

Meta-analysis of volunteer motives using the Volunteer Functions Inventory to predict volunteer satisfaction, commitment, and behavior

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In 2017, about 30% of all U.S. adults volunteered for a total of 6.9 billion hours. This raises the question, why do so many people volunteer? Extant research has produced highly variable estimates of the effect sizes of various motivating factors, and there has been little to no research on potential moderators (i.e., study-level covariates that might strengthen or weaken the main effect of volunteer motives). We meta-analyzed 61 studies ($N = 38,327$) to estimate the effect sizes of six volunteer motivators (Volunteer Functions Inventory [VFI]; Clary et al., 1998) in predicting outcomes (satisfaction, commitment, intention to continue, and frequency). Results demonstrate that all six motivators significantly predicted the three outcome variables (ρ ranging from .12 to .44). Values was the strongest predictor by far, based on the largest effect size and a post hoc relative importance analysis. Moderator analyses indicated some differences in effect sizes across gender and student status; there were few differences across geographic location, race-ethnicity, college degree attainment, and employment status. Implications for volunteer managers and organizations on how to best work with volunteers are described.

Data, analysis code, supplementary material: <https://osf.io/by7sw/>

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Volunteers have always formed a significant but sometimes overlooked backbone of society. From the first volunteer firehouse founded by Benjamin Franklin in the 1700s, to the unpaid individuals who led key social reform movements that improved the lives of millions, those who gave their time and talents without payment in return were crucial instruments in shaping society (Dreyfus, 2018). In 2017, about 30 percent of all adults in America volunteered for a total of 6.9 billion hours and an estimated value of \$167 billion in human capital (AmeriCorps, 2017). Given the immense contribution of volunteering to society and the economy, it is critical for organizations to recruit and retain volunteers. Moreover, while employee motivation is still primarily explained by pay or perceived fairness in pay (Rynes et al., 2004), volunteer motivation differs in that it focuses primarily on non-monetary psychological drivers in the absence of pay. Thus, the study of volunteer motivation draws from unique theories that emphasize non-monetary psychological drivers of behavior.

The dominant conceptual framework for understanding these non-monetary psychological drivers of behavior was developed by Clary et al. (1998) in their *Volunteer Functions Inventory* (VFI). The authors drew from functional analysis theory to argue: “acts of volunteerism that appear to be quite similar on the surface may reflect markedly different underlying motivational processes” (p. 1517). In other words, they argue that people intentionally engage in volunteering, driven by internal “needs” or “functions” that volunteering meets and satisfies. These “needs” were called *functional motives*, in that volunteers are best motivated when the functions of the work or organization (e.g., a community of volunteers) meet a specified need (e.g., need for social interaction). The resulting instrument, the VFI, was a 30-item measure assessing the degree to which a volunteer’s current organization or work met each of the six motives. It is the most widely used measure in research on volunteerism across multiple contexts (Chacon et al., 2017) and subsequently has the largest number of empirical studies available for meta-analyses found during our literature search. Despite this, there has not yet been an empirical meta-analysis to aggregate the effects found in individual studies and derive more comprehensive estimates of effects across multiple studies and samples. Doing so would be vital to address some of the extant challenges in volunteer

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motivation research as described in the following sections.

Current Challenges in Volunteer Motivation Research

Several important scholarly questions arise from the present state of research on volunteerism, which the current study addresses. First, many studies question the theoretical justification for the VFI's six dimensions: career, enhancement, social, protective, understanding, and values. *Career* is defined as motivation arising from potential career-related benefits that volunteers could experience, such as gaining new skills relevant to future career plans. *Enhancement* is defined as motivation arising from benefits to the volunteer's ego growth and positive development associated with volunteering. *Social* is defined as motivation arising from relationships with others through volunteering, such as engaging in friendships. *Protective* is defined as motivation due to guilt or feeling external pressure to volunteer to escape from problems. *Understanding* is defined as motivation due to personal non-career-related growth in skills, knowledge, or abilities from volunteering. Finally, *values* is defined as motivation due to the volunteer's desire to express altruistic values to help others.

In fact, Clary et al. (1998) acknowledged that there would be debate over "whether six is the optimal number of functions" (p. 1518), and they did not provide theoretical rationale for why these specific six dimensions should be highlighted and whether they are equally important drivers of volunteerism. Accordingly, later researchers have argued different conceptualizations of volunteer motives. For example, Cho and colleagues (2018) administered the VFI and found that only four motives were significant predictors of actual behavior, while Brayley et al. (2014) compared the VFI to other measures of motivation and found that the *understanding* function was most important. Moreover, entirely different measures have also been proposed. For example, the Volunteer Motivation Scale (VMS; Cnaan & Goldberg-Glen, 1991) presents a unidimensional measure of volunteer motivation across 22 items, while the Motivation to Volunteer Scale (MTV; Grano & Lucidi, 2005) identified six factors ranging from intrinsic motivation to external regulation based on self-determination theory.

A second problem is that the six dimensions of the VFI intersect with different theories of motivation and behavior. Based on Clary et al.'s (1998) description of the functional theory foundations of the VFI, one might expect all six dimensions to align with the theory of planned behavior (Ajzen, 1991), which built from the

theory of reasoned action to argue that actual behavior is a result of intentions influenced by attitudes, subjective norms, and perceived behavioral control (see Southey, 2011 for a review). However, Brayley et al. (2014) describes how the six VFI dimensions differ in that some are driven more by attitudes (e.g., values), others more by subjective norms (e.g., social), and others more by perceived behavioral control (e.g., career). They investigated the relationship between the VFI and the three aspects of the theory of planned behavior (attitudes, subjective norms, and perceived behavioral control), and they found that only the *understanding* function represented a driver not accounted for by these three constructs. Subsequently, Cho et al. (2018) found a different set of results despite also basing their hypotheses on the theory of planned behavior. They report that values and career from the VFI were most important, at least among Gen Z volunteers. In short, the VFI is unclear, both in data and in theory, as to what element (attitude, subjective norms, perceived behavioral control, or something else) is the strongest driver of volunteering outcomes, and if a few of the six factors are significant predictors of outcomes, or if all six factors are equally as important. Our study seeks to address this by meta-analyzing the multitude of studies on the VFI to obtain a holistic picture of which factors are truly the best predictors of volunteer outcomes. Of note, while there have been other scales of volunteer motivation as noted above, none of these scales were as widely used. The VMS has been cited 1115 times compared to the VFI cited 3726 times, and the MTV scale was cited fewer than 500 times. Additionally, as discussed later in the methods, our literature search found less than 20 articles using the VMS measure (and even fewer for the other measures), compared to over 50 articles using the VFI.

Third, the existing studies that examined the unique effect sizes of the VFI dimensions report inconsistent results. For example, while Spicer (2012) reported a correlation as large as $r = 0.51$ ($n = 116$) between social motives and satisfaction with the volunteering work, Salas (2008) reported a correlation as small as $r = 0.03$ ($n = 229$) for the same relationship. Similarly, while Alkadi and colleagues (2018) reported a strong positive correlation ($r = .69$, $n = 223$) between self-enhancing motives (e.g., volunteering for personal growth) and intention to continue volunteering, Bock and colleagues (2018) reported a non-significant ($r = -.02$, $n = 231$) correlation between the same variables. This wide variation in effect sizes may be due to the localized sampling used by most of these studies. Specifically, re-

searchers using the VFI have tended to apply it to a specific organization for the purposes of local research and applied practice, creating the classic problem of low generalizability (e.g., Hsieh, 2000; Kramarek, 2016). Thus, our study takes a quantitative meta-analytical approach to estimating the true effect sizes of the VFI dimensions onto desirable volunteer outcomes. Specifically, we chose to study satisfaction, commitment, intention to continue, and volunteering frequency. These outcomes are most commonly studied in research on volunteer motivations (Chacon et al., 2017), and rightfully so given their practical importance. Burger (2017) described the importance of volunteer retention, keeping volunteers satisfied and committed, in reducing the negative impact of turnover, often in the form of training and recruiting costs. Moreover, while the average hours spent volunteering per person was 137 in 2017 (i.e., 2.63 hours per week; Statista, 2022), this can vary dramatically from people who do not volunteer at all (around 75% in 2015; BLS, 2016) to people who volunteer full-time. Because consistency in volunteering is important for volunteer managers (Hawley, 2017), we also looked at predictors of frequency of volunteering.

Lastly, there has been little research but much speculation on how these volunteer motives differ between demographic variables. Given the extent of heterogeneity in the evidence that has been published so far, it is likely that there are moderators of the strength of the VFI dimensions. Moreover, recent best practices in meta-analyses have emphasized the importance of testing potential moderators of main effects: “if there is nonartifactual variation in actual construct-level correlations, that variation must be caused by some aspect of the studies that varies from one study to the next, that is, a ‘moderator’ variable” (Schmidt & Hunter, 2015, p. 40). In our study, we focused on eight potential moderator variables that have been proposed or discussed in prior studies: geographic location, gender, age, education (i.e., obtained Bachelor’s degree), employment status, and student status (i.e., proportion of sample being undergraduate students). Demographic variables such as these are often important moderators in work-related behavior (e.g., Shirom et al., 2008; Jain & Nair, 2021), and previous research in volunteering have identified some differences within these demographic variables. For example, Taniguchi (2006) found that women were more likely to volunteer while employed part-time and in volunteer roles related to elderly care; likewise, Mesch and colleagues (2006) found racial-ethnic differences in volunteering behavior, such that blacks were 26% more likely to volunteer than whites. Moreover, the moderator analysis allows us to meta-

analyze prior studies that have examined cross-cultural applications of the VFI as well (e.g., Niebuur et al., 2019; Wu et al., 2009). For example, Gronlund and colleagues (2011) reported varied mean difference levels of *career* motives between UK and USA based samples compared to samples from the Netherlands; likewise, Davila and Diaz-Morales (2009) reported that *career* motives from the VFI decrease with age while *social* and *values* motives increase.

Importantly, we could not find any studies that treated the demographic variables as moderators, such that there would be differences in the *effect size* of each motive in predicting desirable volunteering outcomes (i.e., satisfaction, commitment, and intention to continue). A few studies have examined this question without using the VFI, but the results have been mixed. For example, Chevrier and colleagues (1994) found that female hospice volunteers were more satisfied by importance of their work, while male volunteers were more satisfied by staff support from the hospice; on the other hand, Chou (1998) reported no significant gender differences on the relationship between altruism and volunteer frequency. Additionally, regarding cross-cultural applications of the VFI, there has yet to be a systematic review of cultural variation in the use of VFI to predict volunteering outcomes. By examining geographic location as a moderator, we take a step towards understanding how the VFI motivation dimensions differ between cultures. Thus, our use of moderators within the meta-analysis aims to answer this exploratory question of whether there are differences in *effect size* between demographic variables.

In short, our study is the first to meta-analytically derive estimates of overall effect sizes of volunteer motivations in predicting outcomes such as satisfaction, commitment, intention to continue, and volunteer frequency. Additionally, we synthesize the vast array of data on volunteer motivations to provide more concrete evidence of how demographic variables (e.g., age, location, gender, employment status) moderate the overall effect sizes. This systematic review of the literature combines evidence to estimate overall effects and identify potential sources of heterogeneity in the evidence, thus summarizing the scholarly literature on the VFI and providing an important empirical systematic review to drive forward future research on volunteerism. Additionally, the review will help summarize the vast literature on volunteerism to offer practical implications for volunteer managers. For example, there is immense value in knowing how demographic differences such as gender or geographic location may affect vol-

unteers' motivation to join and stay with the organization. As such, not only does our study address unanswered questions of scholarly research and pose new avenues of study, but it also provides direct practical impact to help organizations maximize their efforts in engaging and retaining volunteers.

Methods

Study Variables

The Volunteer Functions Inventory conceptualizes volunteer motivations into six sources: career, enhancement, social, protective, understanding, and values (Clary et al., 1998). The VFI is a 30-item Likert-type self-report measure with five items per dimension.

We chose outcomes identified in prior research: satisfaction, commitment, intention to continue volunteering, and frequency of volunteering. Clary and colleagues' (1998) original publication proposed volunteer satisfaction and volunteer commitment as outcome variables; since then, most studies using the VFI followed their example and studied these as outcomes (Chacon et al., 2017). However, such studies only examine cognitive outcomes rather than behavioral. While the link between satisfaction and commitment has been established (e.g., Dwiggin-Beeler et al., 2011), researchers have also argued that there are several other factors that may interrupt the direct path between satisfaction-commitment and behavior, such as cultural influences or life events (Locke et al., 2003; Fairley et al., 2013). As such, estimates of the direct effects of dimensions of volunteer motivation onto behavioral outcomes are desirable. In this study, we specifically focus on intention to continue volunteering and frequency of volunteering (e.g., hours per week), as these are the outcome variables most often included in prior studies using the VFI.

For the moderator variables, we operationalized each variable to the study-level. For example, gender was operationalized as the percent of sample being male, and age was operationalized as the mean age of the sample. For geographic location, due to small cell sizes (i.e., few studies in a specific location), we followed Stoltenborgh and colleagues' (2013) example of aggregating to the continent level, thus creating a categorical variable indicating the continent from which the sample was collected.

Identification of Studies

We identified articles for our study that fit our primary requirements: predictor variable(s) included the VFI dimensions, outcome variable(s) included volunteer satisfaction and/or commitment, intention to continue, and frequency. All articles also needed to report

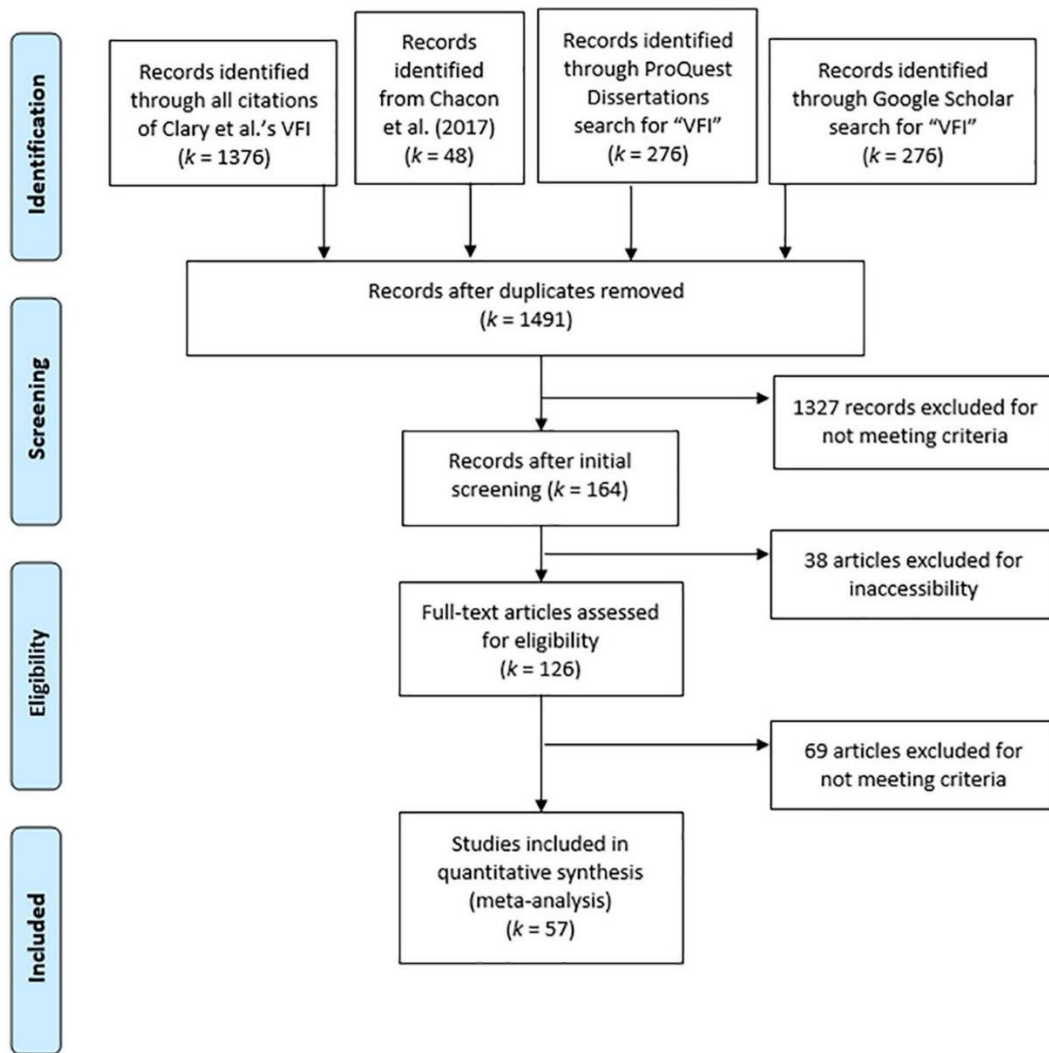
a correlation matrix or the information necessary to compute correlation coefficients; we also requested correlation matrices from authors of articles that did not report full correlation matrices. We searched through all articles that cited the original VFI measure (e.g., Clary et al., 1998), plus additional articles found by searching "Volunteer Functions Inventory" for unpublished manuscripts on Google Scholar, for a total of 1491 initial studies. Next, we screened each article to identify ones that, based on their abstract, appeared to meet the primary requirements described above, leaving us with 164 articles. Of these, we then downloaded the full text, leaving us with 126 articles (38 were not accessible via all traditional search engines, e.g., APA PsycNet, Google Scholar, EBSCOHost). Finally, we read the full text of each article to confirm they met the eligibility criteria described above, contacting the study authors if necessary to obtain correlation matrices. All retained articles measured the VFI dimensions using Clary et al.'s (1998) measure or some variation of it, and measured outcome variables with traditional Likert-type self-report measures. The exception was frequency of volunteering, which varied widely in how it was reported (i.e., some articles reported actual hours per week, others used an ordinal scale). We noted this as a limitation in our analysis for predicting frequency of volunteering. Our final sample included 57 articles reporting 61 studies ($N = 38,327$).

Coding Method

Each article's correlation matrix was subsequently coded (see Appendix A) by the two authors on this paper. Due to the established overlap between satisfaction and commitment (Aydogdu & Asikgil, 2011) and small k , we combined the constructs into one outcome when coding. As a quality check, we added a moderator for the construct used in the original study (either satisfaction or commitment). This was non-significant for all six predictors (B ranging from $-.110$ to $-.001$, p -value ranging from $.175$ to $.987$), suggesting that whether the study used satisfaction or commitment as the outcome did not significantly change the main effects.

For moderator variables, we operationalized each construct of interest to the study level (e.g., age as mean age in years of sample, gender as percent of sample being male). Next, the alphas, means, and standard deviations for each relevant variable were recorded if reported. Finally, the full correlation matrix of each VFI dimension with the dependent variables was recorded using the reported standardized Pearson's r values. Composite correlations were calculated as needed using Schmidt and Hunter's (2015) composite correlation formula (p. 444).

Figure 1. PRISMA (Moher et al., 2009) flowchart.



Analytical Strategy

All analyses were run in RStudio using the *psych-meta* package with a random-effects model. First, overall effect sizes for each dimension were estimated using the *ma_r()* function without any moderators. We used the Hunter and Schmidt (2004) method for correcting for unreliability for at the primary study level based on each study's reported correlation coefficients, before calculating an overall weighted effect size for each of the six predictors. Missing reliabilities were handled using the default *impute_artifacts* argument in *psych-meta*, which estimates the reliability by bootstrapping random values from the known reliabilities and averaging. For details on this, we direct readers to the *psych-meta* reference pages: https://rdrr.io/cran/psych-meta/man/impute_artifacts.html. We used a 95% confidence interval as an indicator for significance of each

overall effect size. Next, each moderator was analyzed separately using the *metareg()* function, which regressed the overall effect sizes onto each moderator separately (e.g., *values* and age, then *career* and age, and so forth). This was done to avoid issues of multicollinearity between moderators (Markfelder & Pauli, 2020). Publication bias was assessed using the *sensitivity()* function for cumulative sensitivity analysis (McDaniel, 2009). Cumulative sensitivity analysis sorts the effect sizes in the meta-analysis by precision, then adds them one at a time with the most precise effect size first, while recalculating mean effect sizes in each step (Borenstein et al., 2009). Positive drift, or movement of the estimated mean effect size from smaller to larger as studies are added, suggests the presence of publication bias (McDaniel, 2009).

Results

Main Effect Sizes

This meta-analysis incorporated 61 samples from 57 qualifying studies ($N = 38,327$). Our first research question examined what the overall effect sizes were for each dimension of the VFI in predicting volunteer satisfaction-commitment, intention to continue, and frequency of volunteering. All six predictors were significant in predicting each of the three outcome variables, as evidenced by the fact that none of the 95% confidence intervals around mean true-score correlation overlapped with zero. This supports the overall assertion that the VFI can be used to predict important vol-

unteer outcomes, despite the aforementioned heterogeneity in effects found in prior literature. Interestingly, there were few instances where the 80% credibility interval overlapped with zero, suggesting that there would be little evidence of significant moderators. We also noted that there was a clear pattern in the overall effect sizes, such that *values* consistently demonstrated the strongest relationship with each of the three outcome variables, compared to the other five dimensions. Similarly, the *career* and *social* dimensions were consistently among the weaker relationships in each of the three outcome variables. This suggests that the *values* dimension is the strongest motivator when it comes to desirable volunteer outcomes.

Table 1. *Main effect analyses.*

Dimension	<i>k</i>	<i>N</i>	\bar{r}	SD_r	SD_{res}	$\bar{\rho}$	SD_{r_c}	SD_{ρ}	95% CI	80% CR
Outcome: Satisfaction-Commitment										
career	38	29406	.22	.21	.20	.26	.25	.24	[.18, .34]	[-.06, .58]
enhancement	37	28756	.32	.16	.15	.38	.18	.18	[.32, .44]	[.15, .61]
protective	33	26610	.30	.19	.19	.36	.22	.22	[.28, .44]	[.07, .65]
social	37	27439	.22	.12	.12	.26	.15	.14	[.21, .31]	[.07, .45]
understanding	36	27927	.34	.14	.14	.41	.17	.16	[.36, .47]	[.20, .62]
values	41	29714	.38	.12	.12	.42	.15	.14	[.41, .50]	[.27, .64]
Outcome: Intention to Continue										
career	21	19370	.30	.16	.15	.35	.17	.17	[.28, .43]	[.13, .58]
enhancement	19	17696	.32	.13	.12	.36	.14	.14	[.29, .43]	[.18, .54]
protective	17	16685	.36	.14	.13	.43	.16	.16	[.35, .51]	[.22, .64]
social	18	16676	.22	.09	.08	.26	.10	.10	[.21, .31]	[.13, .38]
understanding	18	17416	.33	.15	.15	.39	.18	.18	[.30, .48]	[.16, .62]
values	21	18009	.38	.13	.13	.44	.15	.15	[.37, .51]	[.24, .63]
Outcome: Frequency										
career	22	20 062	.09	.08	.08	.12	.10	.09	[.07, .16]	[-.01, .24]
enhancement	21	19 969	.10	.07	.07	.12	.09	.08	[.08, .16]	[.02, .23]
protective	21	19 969	.16	.10	.09	.20	.12	.12	[.15, .26]	[.05, .35]
social	22	20 062	.08	.14	.14	.14	.21	.20	[.04, .23]	[-.13, .41]
understanding	22	20 062	.12	.06	.06	.15	.08	.07	[.12, .19]	[.06, .25]
values	23	20 596	.17	.09	.08	.22	.10	.09	[.18, .26]	[.10, .33]

Note: k = number of studies contributing to meta-analysis; N = total sample size; \bar{r} = mean observed correlation; SD_r = observed standard deviation of r ; SD_{res} = residual standard deviation of r ; $\bar{\rho}$ = mean true-score correlation; SD_{r_c} = observed standard deviation of corrected correlations (r_c); SD_{ρ} = residual standard deviation of ρ ; CI = confidence interval around $\bar{\rho}$; CR = credibility interval around $\bar{\rho}$. Correlations corrected individually.

Moderator Analyses

Each moderator was analyzed separately with a meta-regression, which is a method of meta-analysis that tests for a moderating or interaction effect by regressing the main effect sizes onto the moderator variable (Gonzalez-Mule & Aguinis, 2018). Table 2 reports the unstandardized coefficient estimate for each moderator when predicting each of the six VFI dimensions' effect sizes; this is repeated for each of the three outcome variables. As expected based on the main effect results, there were limited significant findings for the moderator analyses. First, geographic location was only significant in three out of 18 pairwise comparisons (six motivation dimensions with three outcomes). Following the methodology reported by Berry and colleagues (2013) in counting the number of significant pairwise comparisons out of the total tests run, the number of significant cases (3 out of 18; or 16.7%) is somewhat higher than the number of cases one would expect to find by chance alone (assuming an alpha level of 5%). In other words, location does seem to moderate the overall effect sizes of volunteer motivations. Specifically, samples drawn from Australia demonstrated weaker effect sizes of *career* onto satisfaction-commitment ($B = -.36, p = .002$), and samples drawn from North America demonstrated weaker effect sizes of both *career* and *protective* onto intention to continue ($B = -.26, p = .029$; $B = -.30, p = .019$). This makes sense when compared to single studies of the VFI discussed earlier; for example, in Greenslade and White's (2005) investigation of the VFI among a sample of older Australian adults, career did not predict self-reported volunteering.

Interestingly, gender was not a significant moderator in any case featuring intention to continue or frequency as outcome variables, but it was a significant moderator for the effect sizes of four out of the six motivation dimensions onto satisfaction-commitment. Specifically, samples that were comprised of a larger

proportion of males tended to have stronger effects of *career* ($B = .59, p = .001$), *enhancement* ($B = .38, p = .045$), *protective* ($B = .42, p = .025$), and *social* ($B = .41, p = .007$). On the other hand, age showed an opposite pattern; age was not a significant moderator for satisfaction-commitment or frequency, but it was significant in four of the six effect sizes of motivation dimensions onto intention to continue. Specifically, samples comprised of an older average age tended to have stronger effects of *enhancement* ($B = .01, p = .009$) but weaker effects of *social* ($B = -.01, p = .015$), *understanding* ($B = -.01, p = .005$), and *values* ($B = -.01, p = .001$). For the moderator variables of race-ethnicity, education attainment, and employment status, very few cases were significant. For example, race-ethnicity was only significant in one out of the 18 pairwise comparisons, such that samples comprised of a greater proportion of whites were likely to have weaker effects of *social* onto frequency of volunteering ($B = -3.53, p = .001$). Similarly, employment status was only significant in two out of 18 pairwise comparisons. Samples comprised of a greater portion of individuals with paid employment elsewhere were likely to have stronger effects of *understanding* onto satisfaction-commitment ($B = .76, p = .034$) and *social* onto intention to continue ($B = .50, p = .003$). Educational attainment was not significant in any of the 18 tests. The general lack of significant results for these moderator variables was surprising. Most prior studies using the VFI have suggested some variance in motivations depending on gender, age, race, and other demographic variables (Davila et al., 2009; Gronlund et al., 2011; Mesch et al., 2006; Taniguchi, 2006). While gender had a substantial effect in this meta-analysis, the other demographic variables had fewer or weaker effects. This would suggest that volunteer motives may not differ as widely as prior studies have suggested across various demographic variables.

Table 2. Moderator analyses.

Moderator	Career	Enhancement	Protective	Social	Understanding	Values
Outcome: Satisfaction-Commitment						
Location: Australia	-0.362**	-0.064	-0.184	-0.084	-0.001	-0.116

Location: Europe	-0.125	-0.072	-0.161	0.080	-0.052	-0.091
Location: MidEast	-0.206	-0.124	-0.113	-0.047	-0.095	-0.224
Location: NorthAm	-0.081	0.024	-0.105	0.016	0.040	0.023
Male	0.592**	0.379*	0.416*	0.410**	0.394	0.238
White	-0.530	-0.383	-0.413	-0.255	-0.718	-0.737
Age	-0.003	0.000	0.001	-0.003	0.002	0.002
Bachelors	0.001	-0.129	-0.015	-0.258	-0.247	-0.089
Employed	0.497	0.300	0.290	0.549	0.761*	0.256
Student	0.322**	0.166	-0.026	0.223	0.220	0.106
Outcome: Intention to Continue						
Location: Asia	0.264	0.209	-0.001	0.085	0.154	0.068
Location: Australia	-0.115	-0.280	-0.358	-0.313	-0.409	-0.400
Location: Europe	-0.234	-0.182	-0.308	-0.177	-0.268	-0.256
Location: MidEast	0.180	0.118	0.016	0.209	--- ^a	-0.054
Location: NorthAm	-0.261*	-0.166	-0.304*	-0.152	-0.260	-0.109
Male	0.204	0.152	0.245	0.316	0.236	0.222
White	-1.843	-3.094	-2.166	-0.462	-1.844	-1.058
Age	-0.009	-0.014**	-0.009	-0.009*	-0.014**	-0.013**
Bachelors	0.238	0.038	0.198	-0.083	0.029	-0.050
Employed	0.417	0.696	0.290	0.504**	1.144	0.530
Student	0.508**	0.526**	0.436*	0.396**	0.604**	0.364*
Outcome: Frequency						
Location: Asia	-0.307	0.154	0.045	0.137	0.027	0.053
Location: Europe	-0.227	-0.149	-0.099	-0.118	-0.066	-0.127
Location: NorthAm	-0.119	-0.067	-0.096	0.007	-0.005	0.028
Male	-0.023	0.057	0.038	0.349	0.100	0.122
White	-0.329	-0.513	-0.076	-3.526**	-0.402	-0.574
Age	0.002	0.002	0.000	0.009	0.000	0.003
Bachelors	0.081	-0.109	-0.150	0.041	0.003	-0.012

Employed	0.849	-0.476	-0.171	-0.665	-0.106	0.153
Student	0.727	0.563**	0.601	0.662**	0.609	0.537**

* $p < 0.05$, ** $p < 0.01$

^a Insufficient studies from the Middle East reported the correlation between *understanding* and *intention to continue*.

Note. Male = proportion of sample identifying as male; White = proportion of sample identifying as white; Age = average age of the sample; Bachelors = proportion of sample that has obtained a Bachelor's degree; Employed = proportion of sample employed full-time; Student = proportion of sample that are undergraduate students.

Finally, we found that student status was significant in a large number of cases (i.e., 10 out of 18, or 55.6%), much more than what would be expected by chance. Specifically, samples comprised of a greater proportion of college students were likely to have stronger effects of *career* onto satisfaction-commitment ($B = .32$, $p = .007$), stronger effects across the board of all motivation dimensions onto intention to continue (B ranging from .36 to .60), and stronger effects of *enhancement* and *social* and *values* onto frequency ($B = .56$, .66, and .54 respectively). In other words, student status appears to be a significant moderator that strengthens the effects of the *VFI* volunteer motivation dimensions onto desired outcomes such as satisfaction-commitment, intention to continue, and frequency of volunteering. This substantial effect is not surprising and concurs with prior research using the *VFI* to show differences in volunteer motives and behaviors between students (e.g., Beehr et al., 2010)

Publication Bias

We ran a cumulative sensitivity analysis to assess for publication bias. This produced results for each of the six overall effect sizes separately, repeated for each of the three outcome variables. The mean effect size at

each step is shown in a series of forest plots for each of the six overall effect size estimates. The analysis shows little evidence of publication bias in the estimates of *career*, *enhancement*, *social*, *understanding*, and *values* motivation effect sizes for the outcomes of satisfaction-commitment and intention to continue. In each of these, the estimated mean effect sizes with the first few studies (the most precise ones) are very similar to the final estimated mean effect size, which indicates little to no publication bias (Kepes et al., 2012; McDaniel, 2009). However, there is evidence of publication bias in the estimate of *protective* motivation effect sizes, especially with the outcome variable of intention to continue. In the *protective* effect size onto intention to continue, the estimated mean effect size based on the first few studies hovered around 0.45, but the final effect size was estimated to be 0.36. This suggests small to moderate levels of publication bias (Kepes et al., 2012). Moreover, the sensitivity analysis for frequency of volunteering as the outcome variable demonstrated potential bias in *career*, *protective*, and *social* dimensions, such that the first few estimates (the most precise ones) were larger than the final.

Figure 2a. *Forest Plots of Cumulative Sensitivity Analysis for Satisfaction-Commitment.*

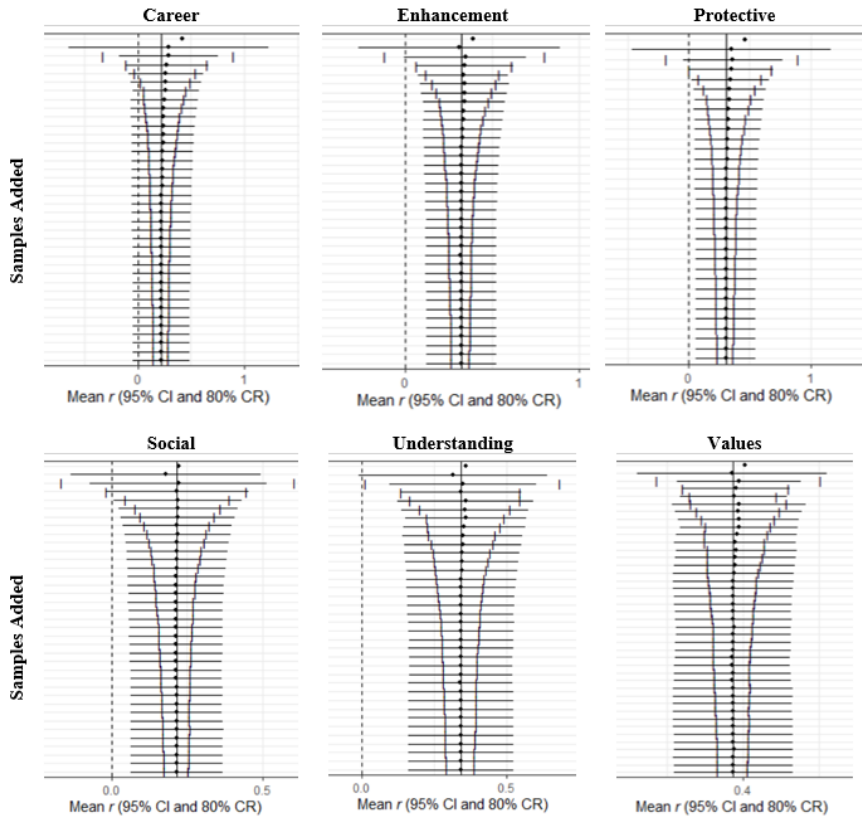


Figure 2b. *Forest Plots of Cumulative Sensitivity Analysis for Intention to Continue.*

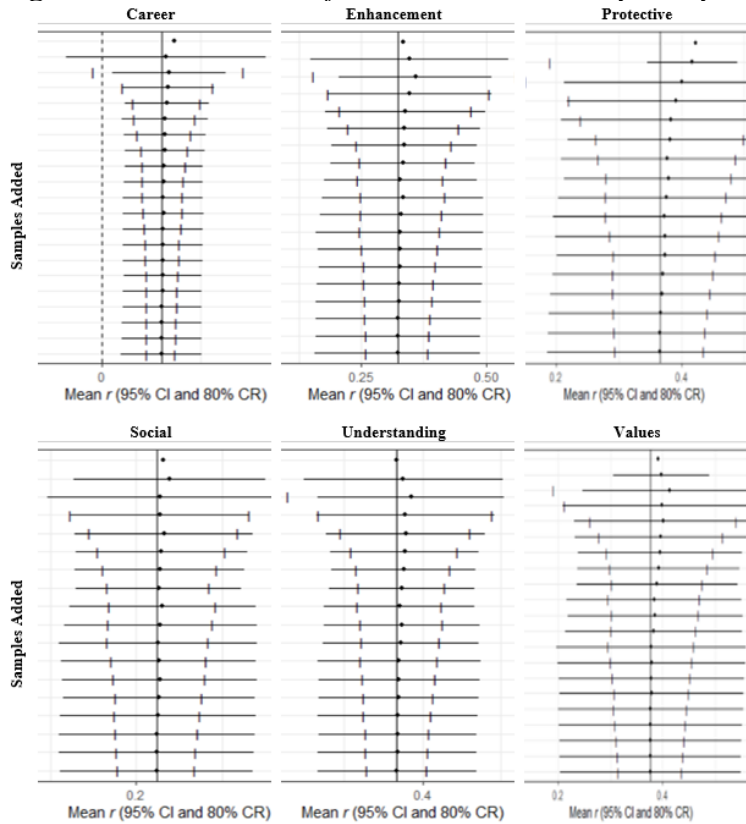
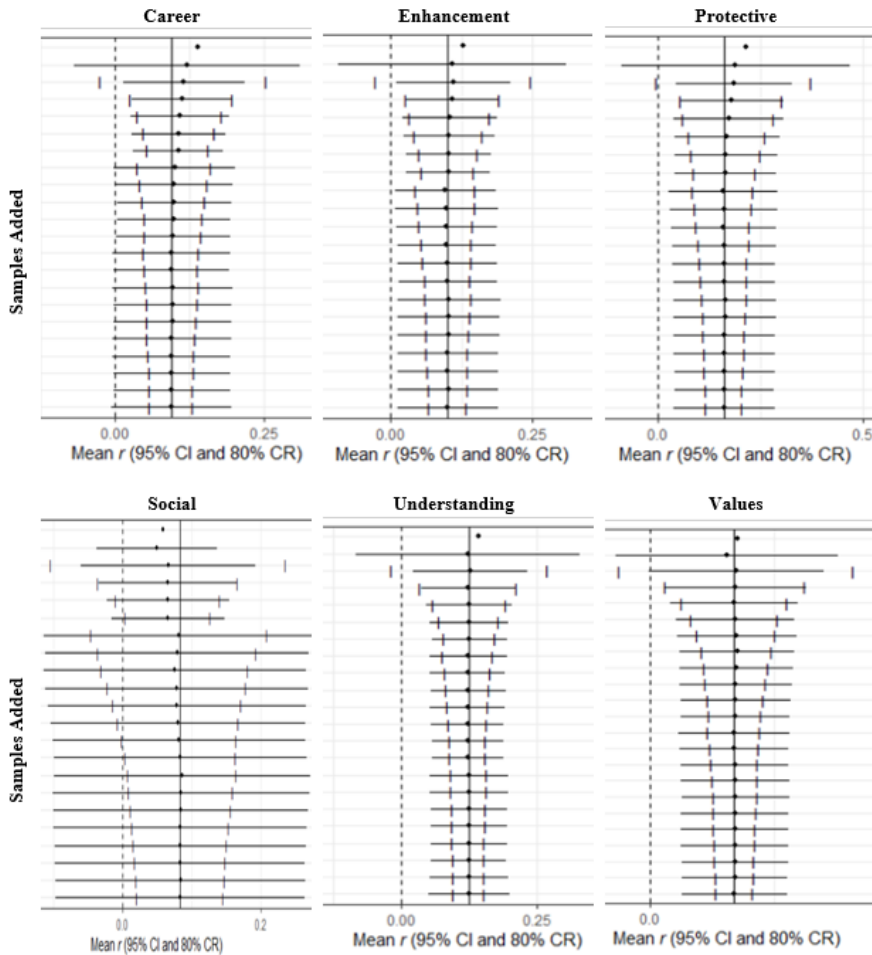


Figure 2c. Forest Plots of Cumulative Sensitivity Analysis for Frequency.



Post-Hoc: Relative Importance Analysis

As an additional post-hoc analysis, meta-relative-importance analysis was conducted using the code supplied by Tonidandel and LeBreton (2014) in *RWA-Web*. Relative importance analysis is often a useful tool for examining multiple predictors when they are highly correlated with one another (Tonidandel & LeBreton, 2011). It offers information regarding each predictor’s contribution to explaining variance in the outcome variable more accurately than a simple multiple regression. The VFI, used to predict volunteer outcomes, presents a situation where use of relative importance analysis is both methodologically possible and practically important. Examinations of the VFI factor structure have reported intercorrelations ranging from .12 (*career* with *values*) to .88 (*understanding* with *enhancement*) (Okun et al., 1998). Additionally, in its original conceptualization, the VFI argued for six equally relevant motives without a clear distinction between intrinsic (e.g., *values*) and extrinsic (e.g., *career* and *protective*). This has led to some criticism over the VFI that it

downplays the importance of the intrinsic (i.e., *values*) motivation when it comes to volunteerism (e.g., Cnaan & Goldberg-Glen, 1991; Okun et al., 1998; Wu et al., 2009).

To obtain the meta-correlation matrices inputted into the relative importance analysis, we followed the process of using meta-analytic structural equation modeling to fit pooled correlation matrices under a random effects model, using the *metaSEM* package in R (Cheung, 2014). The relative importance analysis revealed a similar pattern of findings as the main effect analyses. For satisfaction-commitment, *values* had the largest rescaled relative weight (34.42), followed by *understanding*, *enhancement*, and *protective* (18.76, 17.26, and 17.14 respectively), then *career* and *social* as smallest (6.83 and 5.60 respectively). For intention to continue, *values* and *protective* had the largest rescaled relative weights (22.68 and 29.18 respectively), followed by *career*, *enhancement*, and *understanding* (15.04, 14.16, and 13.53 respectively), and *social* last

(5.41). Due to lack of studies, we were unable to construct a pooled correlation matrix for the purposes of the relative importance analysis using frequency of volunteering as the outcome variable. Taken together with the main effect results, we concluded that *values* was

generally the strongest and most important motivator, followed closely by *understanding* (for satisfaction-commitment) and *protective* (for intention to continue).

Table 3. *Meta relative weight analyses.*

Dimension	Raw relative weight	Rescaled relative weight
Outcome: Satisfaction-Commitment		
career	0.012	6.831
enhancement	0.031	17.262
protective	0.031	17.137
social	0.010	5.595
understanding	0.033	18.755
values	0.061	34.420
Outcome: Intention to Continue		
career	0.028	15.039
enhancement	0.026	14.162
protective	0.054	29.182
social	0.010	5.410
understanding	0.025	13.527
values	0.042	22.680

Discussion

Our key findings were as follows. First, all six VFI predictors were significant in predicting each of the three outcome variables, with the average effect size after correcting for attenuation ranging from 0.12 to 0.44 (see Table 1). Second, Table 1 suggests that the largest effect sizes are consistently with the *values* predictor (0.42, 0.44, and 0.22 when predicting satisfaction-commitment, intention to continue, and volunteering frequency respectively). This was also supported by the relative importance analysis (Table 3), which found that *values* held the strongest relative importance when predicting satisfaction-commitment and the second strongest when predicting intention to continue. Finally, Table 2 shows that there were not very many significant results in the moderator analyses. Significant results were primarily found with gender as a moderator of VFI predicting satisfaction-commitment, age and

student status as a moderator of VFI predicting intention to continue, and student status as a moderator of VFI predicting volunteering frequency. The following paragraphs describe in more detail each of our findings and their implications for both research and practice.

First, all six effect sizes were significantly larger than zero. By modern standards (Bosco et al., 2015; Paterson et al., 2016), effects were medium-large in predicting satisfaction-commitment and intention to continue ($\bar{\rho}$ ranging .26 to .44) and small-medium in predicting frequency ($\bar{\rho}$ ranging .12 to .22). While extant research demonstrated a wide range of findings, leading practitioners to question the VFI’s applied uses, our synthesis empirically demonstrates that volunteer motivations *as measured by the VFI* have considerable effects on desirable outcomes such as satisfaction, commitment, intention to continue, and frequency of volunteering. These findings assuage extant concerns over the heterogeneity of individual studies when using

the VFI and the aforementioned concerns surrounding the atheoretical approach of the VFI that might have precluded its usefulness. Volunteer managers should consider how they can strategically attract and retain volunteers by measuring and then enacting policies or programs that target one or more of these six dimensions of volunteer motivations. Volunteer managers can employ the VFI when recruiting volunteers to identify which policies or programs would be most effective for their population of volunteers; for example, if managers find that their volunteers score highly on “Career”, they can focus equipping volunteers with career-related skills that otherwise would have few opportunities to be practiced. Especially given the hyper-competitive job market for most career fields that require high skill development (e.g., software engineering, data analytics), organizations could intentionally offer volunteers opportunities to develop transferable skills for their career as a way of attracting and retaining satisfied and committed volunteers.

Secondly, our meta-analysis revealed that the *values* motive was the strongest predictor of all outcome variables, especially satisfaction-commitment. Prior theories have challenged the six-dimensional structure of the VFI, suggesting that volunteerism is best explained by a higher-order *values* factor (Okun et al., 1998; Cnaan & Goldberg-Glen, 1991). Our study provides indirect empirical support for this theory that, while other volunteer motivations are important, volunteers who are motivated by *values* (i.e., desire to express altruism in serving) are most satisfied and committed to their organization. Thus, the findings suggest that volunteer managers should focus on recruiting individuals who have an intrinsic, altruistic motive to serve as opposed to volunteering solely for external motives. This finding offers two interpretations that can drive future research. First, according to the Deci and Ryan’s (1985) self-determination theory (SDT), the most basic distinction in motivation is between intrinsic and extrinsic motives. Our finding suggests that SDT can be used to explain volunteerism because the *values* motive, which is the only intrinsic factor of the six VFI factors, was the strongest predictor of volunteer outcomes. This directly challenges the existing conceptual framework behind the VFI (theory of planned behavior). Alternatively, if one were to stick to the theory of planned behavior, our finding suggests that *attitudes* (as opposed to subjective norms or perceived behavioral control) are most important in explaining volunteerism. In other words, volunteers are satisfied, committed, intend to continue volunteering, and frequently volunteer primarily because of a positive attitude towards the value

of volunteering, as opposed to the rewards they might gain (whether career or social benefits) through volunteering.

Interestingly, when predicting intention to continue, the *protective* motive had a larger relative weight than the *values* motive. This suggests that regardless of satisfaction and commitment, some volunteers may continue serving to due to external pressures to remain with the organization, such as those exerted by fellow volunteers (McGinley et al., 2010; Haski-Leventhal & McLeigh, 2010). The fact that the *protective* motive is an important psychological driver indicates that some may continue volunteering not for personal fulfillment but because of external influences, which supports the application of the theory of planned behavior to volunteerism. Meaning, while volunteering primarily seems to be driven by *attitude* (i.e., values), there are times when it may be driven by subjective norms (i.e., protective). Both are possible pathways to motivating the same behavior, in this case, staying with the organization. This could lead to harmful effects of burnout if organizations are not intentional about giving volunteers the opportunity to leave if they so desire (Jansen, 2010). Thus, we recommend that volunteer managers regularly check in with volunteers to ensure that they are not experiencing burnout due to feeling an external pressure to remain with the organization, which could lead to downstream negative effects for both the volunteer and the organization.

Finally, the moderator analyses uncovered interesting findings with important implications. Most of the motives (except for *understanding* and *values*) showed stronger effects onto satisfaction-commitment among males than females. Prior evidence suggests that men tend to be more strongly motivated by extrinsic factors (i.e., *careers*, *protective*; Vallerand & Bissonnette, 1992), which could be reflected in these results. Interestingly and contrary to prior theories, gender was not a significant moderator for the other two outcome variables, suggesting that the gender differences in motivations ultimately do not lead to behavioral differences. On the other hand, age was a significant moderator for intention to continue; younger individuals’ decision to keep volunteering was more influenced by *social*, *understanding*, and *values* than older individuals. Research on volunteerism in retirement suggests that volunteering fills an absence of “other productive roles” (Greenfield & Marks, 2004). In other words, older adults may pursue volunteering to fulfill a sense of personal purpose, as opposed to the need for social community or personal growth. Finally, student status was

a significant moderator, suggesting a new idea that college student volunteers have different motives than other adults, especially when predicting intention to continue. This finding makes sense as college students are sometimes required to volunteer as part of their degree program (Beehr et al., 2010; Henney et al., 2017), though we note that these findings were based on US samples. Our results suggest that the six VFI motivation dimensions are *more important* to college student volunteer retention, because many college students are likely to stop volunteering after their program ends. These moderator analyses can help volunteer managers strategically design volunteer programs that meet the particular needs and motives of their target volunteer. For example, managers can design volunteer programs aimed at recruiting youth (especially relevant given recent declines in youth volunteering; Sparks, 2018) by focusing on the *social* benefits of volunteering communities. Moreover, the non-significant findings were of interest as well; geographic location in general was not a significant moderator which suggests that there is some consistency in how the VFI predicts volunteering outcomes across different geographic locations. This finding, with additional research, could support the cross-cultural applicability of the VFI.

Limitations & Future Research Directions

As with most meta-analyses, our study is limited by the lack of available data on moderator variables, thus narrowing the power of our moderator analyses to detect effects. Additionally, even though geographic location generally had sufficient sample sizes, there were inconsistencies in the methods that original studies reported the location of the sample (e.g., ranging from a specific city to the entire United States). Thus, future studies should continue looking into differences in volunteer motivations between demographic characteristics, especially geographic location. Prior evidence that volunteering *behavior* is extremely different across cultures (Randle & Dolnicar, 2009; Aydinli et al., 2013) points to the possibility that differences in the psychological drivers and motives are causing these behavioral differences. There has been growing interest to expand beyond the white and Western samples on which most research is conducted (Jones, 2010; Muthukrishna et al., 2020), and the question of how volunteer motives differ across cultures should be explored in future research studies.

Table 4. *Number of Studies for Each Moderator Variable (Total k = 61).*

Moderator	IV: VFI Dimension	DV: Satis-Commit	DV: Intention to Continue	DV: Frequency
Geographic Location	career	31	16	18
	enhancement	30	14	17
	protective	26	12	17
	social	30	14	18
	understanding	30	14	18
	values	34	16	19
Gender	career	35	20	17
	enhancement	34	18	16
	protective	30	16	16
	social	34	17	17
	understanding	33	17	17
	values	38	20	18

Race-Ethnicity	career	8	6	6
	enhancement	8	6	5
	protective	7	5	5
	social	7	5	6
	understanding	8	6	6
	values	8	6	6
Age	career	21	11	12
	enhancement	20	9	12
	protective	18	8	12
	social	21	9	12
	understanding	21	10	12
	values	21	10	12
Obtained Bachelor's	career	18	10	14
	enhancement	19	9	13
	protective	16	8	13
	social	17	7	14
	understanding	17	8	14
	values	19	9	14
Employment Status	career	14	10	5
	enhancement	12	9	5
	protective	10	7	5
	social	12	8	5
	understanding	11	8	5
	values	15	10	6
Student Status	career	8	8	3
	enhancement	9	8	3
	protective	7	7	3
	social	9	8	3
	understanding	8	7	3
	values	9	8	3

Additionally, our study focused on the six dimensions of the VFI as the predictor variables. Although the VFI is the most widely used measure of volunteer motivation, there are other available measures (e.g., Motivation to Volunteer scale; Monga, 2006). A quick search of the first 40 results for empirical studies on volunteer motivation revealed 75 different but overlapping theorized dimensions. Future studies should incorporate additional measures of volunteer motivation, with a goal of “cleaning up” the cluttered space caused by the proliferation of overlapping and perhaps redundant constructs (see Shaffer et al., 2016). In doing so, future scholars can clarify for practitioners whether there are additional important motivators of volunteering outside of the six VFI dimensions, and if so, the degree to which they offer incremental validity in predicting outcomes.

Finally, as with any meta-analysis, our findings are only as good as the data that were inputted into the analysis. This is particularly important with regard to the sampling method and research design of the prior studies that we meta-analyzed. Most prior studies were cross-sectional, which limits the ability of findings to show a causal relationship (Stone-Romero & Rosopa, 2008). Meaning, just because *values* significantly and strongly predicted volunteer satisfaction and commitment, it does not prove that being motivated by values *causes* a volunteer to be satisfied and committed. Ideally, future scholars can collect longitudinal or experimental data to add further evidence and potentially demonstrate a causal relationship.

Conclusion

Both volunteer managers and researchers are very interested in understanding why people volunteer their valuable time and resources without being formally paid for their work, and this meta-analysis contributes a set of important main findings and implications drawn from 57 previously published studies. Specifically, our meta-analysis is the first to (a) assess the true effect sizes of VFI dimensions in predicting desirable volunteer outcomes, (b) assess the relative importance of each dimension, and (c) identify demographic moderators of the effect sizes of these dimensions. First, the VFI can and should be used by volunteer managers to survey their volunteer population and better understand their motives, with the goal of designing volunteer programs and work that meets said motives and leads to better satisfaction and commitment and reduced turnover. Second, of all the motives, *values* was the strongest driver. It is not uncommon for organizations to assume that their volunteers are aware of or are aligned with the

organization’s mission and values. Most importantly, volunteer managers must effectively communicate the organization’s mission and values and encourage volunteers to participate because of the impact they are making in supporting the organization. Finally, there were only a few significant moderators, many of which had weak effects. This means that volunteer *motives* do not appear to differ substantially between demographic groups in terms of age, race-ethnicity, educational attainment, employment status, and geographic location. While volunteering behavior may differ, the *motives* that drive such behavior appear to be similar. However, gender and student status were particularly strong moderators. Meaning, volunteer managers should pay attention to how volunteers of different gender identities and student volunteers may be motivated by different areas, and they should adjust their volunteer program accordingly.

We believe that our findings will be of substantial use to the hundreds of thousands of organizations relying on volunteers to make a difference in the world. Meta-analyses in particular are useful in that they can empirically “summarize” a large number of individual studies, making academic research more readily accessible for busy working professionals who do not have time to read hundreds of individual studies. We hope that this meta-analysis, which is the first of its kind, will provide future volunteer managers with accessible and valuable insight into volunteer motives that can directly translate into improved practices and better organizational outcomes.

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For a full list of articles included for their data in the meta-analysis, please see the Online Supplemental Appendix.

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Appendix A Coding Sheet

Article #

Title

Author

Year

Type

Study # Input 1 or 2 if the article has multiple studies/samples; leave blank otherwise

Sample Information

Sample size

Sample desc Briefly describe the sample (e.g., "volunteers at large annual sporting event")

Sample location Describe the geographic location of the sample, if possible (e.g., "Minnesota", "South Korea")

Methods information leave blank if not provided or if the variable wasn't included

	Citation for Measure (brief in-text form)	Description (e.g., "Likert", # of hours, etc.)	# of items
Satisfaction			
Commitment (Affective)			
Intention to Continue			
Intention to Quit			
Frequency	n/a		n/a
Engagement			
Burnout			

Demographics Information fill in as many as possible

% Male	
% White	
Mean Age	
SD of Age	
% Married	
% College Degree	
% Graduate Degree	
Mean Tenure (in months)	
SD of Tenure (in months)	
% Employed	
% FT Employed	
% Current Students	
Other	

describe any other interesting demographic info reported in the study

Correlation Matrix mean, SD, and alpha can be left blank if not reported

	Mean	SD	Alpha	Career	Enhance	Protect	Social	Understand	Values
VFI-Career									
VFI-Enhancement									
VFI-Protective									
VFI-Social									
VFI-Understanding									
VFI-Values									
Satisfaction									
Commitment (Affective)									
Intention to Continue									
Intention to Quit									
Frequency									
Engagement									
Burnout									
Satisfaction T2									
Commitment T2									
Intention to Continue T2									
Intention to Quit T2									
Frequency T2									
Engagement T2									
Burnout T2									

Other Comments/Notes If study reports both satisfaction and commitment, include correlation of the two here. ALSO if study reports both satis, commit, and intention continue/quit, report all correlations of outcomes here as well:

Coder Name

SAVE DATA

CLEAR DATA

Online Supplemental Appendix:
Articles Included in the Meta-Analysis

These articles were included for their data in the meta-analysis. For the list of references cited in the body of the article, please see the main article publication.

Citation	Sample Size	Outcomes Studied
Aboramadan, M., Hassi, A., Alharazin, H. J., Dahleez, K. A., & Albashiti, B. (2019). Volunteering drivers and continuation will: the role of engagement. <i>Journal of Management Development</i> , 38(5), 405-420. https://doi.org/10.1108/JMD-02-2019-0057	372	intention to continue
Alkadi, R., Jiang, G., & Aldamer, S. (2018). A regression analysis of motivations for Saudi University male student volunteers. <i>Journal of Social Service Research</i> , 45(5), 701-714. https://doi.org/10.1080/01488376.2018.1511501	223	intention to continue
Allison, L. D., Okun, M. A., & Dutridge, K. S. (2002). Assessing volunteer motives: a comparison of an open-ended probe and Likert rating scales. <i>Journal of Community & Applied Social Psychology</i> , 12(4), 243-255. https://doi.org/10.1002/casp.677	129	frequency
Bang, H. (2007). <i>Examining organizational commitment of volunteers in non-profit sport and recreation organizations</i> (Publication No. 3302340) [Doctoral dissertation, University of Minnesota]. ProQuest Dissertations Publishing.	258	commitment
Bang, H., Ross, S., & Reio, T. G. (2013). From motivation to organizational commitment of volunteers in non-profit sport organizations. <i>Journal of Management Development</i> , 32(1), 96-112. https://doi.org/10.1108/02621711311287044	214	satisfaction, commitment
Bock, D. E., Eastman, J. K., & Eastman, K. L. (2018). Encouraging consumer charitable behavior: The impact of charitable motivations, gratitude, and materialism. <i>Journal of Business Ethics</i> , 150(4), 1213-1228. https://doi.org/10.1007/s10551-016-3203-x	231	intention to continue
Bono, J. E., Shen, W., & Snyder, M. (2010). Fostering integrative community leadership. <i>The Leadership Quarterly</i> , 21(2), 324-335. https://doi.org/10.1016/j.leaqua.2010.01.010	1443	frequency
Breitsohl, H., & Ehrig, N. (2017). Commitment through employee volunteering: Accounting for the motives of inter-organisational volunteers. <i>Applied Psychology</i> , 66(2), 260-289. https://doi.org/10.1111/apps.12092	138	satisfaction, commitment
Brockner, J., Senior, D., & Welch, W. (2014). Corporate volunteerism, the experience of self-integrity, and organizational commitment: Evidence from the field. <i>Social Justice Research</i> , 27(1), 1-23. https://doi.org/10.1007/s11211-014-0204-8	512 and 414	commitment, frequency
Busch, J. S. (2016). <i>Collective orientation on a volunteer public advisory board team: A multiple regression analysis of motivation factors</i> (Publication No. 10127271) [Doctoral dissertation, Capella University]. ProQuest Dissertations Publishing.	122	commitment
Caldarella, P., Gomm, R. J., Shatzer, R. H., & Wall, D. G. (2010). School-based mentoring: A study of volunteer motivations and benefits. <i>International Electronic Journal of Elementary Education</i> , 2(2), 199-216. Retrieved from https://eric.ed.gov/?id=EJ1052013	31	satisfaction, intention to continue, frequency
Cornelis, I., Van Hiel, A., & De Cremer, D. (2013). Volunteer work in youth organizations: predicting distinct aspects of volunteering behavior from self- and other-oriented motives. <i>Journal of Applied Social Psychology</i> , 43(2), 456-466. https://doi.org/10.1111/j.1559-1816.2013.01029.x	153	satisfaction

Cox, J., Oh, E. Y., Simmons, B., Graham, G., Greenhill, A., Lintott, C., Masters, K., & Woodcock, J. (2018). Doing good online: The changing relationships between motivations, activity, and retention among online volunteers. <i>Nonprofit and Voluntary Sector Quarterly</i> , 47(5), 1031-1056. https://doi.org/10.1177/0899764018783066	1915	frequency
Dwyer, P. C., Bono, J. E., Snyder, M., Nov, O., & Berson, Y. (2013). Sources of volunteer motivation: Transformational leadership and personal motives influence volunteer outcomes. <i>Nonprofit Management and Leadership</i> , 24(2), 181-205. https://doi.org/10.1002/nml.21084	302	satisfaction
Erasmus, B., & Morey, P. J. (2016). Faith-based volunteer motivation: Exploring the applicability of the volunteer functions inventory to the motivations and satisfaction levels of volunteers in an Australian faith-based organization. <i>Voluntas: International Journal of Voluntary and Nonprofit Organizations</i> , 27(3), 1343-1360. https://doi.org/10.1007/s11266-016-9717-0	111	satisfaction
Erdurmazlı, E. (2019). On the servant leadership behaviors perceived in voluntary settings: The influences on volunteers' motivation and organizational commitment. <i>SAGE Open</i> , 9(3), 1-17. https://doi.org/10.1177/2158244019876265	385	commitment
Favreau, D. M. (2005). <i>The relationship between motivation to volunteer and intention to continue volunteering in five Rotary clubs in Fairfield County, Connecticut</i> (Publication No. 3183529) [Doctoral dissertation, Walden University]. ProQuest Dissertations Publishing.	108	intention to continue
Felver, N., Pierce, D. A., Judge, L., & Johnson, J. (2014). Influence of volunteer motivations on satisfaction in undergraduate co-curricular clubs. <i>Research Quarterly for Exercise and Sport</i> , 85(S1), A111. Retrieved from https://www.proquest.com/openview/3017c43342c69113d197b8c038a26be2	103	satisfaction
Ferreira, C. P. S. (2013). <i>Motivações do universitário voluntário: Relação com o bem-estar psicologico, qualidade de vida e personalidade</i> [Unpublished doctoral dissertation]. Universidade de Aveiro.	33	satisfaction
Finkelstein, M. A. (2008a). Volunteer satisfaction and volunteer action: A functional approach. <i>Social Behavior and Personality: An International Journal</i> , 36(1), 9-18. https://doi.org/10.2224/sbp.2008.36.1.9	194	satisfaction, frequency
Finkelstein, M. A. (2008b). Predictors of volunteer time: The changing contributions of motive fulfillment and role identity. <i>Social Behavior and Personality: An International Journal</i> , 36(10), 1353-1363. https://doi.org/10.2224/sbp.2008.36.10.1353	74 and 55	frequency
Finkelstein, M. A. (2010). Individualism/collectivism: Implications for the volunteer process. <i>Social Behavior and Personality: An International Journal</i> , 38(4), 445-452. https://doi.org/10.2224/sbp.2010.38.4.445	194	frequency
Finkelstein, M. A., & Brannick, M. T. (2007). Applying theories of institutional helping to informal volunteering: Motives, role identity, and prosocial personality. <i>Social Behavior and Personality: An International Journal</i> , 35(1), 101-114. https://doi.org/10.2224/sbp.2007.35.1.101	139	frequency
Finkelstein, M. A., Penner, L. A., & Brannick, M. T. (2005). Motive, role identity, and prosocial personality as predictors of volunteer activity. <i>Social Behavior and Personality: An International Journal</i> , 33(4), 403-418. https://doi.org/10.2224/sbp.2005.33.4.403	302	satisfaction, frequency
Gazley, B. (2013). Predicting a volunteer's future intentions in professional associations: A test of the Penner Model. <i>Nonprofit and Voluntary Sector Quarterly</i> , 42(6), 1245-1267. https://doi.org/10.1177/0899764012453207	12497	satisfaction, intention to continue, frequency
Goldman, S. E., Burke, M. M., Mason, C. Q., & Hodapp, R. M. (2017). Correlates of sustained volunteering: Advocacy for students with disabilities. <i>Exceptionality</i> , 25(1), 40-53. https://doi.org/10.1080/09362835.2015.1064420	83	satisfaction, intention to continue, frequency
Güntert, S. T., Neufeind, M., & Wehner, T. (2015). Motives for event volunteering: Extending the functional approach. <i>Nonprofit and Voluntary Sector Quarterly</i> , 44(4), 686-707. https://doi.org/10.1177/0899764014527797	275	satisfaction, intention to continue

Güntert, S. T., Strubel, I. T., Kals, E., & Wehner, T. (2016). The quality of volunteers' motives: Integrating the functional approach and self-determination theory. <i>The Journal of Social Psychology, 156</i> (3), 310-327. https://doi.org/10.1080/00224545.2015.1135864	824 and 323	satisfaction
Ho, Y. W., You, J., & Fung, H. H. (2012). The moderating role of age in the relationship between volunteering motives and well-being. <i>European Journal of Ageing, 9</i> (4), 319-327. https://doi.org/10.1007/s10433-012-0245-5	174	frequency
Hsieh, C. L. (2000). <i>The organizational commitment of Ohio State adult 4-H volunteers</i> (Publication No. 9982584) [Doctoral dissertation, Ohio State University]. ProQuest Dissertations Publishing.	171	satisfaction, frequency
Jiraneck, P., Kals, E., Humm, J. S., Strubel, I. T., & Wehner, T. (2013). Volunteering as a means to an equal end? The impact of a social justice function on intention to volunteer. <i>The Journal of Social Psychology, 153</i> (5), 520-541. https://doi.org/10.1080/00224545.2013.768594	513	intention to continue
Keyser, B. M. (2011). <i>After-school program mentors' satisfaction in relation to program quality</i> [Unpublished doctoral dissertation]. University of Alabama.	144	satisfaction
Kramarek, M. (2016). <i>Prison ministry workers in Indiana</i> (Publication No. 10009745) [Doctoral dissertation, Indiana University]. ProQuest Dissertations Publishing.	110	satisfaction
Lin, T. (2018). <i>An integrated model of volunteers' motivations, interpersonal exchange, and behavioral intentions: A case of event volunteers</i> (Publication No. 10813113) [Doctoral dissertation, Oklahoma State University]. ProQuest Dissertations Publishing.	736	satisfaction, commitment, intention to continue
Lo Presti, A. (2013). The interactive effects of job resources and motivations to volunteer among a sample of Italian volunteers. <i>Voluntas: International Journal of Voluntary and Nonprofit Organizations, 24</i> (4), 969-985. https://doi.org/10.1007/s11266-012-9288-7	1445	satisfaction, commitment, intention to continue
Maki, A., Dwyer, P. C., & Snyder, M. (2015). Understanding AmeriCorps service: Perspectives from psychological theory and research on volunteerism. <i>Analyses of Social Issues and Public Policy, 15</i> (1), 253-281. https://doi.org/10.1111/asap.12079	84, 46, and 54	satisfaction, intention to continue
Mayer, B. W., Fraccastoro, K. A., & McNary, L. D. (2007). The relationship among organizational-based self-esteem and various factors motivating volunteers. <i>Nonprofit and Voluntary Sector Quarterly, 36</i> (2), 327-340. https://doi.org/10.1177/0899764006296053	93	frequency
McCormick, L., & Donohue, R. (2019). Antecedents of affective and normative commitment of organisational volunteers. <i>The International Journal of Human Resource Management, 30</i> (18), 2581-2604. https://doi.org/10.1080/09585192.2016.1166388	921	commitment
Meneghini, A. M., Mikulincer, M., & Shaver, P. R. (2018). The contribution of caregiving orientations to volunteering-related motives, costs, and benefits. <i>Personal Relationships, 25</i> (4), 517-537. https://doi.org/10.1111/pere.12258	115	satisfaction, frequency
Newton, C., Becker, K., & Bell, S. (2014). Learning and development opportunities as a tool for the retention of volunteers: A motivational perspective. <i>Human Resource Management Journal, 24</i> (4), 514-530. https://doi.org/10.1111/1748-8583.12040	628	commitment, intention to continue
Obenoskey, K. (2016). <i>Trait emotional intelligence, motivation, engagement, and intended retention of court-appointed special advocate volunteers</i> (Publication No. 10153364) [Doctoral dissertation, Walden University]. ProQuest Dissertations Publishing.	155	intention to continue
O, J. H. (2012). <i>Understanding and assessing functional motivations to episodic volunteers in arts organizations</i> (Publication No. 3597629) [Doctoral dissertation, Florida State University]. ProQuest Dissertations Publishing.	137	satisfaction, intention to continue
Pozzi, M., Gozzoli, C., Marzana, D., & Aresi, G. (2016). Determinants of blood donation: A study on organizational satisfaction. <i>Rivista Internazionale</i>	2464	satisfaction

<i>di Scienze Sociali</i> , 124(1), 49-60. Retrieved from https://www.jstor.org/stable/26151548		
Pozzi, M., Meneghini, A. M., & Marta, E. (2019). Does volunteering at events motivate repeat engagement in voluntary service? The case of young adult volunteers at EXPO Milan 2015. <i>Testing, Psychometrics, and Methodology in Applied Psychology</i> , 26(4), 541-560. https://doi.org/10.4473/TPM26.4.4	514	satisfaction
Ramey, H. L., Lawford, H. L., & Rose-Krasnor, L. (2016). Motivations for activity participation as predictors of emerging adults' psychological engagement in leisure activities. <i>Leisure Sciences</i> , 38(4), 338-356. https://doi.org/10.1080/01490400.2015.1095661	183	frequency
Salas, G. R. (2008). <i>Volunteer functions, satisfaction, commitment, and intention to leave government volunteering</i> (Publication No. 3338094) [Doctoral dissertation, Lynn University]. ProQuest Dissertations Publishing.	229	satisfaction, commitment, intention to continue
Shantz, A., Saksida, T., & Alfes, K. (2014). Dedicating time to volunteering: Values, engagement, and commitment to beneficiaries. <i>Applied Psychology</i> , 63(4), 671-697. https://doi.org/10.1111/apps.12010	534	commitment, frequency
Sheldon, K. M., Wineland, A., Venhoeven, L., & Osin, E. (2016). Understanding the motivation of environmental activists: A comparison of self-determination theory and functional motives theory. <i>Ecopsychology</i> , 8(4), 228-238. https://doi.org/10.1089/eco.2016.0017	83 and 108	commitment
Spicer, R. H. (2012). <i>Motivating volunteers and increasing satisfaction</i> (Publication No. 1517794) [Master's thesis, California State University Long Beach]. ProQuest Dissertations Publishing.	116	satisfaction, intention to continue
Stukas, A. A., Hoyer, R., Nicholson, M., Brown, K. M., & Aisbett, L. (2016). Motivations to volunteer and their associations with volunteers' well-being. <i>Nonprofit and Voluntary Sector Quarterly</i> , 45(1), 112-132. https://doi.org/10.1177/0899764014561122	4085	satisfaction
Tiraeyari, N., & Krauss, S. E. (2018). Predicting youth participation in urban agriculture in Malaysia: insights from the theory of planned behavior and the functional approach to volunteer motivation. <i>Agriculture and Human Values</i> , 35(3), 637-650. https://doi.org/10.1007/s10460-018-9854-8	890	intention to continue
Trautvein, N. E. (2011). <i>Volunteerism at urban park and recreation agencies: Examining the role of volunteers' socio-demographic characteristics, motivations, organizational identity, and satisfaction on volunteer participation outcomes</i> (Publication No. 3483745) [Doctoral dissertation, Pennsylvania State University]. ProQuest Dissertations Publishing.	342	satisfaction, frequency
Van Vianen, A. E., Nijstad, B. A., & Voskuil, O. F. (2008). A person-environment fit approach to volunteerism: Volunteer personality fit and culture fit as predictors of affective outcomes. <i>Basic and Applied Social Psychology</i> , 30(2), 153-166. https://doi.org/10.1080/01973530802209194	158	satisfaction, commitment, intention to continue
Vecina, M. L., & Chacón, F. (2017). Dropout predictors for volunteers in non-profit organizations: A 7-year survival analysis. <i>Revista Mexicana de Psicología</i> , 34(1), 13-23. Retrieved from https://www.redalyc.org/articulo.oa?id=243056045002	700	satisfaction, commitment, frequency
Wells, P. M. (2005). <i>Volunteer motivation, satisfaction, and continuance: The role of training</i> (Publication No. 1432461) [Master's thesis, San Jose State University]. ProQuest Dissertations Publishing.	84	satisfaction, intention to continue
Zievinger, D., & Swint, F. (2018). Retention of festival volunteers: Management practices and volunteer motivation. <i>Research in Hospitality Management</i> , 8(2), 107-114. https://doi.org/10.1080/22243534.2018.1553374	103	intention to continue
Zollo, L., Faldetta, G., Pellegrini, M. M., & Ciappei, C. (2017). Reciprocity and gift-giving logic in NPOs. <i>Journal of Managerial Psychology</i> , 32(7), 513-526. https://doi.org/10.1108/JMP-04-2017-0140	379	intention to continue