Psychometric Properties and Correlates of the Civic Attitudes and Skills Questionnaire (CASQ): A Measure of Students' Attitudes Related to Service-Learning

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Two samples of undergraduate students (N's = 761, 725), enrolled in liberal arts and sciences courses at a private research university, completed a questionnaire designed to measure attitudes, skills, and behavioral intentions that might be affected by service-learning participation. Factor analyses were used to define six scales. The scales' reliability was found to be adequate, according to internal consistency and test-retest assessments. Support for the scales' validity was obtained by examining relationships to measures of social desirability, attitudes about race, motivational beliefs, and respondents' demographic characteristics.

Stukas, Clary, and Snyder (1999) conclude their review of service-learning programs and research with the suggestion: "...that evaluations be carefully constructed to assess the effects of service-learning for all involved—with an emphasis on rigorous experimental and survey methodology." Stukas et al. organize their review of service-learning outcomes around six major goals, including three that are the focus of the present research: Students who participate in service-learning may show increases in *Self-Enhancement* (self-esteem, personal efficacy, and confidence), *Understanding of Self and World* (personal growth, development of moral reasoning, empathic understanding, and attitudes toward diverse groups in society), and *Value-Expression* (expression of humanitarian and prosocial values through action and plans for future involvement in community service). The present study reports on the development of a questionnaire to assess students' self-evaluations concerning attitudes, skills and behavioral intentions that may be affected by service-learning participation. Items tapped aspects of the three goals that Stukas et al. described in their review.

Measures typically used to assess service-learning outcomes have included various techniques: journal writings (Primavera, 1999; Yates & Youniss, 1996), interviews (Eyler & Giles, 1999), focus groups (Schmiede, 1995), and, especially, questionnaires in which students express agreement or disagreement with statements concerning their attitudes, beliefs, and self-evaluations. Such questionnaires have been used since the first service-learning program evaluations were undertaken. For example, Markus, Howard, and King (1993) and Kendrick (1996) used

the Social Responsibility Inventory, developed by Howard and MacKeachie, to assess students' attitudes before and after participation in a service-learning course. Major constructs measured with this inventory were social responsibility (rating the importance of beliefs and activities such as equal opportunity for all and volunteer efforts) and personal efficacy for community change (Kendrick, 1996). Giles and Eyler (1994) used items from this inventory, with those from Astin (1992), to assess service-learning outcomes. These studies usually focused on students' responses to individual questionnaire items; none reported efforts to assess the reliability or validity of measures.

Recently, questionnaires' psychometric aspects have received greater attention. For instance, Eyler, Giles, and Braxton (1997) developed a questionnaire to obtain college students' self-assessments of characteristics that might be affected by participation in service-learning, including citizenship skills (skills for political action, communication, ability to identify social issues, and tolerance), citizenship confidence (personal efficacy, belief that the community can be effective in solving its problems, and community connectedness), and social justice perceptions (locus of community problems, social justice, perspective-taking, and openness to other views). Most constructs were assessed by multiple items, so that internal consistency coefficients (Cronbach *alpha*) could be obtained; these were found to range from .46 to .80. Shiarella, McCarthy, and Tucker (2000) described developing the Community Service Attitudes Scale (CSIPI), which measures college students' attitudes about community service from the

perspective of Schwartz' helping behavior model. Shiarella et al. used factor analyses to construct scales and reported internal consistency coefficients ranging from .53 to .90 for the several scales included on the CSIPI.

The present study reports on developing the Civic Attitudes and Skills Questionnaire (CASQ), on which college students can describe attitudes and skills that may be affected by a service-learning experience. Factor analysis was used to identify groups of related items on an initial form of the questionnaire (Comrey, 1988). The CASQ's final form was created by selecting groups of items that formed coherent scales. The scales were evaluated for both internal consistency and test-retest reliability. As indicated above, previous efforts have shown that it is possible to develop measures with good internal consistency; however, we have found no test-retest reliability reports for service-learning measures. The present study evaluates both kinds of reliability for the CASQ scales.

An important question concerns the validity of questionnaire measures of students' attitudes and skills: How accurately do the self-evaluations made on a questionnaire actually reflect the constructs the scales are designed to assess? Only a few studies have systematically considered the validity of service-learning measures. Eyler and Giles (1999) used a questionnaire, along with problem-solving and reflective interviews, to learn about changes in college students resulting from service-learning experiences. They found correspondences between information obtained with the questionnaire and from interviews, thus supporting the validity of the questionnaire technique as a way to learn about students' self-assessments. Olney and Grande (1995) carried out a validity study for their Scale of Service-Learning Involvement, designed to measure social responsibility beliefs. Validity was shown by relationships between subscales and by the subscales' relationships to measures of intellectual and moral development, students' commitments to service, and their actual service involvement.

A discriminant validity question concerns whether questionnaire responses are influenced by students' efforts to present themselves in a positive or socially acceptable manner. Few attempts have been made to determine the extent to which socially desirable responding influences answers to service-learning attitude questionnaires. Chapman and Morley (1999) found that college students' self-reports of volunteerism motives on the Volunteer Functions Inventory (VFI) were not related to social desirability. However, Ferrari, Dobis, Kardaras, Michna, & Wagner (1999) did find significant positive correlations of social desirability with two of the six VFI

scales. These are the only reports we have seen that examined social desirability; the present study sought additional information about its importance. If respondents are honestly assessing their attitudes and characteristics, scales should be relatively independent of social desirability.

The CASQ scales' construct validity was examined through the CASQ scales' relationships to other measures. At our University, as at many others (Kellogg, 1999; Rhoads, 1998), students predominantly from white middle- to upper-class backgrounds carry out service in community agencies serving a low-income African American community. Thus, it was important to include items on social factors, cultural diversity, and views of other races in assessing the service-learning experience. Scales measuring aspects of Stukas et al.'s (1999) *Understanding of Self and World* goal, in particular those concerned with social justice and diversity attitudes, were expected to show relationships with the Modern Racism Scale (MRS) (McConahay & Hough, 1976). Myers-Lipton (1996) used the MRS to show that college students became less stereotypic about race following their service-learning participation.

Motivational beliefs were expected to show relationships to scores on several CASQ scales. Reeb, Sammon, and Isackson (1999) found that students who chose to engage in service-learning showed strong interest in the course, high motivation for learning, and positive instructor evaluations at the end of their service-learning experience. In gathering validity evidence for CASQ scales, two motivational belief types were assessed: *Value of College*—students' course and college experience valuations were measured with questions about course usefulness and college satisfaction; *Mastery Orientation*—students were asked how important it was to them that class work be challenging and involving, reflecting the extent to which they held goal orientations that relied on intrinsic learning rewards (Ames, 1992; Moely, Santulli, & Obach, 1995; Pintrich & DeGroot, 1990). According to Ames, a mastery goal orientation emphasizes effort as causing success, and individuals with this goal are "...oriented toward developing new skills, trying to understand their work, improving their level of competence, or achieving a sense of mastery based on self-referenced standards" (p. 262). Ames summarized research showing that mastery goals are related to preferences for challenging work and risk-taking and to intrinsic interest in learning. We reasoned that students who are interested in learning for its own sake and value their learning experiences would feel confident in their community service abilities, embracing and benefiting from opportunities to engage with the community. Thus,

we expected that Value of College (VC) and Mastery Orientation (MO) would be related to scales measuring aspects of *Self-Enhancement* and *Value-Expression*.

An additional scale validity aspect concerns group differences in service-learning attitudes and self-assessments. Several studies have shown that women and men hold different views in aspects of the three Stukas et al. (1999) goals considered. With regard to *Self-Enhancement*, Eyler and Giles (1999) found that, prior to service-learning, women scored higher than men on scales for personal efficacy, communication, and career skills. Chapman and Morley (1999) also reported that women obtained higher scores than men on a scale measuring self-esteem regarding community service capacity. Regarding *Understanding of Self and World*, Eyler and Giles (1999) found that women scored higher than men on social justice values, but lower than men on tolerance and community efficacy. Chapman and Morley (1999) reported that women scored higher than men on scales measuring values and understanding as motives for engaging in community service activities. For *Value-Expression*, Eyler and Giles reported that women were more likely than men to agree that it is important to volunteer, that everyone should volunteer, and that service should be required of students. Shiarella et al. (2000) found that women scored consistently higher than men on the Community Service Attitudes Scale (CSAS), measuring attitudes about community service (intention to engage in service, view of service as a normative activity, connectedness to the community, awareness of community needs, and awareness of service's costs and benefits). Thus, gender differences on CASQ scales were expected on the basis of previous research.

In the present study, factor analyses were used to define scales measuring students' attitudes and self-evaluations that may be influenced by a service-learning experience. The CASQ scales are described below, and scale reliabilities (internal consistency and test-retest) are reported. Efforts to assess validity include 1) determination of how the CASQ scales are affected by social desirability responding, 2) examination of the relationships of the CASQ scales to measures of stereotyping (MRS) and motivational beliefs, and 3) evaluation of differences in CASQ scores obtained by groups varying in gender, prior community service, and age.

Method

Participants

Sample 1. During the 1999-2000 academic year, 761 college students from 29 undergraduate liberal arts courses participated. As indicated in Table 1, most students identified themselves as white and female. Grade point averages (GPAs) reported by high school (freshmen) or college (sophomores and above) students were in the "B+" range. Majors were grouped into categories of Biological Science (biology, neuroscience), Arts and Humanities (English, foreign languages, Communication, Architecture), Social Sciences (Anthropology, Economics, History, Sociology), and Psychology. Psychology was treated as a separate category due to the large student numbers in that field.

Sample 2. In the fall 2000 semester, the questionnaire was completed by 725 college students from 27 courses. Demographics were similar to Sample 1, shown in Table 1.

Measures

CASQ development. An 84-item questionnaire was originally modeled on those used in previous research on service-learning outcomes, especially Astin and Sax (1998), Eyler and Giles (Eyler et al., 1997; Eyler & Giles, 1999), and Markus et al. (1993). Items measured skills that would be useful in civic endeavors (interpersonal relations, social/political awareness, leadership, problem-solving, and logical thinking), values related to civic engagement (social justice, importance of community service), and the likelihood of action and involvement in community issues. Based on preliminary work, the questionnaire was reduced to 65 items tapping skills, attitudes, and action plans.

Analyses were carried out separately on data from the 1999-2000 sample (N = 761) and the fall 2000 sample (N =725). Each used a Principal Component Analysis and Varimax Rotation with Kaiser Normalization. Six-factor solutions accounted for 40% of the variance in scores (Sample 1: 40%, Sample 2: 41%) and yielded conceptually meaningful factors. Both data sets showed the same item groupings and the same ordering of the first four factors; the fifth and sixth factors contained the same items but were extracted in different orders in the two separate factor analyses. The total number of items on the final questionnaire was reduced to those shown in Table 2, through examining the factor loadings and the conceptual consistency of each scale's items. This strategy is consistent with Comrey's (1988) recommendation that items selected for a scale must not only load on a single factor but must be written so that they are meaningful examples of the construct being measured.

The final version of the CASQ contains 45 items (shown in Table 2) on which students self-evaluate their skills and personal attitudes regarding civic and social issues. The scales and % of score variance accounted for by each are described as follows:

Table 1
Demographic Characteristics of Each Sample

	Sample 1	Sample 2
Number of Respondents	761	725
% Female	69%	63%
Ethnicity		
African American	6%	5%
Asian American	4%	4%
Hispanic	5%	6%
White	79%	80%
Other or No response	6%	5%
Age: Mean years, (SD)	20.1 (2.3)	20.4 (3.0)
Year in College		
Freshman	16%	14%
Sophomore	28%	26%
Junior	33%	27%
Senio	22%	30%
Graduate	1%	3%
Mean Grade Point, (SD)	3.29 (.5)	3.29 (.44)
Major		
Biological Sciences	10%	20%
Humanities and Arts	14%	16%
Psychology	34%	18%
Social Sciences	27%	28%
Other or Undecided	15%	18%
Mean Hours Service Experience, (SD)	184.1 (228.9)	201.7 (320.1)

1. *Civic Action* (16.9% of variance). Intentions to become involved in the future in some community service or action are assessed. The scale is similar to the Astin and Sax (1998) Civic Responsibility Scale, though it is focused more specifically on involvement in community programs and helping others.

2. *Interpersonal and Problem-Solving Skills* (7.1% of variance). Respondents evaluate their ability to listen, work cooperatively, communicate, make friends, take the role of the other, think logically and analytically, and solve problems.

3. *Political Awareness* (5.4% of variance). Respondents evaluate themselves on items concerning awareness of local and national current events and political issues.

4. *Leadership Skills* (3.9% of variance). Respondents evaluate their ability to lead and effectiveness as leaders.

5. *Social Justice Attitudes* (3.7% of variance). Respondents report agreement with items expressing attitudes concerning causes of poverty and misfortune and how social problems can be solved.

6. *Diversity Attitudes* (3.0% of variance). Respondents describe their attitudes toward diversity and their interest in relating to culturally different people.

Reliability and validity evidence for the six scales is reported below. Other measures were included in each assessment, in order to gain information bearing upon the scales' validity.

Social Desirability. Twelve items from Crandall, Crandall, and Katkovsky (1965) and Crowne and Marlowe (1960) were used to measure the extent to which the respondent attempted to present him/herself in a favorable manner, according to conventional social norms. This scale has been used previously in research with children and adults (Kirby, 1995; Moely et al., 1995). Internal consistency coefficients were .70 for Sample 1 and .72 for Sample 2.

Modern Racism Scale. The MRS, developed by McConahay and Hough (1976), was used to assess stereotypically racist attitudes that are worded in "socially acceptable" ways. Myers-Lipton (1996) used this scale in evaluating service-learning outcomes. Internal consistencies were .82 for Sample 1 and .83 for Sample 2.

Value of College. The extent to which students saw their academic course as useful and valuable in their own lives (for future academics, career development, or personal growth) was assessed with 11 items adapted from previous research on motivational beliefs. Respondents were asked to indicate how use-

Table 2

Civic Attitudes and Skills Questionnaire (CASQ) for Evaluation of Service-Learning Outcomes

	Sample 1*	Sample 2
Factor One: Civic Action	Factor Loadings: Factor 1	
I plan to do some volunteer work.	.75	.81
I plan to become involved in my community.	.73	.79
I plan to participate in a community action program.	.72	.63
I plan to become an active member of my community.	.71	.74
In the future, I plan to participate in a community service organization.	.69	.79
I plan to help others who are in difficulty.	.57	.59
I am committed to making a positive difference.	.56	.52
I plan to become involved in programs to help clean up the environment.	.41	.38
Internal Consistency: *alpha*'s = .86 for Sample 1, .88 for Sample 2		
Factor Two: Interpersonal and Problem-Solving Skills	Factor Loadings: Factor 2	
I can listen to other people's opinions.	.59	.59
I can work cooperatively with a group of people.	.59	.52
I can think logically in solving problems.	.57	.51
I can communicate well with others.	.56	.40
I can successfully resolve conflicts with others.	.55	.54
I can easily get along with people.	.53	.58
I try to find effective ways of solving problems.	.51	.53
When trying to understand the position of others, I try to place myself in their position.	.46	.53
I find it easy to make friends.	.46	.43
I can think analytically in solving problems.	.46	.41
I try to place myself in the place of others in trying to assess their current situation.	.39	.55
I tend to solve problems by talking them out.	.33	.33
Internal Consistency: *alpha* = .79, .80		
Factor Three: Political Awareness	Factor Loadings: Factor 3	
I am aware of current events.	.81	.79
I understand the issues facing this nation.	.80	.77
I am knowledgeable of the issues facing the world.	.75	.69
I am aware of the events happening in my local community.	.68	.65
I plan to be involved in the political process.	.64	.53
I understand the issues facing (my city's) community.	.59	.56
Internal Consistency: *alpha* = .80, .79		
Factor Four: Leadership Skills	Factor Loadings: Factor 4	
I am a better follower than a leader. R**	.73	.73
I am a good leader.	.73	.70
I have the ability to lead a group of people.	.67	.70
I would rather have somebody else take the lead in formulating a solution. R	.64	.71
I feel that I can make a difference in the world	.48	.37
Internal Consistency: *alpha* = .79, .79		
Factor Five: Social Justice Attitudes	Factor Loadings: Factor 5	
I don't understand why some people are poor when there are boundless opportunities available to them. R	.63	.65
People are poor because they choose to be poor. R	.61	.60
Individuals are responsible for their own misfortunes. R	.57	.50
We need to look no further than the individual in assessinghis/her problems. R	.52	.46
In order for problems to be solved, we need to change public policy.	.49	.43
We need to institute reforms within the current system to change our communities.	.48	.46
We need to change people's attitudes in order to solve social problems.	.39	.37
It is important that equal opportunity be available to all people.	.32	.26
Internal Consistency: *alpha* = .70, .69		
Factor Six: Diversity Attitudes	Factor Loadings: Factor 6	
It is hard for a group to function effectively when the people involved come from very diverse backgrounds. R	.61	.60
I prefer the company of people who are very similar to me in background and expressions. R	.59	.48
I find it difficult to relate to people from a different race or culture. R	.57	.60
I enjoy meeting people who come from backgrounds very different from my own.	.49	.50
Cultural diversity within a group makes the group more interesting and effective	.48	.49
Internal Consistency: *alpha* = .70, .71		

Note: * Values are factor loadings for each item on the factor on which it loaded most strongly in the factor analysis performed on each sample. For Sample 1, N = 760; for Sample 2, N = 718.
** Items marked "R" were reverse scored before analyses were done.

Table 3

Means and Standard Deviations for All Measures and Correlations of Each Scale with Social Desirability

	Sample 1 (N = 761)			Sample 2 (N = 725)		
	M	*SD*	*r*	*M*	*SD*	*r*
CASQ Scales						
1. Civic Action	4.03	.65	.27*	3.98	.54	.28*
2. Interpersonal and Problem-Solving Skills	4.43	.40	.31*	4.25	.43	.30*
3. Political Awareness	3.41	.77	.07	3.46	.74	.14*
4. Leadership Skills	3.93	.68	.11	3.90	.68	.13*
5. Social Justice Attitudes	4.03	.52	.06	3.95	.52	-.03
6. Diversity Attitudes	4.05	.61	.16*	3.97	.64	.21*
Modern Racism Scale	1.82	.71	-.06	2.01	.77	-.04
Value of College	3.95	.55	.28*	3.96	.53	.32*
Mastery Orientation**	4.18	.52	.35*			
Social Desirability	3.01	.53		2.98	.54	

Note: * *p* < .001
** The Mastery Orientation Scale was used only with Sample 1.

ful and important their college course was (six items), how well they liked the course (two items), and how satisfied they were with opportunities the University provides for civic service, leadership, and career preparation. Students indicated their agreement level with items such as, "It is important for me to learn what is being taught in this course," and "My coursework is relevant to everyday life." Internal consistency coefficients were .81 for Sample 1 and .82 for Sample 2.

Mastery Orientation. The extent to which students endorsed mastery as a goal in college academics was assessed using seven items derived from research on motivational beliefs (Moely et al., 1995; Pintrich & DeGroot, 1989). Respondents indicated their preference for class work that is challenging, involving, and stimulates further learning. Such items have been used to assess the extent to which the student holds a goal orientation relying on intrinsic rewards rather than external rewards for learning efforts. Typical items were as follows: "I think that the work for my college courses is interesting," and "The work we do in class makes me want to learn more." This scale was used with Sample 1 only, where internal consistency was .81.

Other Information Obtained. Students were asked to indicate their gender, age, year in school, race, GPA, the level of education they planned to attain (Bachelors, Masters, PhD, or professional degree), and major area of study. They also were asked to estimate the number of hours that they had spent in community service in high school, in college, and through religious organizations.

Procedure

Questionnaires were administered to students in their college classes at the beginning of the semester,

beginning, usually in the first class meeting. Items from the CASQ, MRS, Value of College, Mastery Orientation, and Social Desirability scales were randomly arranged within a single questionnaire. Students indicated their agreement or disagreement with each item by marking a scale from 1 (complete disagree) to 5 (agree completely). Items that were worded negatively for presentation were reverse coded before analyses were carried out.

Students were not asked to give their names on the questionnaires and their participation was voluntary. However, those who completed the questionnaire could register for a drawing in which several gift certificates for local restaurants or retail establishments were awarded.

Results

Means and standard deviations for scores obtained from each sample on the CASQ scales are shown in Table 3. In evaluating relationships between scale scores and other variables (below), an *alpha* level of .001 was used in determining statistical significance, to reduce Type I error possibilities likely with multiple statistical tests.

Social Desirability Influences on Responding

Relationships between Social Desirability scores and CASQ scales are shown in Table 3. In both samples, Social Desirability was positively related to three scales, most strongly for the scales measuring Civic Action and Interpersonal and Problem-Solving Skills. The scale measuring Diversity Attitudes showed small positive correlations with social desirability in both samples. The other scales were not consistently related to Social Desirability. In analyses reported below, partial correlations were used to control for Social Desirability responding.

Reliability of the CASQ Scales

Internal consistencies (Cronbach's coefficient *alpha*) for each scale for each sample are shown in Table 2. Values range from .69 to .88, and estimates are very similar in the two samples.

For each sample, data from students who completed both the pre- and post-testing sessions but did not engage in service-learning (Sample 1, n = 212; Sample 2, n =221) were used to estimate test-retest stability of the measures. Partial correlations between pre-and post-test scores on each scale were calculated, holding constant Social Desirability responding as measured on the pretest. Although there are various uncontrolled factors that could affect students' scores on these scales over the three-month period between the two assessments, we find considerable stability. Partial pre- and post-test score correlations for the six scales were as follows: For Civic Action, r's = .74, .71 for Samples 1 and 2, respectively; for Interpersonal and Problem-Solving Skills, r's = .56, .62; for Political Awareness, r's = .77, .73; for Leadership Skills, r's = .81, .72; for Social Justice Attitudes, r's = .74, .68; and for Diversity Attitudes, r's = .73, .63. Only the Interpersonal and Problem-Solving Skills scale had relatively low test-retest reliabilities in each sample, reflecting change over time that could occur through various college experiences.

Another question of interest was how much mean scores on the CASQ scales would change with repeated testings. Students who are not engaged in service-learning would be expected to show less change on these measures over a semester than service-learning students, though other aspects of the college experience might also affect their scores. Mean scale scores obtained by non-service-learning students (*n*'s as above) at the semester beginning were compared with those shown by the same students on the second test three months later. Analyses of covariance, controlling for Social Desirability, showed no significant changes from the first to the second testing on any scale, for either sample.

Intercorrelations of CASQ Scales

As indicated in Table 4, the six CASQ scales show some interrelationships, despite having been identified as separate scales through factor analysis. Notably, the Social Justice and Diversity Attitudes scales were correlated (partial r's = .28, .36 in the two samples, holding constant Social Desirability). Leadership Skills and Political Awareness were related (partial r's = .31, .27 in the two samples). The scale measuring students' perceptions of their own Interpersonal and Problem Solving Skills was related to their evaluations of their Leadership Skills (partial r's = .41, .44), and to the other scales. Finally, the Civic Action scale was positively correlated with all other CASQ scales, in both samples (partial r's range from .27 to .35), suggesting that all attitudes measured may contribute to the likelihood of a students' engaging in civic action.

Relationships of CASQ Scales to Other Measures

Correlations of the six CASQ scales, the MRS, the

Table 4

Partial Correlations of Scales (Holding Constant Social Desirability)

	2	3	4	5	6	MRS	VC	MO
for Sample 1 (N = 761) and **Sample 2 (N = 725)** CASQ Scales								
CASQ Scale								
1. Civic Action	.35*	.30*	.29*	.38*	.32*	-.32*	.36*	.44*
	.36*	**.29***	**.27***	**.40***	**.40***	**-.31***	**.35***	
2. Interpersonal and Problem-Solving Skills		.22*	.41*	.24*	.26*	-.27*	.23*	.39*
		.25*	**.44***	**.23***	**.31***	**-.23***	**.31***	
3. Political Awareness			.31*	.12	.15*	-.17*	.19*	.26*
			.27*	**.19***	**.07**	**-.10**	**.18***	
4. Leadership Skills				.04	.20*	-.08	.11	.27*
				.07	**.21***	**-.09**	**.15***	
5. Social Justice Attitudes					.28*	-.57*	.20*	.23*
					.36*	**-.63***	**.16***	
6. Diversity Attitudes						-.39*	.19*	.35*
						-.44*	**.21***	
MRS: Modern Racism Scale							-.21*	-.31*
							-.13*	
VC: Value of College								.61*

Note: *p < .001
Correlations for Sample 1 are shown on the first line; those for Sample 2 appear on the second line in italicized bold type. The Mastery Orientation Scale (MO) was only used with Sample 1.

Value of College, and the Mastery Orientation scales also are shown in Table 4. Scores on the MRS were strongly related to the Social Justice scale (partial r's = .-57 and -.63 in the two samples) and to Diversity Attitudes (partial r's = -.39, -.44). That is, a low level of agreement with racial stereotypes on the MRS is related to high scores on the Social Justice and Diversity Attitudes scales. The MRS was also related to the student's reported intent to engage in Civic Action (partial r's in the two samples = -. 32, -.31) and to Interpersonal and Problem-Solving Skills (partial r's = -.78 and -.23), but not consistently to either Political Awareness or Leadership Skills.

Value of College and Mastery Orientation measures were positively related to all CASQ scales, most strongly for Civic Action. In both samples, students who felt that they were gaining a positive experience in college and who were motivated by intrinsic rewards intended to become involved in civic action, and viewed themselves as having skills (Interpersonal, Political) and attitudes (Social Justice, Diversity) appropriate for such involvement. By using partial correlations, the tendency of individuals to make socially acceptable responses is eliminated as an explanation for these relationships.

Gender Differences

For each sample, a multivariate analysis of variance was conducted on CASQ scores, controlling for social desirability, to determine whether there were differences in men and women's responses. Women consistently scored higher than men on the CASQ as a whole (For Sample 1, multivariate $F(6,744) = 13.63$, $p < .001$; for Sample 2, multivariate $F(6,712) = 15.99$, $p < .001$. Considering separate scales, women obtained significantly higher scores on scales for Civic Action, Social Justice Attitudes, and Diversity Attitudes (p's < .001 for each scale, in each sample, according to univariate analyses of covariance controlling for Social Desirability responding). In Sample 1, but not Sample 2, men scored higher than women on Political Awareness ($p < .001$). No gender differences were seen on students' reports of Interpersonal and Problem-Solving or Leadership Skills. Mean scores are shown in Table 5.

Community Service Experience

Students were asked to estimate how many hours they had spent in volunteer or service-learning work through high school, college, or religious volunteer programs. The total service hours was obtained by summing the three values reported. Because the distributions in both samples showed a positive skew, with a small number of students reporting very large numbers of hours, scores were summarized into a five-point scale with the values 1-5 representing quintiles from the lowest to highest 20% of the distribution. These transformed scores showed a nearly normal distribution, more appropriate for statistical treatment. This total community service hours measure was positively related to the Civic Action scale in each sample (partial r's = .35 and .29, p's < .001, for Samples 1 and 2, respectively). The other CASQ scales did not predict time spent in community service.

Table 5
Means and Standard Deviations for Males and Females on the CASQ Scales

	Sample 1 (N = 226 M, 526 F)		Sample 2 (N = 265 M, 460 F)	
	M	SD	M	SD
1. Civic Action				
Male	3.87	.67	3.75	.74
Female	4.10	.63	4.12	.59
2. Interpersonal and Problem-Solving Skills				
Male	4.26	.43	4.21	.44
Female	4.35	.38	4.27	.43
3. Political Awareness				
Male	3.57	.70	3.48	.77
Female	3.35	.79	3.45	.72
4. Leadership Skills				
Male	3.99	.65	3.93	.67
Female	3.90	.70	3.88	.68
5. Social Justice Attitudes				
Male	3.87	.59	3.79	.56
Female	4.10	.47	4.04	.48
6. Diversity Attitudes				
Male	3.89	.66	3.77	.66
Female	4.12	.58	4.08	.60

Major Area of Study

Most students reported majors in the areas of Biological Sciences, Arts and Humanities, Social Sciences, and Psychology. Group comparisons showed differences in each sample only for the Political Awareness Scale (*p*'s < .001, according to multivariate analyses of covariance for each sample). Students majoring in the Social Sciences obtained the highest scores on this scale.

Other Demographic Variables

The CASQ scales were relatively independent of student age, academic rank, GPA, and educational goals.

Discussion

The six scales developed through factor analysis reflect three of the goals described by Stukas et al. (1999): the CASQ Scales 2 (Interpersonal and Problem-Solving Skills), 3 (Political Awareness) and 4 (Leadership Skills) are aspects of *Self-Enhancement*; Scales 5 (Social Justice Attitudes) and 6 (Diversity Attitudes) are components of *Understanding of Self and World*; and Scale 1 (Civic Action) reflects *Value-Expression.*

Self-Enhancement

Scores on the Interpersonal and Problem-Solving Skills scale and the Leadership Skills scale are related, indicating a common belief about one's perceived efficacy in interacting with others. The Political Awareness scale was related to Leadership Skills, reflecting common interests in politics by students who assume leadership roles. Political Awareness was highest in students studying social sciences, which could reflect either students' pre-existing values choosing such majors or the social science courses' influence on these attitudes.

Understanding of the World and Self

The Social Justice Attitudes and Diversity Attitudes scales were related to each other, both tapping attitudes toward poverty, race, and public policy issues. Both scales were strongly related to the MRS, which measures racial prejudice. Increases in the CASQ mean responses on these scales reflect a reduction in prejudice against persons who are poor and different racially or culturally.

Value-Expression

The Civic Action scale asks students about their plans for future involvement in civic and community issues. Consistent with the conceptualization of Stukas et al. (1999), the Civic Action scale is positively related to scales that reflect values about com-

munity, especially Scale 5, Social Justice Attitudes, and Scale 6, Diversity Attitudes. Shiarella, McCarthy, and Tucker (2000) found that a scale measuring students' intentions to engage in community service and desire to participate in a service-learning activity was related to scales measuring their attitudes toward helping and their awareness and feelings of connectedness to community. The Civic Action scale is also related to *Self-Enhancement*, in that students who feel they have the necessary skills (Scale 2: Interpersonal and Problem-Solving Skills, Scale 3: Political Awareness, and Scale 4: Leadership Skills) are likely to plan to take an active role in community service.

Students reporting plans for Civic Action also showed strong academic motivation on the Value of College and Mastery Orientation measures. The Value of College and the Mastery Orientation measures both reflect self-motivated, interested, active approaches to academic life and learning. Reeb et al. (1999) report that students who select service-learning are more interested and motivated, expect to work hard and gain a great deal from their courses, and show increasingly superior academic performance in their service-learning course over a semester. Our findings are consistent with these, showing that students who are likely to engage in civic action are more interested in their courses and more intrinsically motivated toward learning.

Civic Action scale scores were higher for students who had engaged in more extensive community service. Thus, students who say they plan to become active in their communities evaluate their own skills and attitudes for community action positively, tend to be mastery motivated, value their college course, and have, in the past, been involved in volunteer work and service-learning. Researchers have found behavioral intentions predict future behavior (Boyd & Wandersman, 1991; Villerand, Deschaies, Cuerrier, Pelletier, & Mongeau, 1992), so that scores on the Civic Action scale should also reflect future community involvement.

Group and Individual Differences

Women obtained higher scores than men on scales measuring Civic Action, replicating previous work showing women to be higher on scales measuring *Value-Expression* (Chapman & Morley, 1999; Eyler & Giles, 1999). They were also higher on scales measuring *Understanding of Self and World* (CASQ Social Justice Attitudes and Diversity Attitudes), adding to the literature supporting such differences. However, the CASQ scales measuring aspects of *Self-Enhancement* did not show the expected gender difference.

Social Desirability was a moderate positive corre-

late with several scales, especially those for Civic Action and Interpersonal and Problem-Solving Skills. Only the Social Justice Attitudes scale appears to be completely independent of social desirability responding. Creating scales entirely free of social desirability responding may not be a realistic goal for the kinds of items typically used in service-learning assessments. The possibility that such an orientation may influence responses should be kept in mind in future work, however, and should be considered when interpreting findings that did not also consider social desirability responding.

Reliability

This study was unique in assessing test-retest as well as internal consistency reliability of the scales. With regard to internal consistency, Shiarella et al. (2000) reference Nunnally and Bernstein's (1994) criteria for acceptable *alpha* levels: those greater than .70 indicate modest reliability, acceptable for early research stages, while levels greater than .80 are considered good. Four of our scales (Civic Action, Interpersonal and Problem Solving Skills, Political Awareness and Leadership Skills) are at or near .80, while the remaining two are at the "modest" reliability level. Test-retest correlations are .70 or better for five of the six scales, which is impressive considering that approximately three months intervened between the two testings, and also, that Social Desirability was held constant statistically in evaluating the relationships for the two test sessions. The scale measuring Interpersonal and Problem-Solving Skills was less stable over the three-month period than the other scales. Test-retest reliability was assessed only for students who were not engaged in service-learning during the semester, so that the variations on this scale cannot be attributed to service-learning influences. However, it is likely that students' college and life experiences contribute to changes in their self-perceptions over time. Development in late adolescence of aspects of personal identity (Waterman, 1985) and ways of conceptualizing the world (Perry, 1970) may be reflected in changes seen on the Interpersonal and Problem-Solving Skills scale.

Conclusions

We are encouraged by the CASQ findings for reliability and validity and hope that this scale will be useful in future investigations of service-learning correlates and outcomes. The CASQ scales are consistent with a summary by Eyler (1999), who indicated that engaging in a service experience is related to increases in commitment to service and public work (measured by the CASQ Scale 1), interpersonal skills (Scales 2 and 4), commitment to using the political system to solve social problems (Scales 3 and 5), and reduced stereotyping and greater understanding of other cultures (Scale 6). Thus, the CASQ scales should have value in assessing student outcomes of a community service learning experience.

Additional work can be done to support the scales' validity. In particular, Eyler and Giles' (1999) use of interviews in conjunction with questionnaires may contribute validity information. Using the CASQ with more diverse samples would also be of interest. The research participants in the present study were attending a selective private university, so they were quite homogeneous demographically and in areas of study. Additional work with student groups aiming toward service careers (education, health, social work, etc.) would be useful to determine the generalizability of our findings.

The scales as presently constructed can be useful in more differentiated service-learning outcome evaluations, allowing separate consideration of attitude and self-evaluation changes (Scales 2-6) and changes in behavioral intentions (Scale 1). Researchers can use the CASQ to assess differential change for groups varying in age, gender, etc. Service-learning's impact in varied community settings can be examined, outcomes for students in various academic disciplines can be compared, and relationships between attitude change and performance by the student in course and community settings can be investigated.

Notes

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