
International Service and the Perceived Impacts on Volunteers

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Abstract

Although international volunteer service is growing in prevalence worldwide, there is little rigorous research about its impacts. This quasi-experimental study assesses the perceived impacts of international service on international volunteers. We focus on four internationally oriented outcome categories: international awareness, intercultural relations, international social capital, and international career intentions. International service provides exposure and immersion to develop these perspectives, relationships, and intentions. Using generalized linear mixed regression modeling, international volunteers ($n = 145$) are statistically more likely to report increases between the baseline (1 month before service) and postservice time periods (1 week to 1 month after service) in all outcomes except intercultural relations, as compared to a matched comparison group ($n = 145$). Age, race, occupational experience, and previous international experience are also associated with various outcomes. Implications include continued cultural growth, potential mutual impacts of international social capital, and future research on the volunteers and host communities.

Keywords

volunteer(ing-ism), volunteers, international, outcomes, quasi-experimental

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Introduction

International volunteer service is an organized period of engagement and contribution to society by individuals who volunteer across an international border (Sherraden, Lough, & McBride, 2008). There is growing interest in the potential of international service to foster international understanding between peoples and nations and to promote global citizenship and intercultural cooperation (Lewis, 2005; Rieffel & Zalud, 2006). Research suggests that international service develops mindsets, skills, networks, and behaviors that prepare volunteers for living and working in a knowledge-based global economy (Brook, Missingham, Hocking, & Fifer, 2007; Thomas, 2001). Many believe that even short-term experiences abroad can begin to prepare participants for longer term engagement and future international service (Allum, 2007; Dumélie, Kunze, Pankhurst, Potter, & Van Brunaene, 2006).

International service may be growing in prevalence worldwide (Davis Smith, Ellis, & Brewis, 2005; Powell & Bratović, 2006; Randel, German, Cordiero, & Baker, 2005). In the United States, for example, more than one million Americans reported volunteering abroad in 2008, an increase of 145,000 volunteers since 2004 (Lough, 2010). Recent legislation suggests that this upward trend may continue. The 2009 Edward M. Kennedy Serve America Act increased stipend support for international service. In addition, legislation is proposed as part of a larger "ServiceWorld" initiative, which aims to dramatically increase the scale and reach of international service (ServiceWorld, 2010). Despite the growth and potential of international service, its impacts are not well understood (Carson, 1999; Machin, 2008; Powell & Bratović, 2007).

International service is a form of civic service (McBride, Sherraden, Benítez, & Johnson, 2004). Civic service has a programmatic basis, intensive but time-limited volunteer roles, and a dual focus on affecting the volunteers as well as host organizations and beneficiaries (McBride & Sherraden, 2007). Civic service can be distinguished from other forms of volunteer service, such as mutual aid (e.g., neighbors helping neighbors) and organizational volunteering (e.g., serving on a nonprofit board). Civic service programs may be implemented under the auspices of governments, corporations, or nonprofit organizations, and may include complex organizational partnerships (McBride, Benitez, & Danso, 2003). Since the advent of voluntary action research, research on civic service has lagged behind (Hodgkinson, 2004). Over the last decade, research on national service has come of age through policy advances and rigorous research (Corporation for National and Community Service [CNCS], 2008a; Etzioni, 2007); the same is hoped for international service. International service stakeholders in policy and practice arenas want to know if, how, and for whom intended outcomes of international service are achieved (European Commission, 2004; Hills & Mahmud, 2007; Machin, 2008; Powell & Bratović, 2006).

Although there is a growing body of descriptive evidence about the various models and intended outcomes of international service (Sherraden et al., 2008; Sherraden, Stringham, Sow, & McBride, 2006), the overwhelming majority of research is based on case and cross-sectional studies, which do not permit conclusions about the impacts

of international service (Powell & Bratović, 2006). The results of the quasi-experimental study presented here are among the first known impact analyses on international service. This study assesses perceptions of the impact of service on international volunteers, matched to a comparison group that did not volunteer internationally during the same study period. We examine changes in international volunteers' perceptions (treatment group) between two time periods: before leaving to volunteer abroad (baseline) and after volunteering abroad (posttest). Across a range of possible outcomes of international service for the volunteers, we focus on internationally oriented outcomes.

International Volunteer Service and Internationally Oriented Outcomes

Sherraden et al. (2008) review the range of possible outcomes of international volunteer service on host communities, volunteers, and sending communities. The research covers different program forms considered international service, including those focused on international development aid, humanitarian relief, or international understanding. The reviewed research examined programs like United Nations Volunteers, Peace Corps, and many nonprofit and university-based programs. Across the diverse forms of international service, volunteer attributes and institutional features vary in their occurrence and implementation across programs (Davis Smith et al., 2005; Sherraden et al., 2006). Examples include volunteers' knowledge, skills, and prior international experience (Allum, 2007; Comhlámh's Volunteering Options [CVO], 2007) as well as measures of institutional capacity, such as incentives, training, and supervision (Unterhalter, McDonald, Swain, Mitchell, & Young, 2002; Vian, Richards, McCoy, Connelly, & Feeley, 2007). These varying capacities influence service implementation, which itself differs across programs in terms of the volunteers' activities, service duration, level of immersion, and other important ways (Brook et al., 2007).

As such, variations in individual and institutional capacities and service implementation will influence a range of outcomes. We focus on internationally oriented outcomes, including international awareness, intercultural relations, international social capital, and international career intentions. These outcomes have grown in importance in today's globalized world where international cooperation is paramount (Rodrik, 1999). International service is inherently multinational and multicultural. By virtue of the international experience involved in cross-border volunteering, volunteers and communities may change their perspectives on global development issues, cross-cultural relationships, and occupational choices (Sherraden et al., 2008). In this study, we focus on the volunteers' assessments of their international perspectives before and after service. Below we provide a brief overview of how international service may affect these four internationally oriented outcomes.

International awareness measures whether people think about issues of nations outside their own, as well as how they think these issues might be addressed. It

specifically assesses their interest in issues related to global poverty and development (Barker, 2000). International experiences are often promoted to enhance greater interest in and knowledge of social, economic, and political issues in a global context (Hayward & Siaya, 2001). This rings true for many international volunteers who report enhanced awareness of other countries, minority issues, development challenges, immigration, and inequality (Grusky, 2000; Law, 1994; Sherraden, 2007; South House Exchange & Canada World Youth, 2006), as well as an enhanced global perspective overall (Purvis, 1993).

Intercultural relations measures respondents' interest in having relationships with people of other cultures and ethnic or racial backgrounds and whether they form friendships with people of different backgrounds (Berry, 1999; Endicott, Bock, & Narvaez, 2003). International service may affect a volunteer's comfort with those in other cultures, along with their interest in and friendships with those of other cultural or ethnic backgrounds (Fantini, 2007; Schröer, 2003; Sherraden & Benítez, 2003; Zimmerman, 1995). Because international volunteers live outside of their country and culture, they may begin learning another language and interact closely with people who are different from themselves. These relationships may be with individuals who live abroad or with individuals of other cultures who live in the volunteers' country of origin.

International social capital refers to the extent of respondents' personal and organizational ties to people living in other countries. The measure also assesses whether respondents use these contacts to link people or organizations to resources and to advocate for certain issues. In this sense, these connections or "capital" can be used to coordinate action or generate additional resources (DeFilippis, 2001; Woolcock, 1998). According to previous studies, volunteers have used these contacts to coordinate humanitarian aid projects, exchanges, research trips, internships, or return trips to the host country (Lough, McBride, & Sherraden, 2009b). These contacts may also be used to facilitate future employment opportunities or to leverage resources for host communities (Hudson & Inkson, 2006; Thomas, 2001).

International career intentions addresses respondents' intentions to work in a career related to international or social and economic development issues. International service often provides opportunities to broaden horizons and explore career directions (Bell, 1994; Powell & Bratović, 2007). Previous studies on international service indicate that volunteering may lead to educational or occupational changes toward careers focused on international or development issues (Cooney, 1983; Hudson, 1996; Jones, 2005; Kelly & Case, 2007).

Research Question

Many international volunteer service programs have these internationally related objectives (Sherraden et al., 2008). In this study, we examine whether international service can be attributed to perceived changes in these internationally related volunteer outcomes. Do international volunteers report statistically significant increases in

international awareness, intercultural relations, international social capital, and international career intentions? As discussed above, international service exposes volunteers to issues outside of their familiar social, political, and economic contexts; places them in direct contact with people of different ethnic and racial backgrounds; supports the development of personal relationships that may extend beyond the service experience; and provides experiential learning for international careers that focus on international issues. Based on these connections between the international service experience and the outcome categories, we hypothesize that international volunteers will report increases in international awareness, intercultural relations, international social capital, and international career intentions.

Method

Research Design

The current study is part of a larger research study, "Impacts of International Volunteer Service," that assesses the impacts of international service on volunteers, host organizations, and beneficiaries. The current study, which examines the impact of international service on volunteers, uses a quasi-experimental design to assess volunteers' perceptions of impact at two time periods: at baseline—1 month before service (2008-2009), and at posttest—1 week to 1 month after service (2009-2010). This article reports on differences between baseline and posttest.

Although an experiment with a control group would be preferable, it is not feasible to randomize study participants into service and nonservice conditions. To match international volunteers as closely as possible, we selected a comparison group comprised of individuals who inquired about or initially enrolled in the same international service programs involved in the study but who canceled prior to participation. This design is similar to the longitudinal impact study of AmeriCorps national service (Corporation for National and Community Service [CNCS], 2008b). The Institutional Review Board at Washington University in St. Louis approved the study design, methods, and instruments.

Participating Programs

All respondents in this study are from two different volunteer programs based in non-profit organizations operating in the United States: a short-term nonprofessional program ($\mu = 3.8$ weeks) and a long-term professional service program ($\mu = 46.2$ weeks). We refer to them as program A and B, respectively. Program A has facilitated placements of over 25,000 participants in 10 countries since 1995. Volunteers typically serve in host community organizations, providing direct care to individuals in child-care centers, homes for the elderly, schools, health clinics, centers for people with disabilities, or other organizations. Most volunteers originate in the United States, although some come from other English-speaking countries including the UK,

Canada, and Australia. The majority of volunteers are age 25 or younger, although they range from age 18 to 90. Volunteers are mostly female (79%), and more than 40% are students. Volunteers typically live in urban settings and board together with other volunteers.

Program B has placed more than 5,000 volunteers in 22 countries since 1986. It provides volunteer opportunities through two placement programs, which place over 350 year-long volunteers and 125 summer volunteers annually. Volunteers, who must have a Bachelor's degree, teach in a variety of educational settings including elementary, high school, college, and adult education centers. Since 1986, volunteers in program B have served a total of more than 50,000 months. Seventy percent of the volunteers serve in "year programs" (10 to 12 months) and provide more than 94% of total volunteer service measured in months. The remainder serve in so-called "summer programs" (2 to 5 months). All of the Program B volunteers included in this study served for at least 4 months, with 89% serving for 10 months or longer. Program B has a competitive selection process. Volunteers, who must have a bachelor's degree, teach in a variety of educational settings including elementary, high school, college, and adult education centers. The majority of volunteers come from the United States, and a handful come from other English-speaking countries. The majority of volunteers are in their mid-20s and 71% are female. Most volunteers live in rural settings with host families although a significant number live in school-provided housing.

Sample Selection and Data Collection

Sample selection began with a power analysis to determine the appropriate sample size. An effect size of .25 on a 7-point scale was determined to be a practically significant change in the outcomes based on an estimated standard deviation of .75. The power analysis revealed that a sample size of 290 would be adequate to determine statistically significant effects with more than 80% confidence, assuming a standard error of the model estimated at 1.0 (Lenth, 2006). This determination was calculated assuming a regression with 12 predictors and a two-tailed 95% confidence interval ($\alpha = .05$). This power analysis assumes orthogonal design. However, mild collinearity between variables may increase the sample size needed for adequate power to determine statistically significant differences between the pre- and posttest (Stevens, 1995).

Researchers randomly sampled 250 volunteers from program A in the summer of 2008. The comparison group for program A was oversampled (random sampling without replacement) following a poor initial response rate from this group ($n = 500$). Due to a smaller number of participants in Program B, all volunteers serving in this program from July to December 2008 were included in the sampling frame ($n = 227$), as were comparison nonparticipants ($n = 237$). In total, 463 volunteers and 724 comparison nonparticipants were administered the baseline survey. Of these, 325 volunteers and 366 nonparticipants responded, resulting in response rates of 70% and 51%, respectively. Among respondents completing the baseline survey, 221 volunteers and 145 nonparticipants completed a posttest administered 1 week to 1 month after they

returned or would have returned from service, resulting in response rates of 68% and 40%, respectively. An invitation to complete the International Volunteering Impacts Survey (IVIS) was emailed to both respondent groups; the emails were obtained from the participating programs. Respondents then followed a link to a password-protected electronic survey. Respondents were contacted via email twice, followed by a phone call to encourage completion.

Data Collection and Instrumentation

Items in the IVIS are drawn from previous research assessing the possible impacts on volunteers of volunteering overall and of international service specifically (CNCS, 2008a; Davis, Smith, & Marsden, 2008; Fantini, 2007).

Each major outcome area reported in this study is composed of multiple survey items from the IVIS (Lough, McBride, & Sherraden, 2009a). The items measure volunteer perceptions, not objective levels of knowledge or skill in an outcome category. A given outcome category is an additive variable across the respective items that measures respondents' perceptions regarding their interests, intentions, and behaviors on a scale of 1 to 7 (*strongly disagree to strongly agree*). To validate the reliability and validity of these constructs and their associated composite variables, we repeated confirmatory factor analysis and reliability analysis on each construct for both the baseline and posttest data separately and together. Manifest variables loading onto each construct all maintained Lambda coefficients higher than .50. Likewise, Cronbach's alpha statistics for all four constructs exceeded .70—indicating internal consistency for each construct (Nunnally, 1978). (See Table 1.)

The IVIS also measures relevant demographic characteristics. Gender (male/female) and race/ethnicity (Black/African American; White; Asian; other) were measured categorically. To meet the assumptions of normality in analysis, the continuous age variable was transformed by taking the natural log of each response. Education was measured across eight categories; it was categorized for analysis as bachelor's degree or higher compared to no bachelor's degree. Occupational experience was measured in years of work; to meet the assumptions of normality, this variable was transformed by taking the square root of each response. Marital status was dichotomized to married compared to all other marital situations. Income was treated continuously as a 13-level variable in US\$5,000-US\$10,000 increments. International experience was measured as the total of time in weeks that participants ever spent overseas (for whatever reason—living, working, studying, volunteering, etc.); to meet the assumptions of normality, number of weeks was transformed by taking the square root of each response.

Analytical Methods

Multiple imputation. To reduce possible nonresponse bias and to replace missing data, multiple imputation procedures were completed using the Markov chain Monte Carlo (MCMC) method (Schafer, 1997).¹ We included all variables that were potentially

Table 1. Measurement of Perceptions of International Interests ($n = 290$)^aInternational awareness ($\alpha = .80$)^b

- I think a lot about the problems of nations outside my own and how they might be solved.
- I have a good understanding of the reasons for global poverty.
- I have a good understanding of how low-income countries can better develop their economies.
- International issues and affairs play an important role in my life.

Intercultural relations ($\alpha = .80$)

- I frequently interact with people from different cultural or ethnic backgrounds.
- Many of my friends are of different backgrounds from me (racial, cultural, ethnic, or language).
- I am highly interested in working or forming friendships with people of different cultural backgrounds.
- I am very comfortable talking about diversity with people of different cultures.

International social capital ($\alpha = .84$)

- I have many friends, acquaintances, or contacts that live in other countries.
- I frequently write letters send emails or have other correspondence with people in other countries.
- I am closely connected with an organization(s) that works internationally.
- I have personally given money or other useful resources to contacts living in other countries.
- I have used my international contacts to link people or organizations to useful resources.
- I have used my connections to advocate for people or organizations internationally (e.g. lobbied for policy changes, wrote an email or newsletter, etc.).

International career intentions ($\alpha = .77$)

- I plan to pursue a career related to social or economic development.
- I plan to pursue a career in an internationally related field.

a. The response set for each item was weighted from 1 (*strongly disagree*) to 7 (*strongly agree*). These items do not measure respondents' objective levels of knowledge or skill in an outcome category. A given outcome category is an additive variable across the respective items, which measure respondents' perceptions regarding their interests, intentions, and behaviors. For more information on how these measures were developed and tested please refer to Lough, McBride, and Sherraden (2009a).

b. Cronbach's α (alpha) increases as intercorrelations among individual test items increase and is widely accepted as an indicator of the internal consistency or reliability of a construct. A high alpha score ($> .70$) indicates that individual test items reliably measure a single unidimensional construct.

related to missingness to produce more accurate imputation estimates and to strengthen the validity of the data set analysis (Rubin, 1996; Yuan, 2008). We imputed five data sets and used the expectation-maximization algorithm to combine multiple data sets for final imputed estimates. Fit diagnostics and comparisons of the distributions between the imputed and observed data were nearly equal, indicating no unusual patterns or problems with imputation.

Nonresponse analysis. Given the overall response rate of 53% for the posttest, we completed a nonresponse analysis following imputation to determine systematic differences between respondents and nonrespondents (Groves, 2006). We used logistic

regression to determine the influence of 11 demographic characteristics (age, gender, race, citizenship status, marital status, educational level, occupational experience, individual and household income, and weeks spent abroad in lifetime) on the likelihood that individuals would either respond or fail to respond. Among these covariates, females and those with a bachelor's degree or higher were the only groups more likely to complete the posttest ($b = -.47$, $\chi^2 = 4.9$, $p < .05$, and $b = .61$, $\chi^2 = 7.1$, $p < .05$, respectively), suggesting a minor bias away from less educated males. Overall, we found no major issues with nonresponse bias.

Propensity score analysis. In quasi-experimental designs, meaningful differences can exist between those in the treatment and comparison groups. Propensity score matching (PSM) was used to reduce potential selection biases between these groups (Luellen, Shadish, & Clark, 2005). Because individuals cannot be randomly chosen to participate in an international volunteer experience, the purpose of PSM was to match volunteers with nonvolunteers who are similar on all variables affecting the outcome, except for the volunteer experience being studied. To test for differences and predict propensity scores, we used logistic regression with 16 covariates including 11 demographics, four volunteer motivations, and the program variable (Program A or Program B). We expect that each of these covariates could affect participation and postvolunteering outcomes. The PSM procedure summarized all covariate information into a single propensity score.

In the aggregate, subjects with similar propensity scores are expected to have similar background. Prior to matching treatment and comparison cases, only two of the 16 covariates were significant predictors of selection into the treatment group: higher individual income ($b = .07$, $\chi^2 = 5.2$, $p < .05$) and previous international volunteer experience ($b = .76$, $\chi^2 = 9.8$, $p < .01$). These results indicated moderate selection bias (Guo & Fraser, 2009; Rosenbaum & Rubin, 1984). Given this moderate bias, cases were randomly matched by program and the closest propensity score. Seventy-seven cases from either the treatment or comparison group did not pair up on the propensity score. These nonoverlapping cases were dropped from analysis, thereby reducing the total sample size from 366 to 290 ($n = 145$ per group).

To validate the propensity score model, we repeated the logistic regression using only the matched cases. In the validation model, no variables significantly predicted group membership (all $p > .40$), indicating that PSM achieved good balance across all covariates. After nonmatched cases were removed, the average age of the survey respondents was 27 years, and 52% reported incomes of less than US\$20,000 per year. The majority had a bachelor's degree (70%), were single (89%), White (79%), and female (82%). (See Table 2.)

Estimation of treatment effects. We used generalized linear mixed regression models to estimate treatment effects between treatment and comparison groups over time. An autoregressive or AR(1) covariance structure accounted for differences among subjects in time duration between baseline and posttest—assuming that measurements become less correlated as the time span increases. Likewise, as time differences were not uniform across all respondents, linear mixed modeling (LMM) was considered the

Table 2. Comparison of Respondent Characteristics by Group^a (*n* = 290)

Demographic category	Treatment group (international volunteer participants) <i>n</i> = 145		Comparison group (noninternational volunteer participants <i>n</i> = 145	
	Frequency	Percentage	Frequency	Percentage
Gender				
Female	119	82	121	83
Male	26	18	24	17
Marital status				
Married	15	10	18	12
Not married	130	90	127	88
Race				
White	116	80	111	77
Other	29	20	34	23
Education				
Less than bachelor's degree	40	28	47	32
Bachelor's degree or higher	105	72	98	68
Individual income				
Less than US\$20,000	76	52	83	57
US\$20,000 or more	69	48	62	43
	Mean	SD	Mean	SD
Age at baseline	27.2	10.1	27.5	11.0
Previous international experience (weeks)	64.6	216.2	52.8	110.3

a. There are no statistically significant differences between the treatment and comparison group at $\alpha = .05$.

most appropriate procedure (Hedeker, 2004). An additional benefit of LMM is that it supports multilevel or nested data, and estimates of change are based on maximum likelihood for each subject rather than on analysis of variance (McCulloch & Searle, 2001). Repeated observations were nested within subjects and the sending organization.

As mixed models, changes in the outcome variables were affected by both fixed and random effects. Fixed effects for these models included respondents' race, age, and sex, level of education, occupational experience, marital status, individual income, and time spent abroad in one's lifetime (living, volunteering, studying, or otherwise). The logit of the propensity score was included as a random effect to account for possible sampling bias. Although tests of statistical significance for the random effect variance parameters are provided, they are considered bounded and are therefore not directly interpreted (Bryk & Raudenbush, 1992).

Prior to entering variables in the regression model, univariate analyses were completed to verify that assumptions of regression were met. To improve the accuracy of

Table 3. Descriptive Statistics by Outcome Category and Respondent Group (*n* = 145 per group)

	Time	Mean	SD	SEM	<i>t</i> ^a	<i>p</i>
International awareness						
Volunteers	Baseline	4.96	1.08	.09	2.60	.01
	Posttest	5.12	0.96	.08		
Nonparticipants	Baseline	4.97	1.09	.09	−0.06	.95
	Posttest	4.97	1.14	.09		
Intercultural relations						
Volunteers	Baseline	6.00	0.90	.07	2.51	.01
	Posttest	6.13	0.79	.07		
Nonparticipants	Baseline	5.96	1.01	.08	0.57	.57
	Posttest	6.00	0.93	.08		
International social capital						
Volunteers	Baseline	3.44	1.48	.12	8.96	.00
	Posttest	4.30	1.34	.11		
Nonparticipants	Baseline	3.68	1.55	.13	5.90	.00
	Posttest	4.24	1.43	.12		
International career intentions						
Volunteers	Baseline	4.26	1.64	.14	3.07	.00
	Posttest	4.66	1.90	.16		
Nonparticipants	Baseline	4.58	1.60	.13	0.50	.62
	Posttest	4.52	1.90	.16		

a. *df* = 144

estimates, highly skewed or kurtotic variables were transformed. Three variables required transformation. Age was transformed by taking the natural log of each response. Total weeks of previous international experience and years of occupational experience were transformed by taking the square root of each response. Bivariate analyses examined differences between baseline and posttest for the treatment and comparison groups. (See Table 3.) LLM was used to determine significant differences in outcome areas between treatment and comparison groups over time. The key independent variables were time (baseline or posttest), treatment condition (volunteer or nonparticipant), and the interaction between time and treatment condition.

Results

International volunteers report statistically significant increases between baseline and posttest in three of the four outcomes. Volunteers in the treatment group are more likely than those in the comparison group to increase their perceptions of international awareness, international social capital, and internationally related career intentions. (See Table 4.)

Table 4. Generalized Linear Mixed Regression Models for Treatment and Comparison Groups ($n = 290$)

	International awareness			Intercultural relations			International social capital			International career intentions		
	Est	SE	p	Est	SE	p	Est	SE	p	Est	SE	p
Intercept	5.42	1.15	.00	8.32	.92	.00	3.77	1.48	.01	10.56	1.68	.00
Test time ^a	.16*	.07	.01	.14*	.06	.01	.87*	.10	.00	.40*	.13	.00
Condition ^b	-.01	.13	.94	-.02	.11	.87	.21	.17	.24	.24	.21	.25
Time by condition	-.16*	.10	.05	-.10	.09	.13	-.31*	.14	.02	-.45*	.19	.01
Program (long term)	.00	.14	.97	.16	.11	.14	.49*	.18	.01	.10	.20	.63
Race (White)	-.04	.15	.77	-.32*	.12	.01	.05	.20	.82	-.15	.24	.52
Sex (male)	-.18	.17	.27	-.21	.14	.13	.04	.22	.86	.04	.24	.87
Age-log	-.21	.38	.59	-.76*	.31	.01	-.35	.49	.48	-1.90*	.56	.00
Education	.21	.15	.16	.05	.12	.69	.28	.20	.16	.07	.23	.76
Occupational exp.	.09	.07	.22	.16*	.06	.01	.03	.10	.76	.02	.11	.84
Marital status	-.03	.20	.90	-.23	.16	.16	.20	.26	.46	-.14	.30	.65
Income	-.03	.02	.26	.01	.02	.62	.02	.03	.52	-.06	.04	.10
Int'l experience	.03*	.01	.01	.02*	.01	.04	.04*	.01	.01	.03	.02	.07
Time covariance	.74	.03	.00	.36	.43	.40	.65	.04	.00	.52	.17	.00
Intercept variance ^c	.00	.00	—	.17	.32	.60	.00	.00	—	-.84	.92	.36
-2 log likelihood	1,421.35			1,272.09			1,757.23			1,975.75		

a. Time coefficient predicts the increase from baseline to posttest for volunteers.

b. Condition coefficient predicts the difference in the outcomes at baseline for nonvolunteers compared to volunteers.

c. Intercept coefficient includes the logit of the propensity score as a random effect within subjects.

* $p < .05$, probability statistics for the time variable are one-tailed.

International Awareness

At baseline, volunteers and nonparticipants do not report significant differences in their perceived level of international awareness ($b = -.01$, $t = -.09$, $p = .94$). At posttest, however, volunteers report a statistically significant higher score ($b = .16$, $t = 2.37$, $p = .01$), while nonparticipants report no difference ($b = -.00$, $t = -.07$, $p = .94$). Consequently, volunteers' perceived international awareness is statistically higher than that of the nonparticipants over the study period ($b = -.16$, $t = -1.70$, $p = .05$). The duration of previous international experience is also associated with international awareness; each additional week (square root) of previous international experience is associated with a .03 point increase on the scale used to measure perceived international awareness ($t = 2.49$, $p = .01$).

Intercultural Relations

At baseline, volunteers and nonparticipants do not report significant differences in their perceived intercultural relations ($b = -.02, t = -.41, p = .87$). At posttest, volunteers report a statistically significant higher score ($b = .14, t = 2.27, p = .01$), while nonparticipants report a nonstatistically significant higher score ($b = .04, t = .66, p = .51$). However, because both groups' scores on intercultural relations increased, there is no statistically significant difference over the study period ($b = -.10, t = -1.11, p = .13$). As for predictors of intercultural relations, White respondents rate themselves .32 points lower on intercultural relations on the baseline test ($t = -2.63, p = .01$). Older volunteers also rate lower; the log of age in years is associated with a .76 decrease on the scale used to measure intercultural relations ($t = -2.49, p = .01$). The square root of years of occupational experience is associated with a .16-point increase in intercultural relations ($t = 2.71, p = .01$); each additional week (square root) of previous international experience is associated with a .02-point increase in perceived intercultural relations ($t = 2.09, p = .04$).

International Social Capital

At baseline, volunteers and nonparticipants do not report significant differences in their perceived international social capital ($b = .21, t = 1.03, p = .24$). At posttest, both volunteers and nonparticipants report statistically significant higher international social capital ($b = .87, t = 8.85, p = .00$ and $b = .56, t = 5.55, p = .00$, respectively); however, the volunteers' increase in international social capital is higher than the nonparticipants' increase ($b = -.31, t = -2.18, p = .02$). Volunteers from Program B (the long-term volunteer program) rate themselves .49 points higher on the scale used to measure international social capital ($t = 2.80, p = .01$). Likewise, each additional week (square root) of previous international experience is associated with a .04-point increase in perceived international social capital ($t = 2.66, p = .01$).

International Career Intentions

At baseline, volunteers and nonparticipants do not report significant differences in their career intentions ($b = .24, t = 1.42, p = .25$). At posttest, volunteers report a statistically significant higher intention to pursue international or development-related careers ($b = .40, t = 3.05, p = .00$), while nonparticipants report a slightly lower intention ($b = -.05, t = -.40, p = .69$). Consequently, volunteers' reported interests in international or development-related careers are statistically higher than those of nonparticipants over time ($b = -.45, t = -2.42, p = .01$). Older volunteers rate their interests in internationally related careers lower; the log of age in years is associated with a 1.90-point decrease on the scale used to measure international career intentions ($t = -3.40, p = .00$).

Discussion

The results of this quasi-experimental study suggest that international volunteer service has a positive statistically significant impact on international volunteers' perceived international awareness, international social capital, and international career intentions between Time 1 and Time 2. However, results indicate that international service does not have a statistically significant impact on volunteers' perceived intercultural relations compared to those of the nonparticipants. In addition, several specific variables influence the internationally oriented outcomes. These findings are discussed below with the aim of informing future research.

Limitations

A number of limitations temper conclusions about the identified relationships. First, this research uses survey data based on self-report and thus, respondents' perceptions regarding their interests and behaviors. Given the self-report nature of the data, social desirability bias may influence results. Because the international volunteers have been exposed to the program and its expectations, they may think they should report an increase in these outcomes.

Second, the samples ultimately are self-selected because they all expressed initial interest in international service by virtue of applying to participate. Considering the plausible self-selection bias, the results are generalizable only to those who already have the inclination to volunteer internationally in these two programs. Furthermore, the sampling frame included a majority of respondents from the United States. In addition, the organizations selected for this study are respected leaders in the field of international service, and recognized for applying the best available evidence to guide programming. Organizations not applying evidence-based practices may produce different results. Third, only about half of the baseline respondents completed the post-test. This low response rate may introduce nonresponse bias in the analysis due to possible systematic differences between the respondents and the nonrespondents. Although nonresponse analysis did not reveal statistically significant biases, we utilized data imputation to help reduce possible effects of nonresponse—although imputation also has its own limitations (Horton, Lipsitz, & Parzen, 2003).

Fourth, it is not possible to control for all possible spurious and random effects. Sociodemographic characteristics, volunteer motivations, and other individual attributes undoubtedly influence the decision to volunteer. These types of factors may bias the results of any quasi-experimental study. For example, 85% of the sample had previous international experience, either living, working, studying, or volunteering outside of their home countries. The intention of utilizing a comparison group to measure counterfactuals is to mitigate error arising from spurious effects. Because individuals from the comparison group are highly similar to the volunteers, related life events may affect outcomes. Conversely, the comparison group, while similar to the treatment group on measured characteristics, may differ in important though unmeasured ways.

Moreover, lasting impacts likely evolve over time. Because the posttest survey was completed 1 week to 1 month following the end of service, a longitudinal follow-up survey is needed to gauge longer term outcomes.

Transformation Across Time

The international volunteer service experience exposes volunteers to different historical, cultural, social, economic, and political contexts (Bennett, 2008; Dewey, 1963). Exposure may yield greater interest in other cultures and new relationships with host country members and other volunteers. These findings are reflected in the significant increase in international awareness and international social capital reported by volunteers. International volunteers in this study are also more likely to report internationally related career intentions. International service may provide on-the-ground experience for individuals aspiring to work in fields such as international development or intercultural studies. This finding is consistent with previous research, which suggests that international service helps to inform volunteers' career intentions (Hudson & Inkson, 2006; Universalis, E.T. Jackson & Associates, & Salasan, 2005). However, it is unclear whether these perceived outcomes will "stick" over time and translate into behaviors and action.

Stage theories of cultural growth and learning (Lysgaard, 1955; Ogberg, 1960), along with transformative learning theory (Mezirow, 2000), identify phases of euphoria, disillusionment, adjustment, and integration in the cultural learning process (Kim & Ruben, 1988). Likewise, Bennet's (1993) theory of intercultural sensitivity posits that shallow contact with cultures often results in naïve stereotyping, superficial statements of understanding and tolerance, and an inability to distinguish complexities of cultural differences. According to this theory, as people have deeper contact with cultures and develop language skills that enable intercultural communication, they may progressively gain a more accurate understanding of the complexities of intercultural interactions and recognize that all behavior exists in cultural context (McBride & Daftary, 2005; Simpson, 2004). In fact, we find in this study that prior international experience (including living, working, studying, or volunteering abroad) is a statistically significant predictor of increased perceived international awareness, intercultural relations, and international social capital. This finding suggests that more time abroad may lead to more changes over time. However, the impact of prior international experience may vary by type of exposure and international experience—factors that should be tested in future research.

International Social Capital in Action

The benefits of international social capital can extend beyond friendship and association. A significant advantage of these relationships for international volunteer host organizations and communities is the access and resources that these connections may provide (Randel et al., 2005; Woolcock, 1998). Returned volunteers may use their connections

for their own benefit or for the benefit of their home or host communities (Putnam, 1995; Woolcock, 1998). In other research, returned volunteers reported using international networks to coordinate humanitarian aid projects, exchanges, research trips, internships, or to schedule return trips to the host country (Lough et al., 2009b). Returned volunteers can also help host-country students or friends travel to the volunteers' home countries to study or work, or may connect home country friends or other groups with host country contacts for future volunteer placements. Other volunteers may use community connections to refine their language or intercultural competence skills.

These contacts may also encourage volunteers to give careers in the international arena more serious consideration. Because international contacts are correlated with international career intentions (Lough et al., 2009a), linkages with international contacts may be an important method for finding and launching international careers. In addition, volunteers may use these contacts to contribute directly to development goals as they provide resources and connections to their contacts in host communities and organizations. Future research should determine the scale, scope, and utility of the international volunteers' networks developed from their service experiences.

The Influence of Individual Characteristics

A number of individual characteristics—including age, race, occupational experience, and previous international experience—are associated with perceived international service outcomes. Age, for example, is negatively associated with internationally related career intentions. Older adult international volunteers may be less likely to have interests in international careers, in part because they may already have a steady career, be retired, or otherwise not seeking employment. Other volunteerism research has found that the “career function” is more important to younger volunteers than older ones (Clary & Snyder, 1999, p. 157). Older adult volunteers are often more interested in applying their occupational skills and expertise than in developing them (Rouse & Clawson, 1992).

Intercultural relations increases significantly between Time 1 and Time 2 for both the treatment and comparison groups. However, the difference between the two groups is not statistically significant. We speculate that there may be unmeasured variables affecting these increases, including increased globalization and global communication, which place individuals in closer proximity to those who are different from themselves, thereby generating greater opportunities for increased relations and social capital formation. This may be related in part to the statistically significant influence of respondents' individual characteristics and associated experiences. As American society has become more diverse, young people have greater exposure to people with different backgrounds and may be more open to developing intercultural friendships and relationships (Banks & Banks, 2009). Likewise, people may have more avenues to form relationships and to interact with people from different cultural or ethnic backgrounds and thus may be more open and receptive to talking with others about issues

of diversity (Poston, 1990; Quintaina, 2007). Finally, employment experience may bring people into greater contact with diverse peoples and cultures (Jackson, 2003).

Conclusion

As voluntary action increases worldwide, research on the forms and impacts of international volunteer service has lagged behind (Hodgkinson, 2004; Sherraden et al., 2008). This study is an initial response to the call for research documenting the impacts of international volunteer service (European Commission, 2004; Hills & Mahmud, 2007; Machin, 2008; Powell & Bratović, 2006). Increases in civic knowledge, civic action, and public service careers have been documented in research on national service (CNCS, 2008a). This study indicates similar outcomes—though more internationally oriented outcomes may exist for international volunteer service. While important outcomes in their own right, volunteers' perceptions of their own international awareness, international social capital, and international career intentions are intermediate outcomes. Future research should determine whether changes in volunteers' perceptions lead to actionable knowledge of global issues, leveraged resources and advocacy across international connections, and pursuit of international careers. Moreover, from a policy perspective, it is important to assess the unique impact of international volunteer service compared to other international experiences and other types of volunteer service. As yet, the comparative advantage of international volunteer service remains unknown.

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Note

1. Multiple imputation is the process of substituting missing data with estimates computed from the observed values for each case. It is preferable to case deletion, whose shortcomings are well documented and generally only lead to valid inferences when missing data are completely random. When cases are not missing in a random pattern, estimates may be biased when missing cases are discarded. In addition, case deletion often results in an unacceptable loss of power.

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