Exploring the Relationship between Undergraduate Service-Learning Experiences and Global Perspective-Taking

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Innovations in Research and Scholarship Feature

Exploring the Relationship Between Undergraduate Service-Learning Experiences and Global Perspective-Taking

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This study examines the relationship between service-learning participation and global perspective-taking. A global perspective is broadly defined to include both the acquisition of knowledge, attitudes, and skills important to intercultural communication and the development of more complex epistemological processes, identities, and interpersonal relations. Results demonstrate significant associations between service-learning and aspects of cognitive, intrapersonal, and interpersonal development. The study concludes with implications for student affairs practitioners interested in adopting a service-based model of intercultural development.

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Across the broad spectrum of American colleges and universities, educators and administrators are recognizing the need to prepare students more adequately for the challenges of an increasingly diverse and global society (Braskamp, 2008; Engberg & Hurtado, in press; Hurtado, 2003). The American Association of Colleges and Universities (AAC&U; 2007) echoes these sentiments in emphasizing the importance of developing students' intercultural competencies, particularly as the world becomes more socially, economically, and culturally interdependent (Friedman, 2005). Chickering and Braskamp (2009) underscored the role of developing global citizens as part of the larger goals for liberal learning, highlighting the need for colleges and universities to create learning opportunities that foster intercultural maturity—a process that extends across cognitive, intrapersonal, and interpersonal domains of student development (King & Baxter Magolda, 2005).

Despite the continued emphasis on internationalizing college campuses, the underlying practices and policies necessary to actualize global preparation remain at an incipient stage of development and implementation (Osfield & Associates, 2009). For example, Bok (2006) suggested that college students today receive "little preparation either as citizens or as professionals for the international challenges that are likely to confront them" (p. 233). Musil (2006) further argued that a gap exists between the rhetoric and reality of internationalization efforts on many campuses, a claim that has been similarly made in relation to the espoused and realized goals for civic responsibility (Dey & Associates, 2008). Given the growing interdependence among nations, the question remains as to what educational strategies are most prudent in preparing an engaged and informed citizenry capable of navigating the inherent challenges of a global society.

One of the more promising engagement strategies on college campuses is the incorporation of service-learning programs within the undergraduate curriculum. Although various definitions of service-learning exist, at base, such experiences combine service opportunities with reflective teaching practices (National Service-Learning Clearinghouse [NSLC], 2008), providing students with opportunities to learn about difference as well as build stronger commitments to their local communities (Morton & Enos, 2002; Saltmarsh & Heffernan, 2000). Researchers have demonstrated the potential for service-learning to empower students to become social change agents (Welch, 2009), particularly as they engage in dialogues that emphasize important issues of "equity, difference, inclusion, tolerance, justice, and power" (Saltmarsh & Heffernan, 2000, p. 5). Through their involvement in diverse communities, students "are engaged in a social process of constructing meaning" (Cone & Harris, 1996, p. 39), which has important implications for their intrapersonal and interpersonal development (Einfeld & Collins, 2008; Jones & Abes, 2004).

Given the growing emphasis on internationalization and the requisite intercultural skills and dispositions necessary in a global society, more research is needed that explores the intersections between global priorities and experiential learning practices. The purpose of this article is to examine the relationship between service-learning participation and global perspective-taking among undergraduate students. Based on multidimensional perspectives of student development (Kegan, 1994; King & Baxter Magolda, 2005), a global perspective is broadly defined to include the

acquisition of knowledge, attitudes, and skills important to intercultural communication as well as the development of more complex epistemological processes, identities, and interpersonal relations (Braskamp, 2008). Although there is a growing body of empirical literature dedicated to evaluating the efficacy of service-learning, few studies have examined such learning using an assessment tool designed to measure emerging constructs of holistic student development.

The findings from this article address several gaps in the extant literature on service-learning. First, although research on service-learning certainly increased in the new millennium, "there has been very little to no research on the impact of integrating service and service-learning with civic engagement and social justice" (Welch, 2009, p. 179). A similar critique can be levied in relation to service-learning and intercultural outcomes. Second, researchers have evaluated service-learning in relation to different developmental arenas (Einfeld & Collins, 2008; Jones & Abes, 2004), but there is insufficient research that examines service-learning from a developmental perspective that simultaneously incorporates cognitive, intrapersonal, and interpersonal outcomes. Third, few studies have assessed service-learning outcomes based on a multi-institutional sample that analyzed differences across gender, race, and class standing (i.e., year in college). By investigating the relationship between service-learning and global perspective-taking, this study provides an empirical roadmap for educators interested in a adopting a service-based model of intercultural development.

Literature Review

In order to develop a conceptual framework that demonstrates the relationships between service-learning and global perspective-taking, literature is first reviewed that examines the contributions of developmental theorists who have contemplated the complex processes involved in intercultural development. Next, definitions of service-learning are explored with an explicit focus on empirical research that connects service-learning to developmental outcomes. Finally, a conceptual framework is presented that synthesizes the work in both areas and posits a framework for examining the study's hypothesis that service-learning experiences are an important vehicle to prepare students for the complexities of a global society.

Global Perspective-Taking as a Developmental Outcome

Global perspective-taking encompasses three distinct, yet interrelated domains of human development: cognitive, intrapersonal, and interpersonal. Building off the initial theoretical writings of Kegan (1994) and the more recent conceptualizations of intercultural maturity by King and Baxter Magolda (2005), global perspective-taking involves three critical questions related to each of the developmental domains: "How do I know?" "Who am I?" and "How do I relate?" (Braskamp, Braskamp, Merrill, & Engberg, 2010). Thus, as individuals develop an enlarged global perspective, they incorporate more complex ways of meaning-making that are grounded in intercultural

knowledge, cultivate greater acceptance of cultural difference and a more solidified sense of self, and develop more mature interpersonal relationships and a stronger commitment to social responsibility.

The developmental dimensions that undergird a global perspective are derived from previous research on holistic student development. The cognitive dimension of global perspective-taking, for instance, examines epistemological processes used to evaluate different knowledge sources (Baxter Magolda, 1992) as well as the acquisition of knowledge to enlarge one's understanding of cultural differences (Chen & Starosta, 1996; Gudykunst, 2003). The intrapersonal dimension emphasizes how identity development parallels the process of acquiring increased intercultural sensitivity (Bennett & Bennett, 2004), which has been similarly discussed in models of intercultural maturity (King & Baxter Magolda, 2005) and intercultural consciousness (Landreman, 2003). Landreman noted that in addition to more affective attributes of intercultural development, there was an emotional or feeling component reflected in the sensitive nature of working with issues of difference and social justice. Finally, the interpersonal dimension reflects the interdependent nature of a global society, emphasizing the need to interact across difference (King & Baxter Magolda, 2005) and make socially responsible commitments to local, national, and global communities (Chickering & Braskamp, 2009). Taken together, these developmental dimensions highlight the complexity of acquiring a global perspective as well as the inherent interconnectedness among cognitive, intrapersonal, and interpersonal domains of development.

Service Learning

Service learning is grounded in the foundational and theoretical ideas of experiential learning posited by Dewey (1938), Lewin (1951), Piaget (1952), and Kolb (1984). Although definitions of service-learning vary across and within institutions (Kraft, 1996), the NSLC (2008) describes service-learning as a "teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities" ("What Is Service-Learning," para. 1). The reflective and meaning-making components of service-learning provide the mechanisms to enhance cognitive and intrapersonal development (Green, 2001; Jay, 2008; Jones & Abes, 2004; Lechuga, Clerc, & Howell, 2009; Litke, 2002; Myers-Lipton, 1998; Rockquemore & Schaffer, 2000; Vogelgesang & Astin, 2000), whereas the relational component emphasizes the importance of interpersonal development as students learn to interact across difference with their peers and in their communities (Einfeld & Collins, 2008; Jones & Abes, 2004; Keen & Hall, 2009; Rockquemore & Schaffer, 2000). The integration of these components creates developmental pathways to achieve cognitive, intrapersonal, and interpersonal growth—outcomes that have been empirically linked to service-learning experiences.

Cognitive Outcomes

Service-learning programs foster greater cognitive complexity by providing an active learning forum in which experience and reflection are used to shape and enlarge students' understandings and perceptions of different social and cultural issues (Lechuga, et al., 2009; Vogelgesang & Astin, 2000). Throughout many service-learning experiences, students struggle with the dissonance between what they have known (e.g., stereotypes, perceptions, unrecognized privilege) and what they are experiencing (e.g., building new relationships, recognizing inequalities, recognizing privilege; Jay, 2008; Rockquemore & Schaffer, 2000). This internal struggle to make meaning provides a way for students to reevaluate and adjust their knowledge and belief systems (Jones & Abes, 2004; Lechuga et al., 2009). These experiences have been shown to increase students' open-mindedness (Jones & Abes, 2004; Rockquemore & Schaffer, 2000), writing skills (Vogelgesang & Astin, 2000), and critical thinking skills (Jay, 2008).

Intrapersonal Outcomes

Service learning also provides opportunities for students to address important questions related to their emerging social identities during college. The reflective component embedded in service-learning experiences is essential to the process of questioning, "Who am I?" and several studies have linked service-learning to increased levels of self-awareness (Bernacki & Jaeger, 2008; Moely, McFarland, Miron, Mercer, & Ilustre, 2002), and overall personal development (Litke, 2002). In exploring one's identity through service-learning, such an approach provides a rich forum for students to explore the intersections between identity and privilege, internalize new ideas, and reevaluate who they are in society (Green, 2001; Jay, 2008; Jones & Abes, 2004; Lechuga et al., 2009). As students examine the concepts of privilege and socialization in relation to their personal backgrounds and experiences, they often develop more sophisticated attributions for societal problems (Eyler, Giles, & Braxton, 1997; Rockquemore & Schaffer, 2000) and greater exposure to, and comprehension of, the varying social identities located within a particular system (Jay, 2008). The process of identity exploration, however, is difficult for many students as they attempt to reconcile and balance their preconceived notions with what they are learning and experiencing (Green, 2001; Jay, 2008; Rockquemore & Schaffer, 2000).

Interpersonal Outcomes

Service learning provides opportunities for individuals to interact and collaborate with one another in local and global communities (Battistoni, Longo, & Jayanandhan, 2009; Jay, 2008), while recognizing the reciprocity that exists among individuals and communities (Green, 2001). The experience at a local level, in particular, is foundational to understanding issues affecting the larger global community (Battistoni et al., 2009). Researchers, for instance, have revealed that service-learning experiences promote communication skills as relationships are built between peers and community members (Keen & Hall, 2009). Studies have also established that service-learning

fosters interpersonal maturity as students become more open to interacting across difference (Jones & Abes, 2004). Finally, researchers have demonstrated significant associations among service-learning experiences and increased civic and social responsibility (Myers-Lipton, 1998), although the movement from a charitable paradigm (based on the immediate concerns of individuals) to a social change paradigm (based on changing societal structures) is not equally experienced by all students (Einfeld & Collins, 2008; Mayhew & Engberg, 2011; Moely, Furco, & Reed, 2008; Rockquemore & Schaffer, 2000).

Conceptual Framework

The studies reviewed provide empirical support for the conceptual links among service-learning experiences and cognitive, intrapersonal, and interpersonal outcomes (see Table 1). These relationships suggest that service-learning is a potentially powerful engagement tool to build and enhance the skills and dispositions students need to successfully navigate the complexities of a global society. The conceptual framework also incorporates important controls to understand whether the hypothesized associations between service-learning and student development are conditional on gender, race, or class standing. Studies have shown that women and students of color experience service-learning differently than their male and White counterparts (Einfeld & Collins, 2008; Green, 2001; Jones & Abes, 2004). Although few studies specifically examined class standing (Keen & Hall, 2009), research on global perspective-taking has demonstrated a developmental progression based on year in school (Braskamp et al., 2010). Thus, it is important to incorporate class standing to control for maturation effects that may pose potential threats to the internal validity of the study.

Method

Instrument and Sample

Data for this study were drawn from the Global Perspective Inventory (GPI), a survey instrument designed to assess the cognitive, intrapersonal, and interpersonal domains of student development (Braskamp et al., 2010). The instrument contains 72 questions pertaining to each of the developmental domains of the GPI as well as demographic and engagement items. The engagement scales measure students' involvement in curricular and cocurricular activities as well as their perceptions of the campus community.

The survey was administered in 2009 and included 5,352 undergraduates attending 46 public and private institutions. Participating institutions recruited convenience samples of students through orientations and different courses in order to assess global learning on their campuses. Response rates varied among the participating institutions (between 20% and 80%), with overall responses rates reaching approximately 45%. In total, 48% of the sample attended public institutions and 52% attended private institutions, including secular and nonsecular institutions. Approximately 62% of the sample was female and almost 72% of the respondents were White, with

Table 1

Conceptual Links Among Service-Learning and Student Development

	Cognitive		Intrapersonal		Interpersonal	
	Linguistic, cultural, and academic knowledge	Analysis of multiple perspectives, critical thinking, and problem solving	Identity, self-awareness, confidence, and empowerment	Tolerance of and interest in diversity and ambiguity	Skills (empathy, trust, etc.)	Education, career, and social commitments
Service learning	Battistoni, Longo, & Jayanandhan, 2009; Einfeld & Collins, 2008; Jay, 2008; Lechuga, Clerc, & Howell, 2009; Rockquemore & Schaffer, 2000; Vogelgesang & Astin, 2000	Jay, 2008; Jones & Abes, 2004; Lechuga et al., 2009; Litke, 2002; Morgan & Streb, 2001; Myers-Lipton, 1998; Rockquemore & Schaffer, 2000	Bernacki & Jaeger, 2008; Einfeld & Collins, 2008; Endres & Gould, 2009; Green, 2001; Jay, 2008; Jones & Abes, 2004; Lechuga et al., 2009; Litke, 2002; Moely, McFarland, Miron, Mercer, & Ilustre, 2002; Rockquemore & Schaffer, 2000	Einfeld & Collins, 2008; Eyler, Giles, & Braxton, 1997; Jay, 2008; Lechuga et al., 2009; Rockquemore & Schaffer, 2000	Battistoni et al., 2009; Jay, 2008; Keen & Hall, 2009	Battistoni et al., 2009; Einfeld & Collins, 2008; Green, 2001; Jones & Abes, 2004; Mayhew & Engberg, 2011; Moely, Furco, & Reed, 2008; Myers-Lipton, 1998; Rockquemore & Schaffer, 2000

students of color representing 7% African American, 7% Hispanic, 4% Asian, 2% Native American, and 9% unknown racial classifications.[1] Additionally, 55% were first-year students, 13% were sophomores, 18% were juniors, and 14% were seniors. Approximately 51% of the population indicated involvement in at least one service-learning course.

Variables Used in the Study

The dependent variables in the study represented each of the six developmental scales that comprise the GPI (see Table 2 for item wording, factor loadings, and scale reliabilities). The cognitive scales measure epistemological development (i.e., how an individual knows) and intercultural knowledge and awareness (i.e., what an individual knows). The intrapersonal scales measure an individual's comfort with and sensitivity toward difference as well his or her personal values and sense of self. The interpersonal scales measure an individual's preferences for intercultural connections, including the respondent's commitment to making a difference and giving back to society (see Braskamp et al., 2010, for additional information on the psychometric properties and reliabilities of the measures). Factor loadings for each of the scales were above .35 and, with the exception of the Cognitive Knowing scale ($\alpha = .557$), reliabilities were within acceptable ranges for all scales, with Cronbach's alphas ranging from .683 to .767. GPI outcomes were standardized to interpret model effects in relation to standard deviation changes.

Covariates for gender, race, and year in school were included in the analysis, with males, White students, and seniors serving as the respective referent groups. The service-learning participation variable was a dichotomous measure that ascertained whether or not a student was involved in courses that included service-learning opportunities (Braskamp et al., 2010).

Analytic Process

Several analytic methods were used to explore the relationships between service-learning participation and global perspective-taking. First, a principal components factor analysis, which accounts for the total variance of variables, was undertaken to demonstrate that the constituent elements comprising a GPI scale loaded on the same factor. A varimax rotation, the most common rotational option, was also employed to further differentiate the original factors and facilitate the interpretation of factor structures (Kim & Mueller, 1978). The overall reliability of each of the scales was then tested by examining the Cronbach's alpha coefficients.

Second, descriptive statistics were used to understand the frequency of service-learning participation across the model covariates. Independent samples *t* tests compared whether the mean

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[1] The racial descriptors used in this article (in parentheses) include the following categories based on the original survey question: African, African American, Black (Black); Asian, Pacific Islander (Asian); Hispanic, Latino (Hispanic); and European, White (White).

Table 2

Factor Loadings and Reliabilities for GPI Subscales[a]

Item	Loading (α)
Cognitive Knowing	(.557)
In different settings what is right and wrong is simple to determine[b]	.617
The role of the student is to receive knowledge from authority figures[b]	.584
When I notice cultural differences my culture tends to have the better approach[b]	.565
I prefer complex rather than straightforward interpretations of debatable issues	.528
Some people have a culture and others do not[b]	.474
I can evaluate issues from several different perspectives	.424
Cultural differences make me question what is really true	.395
I do not see cultural differences as important to my daily life[b]	.390
I tend to judge the values of others based on my own value system[b]	.358
Cognitive Knowledge	(.767)
I can discuss cultural differences from an informed perspective	.735
I understand how various cultures of the world interact socially	.709
I am informed of current issues that impact international relations	.686
I understand the reasons and causes of conflict among nations of different cultures	.676
I know how to analyze the basic characteristics of a culture	.668
Intrapersonal Identity	(.695)
I know who I am as a person	.740
I can explain my personal values to people who are different from me	.694
I have a definite purpose in my life	.683
I am developing a meaningful philosophy of life	.626
I am confident that I can take care of myself in a completely new situation	.556
Intrapersonal Affect	(.683)
I feel threatened around people from backgrounds very different from my own[b]	.631
I am accepting of people with different religious and spiritual traditions	.625
I do not feel threatened emotionally when presented with multiple perspectives	.581
I prefer to work with people who have different cultural values from me	.580
I see myself as a global citizen	.555
I often get out of my comfort zone to better understand myself	.551
I am sensitive to those who are discriminated against	.453
I get offended often by people who do not understand my point of view[b]	.450
I constantly need affirmative confirmation about myself from others[b]	.390
Interpersonal Social Interaction	(.690)
I intentionally involve people from many cultural backgrounds in my life	.714
I enjoy when my friends from other cultures teach me about our cultural differences	.674
I am able to take on various roles as appropriate in different cultural and ethnic settings	.662
People from other cultures tell me that I am successful at navigating their cultures	.659
I am open to people who strive to live lives very different from my own lifestyle	.588
Most of my friends are from my own ethnic background[b]	.466
Interpersonal Social Responsibility	(.723)
I consciously behave in terms of making a difference	.748
I think of my life in terms of giving back to society	.745
I work for the rights of others	.705
Volunteering is not an important priority in my life[b]	.594
I put the needs of others above my own personal wants	.583
I put my beliefs into action by standing up for my principles	.467

[a] All items were measured on a 5-point Likert scale that ranged from 1 (*strongly agree*) to 5 (*strongly disagree*).
[b] Item was reverse coded for purposes of scale construction.

scores on the GPI were significantly different for students who participated in service-learning on their campuses and those who did not.

Third, a blocked linear regression technique was used to determine how student demographics and service-learning participation influenced each of the six developmental domains that comprise the GPI. In doing so, the GPI scales were standardized, providing a convenient means to interpret beta coefficients in terms of standard deviation changes in the outcome.

Finally, using methods delineated by Pedhazur (1982), new models were tested to evaluate whether the relationships between the service-learning measure and GPI scales were conditional on any of the demographic variables in the model. In employing this method, interaction terms were created that combined the service-learning measure with each of the demographic variables. Each interaction term was entered into the model and examined to determine whether the model significantly improved (i.e., significant change in R^2) and whether the interaction term was significant. If these conditions were met, the population was segmented based on the relevant background characteristic and reanalyzed using the full model. In doing so, the relative strength of the service-learning measure was compared across different covariates (i.e., gender, race, and class standing).

Limitations

The current study has several notable limitations. First, the service-learning measure captures only whether or not students participated in a service-learning course. It does not differentiate these experiences based on characteristics of the service experience, duration, disciplinary context, or pedagogical practices (see Jay, 2008, for a discussion of pedagogical practices). Although these characteristics are indeed important to the overall quality and impact of service-learning experiences, the current study was designed to establish whether significant relationships exist between service-learning experiences and holistic student development. Studies that account for these curricular nuances are planned for the future.

Although some researchers discount the value of quantitative methods in assessing service-learning (Butin, 2006), the current study incorporates a multi-institutional perspective on service-learning and takes a critical stance by specifically examining conditional effects across gender, race, and class standing. Caution, however, is necessary in extrapolating the results of this study to different campuses, and more research is needed that specifically examines the experiences of traditionally marginalized and underserved students.

Finally, complex measures of holistic student development are not easily captured in student surveys. Ideally, such measures would combine self-reports with direct observation to uncover the nuances of student development. However, such studies require substantial resources (both time and money) and are limited in their generalizability. Although the GPI is a new instrument, its focus on both holistic student development and the skills necessary to navigate the

Table 3

Percentage of Students Engaged in Service Learning Across Gender, Race, and Class Standing

	Percentage
Gender	
Male	44.1
Female	54.5
Race	
White	49.8
Black	56.2
Hispanic	53.9
Asian	52.7
Native American	57.7
Other race	47.0
Class standing	
Freshman	46.3
Sophomore	48.8
Junior	57.0
Senior	60.8

complexities of a global society offers a unique contribution to the repertoire of assessment instruments available to college campuses.

Results

As a precursor to examining the multivariate models, service-learning participation was assessed across each of the covariates in the analytic model. As shown in Table 3, females participated more frequently in service-learning compared to their male counterparts (55% vs. 44%). Additionally, Native American (58%) and Black (56%) students were associated with the highest levels of service-learning participation, followed by Hispanic students (54%). Students who did not declare a race (47%) demonstrated the lowest levels of participation, followed by White students (50%). Service-learning participation increased incrementally based on class standing, with freshmen demonstrating the least amount of participation and seniors demonstrating the highest amount. Thus, the results suggest that racial and ethnic minorities, females, and seniors participate more frequently in service-learning based on the analytic sample for the study.

The next set of analyses explored whether there were differences in the GPI scales among those who did and did not participate in a service-learning experience. As Table 4 demonstrates, the mean scores on each of the GPI dimensions were higher for those students who participated in a service-learning experience. Independent samples t tests revealed that the mean differences were highly significant for the sample population ($p <.001$) across each of the GPI domains. The differences were most pronounced for the interpersonal measures, particularly when looking at differences on the Interpersonal Social Responsibility scale. Although still highly significant, the

Table 4

Mean Scores on Global Perspective Inventory (GPI) Based on Involvement in Service Learning[a]

	Cognitive Knowing	Cognitive Knowledge	Intrapersonal Identity	Intrapersonal Affect	Interpersonal: Social Interaction	Interpersonal: Social Responsibility
No service-learning participation	3.24 (0.47)	3.52 (0.61)	4.05 (0.53)	3.66 (0.46)	3.47 (0.52)	3.56 (0.55)
Participation in service learning	3.30 (0.47)	3.59 (0.58)	4.13 (0.50)	3.72 (0.44)	3.56 (0.50)	3.75 (0.52)

[a]Independent samples *t* tests show that students participating in service learning scored significantly higher ($p < .001$) on all GPI domains; standard deviations are presented in parentheses.

Cognitive Knowing and Interpersonal Affect scales represented the smallest differences across the two groups.

Examining the results from the multivariate analyses (see Table 5) reveals that the models ranged in overall explanatory power, with the Cognitive Knowing model explaining the largest amount of variance and the Intrapersonal Identity model explaining the least amount of variance. The models explained the greatest amount of variance for Cognitive Knowing, Social Interaction, Social Responsibility, and Intrapersonal Affect; the remaining models were associated with adjusted R^2 equal to or below .05. However, concerning the contribution of service-learning to the explanatory power of the models, modest effects were uncovered. Including the service-learning measure demonstrated that the largest change in R^2 was uncovered in the Social Responsibility scale ($R^2 = .022$), whereas the smallest changes were found among the Cognitive Knowing and Intrapersonal Identity scales.

There are several notable trends across each of the six models. First, the service participation variable was significant across each of the developmental domains, with the exception of the Cognitive Knowing measure, which did not reach significance. The most significant effect of service-learning was related to Social Responsibility, with service-learning participants scoring an average of .30 standard deviations over nonparticipants. More moderate effects were also uncovered in relation to Intrapersonal Identity ($\beta = .147$), Social Interaction ($\beta = .126$), and Cognitive Knowledge ($\beta = .112$). The Intrapersonal Affect scale, while reaching significance ($p < .01$), was associated with less than one tenth of a standard deviation change ($\beta = .069$) based on service-learning participation. The results suggest that service-learning participation is strongly associated with students' desire to make a difference and give back to society, moderately connected to preferences toward social interaction and intrapersonal identity, but not significantly related to epistemological and meaning-making preferences.

Examining the various covariates confirms that gender was a significant predictor across all models, although the direction of the effect was inconsistent. Although females were associated with higher scores on most domains, they scored significantly lower, on average, across the Cognitive Knowledge and Intrapersonal Identity scales. Females, in particular, were associated with

Table 5

OLS Regression Results Examining the Effects of Service Learning on the Development of a Global Perspective

	Cognitive Knowing	Cognitive Knowledge	Intrapersonal Identity	Intrapersonal Affect	Interpersonal: Social Interaction	Interpersonal: Social Responsibility
Female (male)	.211***	−.251***	−.076**	.161***	.126***	.362***
Black (White)	−.159**	−.047	.280***	.324***	.403***	.228***
Hispanic (White)	−.147**	.199***	.197***	.271***	.516***	.112*
Asian (White)	.018	.333***	−.093	.082	.617***	.001
Native American (White)	−.357***	.035	.209*	.045	.125	.259**
Other race (White)	.065	.154**	.009	.178***	.437***	.071
Freshman (senior)	−.727***	−.349***	−.213***	−.539***	−.551***	−.148***
Sophomore (senior)	−.178***	−.170***	−.094	−.238***	−.199***	−.030
Junior (senior)	−.109*	−.102*	−.057	−.122*	−.193***	.008
Adjusted R^2	.125***	.039***	.015***	.070***	.106***	.051***
Service learning	.048	.112***	.147***	.069**	.126***	.299***
Adjusted R^2 change	.000	.003***	.005***	.001**	.003***	.022***
Adjusted final R^2	.125***	.042***	.020***	.071***	.109***	.073***

Note. Parentheses indicate referent group; unstandardized beta coefficients are presented in the table.

*$p < .05$.

**$p < .01$.

***$p < .001$.

Table 6

Conditional Effects of Service-Learning Participation on Social Responsibility

	n	β
Gender		
Male	2,029	.372***
Female	3,323	.251***
Race		
White	3,841	.292***
Black	365	.181
Hispanic	358	.185
Asian	201	.341*
Native American	123	.484*
Other race	464	.378***
Class standing		
Freshman	2,939	.255***
Sophomore	717	.297***
Junior	959	.329***
Senior	737	.428***

Note. Unstandardized beta coefficients are presented in the table.

*p < .05.

**p < .01.

***p < .001.

the largest effects in relation to their scores on the Social Responsibility scale ($\beta = .362$), although they scored significantly lower than their male counterparts on the Cognitive Knowledge scale ($\beta = -.251$). Interestingly, given their lower scores on the knowledge domain, females were associated with higher overall scores on their epistemological beliefs.

The findings across race were less consistent, although Black and Hispanic students were associated with higher developmental scores across the intra- and interpersonal domains compared to White students. In particular, Black, Hispanic, and Asian students were associated with the highest scores on the Social Interaction scale compared to their White counterparts. The findings related to class standing were more consistent, with underclassmen generally associated with lower developmental scores compared to seniors. Freshmen, in particular, scored significantly lower on the Cognitive Knowing, Intrapersonal Affect, and Social Interaction scales compared to seniors. The differences associated with sophomores were more modest, and juniors were most similar to seniors on the Interpersonal Identity and Social Responsibility scales.

Finally, regarding the conditional effects of service-learning participation, in which interaction effects were added to the model, significant changes to the explanatory power of the models (i.e., significant change in R^2) and significant interaction effects were uncovered only in the Social Responsibility domain. Therefore, the effects of service-learning on social responsibility were examined across samples segmented by gender, race, and class standing (see Table 6). The magnitude of the service-learning effect was considerably stronger for males ($\beta = .372$) compared to

females ($\beta = .251$); however, nonsignificant effects were found for both Black and Hispanic students. It appears that service participation influences social responsibility differently depending on racial group membership, with Native American, Asian, White, and unknown students showing the most significant effects. Significant effects were also found across all class standing groups, and the magnitude of the effect increased incrementally as students progressed in class standing, with juniors and seniors associated with the strongest effects ($\beta = .329$ and $\beta = .428$, respectively).

Discussion

The results from this study add to a growing body of research documenting the effects of service-learning participation during the undergraduate years. This study specifically linked involvement in service-learning to global perspective-taking, demonstrating positive and significant relationships across aspects of the cognitive, intrapersonal, and interpersonal domains. The significant findings related to service-learning participation remained even after controlling for maturation effects related to class standing and selection effects related to race and gender.

The most significant findings from the study relate to the relationship between service participation and students' social responsibility. Students who participated in service-learning were associated with higher scores in terms of their responsibility to make a difference in society (over three tenths of a standard deviation). These findings resonate with the calls of a growing number of institutions and policy organizations espousing learning goals related to "personal and social responsibility" (AAC&U, 2007). Further, the increases in social responsibility mirror the extant findings reported in previous studies (Einfeld & Collins, 2008; Myers-Lipton, 1998) and reinforce the importance of service-learning experiences in fostering engaged, global citizens who plan to make a difference in their postcollege lives.

Some caution is necessary in extrapolating these results to all students, as the conditional effects models suggest that Black and Hispanic students are not associated with significant effects when compared to the other racial groups. Additionally, the effects of service-learning on social responsibility appear more pronounced for males and increase incrementally by class standing. For Black and Hispanic students, in particular, their level of social responsibility is demarcated less by campus-facilitated experiences that involve service-based opportunities. Engberg and Hurtado (in press) also found nonsignificant effects for Black and Hispanic students when examining the relationship between diversity cocurricular activities and the development of a pluralistic orientation. Additionally, the larger effects found for upperclassmen may indicate a greater developmental readiness toward interdependence (Chickering & Reisser, 1993). The gender effects are consistent with previous studies that found that females were more likely to promote civic responsibility (Myers-Lipton, 1998), although the conditional effect is stronger for males. The results from this study confirm the need to test for conditional effects when examining the impact of experiential learning on student development.

Although more modest effects were uncovered in relation to students' preferences for cross-cultural interactions, the results suggest that service-learning experiences are potential catalysts in helping students build an appreciation for the value of cross-cultural relationships. Several studies showed the power of service-learning to facilitate relationships with local community members (Battistoni et al., 2009; Green, 2001), which may partially explain the significant findings from this study. When relationships within a local community are extrapolated to issues facing larger global communities (Battistoni et al., 2009), service-learning becomes an important vehicle in the development of global perspective-taking.

The results from this study revealed a number of modest effects in the cognitive realm. The differences in cognitive knowing were insignificant in the study, but this may be due to either the low internal consistency of the scale or the variation in the emphasis placed on meaning-making in different service-learning environments. Jay (2008), for instance, noted the importance of course design and pedagogy in fostering developmental outcomes for students. More substantial gains, however, were achieved in the Cognitive Knowledge scale, and this may be a larger reflection of the opportunities for students to acquire knowledge from diverse community members. As Battistoni et al. (2009) noted, "Community-based efforts give students the chance to develop global knowledge through the local wisdom obtained through active engagement with local communities" (p. 4).

Although the magnitude of the effects found in the intrapersonal dimension was inconsistent, modest effects were shown for intrapersonal identity. A number of studies support this finding (Jones & Abes, 2004; Lechuga et al., 2009; Morgan & Streb, 2001; Myers-Lipton, 1998; Rockquemore & Schaffer, 2000), highlighting the reflective component of service-learning as the critical process in helping students' confront challenges to their emerging social identities. The weaker effects found for the affective dimension of intrapersonal development are consistent with the writing of theorists concerning the inherent emotional challenges involved in working through issues of difference, particularly in a social justice context (Landreman, 2003).

Implications

As the world becomes more interdependent, students need to prepare for the global challenges that lie ahead in their postcollege lives. Such challenges involve understanding and appreciating difference while demonstrating the ability to interact and communicate across cultural divides. As internationalization efforts steadily rise on college campuses, educators, student affairs practitioners, and administrators are concomitantly struggling to align curricular and cocurricular strategies with their global missions. Although service-learning has typically been used as a strategic device to build local community relationships, such opportunities, when placed in global contexts, have the potential to build the skills and dispositions students need to develop intercultural maturity.

Student affairs practitioners, in particular, may be uniquely positioned to guide institutional efforts focused on building students' global capacities. Sobania and Braskamp (2009) frame service-learning as part of a larger, more inclusive set of "study away" experiences that occur beyond the classroom and incorporate experiential learning techniques. Given their close proximity to students and the surrounding community, student affairs practitioners represent an important bridge in forging mutually beneficial study-away connections among students and the local community. Emphasizing service-learning as part of a global campus strategy can promote greater collaboration among student affairs and academic affairs, bringing greater alignment and a more coordinated approach to achieving student development outcomes. Given their expertise in student development, student affairs practitioners are uniquely poised to take leadership roles in facilitating discussions with faculty about the connections between global perspective-taking and program innovation and design.

Student affairs practitioners looking to assess and evaluate the developmental progress of students, especially in relation to experiential learning opportunities, will find the results from this study encouraging. The GPI is specifically constructed from student developmental theory, offering student affairs practitioners a holistic tool that resonates with the current writings and research on self-authorship and intercultural maturity. With increased accountability pressures both internally and externally, the GPI provides a convenient means for student affairs practitioners to demonstrate the value-added dimension of different experiential learning activities, while highlighting potential areas in need of program improvement. In an era of declining revenues and programmatic cuts, many of which disproportionately impact student affairs (Upcraft & Schuh, 1996), assessing the value of different programmatic initiatives in relation to larger institutional goals is essential to survival. As such, the GPI is of particular value for practitioners who oversee study-away experiences within their institutional environments, providing an important means to move their campuses away from rhetoric involving internationalization efforts (Musil, 1996) to an assessment-based culture that uses empirical evidence to guide programmatic efforts.

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