

Self-Efficacy in Service-Learning Community Action Research: Theory, Research, and Practice

Roger N. Reeb · Susan F. Folger · Stacey Langsner · Courtney Ryan · Jake Crouse

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Abstract The purpose of this article is threefold: In the first section, an overview of research and theory on the self-efficacy construct is provided, and the central role of self-efficacy in service-learning community action research is demonstrated. The second section reviews over 10 years of research validating the Community Service Self-Efficacy Scale (CSSES), which measures *the individual's confidence in his or her own ability to make clinically (meaningfully) significant contributions to the community through service*. Within the context of this review, recent (previously unpublished) validation research is also reviewed. Alternate versions of the CSSES, each of which was developed for a specific purpose, are presented. The third section provides recommendations for further research focused on (a) validating the CSSES and (b) examining self-efficacy as an outcome, moderator, and mediating variable in service-learning community action research.

Keywords Self-efficacy · Community service · Community action research · Service-learning · Community service self-efficacy scale

Introduction

Community service self-efficacy, or one's belief that she or he is capable of making meaningful community service contributions, has become a central focus in service-learning community action research (Reeb 2006a, b; Reeb

et al. 1998). In fact, self-efficacy for community service is considered to be a *core element* of the *civic minded graduate* (see Bringle and Steinberg, this volume). The purpose of this article is threefold: In the first section, an overview of research and theory on the self-efficacy construct is provided, and the central role of self-efficacy in service-learning community action research is demonstrated. The second section reviews over 10 years of research validating the Community Service Self-Efficacy Scale (CSSES), which measures "...the individual's confidence in his or her own ability to make clinically significant contributions to the community through service" (Reeb et al. 1998, p. 48). Within the context of this review, recent (previously unpublished) validation research is also reviewed. Alternate versions of the CSSES, each of which was developed for a specific purpose, are presented. The third section provides recommendations for further research focused on (a) validating the CSSES and (b) examining self-efficacy as an outcome, moderator, and mediating variable in service-learning community action research.

Theoretical Background and Rationale

Research and Theory on the Self-Efficacy Construct:
A Summary

Self-efficacy, a theoretical construct derived from Bandura's social-cognitive theory, is defined as follows: "an expectation of personal mastery..." (1977, p. 191); a "self-appraisal of operative capability" (1982, p. 123); "a conviction that one can successfully execute the behavior required to produce [desired] outcomes" (1977, p. 193); or "...a belief in one's capabilities to organize and execute the courses of action required to manage prospective situations" (1995,

R. N. Reeb (✉) · S. F. Folger · S. Langsner · C. Ryan · J. Crouse
Department of Psychology, University of Dayton,
Dayton, OH 45469-1430, USA
e-mail: roger.reeb@notes.udayton.edu

p. 2). As reviewed by Bandura (1977, 1982, 1995, 1997, 2000, 2006a, b), over three decades of research has provided support for his original hypothesis that "...expectations of personal efficacy determine whether coping behavior is initiated, how much effort will be expended, and how long it will be sustained in the face of obstacles and aversive experiences..." (1977, p. 191). Further, across a multitude of situations, circumstances, and populations, the following pattern is replicated in self-efficacy research: (1) self-efficacy for coping in a given situation systematically improves in individuals as they undergo an intervention (i.e., a treatment or training program) designed to enhance competence in coping; (2) higher levels of self-efficacy are associated with (a) greater degrees of performance proficiency in a given situation and (b) lower levels of negative emotion experienced by individuals during performance; and (3) relative to the actual performance accomplishments achieved by individuals during an intervention, post-intervention self-efficacy is a better predictor of subsequent performance accomplishments. In brief, self-efficacy largely determines the degree of initiation and persistence of coping behavior, and it appears to play a major role in mediating corrective changes in both performance proficiency and emotional regulation during performance. Thus, Bandura (2006b, p. 55) concludes that "beliefs of personal efficacy" represent the "foundation of human agency."

To conceptualize how developmental changes in self-efficacy occur, Bandura (1978) proposed the principle of reciprocal determinism, which maintains that self-efficacy, behavior, and environmental factors transact and influence one another in a bidirectional fashion. Bandura (1978, p. 346) writes:

In the...process of reciprocal determinism, behavior, internal personal factors, and environmental influences all operate as interlocking determinants of each other...in a triadic reciprocal interaction...For example, people's efficacy...expectations influence how they behave, and the environmental effects created by their actions in turn alter their expectations...

Given the principle of reciprocal determinism, the following pattern would be expected in the area of community service-learning: a student with high self-efficacy for community service would be more likely than a student with low self-efficacy to pursue service-learning opportunities; once the student with high self-efficacy becomes involved in service, he or she would exhibit high levels of effort and perseverance, even when obstacles and failures are initially encountered; in turn, the favorable service experiences and outcomes, created in part by the student's behavior, would reinforce and further improve his or her self-efficacy for community service. Conversely, if a student with low self-efficacy for community service became

involved in a service-learning project, he or she would be expected to become frustrated easily and lack persistence in the face of obstacles; in turn, the negative service experiences and failures, created in part by the student's behavior, would lead to a further decline in his or her self-efficacy for community service.

The Community Service Self-Efficacy Scale (CSSES): Rationale for Development

The rationale for development of the CSSES was threefold. First, the construct of self-efficacy is inherently pertinent to the goals of service-learning. As argued by Miller (1997), "One of the explicit goals of service-learning is to help students recognize that they can use knowledge gained in service-learning experiences to make the world a better place" (p. 16).

Second, it seemed clear that service-learning research on the self-efficacy construct would fill a significant void in the literature. While many psychometric instruments used in service-learning research (see Bringle et al. 2004) focus on such domains as motives (e.g., reasons for engaging in community service), values (e.g., social responsibility or commitment to help others), perceived community needs (e.g., beliefs regarding the extent to which community members need help from volunteers), or attitudes toward community service (e.g., beliefs about whether people have a *duty* to serve), there had been a dearth of research examining the construct of self-efficacy (confidence or sense of competence) for community service. Bandura's (1997) distinction between self-efficacy expectations and outcome expectations is helpful in illustrating the difference between self-efficacy and other constructs of interest in service-learning research: "...self-efficacy is a judgment of one's ability to organize and execute given types of performances, whereas an outcome expectation is a judgment of the likely consequences such performances will produce..." (p. 21). For instance, consider a student with a high sense of social responsibility accompanied by a belief that everyone has a duty to serve. This individual may also firmly believe that a certain set of actions (e.g., implementing a community-based diversion program for youth with conduct problems) would address a community need; however, if the student has serious doubts regarding his or her capacity to perform the set of actions, then he or she will not be motivated to pursue the service opportunity.

Third, as reviewed by Reeb et al. (1998), the few studies that did examine self-efficacy in the service-learning literature (e.g., Miller 1997) used measures with little or no demonstrated psychometric properties and, since these measures consisted of only one or two items, reliability was questionable. Further, items on these early scales tended to

be global in nature (i.e., pertaining to a general sense of power to impact the world), and so validity was also in question. As noted by Miller (1997) and Reeb et al. (1998), a low score on a global item may reflect a sense of realism as opposed to a belief that one does not have an ability to contribute to his or her immediate community through service. Thus, it became increasingly clear that advancements in our understanding of the role of self-efficacy in service-learning required development and validation of a psychometric instrument to measure the construct.

Research on Psychometric Properties of the CSSES

In an earlier critique of psychometric instruments used in service-learning research, Bringle et al. (2004, pp. 101–102) conclude that, "...the CSSES is significant as a scale developed for service learning with good theoretical rationale, promising psychometric characteristics, and potential utility as a moderator variable, mediating variable, and outcome variable." This section reviews over 10 years of research establishing the psychometric properties of the CSSES (see Table 1), including reliability (i.e. internal consistency and temporal consistency) and construct validity (i.e., factor structure, sensitivity to intervention effects, discriminant validity, convergent validity, and criterion-related validity), much of which has taken place since the Bringle et al. (2004) critique. In recent years, there has been a particular emphasis on exploring and elaborating the *nomological network* (Cronbach and Meehl 1955, p. 290). Based on an "interlocking system" of assumptions and predictions derived from theory behind a construct, a "nomological network" relates "theoretical constructs to one another" and "theoretical constructs to observables." While some of the findings reviewed in this section are from previously published empirical studies,

many of the findings are from recent studies presented at professional conferences. In order to maintain the organizational structure in this article, published and unpublished findings are reviewed together under appropriate headings. Collectively, the previously unpublished studies reviewed here employed 1,001 undergraduate students (333 males, 668 females) between the ages of 16 and 27 years ($M = 18.97$, $SD = 1.40$) who received course credit for research participation (i.e., completing psychometric instruments).

Internal Consistency

For each of the three studies published by Reeb et al. (1998), coefficient alpha was well over .90 for the CSSES for undergraduate service-learning students, demonstrating internal consistency for the instrument. This finding was replicated in two studies reported in a publication by Reeb (2006a), and it was replicated (coefficient alpha = .95) in previously unpublished studies of 272 undergraduates (Reeb et al. 2009b) and 85 undergraduates (Reeb et al. 2009b). In one of three studies reported by Reeb (2006a), which focused on African American adolescents with conduct problems, coefficient alpha closely approached .90.

In research reviewed later in this section on the CSSES' *sensitivity to intervention effects*, alternate forms of the CSSES developed to enhance sensitivity in detecting changes in self-efficacy are presented; that is, the Community Service Self-Efficacy Scale—Retrospective (CSSES-RV; see Table 2) and the Community Service Self-Efficacy—Sensitivity to Change (CSSES-SC; see Table 3). Regarding internal consistency, coefficient alpha is well over .90 for both the CSSES-RV (Reeb et al. 1998) and the CSSES-SC (Reeb et al. 2009a, b).

Table 1 The community service self-efficacy scale (CSSES)

CSSES items
1. If I choose to participate in community service in the future, I will be able to make a meaningful contribution.
2. In the future, I will be able to find community service opportunities which are relevant to my interests and abilities.
3. I am confident that, through community service, I can help in promoting social justice.
4. I am confident that, through community service, I can make a difference in my community.
5. I am confident that I can help individuals in need by participating in community service activities.
6. I am confident that, in future community service activities, I will be able to interact with relevant professionals in ways that are meaningful and effective.
7. I am confident that, through community service, I can help in promoting equal opportunity for citizens.
8. Through community service, I can apply my knowledge in ways that solve "real-life" problems.
9. By participating in community service, I can help people to help themselves.
10. I am confident that I will participate in community service activities in the future.

Note: For CSSES items, scores range from 1 ("quite uncertain") to 10 ("certain")

Table 2 The community service self-efficacy scale—retrospective version (CSSES-RV)

CSSES-RV items

This course increased or strengthened my confidence that, in the future, I will be able to...

1. Make meaningful contributions to the community through service.
 2. Find community service opportunities which are relevant to my interests and abilities.
 3. Help in promoting social justice through community service.
 4. Make a difference in the community through community service.
 5. Help individuals in need by participating in community service activities.
 6. Interact with relevant community professionals in ways that are meaningful and effective.
 7. Help in promoting equal opportunity for citizens through my community service activities.
 8. Apply my knowledge to community service in ways that help to solve “real-life” problems.
 9. Help people to help themselves as I engage in community service.
 10. Commit myself to community service.
-

Note: For CSSES-RV items, scores range from 1 (“quite certain”) to 10 (“certain”). This version of the CSSES was designed for examining service learning projects when it is not possible to administer the CSSES as a pretest

Table 3 The community service self-efficacy scale—sensitive to change (CSSES-SC)

CSSES-SC items

1. Compared to an individual with 10 years of community service experience, how meaningful of a contribution will you be able to make through community service?
 2. Compared to an individual with 10 years of community service experience, how confident are you about finding community service opportunities that are relevant to your interests and abilities?
 3. Compared to an individual with 10 years of community service experience, how confident are you that you can help in promoting social justice through community service?
 4. Compared to an individual with 10 years of community service experience, how confident are you that you can make a difference in your community through service?
 5. Compared to an individual with 10 years of community service experience, how confident are you that you can help individuals in need by participating in community service activities?
 6. Compared to an individual with 10 years of community service experience, how confident are you that you will be able to interact with relevant professionals in meaningful and effective ways in future community service?
 7. Compared to an individual with 10 years of community service experience, how confident are you that, through your own community service, you can help in promoting equal opportunity for citizens?
 8. Compared to an individual with 10 years of community service experience, how confident are you that, through community service, you can apply knowledge in ways that solve “real-life” problems?
 9. Compared to an individual with 10 years of community service experience, how confident are you that, by participating in community service, you can help people to help themselves?
 10. Compared to an individual with 10 years of community service experience, how confident are you that you will participate in community service in the future?
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Note: For CSSES-SC items, scores range from 1 (less than the experienced participant) to 10 (greater than the experienced participant). Each item is completed in comparison to “an individual with 10 years of community service experience.” People are instructed to assume that the person being compared to is similar with regard to educational level and general interests

Temporal Consistency

In the Reeb et al. (1998) paper, study 2 examined test–retest (pre- to post-semester) reliability for the CSSES with students who were not involved in service-learning during that particular semester. As expected, the coefficient of stability was high in magnitude and statistically significant ($r = .68$, $p = .001$), and the pre- to post-semester mean difference in CSSES scores was nonsignificant. Reeb et al. (2008) replicated this finding of temporal consistency for the CSSES and also demonstrated similar evidence of test–retest reliability for the CSSES-SC. In study 2 reported by Reeb (2006a), similar evidence of temporal consistency was found over a 6-month period for African American

adolescents with conduct problems who were not engaged in community service.

Factor Structure

With regard to construct validity, study 1 reported by Reeb et al. (1998) conducted a factor analysis ($N = 676$) of CSSES items and items of the Social Responsibility Inventory (SRI; Markus et al. 1993). As hypothesized, CSSES items loaded heavily on one unique factor (separate from SRI items), with item loadings ranging from .67 to .81. Thus, results suggested that the CSSES is unidimensional. In brief, CSSES items did not load on other factors, and SRI items did not load on the CSSES factor, and this pattern of

factor analytic findings provides some evidence of discriminant validity. In a later section, further research demonstrating discriminant validity for the CSSES is reviewed.

Sensitivity to Intervention Effects

Another source of evidence for construct validity is provided by studies demonstrating that scores on a measure change in the hypothesized direction in response to an intervention (Anastasi and Urbina 1997; Cronbach and Meehl 1955). Study 2 reported by Reeb et al. (1998) hypothesized a pre- to post-semester increase in CSSES scores for service-learning students but not for students not participating in service-learning. However, students who pursued the service-learning opportunity had extremely high CSSES scores at pre-semester, perhaps creating a *ceiling effect* that precluded an adequate test of the hypothesis. Thus, service-learning students maintained high CSSES scores from pre- to post-semester, but their CSSES scores did not significantly increase over the course of the semester. While it seems likely that this finding is due to a *ceiling effect*, Reeb et al. (1998) concluded that “further research is needed to determine the ways in which service-learning experiences influence students’ perceptions of self-efficacy in the area of community service” (p. 55).

However, the CSSES does appear sensitive to the effects of a community service experience in individuals without high CSSES scores at pre-test. In study 2 reported by Reeb (2006a), African American adolescents on probation with conduct problems were matched on age and then randomly assigned to either (a) routine probation (control) group or (b) a community-based diversion program emphasizing community service. Results revealed a significant interaction between group (routine probation versus community service emphasis) and time (pre-intervention vs. 6-month follow-up), with a significant increase in CSSES scores for adolescents participating in community service but not for adolescents in routine probation. Recidivism (violation of terms of probation) was significantly lower for adolescents participating in community service relative to those in routine probation.

Nevertheless, the *ceiling effect* mentioned earlier presents a problem in detecting changes in self-efficacy in college students who obtain fairly high CSSES scores prior to the service-learning project examined. Therefore, in study 3 reported by Reeb et al. (1998), an alternate *retrospective version* (CSSES-RV; Table 2) was designed to assess students’ retrospective perceptions of a course’s contribution to their community service self-efficacy (i.e., “This course increased or strengthened my confidence that, in the future, I will be able to...”). The CSSES-RV is useful in situations where (a) pre-semester testing is not

possible or (b) students already have extremely high CSSES at pre-semester (perhaps creating a *ceiling effect* that precludes an examination of change). Using the CSSES-RV, study 3 reported by Reeb et al. (1998) found that students who participated in service-learning during the semester obtained higher CSSES scores compared to those who did not participate in service-learning. As expected, the CSSES-RV was found to be highly correlated with the original CSSES.

An additional alternate form designed to be more *sensitive to change* (CSSES-SC; Table 3) was developed, which attempts to prevent the ceiling effects (i.e., prevent overly high scores at pre-test) by asking participants to compare themselves to “an individual with 10 years of community service experience” as they rate each item. In a previously unpublished study using a quasi-experimental design, Reeb et al. (2008) examined pre- to post-semester changes in both CSSES-SC and the CSSES in students enrolled in either (a) a course incorporating service-learning ($n = 27$) or (b) a regular class without service-learning ($n = 32$).

In this study, the interaction between group (regular course vs. service-learning) and time (pre- to post-semester) on CSSES-SC scores was significant, $F(1, 57) = 22.85, p < .001$. The following specific pattern of results illustrates the CSSES-SC’s sensitivity to changes in self-efficacy: At pre-semester, the difference in CSSES-SC scores between the regular course ($M = 5.16, SD = 1.48$) and the service-learning course ($M = 5.05, SD = 1.07$) was nonsignificant, $t(57) = .30, p > .05$; however, at post-semester, there was a significant difference between the regular course ($M = 5.42, SD = 1.65$) and the service-learning course ($M = 6.77, SD = .92$) in CSSES-SC scores, $t(57) = -3.75, p < .001$. Other specific analyses examined relative change in CSSES-SC scores for regular versus service-learning courses: For the regular class, the change in CSSES-SC scores from pre-semester ($M = 5.16, SD = 1.48$) to post-semester ($M = 5.42, SD = 1.66$) was nonsignificant, $t(31) = -1.15, p > .05$; however, as hypothesized, CSSES scores increased for the service-learning course from pre-semester ($M = 5.05, SD = 1.08$) to post-semester ($M = 6.77, SD = .92$), reflecting the scale’s sensitivity to changes in community service self-efficacy, $t(26) = -9.37, p < .001$.

On the other hand, with the original CSSES as the dependent variable, the interaction between group (regular course vs. service-learning) and time (pre- to post-semester) was nonsignificant, $F(1, 57) = 1.31, p > .05$. The following pattern of results show that the CSSES was insufficiently sensitive to change in this study: At pre-semester, the difference in CSSES scores between the regular course ($M = 7.96, SD = 1.38$) and the service-learning course ($M = 7.98, SD = 1.27$) was nonsignificant, $t(57) = -.04,$

$p > .05$; likewise, at post-semester, there was a nonsignificant difference between the regular course ($M = 8.14$, $SD = 1.60$) and the service-learning course ($M = 7.89$, $SD = 1.38$) in CSSES scores, $t(57) = .52$, $p > .05$. For the regular class, the change in CSSES scores from pre-semester ($M = 7.96$, $SD = 1.38$) to post-semester ($M = 8.14$, $SD = 1.60$) was nonsignificant, $t(31) = -1.10$, $p > .05$; in a similar vein, for the service-learning course, CSSES scores did not change significantly from pre-semester ($M = 7.98$, $SD = 1.27$) to post-semester ($M = 7.89$, $SD = 1.38$), perhaps due to the aforementioned ceiling effect, $t(26) = .54$, $p > .05$. The CSSES-SC correlates highly with the original CSSES, according to research reported in the Reeb et al. (2008) study ($r = .62$, $p < .001$) and the Reeb et al. (2009a) study ($r = .57$, $p < .001$).

Discriminant Validity

Social Desirability

In their critique of psychometric instruments for service-learning research, Bringle et al. (2004) noted that, "...there is no information available about the scale's correlation with social desirability or acquiescent response bias" (p. 101). However, in an earlier study ($N = 275$) presented at a conference, Reeb et al. (1999) found that the correlation between the CSSES and the Marlowe-Crowne Social Desirability Scale (MCSDS; Crowne and Marlowe 1964) was low in magnitude ($r = .09$) and not statistically significant ($p > .05$). More recently, a published study ($N = 394$) by Reeb (2006a) replicated the Reeb et al. (1999) finding, with the correlation between the CSSES and the MCSDS low in magnitude ($r = .09$) and not statistically significant ($p > .05$).

Despite these promising findings, questions regarding the extent to which CSSES scores reflect social desirability (or an acquiescent response bias) is such an important matter when establishing construct validity for a measure of this kind (Cronbach and Meehl 1955), and so further examination seemed warranted. A previously unpublished study ($N = 272$) by Reeb et al. (2009a) examined the relationship between CSSES/CSSES-SC and another measure of social desirability—the Balanced Inventory of Desirable Responding (BIDR; Paulhus 1984), which incorporates two subscales—Self-Deception (BIDR-SD) and Impression Management (BIDR-IM). The correlation coefficients between the CSSES and the BIDR ($r = .16$, $p < .007$), the BIDR-SD ($r = .07$, $p > .05$), and the BIDR-IM ($r = .19$, $p < .002$) were low in magnitude and therefore not *clinically* or *meaningfully significant*. Likewise, correlation coefficients between the CSSES-SC and the BIDR ($r = .15$, $p < .014$), the BIDR-SD ($r = .08$, $p > .05$), and the BIDR-IM ($r = .16$, $p < .007$) were low in

magnitude. Given this pattern of findings, the notion that scores on the CSSES (or CSSES-SC) merely reflect social desirability seems highly implausible. Nevertheless, as shown in this review, we have taken a cautious approach; that is, in the examination of each relationship between community service self-efficacy and another construct, collective variance accounted for by the MCSDS and the BIDR is statistically controlled and partial correlations are examined. As measures of social desirability, the MCSDS and BIDR are correlated but, at the same time, complement one another in content.

Alienation

Alienation, which has its roots in the early philosophical writings of Karl Marx (1818–1883) and Emile Durkheim (1858–1917), refers to the closely interrelated constructs of powerlessness, meaninglessness, normlessness, social isolation, self-estrangement, and cultural estrangement (Seeman 1959), none of which would be expected to characterize an individual who has confidence that he or she is able to make a meaningful difference in the community through service. Thus, our nomological network predicts that the community service self-efficacy construct is inversely related to the construct of alienation. In support of this hypothesis, studies reported by Reeb et al. (2009b) found that, after controlling for social desirability effects, the CSSES was inversely correlated with the Dean Alienation Scale ($N = 608$, $pr = -14$, $p < .01$), the Powerlessness Scale (Neal and Groat 1974; $N = 121$, $pr = -37$, $p < .001$), the Anomia Scale (Srole 1956; $N = 121$, $pr = -29$, $p < .01$), and the Alienation Scale (Maddi et al. 1979; $N = 121$, $pr = -23$, $p < .05$).

Convergent Validity

Generalized Self-Efficacy

To some extent, improvements in an individual's self-efficacy for community service should *generalize* or *transfer* to other domains of functioning. In a discussion of the generalization of self-efficacy beliefs, Bandura (1997, p. 53) writes:

Powerful mastery experiences that provide striking testimony to one's capacity to effect personal changes can also produce a *transformational restructuring of efficacy beliefs* that is manifested across diverse realms of functioning. Such personal triumphs serve as transforming experiences. What generalizes is the belief that one can mobilize whatever effort it takes to succeed in different undertakings.

Further, Bandura (1997) emphasizes that the “...development and exercise of capabilities would be severely constricted if there was absolutely no transfer of efficacy beliefs across situations or settings” (p. 50), and he concludes: “Adaptive functioning requires discriminative generalization of perceived self-efficacy” (p. 51).

Some researchers have examined *general self-efficacy* (Chen et al. 2001; Sherer et al. 1982). Chen et al. (2001, p. 79) defined this construct as “one’s estimate of one’s overall ability to perform successfully in a wide variety of achievement situations” or “how confident one is that she or he can perform effectively across different tasks and situations.” Chen et al. (2001, p. 63) have suggested that general self-efficacy “emerges over one’s life span as one accumulates successes and failures across different task domains.” Therefore, to some extent, an improvement in an individual’s community service self-efficacy would be expected to contribute to his or her general self-efficacy. With this theoretical background, study 3 reported by Reeb (2006a) yielded results supporting a hypothesis that, after controlling for social desirability effects, the relationship between the CSSES and a measure of generalized self-efficacy—the New General Self-Efficacy Scale (Chen et al. 2001)—would be statistically significant and medium in magnitude.

Behavioral Intentions for Community Service

As already noted, intentions for civic behavior is, along with self-efficacy for community service, a *core element* of the *civic minded graduate* (see Bringle and Steinberg, this volume). In Ajzen and Fishbein’s (Ajzen and Madden 1986; Ajzen and Manstead, 2007; Fishbein and Ajzen 1975) theory of planned behavior (theory of reasoned action), behavioral intention is viewed as the main antecedent of behavior that is largely dependent upon self-efficacy (perceived behavioral control). Thus, in our developing nomological network for the community service self-efficacy construct, civic behavioral intention is hypothesized as an interrelated construct. In support of this hypothesis, a previously unpublished study (Reeb et al. 2009b) of undergraduate students ($N = 608$) found that the Civic Action Scale (Moely et al. 2002)—a measure of “intentions to become involved in the future in some community service or action”—correlated with the CSSES ($pr = .65, p < .001$), after partialling out effects of social desirability.

Hope

Snyder, a leader in hope research and developer of the Hope Scale, defined this construct as “a cognitive” set that

is based on a reciprocally-derived sense of successful agency (goal-directed determination) and pathways (planning to meet goals) (Snyder et al. 1991a, p. 571). Earlier, Stotland (1969) also defined hope as an expectation about goal attainment. Hope is seen as “a positive motivational state” that is “interactively derived” (Snyder et al. 1991b, p. 287). In a review of psychometric instruments used in service-learning research and practice, Bringle et al. (2004) noted that the Hope Scale “...encompasses an optimistic perspective about respondent’s ability to reach desired outcomes...” and “...it incorporates aspects of self-efficacy, self-confidence, and self-direction.” Thus, it is easy to see why our nomological network for community service self-efficacy would hypothesize a positive relationship with the construct and hope. Further, given that “hope agency” denotes a “sense of successful determination in meeting goals in the past, present, and future” (Snyder et al. 1991a, p. 570), this aspect of hope is particularly relevant to self-efficacy. In a previously unpublished study of 608 undergraduate students, Reeb et al. (2009b) found that, after partialling out variance associated with social desirability, the CSSES correlated with the Hope Scale Total Score ($pr = .27, p < .001$), Hope Scale Agency Score ($pr = .35, p < .001$), and Hope Scale Pathways Score ($pr = .13, p < .01$).

Self-Esteem

As Bandura (1997, p. 11) notes, the terms “...self-esteem and self-efficacy are often used interchangeably...” but “...they refer to...different things...[S]elf-efficacy is concerned with judgments of personal capability, whereas self-esteem is concerned with judgments of self-worth.” Nevertheless, Bandura (1997, p. 12) also points out that, “Self-esteem can stem from self-evaluations based on personal competence or on possession of attributes that are culturally invested with positive...value.” Given that community service self-efficacy refers to confidence in one’s personal competence in an area (i.e. community service) generally viewed with favor in our culture, self-efficacy in this particular area may represent one of several sources of information contributing to self-esteem, and the nomological network for the community service self-efficacy construct hypothesizes a small to moderate relationship with the construct of self-esteem. This hypothesis was supported by the aforementioned study of 608 undergraduates by Reeb et al. (2009b); that is, after statistically controlling for the effects of social desirability, the correlation coefficient between the CSSES and the Rosenberg (1965) Self-Esteem Scale (i.e., a commonly-used measure of self-esteem) was statistically significant and small-to-moderate in magnitude ($pr = .17, p < .01$).

Generativity

Generativity, a construct originating from Erickson's theory of psychosocial development, is defined by contemporary theorists (e.g., McAdams et al. 1993, p. 221; also see McAdams and de St. Aubin 1992) as follows:

...a configuration of psychosocial features constellated around the goal of providing for the next generation...Adults may express generativity through nurturing, teaching, leading, and promoting the next generation while generating life products and outcomes that aim to benefit the social system and promote its continuity from one generation to the next...

Given this definition, it would appear that a person's confidence in his or her ability to make significant contributions to the community through service is central to generativity, and so the nomological network for community service self-efficacy hypothesizes a significant positive relationship with the generativity construct. In support of this hypothesis, a previously unpublished study of 121 undergraduate reported by Reeb et al. (2008) found that, after statistically controlling for variance accounted for by social desirability measures, the Loyola Generativity Scale, which measures "individual differences in generative concern" (McAdams and de St. Aubin 1992, p. 1006), correlated with the CSSES ($pr = .61, p < .001$). This finding was in the study of 272 undergraduates by Reeb et al. (2009a) in which the same measure of generativity correlated the CSSES ($pr = .42, p < .001$), after controlling for social desirability influences.

Growth Motivation

In general, growth motivation is a motivation to foster personal development (Park et al. 2009), and this construct incorporates both cognitive growth motivation (i.e., motivation to gain new conceptual perspectives on self and others) and experiential growth motivation (i.e., to feel good about self and others, to experience events more deeply, or mastery of skills). In order to achieve a high level of community service self-efficacy, it would be typical for an individual to have engaged in activities that involved gaining new perspectives on others (e.g., understanding community members' problems) and mastering certain skills (e.g., learning to effectively communicate with community members and professionals). Therefore, the nomological network for community service self-efficacy hypothesizes a positive correlation with the construct of growth motivation. After statistically controlling for variance associated with social desirability, a previously unpublished study by Reeb et al. (2009a) of 272 undergraduates obtained support for this hypothesis; that is,

the CSSES correlated with the Growth Motivation Index ($pr = .36, p < .001$), including the Experiential Subscale Score ($pr = .34, p < .001$) and the Cognitive Subscale Score ($pr = .29, p < .001$).

Empathy

In the service-learning literature, Bringle et al. (2004, p. 90) notes that, "There is strong evidence...to support the critical importance that empathy plays in determining helping behavior." Empathy refers to the ability to (a) understand another person's perspective or situation, (b) understand (or be affected emotionally by) another's emotional state, and (c) communicate this understanding back to the person (Rogers 1975). Competence in providing community service requires all three aspects of empathy, and so our nomological network for community service self-efficacy hypothesizes a positive correlation with the construct of empathy. As presented below, the hypothesis was examined in a previously unpublished study of 272 undergraduate (Reeb et al. 2009a), which explored relationships between the CSSES and two multidimensional measures of empathy. The two empathy measures, which complement one another in content, were found by Reeb et al. (2009a) to be highly correlated ($pr = .68, p < .001$), even after controlling for social desirability effects.

Reeb et al. (2009a) found that, after controlling for variance associated with social desirability, the CSSES correlated with the Multidimensional Emotional Empathy Scale (Caruso and Mayer 1998) total score ($pr = .47, p < .001$), as well as with subscale scores for Empathic Suffering ($pr = .45, p < .001$), Positive Sharing ($pr = .38, p < .001$), Emotional Attention ($pr = .37, p < .001$), and Feeling for Others ($pr = .30, p < .001$).

In the same study, Reeb et al. (2009a) found that, after controlling for social desirability effects, the CSSES correlated with another measure of empathy—the Interpersonal Reactivity Scale (Davis 1983), including the total score ($pr = .32, p < .001$) and subscale scores for Perspective Taking ($pr = .28, p < .001$), Fantasy ($pr = .23, p < .001$), and Empathic Concern ($pr = .33, p < .001$).

Criterion-Related (Concurrent) Validity

The method of contrasted groups has been used to examine criterion-related validity. Study 1 reported by Reeb et al. (1998) found that students who participated in each of three types of service (i.e., extracurricular, summer, and course-related) during the previous year had higher CSSES scores than students who were not involved in service. Further, a linear effect for participation was observed: Students in three types of service programs during the past year had

higher CSSES scores than those who participated in only two; students in two types of service programs scored higher on the CSSES relative to those who participated in only one; and students in one type of service program had higher CSSES scores compared to those involved in none. In addition, multiple regression analyses indicated that, relative to a list of other factors pertinent to service-learning, items of the CSSES accounted for the greatest variance in measures of both involvement and satisfaction in each type of past service (extracurricular, summer, and course-related).

Further, consistent with research showing that self-efficacy influences initiation and persistence of behavior (Bandura 1997), study 2 reported by Reeb et al. (1998) found that students who pursued a course-related service-learning opportunity had significantly higher CSSES scores relative to those who did not pursue service-learning, providing additional evidence of criterion-related (concurrent) validity.

Gender Differences in Community Service Self-Efficacy

Regarding gender differences in CSSES scores, studies 1 and 2 reported in the Reeb (2006a) publication demonstrate that females obtain significantly higher CSSES scores relative to males. This finding was replicated in the previously unpublished study by Reeb et al. (2009a), with females ($n = 186$, $M = 79.53$, $SD = 15.71$) scoring higher on the CSSES than males ($n = 86$, $M = 72.84$, $SD = 17.76$), $t(270) = 3.13$, $p < .002$. Likewise, this study found that females ($M = 61.59$, $SD = 16.30$) scored higher on the CSSES-SC relative to males ($M = 55.88$, $SD = 17.11$), $t(270) = 2.58$, $p < .01$. Across studies, the magnitude of the gender difference in CSSES is small-to-moderate in magnitude (approximately .7 of a point on a 10 point scale), consistently observed, and statistically significant.

In contrast, in the research reported by Reeb et al. (1998), males scored higher on the measure of general self-efficacy than did females. In research on measures of general self-efficacy, Chen et al. (2001) did not report on gender differences, and May and Sowa (1994) did not find evidence of gender differences. However, the gender difference in general self-efficacy reported by Reeb et al. (1998) is consistent with research on gender differences in occupational self-efficacy. For instance, Bandura (1997) reviews this area of research and concludes: “Male college students have an equally high sense of efficacy for both traditionally male-dominated and female dominated occupations,” but female college students have a “...weaker sense of efficacy that they can master the educational requirements and job functions of occupations dominated by males” (p. 432). Bandura (1997) notes that this gender

difference is observed even though “the two groups do not differ in their actual verbal and quantitative ability on standardized tests” (p. 432).

Nevertheless, CSSES research suggests that community service may be an area in which females have greater self-efficacy than males. This finding is consistent with research showing that, during high school and college, females score higher on measures of (a) intentions for community service (Moely et al. 2002), (b) obligation for community service (Mabry 1998), and (c) positive attitudes toward community service (Shiarella et al. 2000). It is also consistent with the finding that adult females show higher rates of community service participation (Smith 2005).

Conclusions and Recommendations for Future Research

Conclusions and recommendation for research are organized in two interrelated categories; that is, (a) CSSES validation research and (b) research capturing the complexities of self-efficacy theory in service-learning action research.

Research on Psychometric Properties of the CSSES

Reliability of the CSSES

With regard to reliability, internal consistency and temporal stability have been demonstrated for the different CSSES versions. In addition, alternative forms of the CSSES, each developed for a specific purpose, correlate highly with the original CSESS. It would be helpful to replicate these findings with diverse populations. Research is also needed to determine the extent to which there is consistency (generalizability) across CSSES scores when respondents consider a variety of different potential community service settings.

Nomological Network for CSSES

There is a need to more fully define the *nomological network* (Cronbach and Meehl 1955) for the community service self-efficacy construct by further examining both convergent and discriminant validity (Campbell and Fiske 1959). With regard to discriminant validity, correlations between the CSSES/CSSES-SC and measures of social desirability (MCSDS and BIDR) are negligible, and convergent validity (i.e., association with measures of theoretically-related constructs) is evident in partial correlations after controlling for social desirability effects, and so it is clear the CSSES taps something very different from social desirability. Nevertheless, given that (a) CSSES

items have a high level of *face validity* and (b) the attribute being assessed is one that many would consider *desirable*, attempts to further explore the extent to which CSSES scores reflect *impression management* or *self-deception* may be justified. To do this, a researcher could replicate the results reviewed in this paper and/or examine the correlation between the CSSES versions and other measures of social desirability. To take a cautious approach, a researcher examining the relationship between the CSSES and a measure of another construct can administer a social desirability measure and control for its effects by computing partial correlation coefficients. Also pertinent to discriminant validity is the finding that the CSSES inversely correlates with measures of constructs that are theoretically antithetical or counter to the community service self-efficacy construct, such as constructs centering around alienation (i.e., powerlessness, meaninglessness, normlessness, social isolation, self-estrangement, and cultural estrangement).

Regarding convergent validity, the CSSES correlates positively with measures of theoretically-related constructs, such as generalized self-efficacy, behavioral intentions for community service, hope, self-esteem, generativity, growth motivation, empathy, and satisfaction in providing community service. The CSSES also correlates with observable behaviors such as level and variety of service involvement, further establishing convergent validity.

Given the growing trend toward examining and organizing the plethora of constructs in reference to superordinate dimensions of personality (e.g., Judge et al. 2002; Marshall et al. 1994), research examining the construct of community service self-efficacy within the *five-factor model of personality* (Costa and McCrae 1992) is one promising avenue for future research elaborating CSSES's nomological network. Within such a unified frame of reference, community service self-efficacy is likely to represent a complex blend of broad personality domains. Given that (a) generalized self-efficacy may reflect the broad dimension of *neuroticism* to a significant degree (e.g., Judge et al. 2002) and (b) volunteerism/community service is linked with *extraversion* and *agreeableness* (Carlo et al. 2005; Penner 2002), we hypothesize that individuals with a high level of community service self-efficacy tend to have the following personality pattern: low *neuroticism* (i.e., emotional stability), high *extraversion*, and high *agreeableness*. Further, since a sense of competence is one facet of *conscientiousness*, and since a willingness to try different activities (e.g., become involved in community service and thereby obtain experience in this area) is one facet of *openness to experience*, we may speculate that individuals with a high level of community service self-efficacy may have moderate elevations on these personality dimensions.

CSSES and Sensitivity to Change

Further research is needed to document the ways in which service-learning experiences influence students' self-efficacy for community service. For situations where some students are likely to have fairly high CSSES scores at pre-semester, the CSSES-SC should be used, since research suggests that it is more sensitive to changes in self-efficacy, and accumulating research will determine the validity of the CSSES-SC.

Criterion-Related Validity

The method of contrasting groups has demonstrated that (a) individuals who engaged in community service during the previous year have higher CSSES scores than who did not and (b) those who pursue service-learning opportunities have higher CSSES scores than those who do not. Future research should compare other *known groups* on CSSES scores, such as groups of individuals with various levels of experience in community service, individuals in helping professionals versus individuals in other occupations, college students across different majors, professionals versus paraprofessionals, faculty members who employ the pedagogical technique of service-learning versus those who do not, and so on.

Gender Differences on CSSES

While males score higher on measures of general self-efficacy and vocational self-efficacy, females consistently score higher on the CSSES/CSSES-SC and, as explained earlier, the latter finding is consistent with other findings in the literature regarding gender differences in proclivity for community service. In future development of the nomological network for the CSSES, this gender difference should be explored within the context of constructs centering around the theme of helping and caring, such as altruism, nurturance, empathy, and moral development. Further, from a developmental perspective, prospective research is needed to determine the extent to which gender differences in community service self-efficacy relate to gender differences in early life experiences.

Capturing the Complexities of Self-Efficacy Theory

Conceptualizing Changes in Self-Efficacy

Service-learning research must capture the complexities of self-efficacy theory. According to Bandura, an individual's self-efficacy judgment is based on four sources of

information: (a) enactive mastery experiences (past successes and failures in similar situations); (b) vicarious experiences (past observations of how others cope in the situation); (c) verbal persuasion (encouragement or discouragement from others); and (d) anticipatory arousal (emotional or physiological). As Bandura (1997, p. 80) notes: "...Enactive mastery experiences are the most influential source of efficacy information because they provide the most authentic evidence of whether one can muster whatever it takes to succeed..." Over the past 30 years, a wealth of research supports Bandura's (1977, p. 195) original hypothesis: "...Successes raise self-efficacy; repeated failures lower self-efficacy, particularly if the mishaps occur early in the course of events...Once established, enhanced self-efficacy tends to generalize to other situations..." With this theoretical background, it can be predicted that a student's self-efficacy for community service could increase, decrease, or remain stable during a semester of service-learning, depending in part upon the degree of success or failure during service provision.

Self-Efficacy as a Mediating or Moderating Variable

Also following from the above discussion, a person's pre-semester self-efficacy may mediate or moderate important outcomes in service-learning. As explained by Frazier et al. (2004), a moderator is a variable that influences the strength or direction of a relationship between a predictor and an outcome measure. When testing for moderator effects, the question being asked is *when* or *for whom* a variable most strongly predicts or influences an outcome. For example, based on Bandura's theory and research, we would expect service-learning students with high levels of community service self-efficacy at pre-semester to perceive, react to, and cope with problems, obstacles, or failures in their experiential work in a more adaptive fashion relative to those with low self-efficacy for community service at pre-semester.

A mediator refers to an underlying mechanism through which a predictor determines or influences an outcome or, in other words, a mediator explains (or is responsible for) the relationship between a predictor and an outcome measure (Frazier et al. 2004). For example, based on Bandura's theory and research, we would expect self-efficacy to mediate certain changes that take place over the course of a service-learning project, such as improvements in competence or success in service provision, satisfaction with service, and decisions to continue community service. In other words, we would expect that, to some extent, these positive changes only occur for those who have an improvement in self-efficacy for community service. Research is needed to examine hypotheses such as these.

Effects of Reflection Methods on Self-Efficacy

Research is needed to determine the relative effects of different *reflection* methods on pre- to post-semester changes in community service self-efficacy. In one reflection strategy, for instance, program evaluation results are shared and discussed with students, with the intent of increasing their awareness of the project's contributions to the community. Given that enactive mastery experiences have the greatest influence of perceptions of self-efficacy (Bandura 1977, 1982, 2000, 2006a, b), reflection strategies that emphasize student's awareness of their community contributions may be most beneficial.

Self-Efficacy as a Predictor of Service Participation

Research is needed to determine if students' levels of community service self-efficacy at post-semester (or at the end of a project) predict future community service participation. Given that (a) self-efficacy determines both initiation and persistence of behavior (Bandura 1977, 1982, 2000, 2006a, b) and (b) community service self-efficacy correlates with service involvement and satisfaction (Reeb et al. 1998), we would expect measures of the construct to have predictive validity.

Self-Efficacy as a Predictor of Service Effectiveness

Research is needed to determine whether community service self-efficacy predict students' effectiveness (e.g., supervisor's ratings) in service provision. It is essential to consider Bandura's explanation of discrepancies between self-efficacy judgments and future behavior. Research indicates that discrepancies are more likely when "...either the tasks or the circumstance under which they are performed are ambiguous..." (Bandura 1997, p. 64), because this leads people to over- or under-estimate situational demands as they form self-efficacy judgments. As emphasized since the first formal statement of self-efficacy theory (Bandura 1977, p. 204), participants in self-efficacy studies must "...understand what kind of behavior will be required and the circumstances in which they will be asked to perform..." Therefore, students must receive excellent orientation to the service-learning project in studies examining the extent to which levels of community service self-efficacy predict performance proficiency. In other words, "...to judge what one is capable of attaining requires adequate knowledge of how the social system works and an appraisal of one's ability to manage the institutional requirements..." (Bandura 1997, p. 64).

To conclude, further research is needed to (a) fully understand the community service self-efficacy construct and (b) further develop and refine psychometric

instruments developed to measure the construct. In general, use of a prospective longitudinal design to study participants in community service would be ideal in pursuing both research goals, since it would take into account Bandura's (1978) principle of reciprocal determinism; that is, it would allow us to examine the nature of changes in community service self-efficacy that take place within the context of ongoing reciprocal transactions among self-efficacy, other psychological and socioemotional variables, behavior, and environmental influences.

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