Class 3: High-Low	14.8 (5.4)	4.71	3.5 (5.1)	4.82	26.3 (11.9)	4.23	11.9 (10.8)	4.21
Class 4: High-High	26.4 (26.9)	2.28	16.2 (11.5)	2.82	0.9 (6.6)	0.80	2.8 (4.0)	1.04
Class 5: Amotivation	0.7 (0.7)	0.97	4.1 (4.4)	0.39	2.6 (2.7)	0.00 (n.s.)	8.4 (8.8)	0.18 (n.s.)
Class 6: Response Set	8.4 (12.7)	1.07	27.6 (30.8)	1.19	1.7 (1.6)	0.11 (n.s.)	10.2 (10.0)	0.32

Note. VF = volunteering frequency; percentages in parentheses give the estimated class sizes in the analysis that included volunteering frequency as outcome of class membership; n.s. = mean not significantly different from zero.

In the final step of our analysis, we added the volunteering frequency scale score to the model to relate the volunteering motivation classes to volunteering frequency. The class profiles remained almost completely unchanged after adding the covariate, allowing for the same interpretation of the classes as in the previous model, although some of the class proportions changed. The estimated class-specific volunteering frequency means are shown in Table 4 for each group. Low volunteering frequency means were found for the Low, Medium, Amotivation, and Response Set classes in both nations. The highest volunteering frequency means were found for the High-Low class with an average > 4 in all four groups. A medium level of volunteering frequency was consistently found for the High-High class in all groups. The findings of high versus low volunteering frequency were generally consistent across all four groups. Of specific interest to the present study was the contrast between the High-Low and High-High classes in terms of volunteering frequency. We examined mean differences in volunteering frequency between the High-High and High-Low classes by using Wald χ^2 tests for parameter constraints in Mplus. These tests were significant in all four groups (all Wald χ^2 p -values were $< .01$), indicating significantly larger means in all High-Low as compared to the High-High classes. In line with the multivariate analysis of variance results, volunteering frequency was generally lower in the Italian as compared to the American sample.

4. Discussion

Despite forecasts of increasing demands for the services of volunteers in North America (Gottlieb & Gillespie, 2008), only slightly over one-fourth (26.3%) of U.S. American citizens 16 years old and above volunteered for an organization at least once between September 2009 and September 2010 and the annual rate of volunteering in the USA does not appear to be on the rise (U.S. Department of Labor, 2011). In Italy, the rate of volunteering is even lower (only 9.3% of Italian citizens over the age of 18 volunteered in 2010; ISTAT, 2009). Therefore, understanding why people are (or are not) motivated to volunteer has become increasingly important to public policy makers, volunteer coordinators, and researchers. For example, researchers typically focus on questions such as, why do *people* engage in a self-initiated, sustained and planned activity that is directed toward helping others outside of one's circle of kin and kith (Omoto & Snyder, 1995). Cnaan and Goldberg-Glen (1991) proposed that volunteers "...act not from a single category of motives but from a combination of motives that can be described overall as "a rewarding experience" (p. 281).

To our knowledge the current study is the first one to apply latent profile analysis to the scores derived from the six *Motivation to Volunteer* subscales which assess amotivation, four types of extrinsic motivation which vary in their autonomy, and intrinsic motivation to volunteer. Latent profile analysis enabled us to distinguish between several volunteer motivation types (High Intrinsic Motivation-High Extrinsic Motivation, High Intrinsic Motivation-Low Extrinsic Motivation, Amotivation, and a Response Set class) and to test hypotheses regarding differences between the classes in frequency of volunteering.

4.1 Relation of motivation type and frequency of volunteering

We tested three competing hypotheses with regard to the relation between membership in the High-High versus High-Low classes and frequency of volunteering. According to the first hypothesis, external incentives may undermine an individual's intrinsic motivation to volunteer leading to an antagonistic effect – causing volunteering frequency to be higher in the High-Low compared to the High-High class. The second hypothesis posited that external incentives may boost intrinsic motivation and thus lead to a synergistic effect – leading to a higher frequency of volunteering in the High-High than the High-Low class. The third hypothesis proposed a null effect such that extrinsic motivation would be irrelevant if intrinsic motivation is already present – resulting in no difference in volunteer frequency across the two classes.

Our analyses provided support for the first hypothesis. The latent profile analysis revealed that the High-Low class, by a wide margin, exhibited a greater mean frequency of volunteering than the High-High class. Whereas the mean frequency of volunteering for the High-Low class ranged from 4.21 to 4.82 (on a scale from 0 to 6) across sexes and nations, the mean frequency of volunteering for the High-High class ranged from 0.80 to 2.82. Why do students in the High-High class volunteer less frequently than students in the High-Low class? Consider two volunteers – one who volunteers because of his or her interest in a cause and another one who volunteers because of his or her interest in a cause and because he or she is seeking recognition from others. The intrinsic motive – interest in a cause – is high in autonomy whereas the extrinsic motive – seeking recognition from others – is low in autonomy. Whereas the fulfillment of the intrinsic motive is self-determined, the fulfillment of the extrinsic motive is contingent upon the affordances provided in the volunteer environment. Under such circumstances, the individual in the High-High class may volunteer less frequently than the females in the High-Low class.

4.2 Sex and nationality differences

Males tended to be more frequently assigned to classes with lower levels of volunteering motivation than females. In addition, males were disproportionately represented in the Amotivation and Response Set classes. In contrast, females were disproportionately represented in the High-Low class and in the High-High class (American sample only). In light of these findings, the absence of sex differences in frequency of volunteering, particularly in the American sample, is surprising. Overall, 80.5% of the American sample reported that they had volunteered during the past year. This high rate of volunteering may reflect the trend for American colleges and universities to incorporate community service into students' course assignments (Stukas et al., 1999). Under this environmental press, sex differences in volunteering may be negated.

Whereas the American students tended to be more frequently assigned to the High-High and Response Set classes than the Italian students, the Italian students were disproportionately represented in the Medium class. Furthermore, the Amotivation class was generally larger in the Italian as compared to the American sample, which is consistent with

the finding that frequency of volunteering and motivation to volunteer were generally higher among North American than European students (Greely, 1997). Unexpectedly, the percentage of students in the High-Low class was greater in the Italian than in the American sample. This finding may reflect the tendency for Italian students to score lower on the more extrinsic aspects of volunteer motivation such as the introjected and external regulation scales.

4.3 Person-centered versus traditional variable-centered analysis

It is interesting to note that if we had only used a traditional variable-centered form of analysis such as multivariate analysis of variance, in which, for example, sex is treated as a factor and each volunteer motivation subscale score is construed as a dependent variable, both the Response Set class and the distinction between the High-High and High-Low classes would have gone undetected. Identification of the Response Set class is informative because by giving similar responses across items, participants in this class are adding noise to the data. Relative to other classes (except Amotivation), members of the Response Set class scored higher on the amotivation scale. Thus, inclusion of members of the Response Set class in an analysis, for example, of sex differences in amotivation scores could lead to an underestimation of the magnitude of the true relation between these variables. Another benefit of using latent profile analysis is that this method allowed us to account for random errors of measurement, thus providing less biased results compared to traditional analysis of variance or regression procedures.

4.4 Conclusion

The two classes that mostly engaged in volunteering were the High-Low and the High-High classes. Interestingly, our findings suggest that volunteer coordinators should treat members of these two classes differently in terms of providing them with low autonomous forms of extrinsic incentives. Individuals who are high in external regulation and introjected regulation may respond well to external incentives that provide them with status and which bolster their feelings of self-worth. Thus, for example, among High-High volunteers, public recognition of their efforts and positive feedback about task performance may increase volunteer behavior. In contrast, extrinsic incentives may reduce the likelihood of volunteering for individuals in the High-Low class because such incentives can create an over-justification effect (Finkelstein, 2009). In future research, experimental research designs could be employed to assess the effects of external incentives on volunteer motivation and behavior among new volunteers who, through screening, are identified as members of the High-Low class or the High-High class. Furthermore, future studies should attempt to replicate the present findings in non-college student samples.

5. References

- Amabile, T. M. (1993). Motivational synergy: Toward new conceptualizations of intrinsic and extrinsic motivation in the workplace. *Human Management Resource Review*, 3, 185-201.
- Clary, E. G., & Snyder, M. (1991). A functional analysis of altruism and prosocial behavior: The case of volunteerism. *Review of Personality and Social Psychology*, 12, 119-148.
- Clary, E. G., Snyder, M., & Ridge, R. D. (1992). Volunteers' motivations: Strategies for the recruitment, placement, and retention of volunteers. *Nonprofit Leadership and Management*, 2, 330-350.
- Clary, E. G., Snyder, M., Ridge, R. D., Copeland, J., Stukas, A. A., Haugen, J. et al. (1998). Understanding and assessing the motivations of volunteers: A functional approach. *Journal of Personality and Social Psychology*, 74, 1516-1530.
- Clary, E. G., Snyder, M., Ridge, R. D., Miene, P. K., & Haugen, J. A. (1994). Matching messages to motives in persuasion: A functional approach to promoting volunteerism. *Journal of Applied Social Psychology*, 24, 1129-1149.
- Clary, E. G., Snyder, M., & Stukas, A. A. (1996). Volunteers' motivations: Findings from a national survey. *Nonprofit and Voluntary Sector Quarterly*, 25, 485-505.
- Cnaan, R., & Goldberg-Glen, R. S. (1991). Measuring motivation to volunteer in human services. *Journal of Applied Behavioral Science*, 27, 269-284.
- Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, 18, 105-115.
- Deci, E. L. & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and self-determination of behavior. *Psychological Inquiry*, 11, 227-268.
- Finkelstein, M. A. (2009). Intrinsic vs. extrinsic motivational orientations and the volunteer process. *Personality and Individual Differences*, 46, 653-658.
- Fletcher, T. D., & Major, D. A. (2004). Medical students' motivations to volunteer: An examination of the nature of gender differences. *Sex Roles*, 51, 109-114.
- Formann, A. K. (1982). Linear logistic latent class analysis. *Biometrical Journal*, 24, 171-190.
- Frisch, M. B., & Gerrard, M. (1981). Natural helping systems: Red Cross volunteers. *American Journal of Community Psychology*, 9, 567-579.
- Gerstein, L. H., Wilkeson, D. A., & Anderson, H. (2004). Differences in motivations of paid versus nonpaid volunteers. *Psychological Reports*, 94, 163-175.
- Gibson, W. A. (1959). Three multivariate models: Factor analysis, latent structure analysis, and latent profile analysis. *Psychometrika*, 24, 229-252.
- Gidron, B. (1978). Volunteer work and its rewards. *Volunteer Administration*, 11, 18-32.

- Goodman, L. A. (1974). Exploratory latent structure analysis using both identifiable and unidentifiable models. *Biometrika*, *61*, 215-231.
- Gottlieb, B., & Gillespie, A. A. (2008). Volunteerism, health, and civic engagement among older adults. *Canadian Journal on Aging*, *27*, 399-406.
- Grano, C., & Lucidi, F. (2005). Motivazioni e determinanti alla base del volontariato nelle persone anziane. *Relazioni Solidali*, *2*, 109-130.
- Grano, C., Lucidi, F., Zelli, A., & Violani, C. (2008). Motives and determinants of volunteering in older adults: An integrated model. *International Journal of Aging and Human Development*, *67*, 305-326.
- Greely, A. (1997). The other civic American: Religion and social capital. *The American Prospect*, *32*, 68-73.
- ISTAT. (2009). La vita quotidiana nel 2008. *Indagine multiscopo sulla famiglia: Aspetti della vita quotidiana, Anno 2008*. Rome, Italy: Istituto Nazionale di Statistica.
- Konrath, S., Fuhrel-Forbis, A., Lou, A., & Brown, S. (2012). Motives for volunteering are associated with mortality risk in older adults. *Health Psychology*, *31*, 87-96.
- Kulik, L. (2006). Burnout among volunteers in the social services: The impact of gender and employment status. *Journal of Community Psychology*, *34*, 541-561.
- Kunda, Z., & Schwartz, S. (1983). Undermining intrinsic moral motivation: External reward and self-presentation. *Journal of Personality and Social Psychology*, *45*, 763-771.
- Lazarsfeld, P. F., & Henry, N. W. (1968). *Latent structure analysis*. Boston: Houghton Mifflin.
- Marsh, H. W., Lüdtke, O., Trautwein, U., & Morin, A. J. S. (2009). Classical latent profile analysis of academic self-concept dimensions: Synergy of person- and variable-centered approaches to theoretical models of self-concept. *Structural Equation Modeling*, *16*, 191-225.
- Morrow-Howell, N., & Mui, A. (1989). Elderly volunteers: Reasons for initiating and terminating service. *Journal of Gerontological Social Work*, *13*, 21-34.
- Muthén, B. (2001). Latent variable mixture modeling. In G. A. Marcoulides & R. E. Schumacker (eds.), *New developments and techniques in structural equation modeling* (pp. 1-33). Mahwah, NJ: Erlbaum.
- Nylund, K. L., Asparouhov, T., & Muthén, B. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling: A Multidisciplinary Journal*, *14*, 535-569.
- Okun, M. A. (1994). Relation between motives for organizational volunteering and frequency of volunteering. *Journal of Applied Gerontology*, *13*, 115-126.
- Okun, M. A., Barr, A., & Herzog, R. A. (1998). Motivation to volunteer by older adults: A test of competing measurement models. *Psychology and Aging*, *13*, 608-621.
- Okun, M.A., & Eisenberg, N. (1982). Motives and intent to continue organizational volunteering among residents of a retirement community area. *Journal of Community Psychology*, *20*, 183-187.

- Omoto, A. M., & Snyder, M. (1995). Sustained helping without obligation: Motivation, longevity of service, and perceived attitude change among AIDS volunteers. *Journal of Personality and Social Psychology*, *68*, 671-686.
- Piliavin, J. A., & Siegl, E. (2007). Health benefits of volunteering in the Wisconsin Longitudinal Study. *Journal of Health and Social Behavior*, *48*, 450-464.
- Robinson, A. E. (1999). The relationship between motivations to volunteer, gender, and college status: A four-year study. *Dissertation Abstracts International*, *60(4-A)*, 1045.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68-78.
- Snyder, M., Omoto, A. M., & Lindsay, J. J. (2004). Sacrificing time and effort for the good of others: The benefits and costs of volunteerism. In A. Miller (Ed.), *The social psychology of good and evil* (pp. 444-468). New York: Guilford.
- Stukas, A. A., Snyder, M., & Clary, E. G. (1999). The effects of "mandatory" volunteerism on intentions to volunteer. *Psychological Science*, *10*, 59-64.
- Switzer, C. L., Switzer, G. E., Stukas, A. A., & Baker, C. E. (1999). Medical student motivations to volunteer: Gender differences and comparisons to other volunteers. (1999). *Journal of Prevention and Intervention in the Community*, *18*, 53-64.
- U. S. Department of Labor. (2011, January). Volunteering in the United States, 2010. Retrieved March 24, 2011, from <http://www.bls.gov/news.release/volun.nr0.htm>.
- Van Til, J. (1988). *Mapping the third sector: Voluntarism in a changing social economy*. New York: Foundation Center.
- Vermunt, J. K., & Magidson, J. (2002). Latent class cluster analysis. In J. A. Hagenaars & A. L. McCutcheon (Eds.), *Applied latent class analysis* (pp. 89-106). Cambridge, UK: Cambridge University Press.