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Service-Learning in Undergraduate Global Health Education: The Effect of Team Dynamics on Civic Attitudes and Skills

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Social justice is most effectively taught through experiential learning, including practicums, internships, and service-learning (SL). Service-learning provides solid conceptualizations, with the potential for improving civic attitudes (i.e., social responsibility and participation). Graduate public health programs have traditionally required SL internships designed to enhance civic attitudes and skills, which has led to the recent incorporation of SL courses into undergraduate curricula. The authors assessed the benefits of SL in undergraduate public health education using the Civic Attitudes and Skills Questionnaire administered to enrollees (n = 43) in a global health SL course at the University of Alabama at Birmingham. Variability among student groups by major, gender, academic year, partner type, honors college status, team dynamics, and previous SL experience was determined. Overall, students reported increases in their civic attitudes and skills. However, team dynamics emerged as the most important associated factor. Individuals reporting poor team dynamics consistently reported lower levels of improvement than those reporting great team dynamics.

Keywords: *service-learning, public health, global health, team dynamics*

Service-learning (SL), the integration of community service into academic curricula, is increasingly considered normative in undergraduate programs throughout the country, especially in the humanities and in health degree programs (Furco & Billig, 2002). Service-learning, initially defined by William James and John Dewey of the University of Cincinnati's Cooperative Education Movement, is "a structured learning experience that combines community service with preparation and reflection" (Stanton, Giles, & Cruz, 1999). Following the recommendation by the Institute of Medicine (IOM) that all undergraduates have access to education in public health, there has been an increase in the number of universities and colleges offering public health majors and minors (IOM, 2003). Public health is defined as "one of the efforts to protect, promote and restore people's health. It is the combinations of sciences, skills, and beliefs that is directed to the maintenance and improvement of the health of all people through collection and social action" (Last, 2001). Going a step further, global health prioritizes a population-based and preventive focus on poor, vulnerable, and underserved populations, and employs multidisciplinary approaches to addressing issues affecting these populations (Koplan et al., 2009). This is not to say that public health does not employ these same approaches or focus on the poor and underserved; however, a major tenet of global health is social justice, since systemic violations of human rights are often at the center of poor socioeconomic circumstances and therein health. Public health and global health curricula often focus on issues of social justice, which prove difficult to teach without an experiential curriculum. While it is possible for online instructors to integrate a module on social justice, such a component may not have the same impact as experiential learning in the community. The pairing of the SL pedagogical

model with public health curricula offers public health students a vital opportunity as they witness the circumstances of vulnerable populations: to gain an understanding about how their work may impact these populations and, in the end, to realize the importance of SL to their overall education. Many researchers and educators agree that SL provides students with solid conceptualizations of social change and social justice, improves their civic attitudes, and equips them with skills for future employment or volunteer work. The basis of this consensus has been the use of SL programs in many graduate programs, especially in the realm of public health (Cashman & Seifer, 2008). When students engage in SL programs in response to community-identified concerns and, through the process, understand the context in which service is provided, they are able to make connections between their service, their academic coursework, and their roles as citizens (Seifer, 1998). Central to SL is the notion of reciprocal learning, whereby the student, professor, and community partner all become active learners, civic responsibility is stressed, and community ties and partnerships are strengthened (Cashman & Seifer, 2008).

Experiential learning theory (ELT) (Kolb & Kolb 1984, 2006), relevance of attribution theory (Bringle & Velo, 1998), and social learning theory (Bandura, 1997) have all been cited as theoretical frameworks for SL programs (Cashman & Seifer, 2008; Moely et al., 2002a; Stanton, Giles, & Cruz, 1999; Stukas et al., 1999). Experiential learning theory has been referenced most frequently, as it describes how the learner grasps a concept through a combination of concrete experience and abstract conceptualizations, making the concept personally meaningful through reflection and active experimentation (Kolb, 1984). Similarly, the relevance of attribution theory posits that individuals make causal inferences to explain their own and others' behaviors, and the events of the world (Bringle & Velo, 1998). It is important to note the four key constructs that are organized for the SL experience: (1) its controllability, (2) the stability of its cause, (3) the locus of causality (internal or external to the person involved), (4) its globality (the specificity of the attribution) (Bringle & Velo, 1998). These constructs are important to consider in relation to SL programs, as oftentimes some students may initially experience fundamental attribution error (Bringle & Velo 1998), whereby they tend to underemphasize the importance of environmental influences on behaviors of underprivileged populations. One of the goals of the SL experience is for students to reflect on the external causes of poverty and circumstances, thus moving them away from this attribution error. Finally, Bandura's social learning theory describes the importance of the development of self-efficacy attributable to SL programs. Self-efficacy has four major components: (1) mastery experiences, (2) vicarious experiences, (3) social persuasion, and (4) physical/emotional states. While research has demonstrated that community-based learning experiences may provide positive impact on mastery experiences (Cone, 2009) and that the other three components of self-efficacy seem to improve with SL activities, the current literature is limited to qualitative studies or generally single-item quantitative instruments. Consequently, few studies have been able to confirm the benefit of SL programs on experiential learning (attributable to the previously mentioned theories), and none has included public or global health curricula specifically. Additionally, while multiple questionnaires had been developed through the years by varying researchers in diverse fields of study, they proved inconsistent in confirming the benefit of SL until 2002, when Moely and colleagues developed their Civic Attitudes and Skills Questionnaire (CASQ).

The CASQ is a validated survey tool incorporating all aspects of the aforementioned theories; specifically, ELT and attribution theory helped shape the questions for civic attitudes and Bandura's self-efficacy construct aided in in measuring civic skills. Moely and colleagues (2002b) developed the CASQ by completing factor analysis of the work of Comrey (1988), Eyler and Giles (1999), Olney and Grande (1995), Chapman and Morley (1999), Ferrari et al. (1999), and Stukas et al. (1999)—previous questionnaires aimed at measuring self-efficacy, attribution, and experiential learning. Building upon the work of their predecessors, Moely et al. (2002b) created their own validated instrument to analyze the civic attitudes, skills, and behavioral changes attributable to SL experiences. With this new instrument, Moely et al. (2002b) analyzed the experience of Tulane University students enrolled in SL courses. To date, however, little additional research has been conducted to analyze civic attitudes and skills among public health students in the United States. This is likely due to the fairly recent push for SL curriculum in public and global health undergraduate curricula by the IOM. This lack of research might be attributable

to the fact that, early on, SL experiences were limited to graduate programs (Cashman & Seifer, 2008; Moely et al., 2002a) or to administrators not seeing the need to demonstrate the benefit of SL programs quantitatively (Brown et al., 2007; Cashman & Seifer, 2008; Elam et al., 2003).

The purpose of this study was to utilize the CASQ to determine the impact of SL among University of Alabama at Birmingham (UAB) students enrolled in Global Health Studies (GHS) 220: Global Health Service-Learning with either a domestic (e.g., United Way, UAB 1917 Clinic, etc.) or international (e.g., Project Hearts in the Dominican Republic, University of West Indies in Jamaica, etc.) community partner and to discover if any change in civic attitudes and skills were attributable to the course. These undergraduate students represented the UAB Honors College, School of Public Health, School of Health Professions, and College of Arts and Sciences. Using the CASQ results, the researchers then conducted comparisons of groups by academic year, gender, degree, team dynamic (i.e., not functional, functional, great), domestic or international partner, and previous experience with SL projects.

Methods

During the 2014 spring semester at the UAB, students of the newly created GHS 220: Global Health Service-Learning course were assigned to groups based on their preferences working with the various partners available. Each partner organization provided a short self-description of its mission and expected student accomplishments and outcomes during the semester, including literature reviews, needs assessments, project designs, and educational curriculum development, to name a few. Students then identified their top three partner choices, and teams were formulated based on the individuals' preferences. On the final day of the course, all students were asked to respond to the CASQ (in hardcopy format). Students were first asked to sign a consent form explaining that their responses would be utilized for research and would remain anonymous. An independent, third party instructed students to sign the consent form if they agreed to complete the questionnaire, fill out the survey, and return it upon completion. Basic student demographics including gender, academic year, major, team dynamics, honors college enrollment, and prior SL experience were self-reported by the students. Majors were divided into seven categories: biological/chemical/physical sciences, engineering, health profession majors (e.g., medical technology, health care management, health information, etc.), humanities and arts (e.g., anthropology, sociology, social work, etc.), nursing, psychology (separated from humanities and arts to determine if an effect would be found), and public health.

The CASQ contains 45 items to evaluate students' skills and personal attitudes regarding civic and social issues. Six constructs are measured within the CASQ: (1) Civic Action/Future Civic Intention assesses a student's intentions to become involved in some sort of community action or service in the future; (2) Interpersonal and Problem-Solving Skills measures a respondent's self-reported ability to listen, work cooperatively, communicate, make friends, take the role of the other, think logically and analytically, and solve problems; (3) Political Awareness assesses a respondent's knowledge of current national and local events and political issues; (4) Leadership Skills evaluates a respondent's ability to lead and measures his or her effectiveness as a leader; (5) Social Justice Attitudes assesses an individual's agreement with items expressing attitudes concerning causes of poverty and misfortune and solutions to social problems; and (6) Diversity Attitudes measures a respondent's attitudes toward diversity and interest in relating to culturally different people (Moely et al., 2002b). Respondents' agreement or disagreement with items was determined using a 5-point Likert scale (1 = completely disagree, 5 = completely agree). Items worded negatively were reverse coded before analysis was completed. Our questionnaire and the purpose of the study were reviewed and approved by the university's institutional review board. Questionnaires were voluntary and anonymous. All statistical analysis was completed using SPSS Version 20.0.

Results

Of the 47 students enrolled in the GHS 220: Global Health Service-Learning course, 43 completed and returned the questionnaires. More females responded (74.4%), and the majority of the students were in their second year of undergraduate work (58.1%) (see Table 1). Since the course is a requirement for students in the public/global health concentration major, it is not surprising that public health was the most common major (39.5%), followed by humanities and arts (18.6%), and biological/chemical/physical sciences (16.3%). Interestingly, more honors students responded (74.4%) than non-honors students (25.6%); however, this course was required of a large portion of honors students for their honors program. Only one respondent reported having prior SL experience. More students worked with domestic (60.5%) versus international (39.5%) community partners during the course.

Table 1. Demographics of GHS 220 Students

Gender	
Male	N = 11 (25.6%)
Female	N = 32 (74.4%)
Year	
Freshman	N = 5 (11.6%)
Sophomore	N = 25 (58.1%)
Junior	N = 11 (25.6%)
Senior	N = 2 (4.7%)
Major	
Biological/Chemical/Physical Science	N = 7 (16.3%)
Engineering	N = 1 (2.3%)
Health Professions	N = 4 (9.3%)
Humanities and Arts	N = 8 (18.6%)
Nursing	N = 3 (7.0%)
Psychology	N = 3 (7.0%)
Public Health	N = 17 (39.5%)
Honors College	
Yes	N = 32 (74.4%)
No	N = 11 (25.6%)
Prior Service-learning	
Yes	N = 1 (2.3%)
No	N = 42 (97.7%)
Location of Partner	
Domestic	N = 26 (60.5%)
International	N = 17 (39.5%)
Team Dynamics	
Not Very Functional/Wasn't Very Good	N = 4 (9.3%)
Functional	N = 9 (21.0%)
Great	N = 29 (67.4%)
Missing	N = 1 (2.3%)

Table 2 shows reported means and standard deviations for all 43 CASQ respondents in each of the six constructs, with the highest scores associated with Future Civic Intention, Interpersonal and Problem Solving Skills, and Diversity Attitudes (all over 4 on the 5-point scale). Group comparisons were then made among gender, major, honors student status, team dynamics, previous SL experience, and partner location. Moely et al. (2002b) identified significant gender differences; therefore, we decided to determine if gender differences emerged in our sample (see Table 3). When analyzed by gender, females and males did not differ significantly in relation to any of the constructs of the CASQ. However, it was interesting to note that females did express greater intention to engage in civic action in the future versus males ($p = .073$). Additionally, though not statistically significant, women seemed to report more positive attitudes toward social justice issues when compared to their male counterparts ($p = .099$).

Table 2. CASQ Results

GHS 220 (n = 43)	**Mean**	**Standard Deviation**
Future Civic Intention (FCI)	4.47	.41
Interpersonal and Problem Solving Skills (IPSS)	4.37	.37
Political Awareness (PA)	3.65	.74
Leadership Skills (LS)	3.72	.39
Social Justice Attitudes (SJA)	3.91	.36
Diversity Attitudes (DA)	4.21	.50

Table 3. CASQ Results by Gender

GHS 220 (M = 11, F = 32)	**Mean**	**Standard Deviation**
Future Civic Intention (FCI)		
Male	4.28	.51
Female	4.54	.35
Interpersonal and Problem Solving Skills (IPSS)		
Male	4.27	.35
Female	4.40	.36
Political Awareness (PA)		
Male	3.38	.76
Female	3.75	.71
Leadership Skills (LS)		
Male	3.70	.43
Female	3.72	.38
Social Justice Attitudes (SJA)		
Male	3.76	.33
Female	3.97	.35
Diversity Attitudes (DA)		
Male	4.10	.39
Female	4.24	.53

When academic year, major, honor student status, previous SL, and partner location were analyzed for differences, no notable trends emerged. However, when analyzed by team dynamics, an association became evident (see Table 4). Although the majority of respondents reported great team dynamics (67.4%), 21% reported functional dynamics, and 9.3% reported poor functional dynamics. When broken down by constructs, Future Civic Intention, Interpersonal and Problem Solving Skills, and Diversity Attitudes all showed statistically significant differences, with those reporting great team dynamics having higher scores than those who did not. Although the rest of the constructs analyzed did not reveal statistically significant differences, it should be noted that a similar trend did emerge, with those reporting poor team dynamics having consistently lower scores on each construct than those who experienced great team dynamics.

Table 4. CASQ Results by Team Dynamics

GHS 220 Sample (n = 42)		N	Mean	Std. Deviation
FCI	Not Functional	4	3.7188	.27717
	Functional	9	4.3750	.39528
	Great	29	4.6078*	.30568
IPSS	Not Functional	4	3.7500	.29659
	Functional	9	4.3333	.26021
	Great	29	4.4626*	.31148
PA	Not Functional	4	3.0417	.69887
	Functional	8	3.6875	.78395
	Great	29	3.7126	.72223
LS	Not Functional	4	3.5000	.38297
	Functional	9	3.6444	.31269
	Great	29	3.7517	.40233
SJA	Not Functional	4	3.7813	.34422
	Functional	9	4.0000	.25000
	Great	28	3.8973	.39242
DA	Not Functional	4	3.5500	.52599
	Functional	9	4.1778	.52387
	Great	29	4.3034†	.43629

*$p < .001$, †$p < .05$

Discussion

Overall, the CASQ results indicated an overall positive attitude and self-report of civic skills resulting from students' participation in the SL course. When group analyses were completed among major, honors student status, previous SL, and partner location, no differences emerged. Though gender was an important associated predictor in CASQ scores in the Moely et al. (2002b) study, our results showed no differences in CASQ scores within all six constructs between males and females. This may have been due to our sample comprising a majority of female respondents. However, our most important finding related to team dynamics. Those students who experienced poor team dynamics reported significantly lower scores relating to Future Civic Intention, Interpersonal and Problem-Solving Skills, and Diversity Attitudes. It should also be noted that although the differences within the other constructs were not

statistically significant, a trend did emerge wherein those who experienced poor team dynamics consistently scored lower than those who had a great team dynamic. To our knowledge, our study is the first to utilize team dynamics in relation to the CASQ and to identify team dynamics as a factor associated with civic attitudes and skills developed from SL experiences.

Although our study highlights the importance of team dynamics, limitations were present. First, our study adopted an exploratory design, and thus only associations and mean comparisons could be measured and analyzed. We only measured results at the end of the course and had no outcome data with which to carry out further analysis on civic attitudes and skills and their possible predictors. Second, only 43 respondents participated in the study; therefore, our statistical power to make inferences was limited. Third, due to the cross-sectional nature of the study, we were unable to measure students' civic attitudes and skills prior to the SL experience.

Despite these limitations, team dynamics proved to be the strongest factor associated with civic attitudes and skills. In light of this new knowledge, instructors of SL courses should aim to match teams with complementary skills to mitigate poor team dynamics. While this may prove difficult, we believe—consistent with the opinions of other authors—that SL is an appropriate and effective pedagogical tool for teaching undergraduate public health students the reality of non-biological forces (Cashman & Seifer, 2008). Though Moely et al. (2002b) were able to determine an improvement in civic attitudes and skills attributable to SL programs, their study was limited to undergraduate liberal arts students. To our knowledge, our study is the first to apply the CASQ to public health curricula to determine if students, from any major, improved their civic attitudes and skills as a result of their participation in the global health SL course. Whereas we have set a foundation for future research, we recommend that studies employing the CASQ should adopt a longitudinal design to determine changes in civic attitudes and skills of students due to SL experiences. With the increased push for SL curricula in public and global health, we believe more schools of public health should integrate SL programs and assess their benefit using the CASQ to confirm our findings. While educators, students, and community organizations all seem to benefit from SL experiences, more quantitative studies are needed to confirm this hypothesis and determine their influence on students' future academic and professional goals.

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