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Gathering validity evidence for the Community Service-Learning Assessment Test (CSAT)

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Abstract

Service-learning grew out of the philosophy that effective education should be experiential in nature (Giles & Eyler, 1994b). Alternative Break programs are steeped in this philosophy. Participation in many Alternative Break programs involves the immersion of students in a week-long service trip during academic breaks. Measurement of student learning outcomes is important in determining the effectiveness of these experiential programs. The purpose of this study was to evaluate the psychometric properties of the Community Service-learning Assessment Test (CSAT) and to gather construct validity evidence for the CSAT’s five sub-scales: civic action, interpersonal problem-solving, social justice, interpersonal relationships, and personal competency.

Two independent samples of sophomores and juniors were administered the CSAT. A five-factor confirmatory factor analysis model was tested using Sample 1 and did not fit the data. These results replicated in Sample 2. Based on the results, scales and items were removed and a modified two-factor confirmatory analysis with civic action and social justice items was performed using Sample 2. This two-factor model did fit the data and external evidence was gathered for both constructs. External validity evidence provided some support for both the civic action and social justice scales. Recommendations and future research for the improvement of all five scales comprising the CSAT are made.
CHAPTER ONE

Introduction

Service-learning is a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development. Reflection and reciprocity are key concepts of service-learning (Jacoby, 1996, p.5).

Service-learning, as described by Jacoby (1996), is often utilized in higher education as a means to cultivate citizenship and civic education. Service-learning is not merely a volunteer-based form of charity, but is designed to enhance active citizenship (Leung, 2003). Higher education institutions often stress the importance of developing citizenship. In her article titled “Education for Citizenship in an Era of Global Connection”, Nussbaum (2002) discusses the importance of focusing campus education on citizenship development in an effort to minimize the production of “narrow citizens who have difficulty understanding people different from themselves, whose imagination rarely venture beyond their local setting” (p. 302). The ability to understand and connect to others is a common outcome for many higher education service-learning programs.

Numerous institutional mission statements include elements of service and civic values (Morphew & Hartley, 2006). For instance, the mission statement of James Madison University states: “We are a community committed to preparing students to be educated and enlightened citizens who lead productive and meaningful lives” (JMU mission statement). Although the theory and definition of a citizen greatly varies, it often includes participation in a community activity, without pay, focused on achieving a common societal goal (Kymlicka & Norman, 1994; Lawson, 2010; Zimmerman & Rappaport, 1988). Lawson (2010) points out that the service-learning element of
citizenship education “is seen as a way of enabling young people to gain the skills necessary for active citizenship” (p. 170). Supporters of service-learning programs believe their programs do exactly that (Eyler & Giles 1999; Kezar & Rhoads, 2011; Johnson & Notah 1999; Simons & Cleary, 2006).

By integrating service experiences into the educational experience, service-learning aims to enhance both student development and benefits to the community. However, despite this focus on service-learning as a means of citizenship education in higher education, there is insufficient research, particularly on out-of-course service-learning activities to infer whether such beliefs about student development are warranted. This lack of evidence is due in part to a lack of sound measures designed to assess the outcomes of service-learning experiences. The current study seeks to gain validity evidence for an instrument used to assess student learning outcomes from participation in a service-learning program: the Community Service-learning Assessment Test (CSAT). Gathering construct validity evidence for the instrument leads to accurate interpretation of student scores and therefore more accurate interpretations of the effectiveness of the program in relation to student learning objectives.

Assessing service-learning programs. Assessment of programs, both academic and non-academic, across campus is important for a University. Non course-based service-learning program assessment is specifically important for three reasons. First, service-learning programs not directly tied to specific courses require monetary support from within the institution as well as outside the institution. Evidence of program effectiveness in promoting positive student development increases this kind of support. Secondly, when positive outcomes are associated with the program, more students and
faculty will want to become involved. For example, evidence of a successful program, which in turn leads to an increase in the number of student leaders and as well as faculty learning partners, leads to an increase in the number of trips an Alternative Break program can offer. Finally, one of the most important reasons for assessing service-learning programs is for the improvement of the program. Assessment informs program staff as to which objectives are being met and, more importantly, which objectives are not being adequately met. Results from program assessment allow the staff to know what program components to focus on improving for the following year. Gelmon, Holland, Driscoll, Spring, and Kerrigan (2001) echo these reasons for assessing programs of service learning:

Institutions committed to civic engagement and service-learning must be able to demonstrate the impact of these initiatives to ensure quality for student and community participants, to justify resource investments, and to inform the improvement and expansion of such programs (p. 1).

An important component of assessing service-learning programs is the examination of instruments used to measure program objectives.

**Community Service-learning Assessment Test (CSAT)**

The CSAT is used as a measure of student learning outcomes associated with participation in an Alternative Break program. Student learning outcomes are the specific objectives defining the skills and abilities that students may achieve or develop through participation in the key components of the program. The CSAT instrument consists of a total of 40 items distributed across five independent scales: civic action (8 items), interpersonal problem-solving (11 items), social justice (7 items), interpersonal relationships (8 items), and personal competency (6 items). The scales were modified
from two pre-existing instruments: The Civic Attitudes and Skills Questionnaire (CASQ: Moely, Mercer, Ilustre, Miron, & McFarland, 2002b), from which the civic action and interpersonal problem-solving scales were adapted and the Student Service-Learning Couse Survey (SSLCS; Wang, Ye, Jackson, Rodgers, & Jones, 2005), from which the social justice, interpersonal relationships, and personal competency scales were adapted. The scales were selected because of their perceived alignment with Alternative Break program student learning objectives at the institution under study.

**Civic action.** Civic action is defined as students’ level of value expression in which students express a future commitment to community involvement with the desire to enhance societal prosocial values (Moely et al., 2002b). Moely et al. (2002) designed the scale to specifically measure intentions to become involved in community programs and intentions to help others. The civic action scale was created to measure one of Stukas et al.’s major goals of service: *Value-Expression*. Value-Expression involves an expression of humanitarian and pro-social values. An increase in pro-social values leads to an altruistically motivated commitment to continue service (Stukas et al., 1999). This increase in humanitarian values is highly contingent upon the quality of the service-learning program and is not strongly increased with mandatory service (Stukas et al., 1999).

Moely et al.’s (2002b) study of the CASQ indicated good reliability for the civic action scale (coefficient alpha values of .86 and .88). However, reliability estimates for the civic action scale on the CSAT for leaders and participants in the Alternative Break program at the institution under study have ranged from coefficient alpha values of .46 to .88 since 2006. The low reliability estimates were obtained during the first few years of
administration when the CSAT was given as a paper and pencil test. The use of the paper and pencil version corresponded with a lower response rate. Results also indicated a possible ceiling effect, with the majority of students scoring high on the measure and the overall range of scores restricted. Moely et al. (2002b) went on to examine correlates and gender differences. For example, students scoring high on civic action also showed strong academic motivation, engaged in active approaches to learning, and expected to work hard (Moely et al., 2002b). However, Moely et al. examined correlates and group differences without first examining the dimensionality of the scale.

Interpersonal problem-solving. Moely et al. (2002a) developed the interpersonal problem-solving scale to measure another one of Stukas’ major goals of service: Self-Enhancement. Self-Enhancement is characterized by individuals increasing in feelings of importance to others and decreasing in conflict behaviors (Stukas, Clary, & Snyder, 1999). Development in interpersonal problem-solving indicates students’ understanding of self and the world which is demonstrated through increases in empathy and moral reasoning and leads to student increases in interpersonal abilities including cooperation, communication, and problem-solving (Moely et al., 2002b). Self-Enhancement increases with the degree of autonomy and responsibility given to students participating in service-learning programs (Stukas et al., 1999). Moely et al.’s. (2002b) study of the CASQ indicated good reliability for the interpersonal problem-solving scale in two samples (coefficient alpha values of .79 and .80). Reliability estimates for the interpersonal problem-solving scale on the CSAT for leaders and participants since 2006 have ranged from coefficient alpha values of .54 to .90.
**Social justice.** Social justice refers to students’ development in the five elements (value, knowledge, skills, efficacy, and commitment) of social responsibility important to becoming an effective citizen (Eyler & Giles, 1999). The value element is indicated by a moral obligation to become an active citizen: “I ought to do” (Leung, 2003, p. 107; Eyler & Giles, 1999). The knowledge element is characterized by knowing why actions need to be taken: “I know what I ought to do and why” (Leung, 2003, p. 107; Eyler & Giles, 1999). The skills element indicates having a capability to perform actions needed: “I know how to do” (Leung, 2003, p. 107; Eyler & Giles, 1999). The efficacy element indicates a confidence in those abilities and in the benefits of active citizenship: “I can do and it makes a difference” (Leung, 2003, p. 107; Eyler & Giles, 1999). Finally, the commitment element indicates a dedication to active community engagement: “I must and will do” (Leung, 2003, p. 107; Eyler & Giles, 1999). Warren (1998) defines social justice as “intentional steps that move society in the direction of equality, support for diversity, economic justice, participatory democracy, environmental harmony, and resolution of conflicts nonviolently” (p. 134). Student growth in social justice indicates an increased awareness of social justice issues as well as the commitment to work for social justice change (Wang et al, 2005). Social justice issues include socioeconomic issues, gender issues, and race issues.

Schwartz (2011) points out that “a sense of connection and community inclusion is an essential step in developing concern about social justice issues” (p. 20). Students develop social justice concerns through exposure to beliefs that are not reflective of their own (Schwartz, 2011). Service-learners have been identified as more likely to promote racial understanding and influence social values (Warren, 1998). Wang et al. (2005)
found good internal consistency for the social justice scale of the SSLCS with coefficient alpha values ranging from .78 to .83. Reliability estimates for the social justice scale on the CSAT at the institution under study has ranged from coefficient alpha values of .55 to .84. Wang et al.’s (2005) study on the SSLCS indicated significant factor loadings onto one construct for all social justice items, indicating the scale is unidimensional.

**Interpersonal relationships.** The interpersonal relationships scale aims to measure the *Mature Interpersonal Relationships* vector of Chickering’s psychosocial developmental model (Winston, 1990). The construct of interpersonal relationships involves increasing students’ tolerance of others as well as increasing students’ appreciation of differences (Chickering & Reisser, 1993). This tolerance results in diminished cultural stereotypes and discrimination in both the interpersonal and intercultural contexts. Tolerance allows students to gain a better understanding of various values, and cultures. Chickering’s vector also involves an increase in the capacity for developing mature relationships including intimacy. This includes the ability to engage in open and reciprocal relationships that are characterized by trust and independence. Winston (1990) defines interpersonal relationships as individuals’ having the ability to relate to and respect various races, cultures, and backgrounds.

Eyler and Giles (1999) concluded that students’ personal interactions through service-learning increased tolerance and appreciation for diversity. Students grow in tolerance and appreciation of individual differences through service-learning by engaging with various groups that are often more diverse than their own peer groups (Schwartz, 2011). Wang et al. (2005) modified the interpersonal relationships scale from the Student Development Task and Life Style Inventory (SDTLI) which was designed to measure
Chickering’s developmental theory. The interpersonal relationships scale on the SDTLI showed adequate reliability with an alpha of .76 (Foubert, Nixon, Sisson, & Barnes, 2005). However, Wang et al.’s. (2005) modified version of the interpersonal relationships scale on the Student Service Learning Course Survey indicated lower than desirable reliability (coefficient alpha values of .69 and .68). Reliability estimates for the interpersonal relationships scale on the CSAT has ranged from coefficient alpha values of .20 to .77. In examining factor structure, Wang et al. (2005) determined three items on the interpersonal relationships scale did not significantly load onto the intended factor, indicating the items did not share expected variance with the other interpersonal relationship items. Thus, it was concluded that responses to those items may not have been driven by the same underlying factor (interpersonal relationships).

**Personal competency.** Personal competency is defined as student growth in confidence, and perceived leadership and communicative ability (Wang et al., 2005). The personal competency outcome for service-learning, as defined by Wang et al. (2005) focuses on the development of feelings of internal competence. For example, Astin, Vogelgesang, Ikeda, and Yee (2000) found that students’ leadership skills increase after participation in both community service and service-learning. Astin et al. (2000) indicated that student-student peer interactions in service-learning facilitate the development of positive leadership skills more than other college experiences.

Wang et al. (2005) found good internal consistency for the personal competency scale. Coefficient alpha values for the personal competency scale on the SSLCS ranged from .76 to .84. Reliability estimates for the personal competency scale on the CSAT has ranged from coefficient alpha values of .36 to .85. Wang et al.’s., study on the SSLCS
indicated significant factor loadings onto one construct for all personal competency items, indicating the scale is unidimensional.

All five constructs measured with the CSAT have been theoretically identified as service-learning outcomes. Further, research has shown empirical evidence for the development of these psychological constructs through service-learning participation. However, all five CSAT scales need to be further examined within a construct validation framework.

**Importance of construct validation**

Measurement error is a constant concern in research and program assessment. In classical test theory a student’s score on a measure consists of his or her true score along with measurement error. In other words, measurement error is the difference in a person’s observed score and his or her true score on a construct. Both random and systematic measurement error results in low validity. Certain methods, for example structural equation modeling, address validity issues while accounting for measurement error. This is ideal as psychological measures are often based on abstract constructs that are often difficult to adequately define and accurately measure (Cote & Buckley, 1988). Thus it is important to address construct validity. Messick (1995) notes that “In essence, construct validity comprises the evidence and rationales supporting the trustworthiness of score interpretations…” (p. 743). Providing evidence that supports meaningfulness of scores is a crucial part of assessing student outcomes. Evidence for construct validity can be obtained in multiple ways including relationship patterns among items, relationships with other measures, group differences, and differences across time (Messick, 1995). It is important to note that construct validity also takes into account representativeness. Items
for each scale should adequately represent the construct being measured which includes covering the breadth of that construct. Results from the CSAT are used to justify program support as well as to make programmatic changes; it is therefore important to provide evidence that the interpretations are indeed related to the theoretical constructs.

**Inconsistent scale functioning.** Previous CSAT scale performance indicates the need for further examination of all five scales. Results from the CSAT have yielded inconsistent findings. As indicated previously, all five scales have not consistently shown adequate reliability for Alternative Break program leaders or participants. In particular, the interpersonal relationships scale has had consistently low reliability, falling below the acceptable alpha value of .70 in numerous samples. These findings indicate the need for further research on scale functioning. Furthermore, the structure of the instrument has not been adequately examined, yet the scale has been used for program assessment since 2006. The structure of the social justice, interpersonal relationships, and personal competency scales was examined within the larger SSLCS; however, it is important to re-examine the structure of these scales as some items have been modified and the structure has not been examined at the current university. Additionally, the structure of the civic action and interpersonal problem scales has never been examined.

**Benson’s (1998) validity framework**

Benson (1998) outlined a program of construct validation consisting of three stages: a substantive stage, a structural stage, and an external stage.

**Substantive stage.** The substantive stage involves defining the construct theoretically and empirically. Theoretically defining a construct involves defining the theory underlying the construct, defining the dimensionality of the construct, and
defining the expected relationship of the construct to other constructs. Empirically defining a construct consists of identifying observable ways in which the construct can be measured. The inclusion of the five theoretically distinct constructs on the CSAT as a measure of service-learning is based on the theoretical work of service-learning researchers (Eyler & Giles, 1999; Chickering & Reisser, 1993; Moely et al., 2002; Wang et al., 2005).

**Structural stage.** The structural stage is characterized by an examination of the observed variables with one another to determine the extent to which items covary among one another and if they follow the intended structure defined in the substantive stage (Benson, 1998). Methods utilized in addressing the structural stage of validation include factor analyses, reliability statistics, item response theory, and item and subscale intercorrelations (Benson, 1998).

**External stage.** The external stage of Benson’s framework examines the relationship of the construct with other related constructs. This stage also addresses whether the constructs vary in hypothesized ways across specific group characteristics. Procedures used in addressing this stage of construct validation include correlation and group differentiation (Benson, 1998).

The current study utilizes Benson’s framework of construct validation to examine validity evidence for the use of the CSAT as a measure of service-learning outcomes. The substantive stage is focused on in the review of the literature in which theoretical and empirical definitions of the constructs are discussed along with the development of the scales. The method of the current study focuses on the structural and external stages of construct validation.
Hypotheses

There are gaps in the literature with regards to assessment of service-learning, particularly for alternative break programs. Evidence of the effects of service-learning is largely anecdotal in nature. Furthermore, and at least partially contributing to this lack of evidence, there is a lack of psychometrically sound scales designed specifically to measure the service-learning outcomes of an alternative break trip. This study seeks to address the need for an instrument to assess outcomes resulting from participation in an Alternative Break program, an instrument from which one can make valid inferences at the program-level. A reliable instrument used to gain quantitative data will lead to standardized results, focused specifically on program objectives, on which more accurate inferences can be made about the effects of service-learning. Two parts of this study examine the validity of inferences made from the scale scores of the CSAT.

Part 1: Model-Data Fit (i.e. structural stage).

A five-factor model aligning with the five constructs (scales) of the CSAT was tested using two independent samples of students to evaluate the fit of the model to the scores from each of the five scales. Modifications to the model or scales (i.e., removal of items) were made to identify items and scales that function as intended. Based on preliminary analysis, the civic action and social justice scales were hypothesized to be the most structurally sound and interpretable (Waugh & Anderson, 2011a).

Part 2: Scale Scores and Related Variables (i.e. external stage)

Given an interpretable factor structure from Study 1, do scale scores relate to other variables in expected ways? The CSAT scales found to be structurally sound were related to achievement goal orientation variables (mastery-approach, performance-
approach, mastery-avoidance, performance-avoidance, and work avoidance), psychological entitlement, and perceived cohesion. Students scoring higher on civic action and students scoring higher on social justice were hypothesized to score higher on approach goal achievements, and higher on perceived cohesion (Elliot, 1999; Moely et al., 2002). Students scoring higher on civic action and students scoring higher on social justice were also predicted to score lower on avoidance goal achievements and lower on psychological entitlement (Bringle & Hatcher, 1996). These hypotheses are discussed further in the literature review.

In sum, service-learning outcomes are of interest to higher education researchers because they address constructs integral to university missions of producing educated and civic-minded citizens. This study aims to improve the measurement of service-learning outcomes (civic action, interpersonal problem-solving, social justice, interpersonal relationships, and personal competency) by evaluating the factor structure of the CSAT and evaluating whether scale scores on this measure relate to other variables in theoretically expected ways. Support for the validity of inferences made as a result of scale scores will increase confidence in findings related to program effectiveness.
CHAPTER 2

Literature Review

Validity evidence for the CSAT is required if one is to feel confident in the validity of the inferences made from the resulting scores. In particular, the researcher is concerned about inferences made regarding student learning and development associated with participation in service-learning activities. An overview of the literature pertaining to service-learning and the assessment of service-learning related outcomes is presented. The first section of this chapter focuses on the theoretical background and definitions of service-learning and associated student learning and developmental outcomes. The second section discusses Alternative Break programs as a specific form of service-learning. Then, instruments used to measure service-learning outcomes are presented and discussed. External variables are then considered in relation to service-learning outcomes. Finally, the research questions addressed by the current study are presented.

Theoretical Background of Service-Learning

The term “service-learning” was coined in 1967 and was grouped into two definitional categories: as a kind of education and as a philosophy (Giles & Eyler, 1994b). Service-learning as a kind of education emphasizes the connection between academic course content and service within the community. Service-learning as a kind of philosophy emphasizes the benefit of experiential learning. Thus service-learning is identified as a kind of educational philosophy. Many researchers and practitioners agree that the concept of service-learning arose from John Dewey’s educational philosophy, which emphasizes that knowledge is best gained through experience (Conrad & Hedin,
Dewey’s philosophy. Dewey advocated that learning should be experiential in nature. Dewey did not agree with the traditional educational methods wherein students were merely non-active receivers of information with no connection to life experiences. He proposed two principles central to his experiential philosophy: the principle of continuity and the principle of interaction. According to Dewey’s principle of continuity, experiences build on each other, and therefore students should continually engage in experiential learning. Dewey’s principle of interaction states that learning is situational and that learning results from an interaction between the student and the environment. (Giles & Eyler, 1994b). Although Dewey did not specifically identify service-learning as a means of high quality education, the experiential focus of his philosophy is embedded in the nature of service-learning activities. This is evident in the three key components of Dewey’s philosophy that Bringle and Hatcher (1999) identify: education must lead to personal growth, education must contribute to humane conditions, and education must engage citizens in association with one another.

Service-learning defined. Although the philosophy behind the advent of service-learning is generally agreed upon, there is no generally agreed upon definition of service-learning. Adequately defining service-learning has been a challenge throughout the literature. Some definitions of service-learning view it as strictly a course-based activity. For instance, Bringle and Hatcher (1999) define service-learning as, “a course-based credit-bearing educational experience…” (p. 111) that will allow students to more fully understand course content while at the same time increasing civic engagement. Simons
and Cleary (2006) contend that service-learning allows students to apply theoretical knowledge to real-world contexts in which the students may, “connect the service experience to the course content” (308). The Corporation for National Service states that service should engage students in community helping activities, “that are integrated into the students’ academic curriculum” (Furco, 1996, p.1). However, not all researchers have defined service-learning strictly as a course-based activity. The National Society of Experiential Education identified service-learning as an “experience in which a student has intentional learning goals” (Furco, 1996). Sigmon (1979) takes a non-academic approach to service-learning stating that it, “represents the coming together of many hearts and minds seeking to express compassion for others and to enable a learning style to grow out of service” (as cited in Furco, 1996, p. 9).

Jacoby (1996) offers a definition of service-learning that combines components of Dewey’s philosophy as well as components of the various definitions outlined above. She defines service-learning as follows:

Service-learning is a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development. Reflection and reciprocity are key concepts of service-learning (p.5).

This definition offers a synthesis of the various definitions in the literature and is well-matched to the service-learning activities provided through an Alternative Break program, the specific type of program of interest in the current study.

**History of service-learning in higher education**

The history of service on college campuses can be traced back to the civil rights movement and the formation of the Peace Corps by John F. Kennedy in 1961. However,
it wasn’t until the mid-1980s when leaders of community involvement began merging serving and learning. In a 1984 report, Frank Newman boldly stated that, “if there is a crisis in education in the United States today, it is less that test scores have declined than it is that we have failed to provide the education for citizenship that is still the most important responsibility of the nation’s schools and colleges” (as cited in Cohen & Kinsey, 1994, p. 5). This idea of educating for citizenship was encouraged by various programs nationally, including Campus Compact, which was formed in 1985.

Campus Compact is a group of university presidents that sought to encourage undergraduates to participate in initiatives to improve their communities (Gearan, 2005). The goals of Campus Compact are: to advocate campus participation in service, speak out on public issues, support programs that promote building strong relationships between campuses and communities, develop opportunities for increasing citizenship, and support service-learning as a way to blend academics and community involvement (Gearan, 2005). The mission of Campus Compact was widely accepted among higher education institutions and service-learning began to receive governmental support.

Implementing service-learning into higher education has received extensive bi-partisan support. Under President George Bush Sr., the National Community Service Act of 1990 was passed as legislation and offered student loan deferment to individuals participating in community service (Conrad & Hedin, 1991; Rhoads & Neururer, 1998). The act also provided financial support to primary, secondary, and post-secondary institutions that offered community service programs. In 1993, under President Bill Clinton’s administration, the National and Community Service Trust Act gave financial assistance to students 16 years of age or older who participated in community service
Financial support from policy makers indicates that service-learning programs, as part of higher education are valued as a means to develop educated citizens. This extensive support is due in large part to the numerous beneficial outcomes believed to result from students’ involvement in service-learning.

**Service-learning outcomes**

College students may participate in service-learning through a variety of on-campus programs and organizations, as well as through courses that include service-learning in the curriculum. Activities of both course-based and non-course based service-learning opportunities are designed to contribute to specific student learning and development outcomes.

Course based service-learning engages students in a set number of hours serving the community as a required part of the course. The service is then incorporated into the classroom and related back to academic material through writings, group discussions, or class presentations (Bringle & Hatcher, 1996). This course-based service-learning forces students to directly associate service with the academic content. For example, a social work class requiring service-learning may have students compare their personal service experience with the various social work theories and models presented in class.

Numerous outcomes as a result of course-based service-learning have been empirically identified in research.

Researchers have demonstrated that students’ participation in course-based service-learning curriculums results in various student learning and developmental outcomes. In a comparison of students involved in course-based service-learning and those involved in community service, Astin et al. (2000) found that students involved in
service-learning increased in cognitive skills as measured by GPA, a writing skills assessment, and a critical thinking skills measure. Astin et al. (2000) also found an increase in certain values among students including an increased commitment to activism and promoting racial understanding; leadership, as measured by self-rated ability and interpersonal skills; and plans to participate in service in the future as measured by self-report (Astin et al., 2000). Students participating in course-based service-learning showed an increase in social justice attitudes (Moely, Mcfarland, Miron, Mercer, & Ilustre, 2002a; Wang et al., 2005). Moely et al. (2002a) found that course-based service learners increased on interpersonal and problem-solving skills, leadership skills, political awareness, and civic action. These students also reported higher course satisfaction. Simons and Cleary (2006) examined outcomes of course-based service-learning and found that students gained political knowledge, developed an appreciation of diverse backgrounds, and increased in their confidence to make a difference in the community. The researchers also found that students’ civic engagement increased. Students have also been shown to increase in social problem-solving, self-knowledge, self-esteem, civic-mindedness, social responsibility and self-efficacy (Batchelder & Root, 1994; Eyler & Giles 1999; Johnson & Notah 1999; Kezar & Rhoads, 2011). Such findings support the benefits of course-based service learning activities. Required service through courses, however, is not the only opportunity students have to get involved in service-learning. Non course-based service-learning activities, for instance Alternative Break programs, are often implemented on campuses independent of courses.

Students may participate in service-learning through non course-based opportunities such as service fraternities or various clubs and organizations. The focus of
the current study is on a specific type of non course-based service learning experience known as an Alternative Break. Students participating in an alternative break are immersed in a community in need. These immersion experiences often last for an entire week of service during an academic break (i.e. Spring break). Both prior to and following the service week, students are engaged in group cohesion activities, training, and educational activities. Expected student outcomes from participation in an Alternative Break program are similar to course-based outcomes. The anecdotal evidence of the benefits of Alternative Breaks on student development is abundant; however, there is little empirical evidence of student development as a result of participation in an Alternative Break program. Empirical evidence is important for institutional programs to gain support and to justify resources dedicated to the program. A review of the literature revealed three studies focused specifically on examining outcomes from participation in an Alternative Break program.

Rhoads and Neururer (1998) examined student outcomes from a single Alternative Break trip. The goal of the Alternative Break experience examined in Rhoads and Neururer (1998) was “to provide an opportunity for students to get involved in community service and to explore the role service might play in their lives” (p. 103). Interviews, observations, and document analysis were used to determine if students gained a greater understanding of themselves, of others different from themselves, and of their community. Students reported gaining new abilities as well as increased self-confidence and self-knowledge. Students also reported an ability to recognize similarities with individuals of different races and backgrounds. Finally, students indicated they had a more complex view of community, ranging from the student community on campus to
the larger community as a whole. Rhoads and Neururer (1998) found positive students gains. Students reported increasing in self-understanding, which manifested in increased confidence, new abilities, and new values. Additionally, students increased in their understanding of others and in their understanding of community, both locally and at large. However, this research was mostly anecdotal, examined only students on a single Alternative Break trip, and did not connect back to clear student learning objectives for the program.

Raman and Pashupati (2002) focused on examining the effects of motivation for service and perceptions about the Alternative Break program on intended behavior. Researchers sent student participants across the country a questionnaire before and after the Alternative Break experience. Researchers examined student outcomes including social attitudes and values, intent to volunteer in the future, understanding of the social issue worked on, and intentions to become politically involved. The questionnaire included questions about service-intentions, intrinsic and extrinsic motivation, and perceptions of the program. Raman and Pashupati (2002) found that intrinsic motivation was the strongest predictor of the outcome variables. Although students from multiple Alternative Break trips participated, there was no standardization among break trips. Different universities organized the differed trips. Researchers did not identify student learning objectives nor the specific program activities designed to address program, making score interpretations from the questionnaire difficult.

Boyle-Baise and Langford (2004) examined one course-based Alternative Break trip. The goal of the course and break was to develop students’ social justice attitudes through service-learning and education. Interviews, observations, and document
collection were used to examine the effects of the course-based program. Boyle-baise and Langford (2004) reported that students learned about their own social biases. Unlike Rhoades and Neururer (1998); however, they did not find that students increased in community understanding nor increased in their cooperation with one another. Further, Boyle-Baise and Langford (2004) also found that students were not necessarily more motivated to serve after their Alternative Break experience. Again, this research was mostly anecdotal and examined a single Alternative Break trip.

**Alternative Break**

Students participating in an Alternative Break take a week-long service trip to a community in need. These service trips occur over Thanksgiving, Winter break, and Spring break. Alternative Spring Breaks are by far the most popular and therefore the most developed break experiences for students. Students sacrifice vacationing to help a community with a specific social issue. The communities may be located in the United States or abroad. While Alternative Break programs aim to help communities in need, the main objective is to encourage students to connect academic knowledge with the service experience. The goal is that students will progress along the Active Citizen Continuum (Break Away, 2011).

**Active Citizen Continuum.** The Active Citizen Continuum consists of four states: member, volunteer, conscientious citizen, and active citizen. A student in the member state is not concerned with social issues. A student in the volunteer state desires to help those in need, but is not well-educated about social issues. A student in the conscientious citizen state is concerned with social issues, specifically in discovering the causes of particular social issues. Finally, a student in the active citizen state values
community and makes benefiting the community a priority (Break Away, 2011). The combination of education, service, and reflection that occurs within an Alternative Break experience is designed to serve as a catalyst for change in students’ citizenship development and movement along the continuum.

Throughout the academic year, students planning on participating in an Alternative Break experience are involved in activities to facilitate student transformation prior to the trip, during the trip, and after the trip. Alternative Breaks trips are a growing form of service-learning offered through higher education institutions. Across the country, 137 schools sent a total of 72,000 students on Alternative Break trips in 2011. This is a 20% increase from 2010, and double the 36,000 student participants reported in 2006 (Break Away, 2011). Much of this growth can be attributed to a national movement, supported by the national organization, Break Away to promote Alternative Break experiences. Break Away offers chapter schools resources, including a list of agencies participating in alternative breaks, fundraising ideas, and manuals for facilitating program components. These resources are intended to contribute to the quality of Alternative break programs across the nation.

**Eight quality components.** Break Away has identified eight quality components of a strong Alternative Break program. These quality components are: strong direct service, orientation, education, training, reflection, reorientation, diversity, and alcohol and other drug free (Break Away, 2011). Strong direct service provides students the opportunity to engage in direct “hands-on” service that addresses social needs. This component takes place while the students are actually on the trip. When proposing a new trip, students must demonstrate the strong direct service in which participants will
engage. Orientation familiarizes students with the mission and objectives of the Alternative Break program as well as the community agency with which they will be working. Students are oriented to program and agency objectives prior to the Alternative Break experiences. Education establishes learning objectives for the students and provides participants with information on the specific social issue and the community they will be visiting. Education should take place prior to, during, and after the service trip. Education often includes articles, forums, and videos related to the social issue of interest. Training gives students the proper hard and soft skills that will be needed to help the community in which they will serve. This training takes place prior to the trip but may also take place at the partner agency prior to service. Reflection offers students a structured opportunity to apply what they have learned in the classroom to real world settings. This also allows the students to gain a deeper understanding of the experiences they are having. Reflection should also take place prior to, during, and after the trip. Reorientation takes place once the students return from the trip. Reorientation activities encourage students to share their experience with others on campus and in the community. Reorientation includes giving students information on how to begin serving at home and making life-long commitments to service. Diversity includes creating the opportunity for students to engage with various students in the program as well as the chance to interact with various communities and people groups during the service trip. The alcohol and drug free component involves creating program policies prohibiting the use of alcohol or other drugs during the break. This component is what makes the breaks “alternative” in nature as college students are typically stereotyped as drinking and partying during breaks, and Spring break in particular.
Alternative Break program of current study

The institution where the current study was conducted has one of the largest Alternative Break programs in the country, sending out over 300 students each year on more than 30 trips. The majority of trips are not course-based; however, each year two to three trips are sent in conjunction with a specific course. Every trip includes two student leaders, eight to ten student participants, and one faculty learning partner. The learning partner serves as a resource for the trip leaders and as an emergency aide on the trip. Trip leaders apply for the leader position and are interviewed and selected by Alternative Break program staff. The trip leaders then interview and select a learning partner. A lottery system is used to select student participants for the program and to place them on a specific trip. Once participants sign up as interested in participating in the program they are added to the database. Once sign-ups are closed, the list of names is randomized. During the lottery night procedure, students are called in list order and each selects a specific alternative break trip. Once all trips are full, the remaining participants are added to the wait list to join a trip if another participant is unable to continue in the program.

The Alternative Break program under consideration in the current study is a Break Away chapter school, and thus adheres to the eight quality components discussed previously. In addition to those components, the current Alternative Break program being studied encourages students to follow a component of *simple living*. Student groups are asked to take minimal belongings on the trip and to avoid the use of technology (cell phones, mp3 players, and internet) during their Alternative Break experience. Reflection is a vital component of the University’s Alternative Break program. Some examples of reflection activities commonly used include group discussions, letter to self, and
journaling. It is important to assess whether these reflective activities, along with the other activities integral to an alternative break experience, are allowing students to meet the program’s student learning and development objectives.

**Measuring service-learning student outcomes**

Student outcomes from service-learning activities have been measured in a multitude of ways. Many service-learning researchers interview students and gather anecdotal evidence of student development. Interview questions often ask students to identify the impact service-learning has had on their values, priorities, and academics; the motivation behind their participation in service-learning; their knowledge of the community; and their expectations of service-learning (McKenna & Rizzo, 1999; Rhoads & Neururer, 1998; Morgan & Streb, 2001; Simons & Cleary, 2006; Rhoades, 1998; Astin et al., 2000). Other researchers have used quantitative methods in the form of various self-report questionnaires. Many of these questionnaires were not specifically created to measure service-learning outcomes, but were adopted for use within a service-learning context because the measures appeared to fit a desired outcome of service-learning, such as critical thinking, self-esteem, social values, problem-solving, civic responsibility, self-efficacy, cultural competency moral reasoning, civic participation, attitude toward helping others, academic engagement and political involvement (Astin & Sax, 1998; Einfeld & Collins, 2008; Gallini & Moely, 2003; Johnson & Notah, 1999; Markus, Howard, & King 1993; Nokes et al., 2005; Simons & Cleary, 2006; Steinke & Fitch, 2007; Weber, Weber, & Young, 2010). Using instruments that are not designed specifically for service-learning could be an issue with regards to Benson’s (1998) substantive stage of construct validation. The definition of constructs may differ in terms
of contexts. Service-learning constructs ought to be measured by instruments created with service-learning in mind in order to ensure accurate construct representation.

The scales examined in the current study were modified from two pre-existing instruments that were designed specifically to measure service-learning outcomes. The Civic Attitude and Skills Questionnaire (CASQ) was developed to measure undergraduates’ attitudes and skills affected by service-learning (Moely et al., 2002b). The Student Service-Learning Course Survey (SSLCS) was developed to measure student outcomes of a course-based service experience (Wang et al., 2005). Both instruments are used as a measure of multiple constructs. In order to identify potential strengths and weaknesses of these original scales, the CASQ and SSLCS are examined within Benson’s framework of construct validation. Although not used in the CASQ and SSLCS literature, Benson’s program is a useful framework for evaluation of the instruments.

Benson (1998) identified a process of gathering strong construct validity evidence through three stages: a substantive stage, a structural stage, and an external stage. The substantive stage consists of identifying the theoretical and empirical definitions of the construct. The theoretical definition of a construct includes theory of the construct, dimensionality of the construct, and relationship to other constructs. The empirical definition of a construct identifies the observable variables of a construct and the ways these variables are measured. The structural stage is characterized by an examination of the observed variables with one another. Methods used in the structural stage of construct validation include factor analyses, reliability statistics, item and subscale intercorrelations, and item response theory. The external stage consists of examining the relationship of the construct with different constructs. The goal of this stage is to assess
whether the relationships follow what would be expected given the theoretical framework of the constructs. The methods used in the external stage of construct validation include test correlations and group differentiation. Benson’s program of construct validation will be used as a framework in examining the validity of inference made from scores resulting from the CASQ and the SSLCS.

**Civic Attitude and Skills Questionnaire.**

Recall that the civic action and interpersonal problem-solving scales were adapted from the CASQ. These scales were adapted to address two specific program outcomes: students will develop a commitment to future service (civic action), and students will improve problem-solving skills (interpersonal problem-solving).

**Substantive stage.** The CASQ researchers originally developed 84 items (reduced to 65) items designed to measure interpersonal relations, social/political awareness, leadership, problem-solving, logical thinking, social justice, and importance of community service (Moely et al., 2002b). The authors stated that “CASQ yields scores on six scales, developed through factor analysis” (Moely et al., 2002a, p. 20). Moely et al. (2002b) used principle components analysis on the 65 items and based on the results retained 45 items on six scales: civic action, interpersonal problem-solving, political awareness, leadership skills, social justice attitudes, and diversity attitudes. However, PCA is a data reduction technique and does not result in the ability to make statements about factors responsible for responses (Park, Dailey, & Lemus, 2002). Principal components cannot be interpreted as latent constructs, or factors. However, an EFA would have allowed for such inferences.
Moely et al. addressed the constructs of interest both theoretically and empirically. The six scales of the CASQ map back to three goals described by Stukas et al. (1999): self-enhancement (interpersonal problem-solving, political awareness, and leadership skills), understanding of self and world (social justice attitudes, and diversity attitudes), and value expression (civic action). The goal of self-enhancement includes self-efficacy and self-confidence in interacting with others. The civic action items were designed to measure students’ intentions to become involved in service in the future. Examples include helping others or getting involved in community programs. The interpersonal problem-solving scale was designed to measure students’ ability to listen, work cooperatively, make friends, communicate, think logically and analytically, solve problems, and take the role of others. For a full description of all six CASQ scales see Moely et al. 2002a and Moely et al. 2002b.

Structural stage. Following a strong theoretical and empirical definition for the service-learning outcomes identified for the CASQ, the structural stage would entail an examination of the items and constructs relationships with one another. A follow-up psychometric study of the CASQ was performed using two samples. Researchers addressed Benson’s structural stage by examining intercorrelations of scales showing that social justice and diversity attitudes were correlated and leadership skills and political awareness were also correlated. Civic action was correlated with all other scales. The researchers determined that it is possible that all other scales may contribute to the likelihood that students will be civically involved. Coefficient alpha for each scale in each sample ranged from .69 to .88. However, reliability for a scale assumes
unidimensionality. Moely et al. (2002) did not conduct a factor analysis examine if the individual scales on the CASQ are unidimensional constructs.

**External stage.** Subsequent to examining inter-relationships, the external stage would entail relating the constructs with other theoretically related constructs and identifying group differences. Moely et al. (2002b) examined the relationships of the CASQ scales to social desirability and found that social desirability was positively related to civic action, interpersonal problem-solving, and diversity attitudes scales. CASQ scale scores were also related in predicted ways to the modern racism scale (MRS), value of college scale (VC) and mastery orientation (MO), lending support to the validity of inferences made from the CASQ scores. It should be noted that the MO scale was developed by Moely et al. and focused on assessing intrinsic rewards and is not directly comparable to the mastery-avoidance or mastery-approach goal orientation variables used in the current study.

Moely et al. (2002b) also addressed Benson’s external stage by examining group differentiation by gender. Moely et al. hypothesized group differences and implied that women may be higher on CASQ scales than men. Women scored significantly higher than men on civic action, social justice, and diversity attitudes scales. On one sample, men scored significantly higher than women on the political awareness scale. No gender differences were found for interpersonal problem-solving or leadership scales.

**Student Service Learning Course Survey**

Recall that the social justice, interpersonal relationships, and personal competency scales were adapted from the SSLCS. These scales were adapted to address four specific program outcomes: students will increase in their awareness of social justice issues,
students will improve interpersonal skills, students will develop an appreciation for diverse perspective, and students will develop confidence in leadership skills.

**Substantive stage.** The SSLCS was designed to measure outcomes of service-learning courses and consists of four scales: personal competency, interpersonal relationships, charitable responsibility, and social justice. The personal competency scale was designed to measure self-confidence, leadership, and communication skills. The interpersonal relationship scale was adapted from the Student Development Task and Lifestyle Inventory, which measures Chickering’s developmental vector mature interpersonal relationship (Chickering & Reisser, 1993). The interpersonal relationship scale was developed to measure students’ ability to establish open and honest relationships that balance dependence and independence (peer relationships) and their respect and acceptance of different backgrounds, cultures, beliefs, races, and lifestyles (tolerance). Individuals higher in achievement of tolerance do not employ stereotypes and are appreciative of individual differences. Both the charitable responsibility and the social justice scales were based on Eyler and Giles (1999) citizenship components. The charitable responsibility scale was designed to measure students’ willingness to volunteer and help others. Individuals high on charitable responsibility are motivated to participate in community service by altruistic reasons. The social justice scale was designed to measure students’ awareness of social injustice issues as well as a commitment to work for social change.

**Structural stage.** In addressing Benson’s structural stage, Wang et al. (2005) performed a four factor confirmatory factor analysis (charitable responsibility, social justice, personal competency, and interpersonal relationships) on the SSLCS. They found
that all items had a significant relationship with their intended factor with the exception of three items designed to represent interpersonal relationships. The researchers also found that the charitable responsibility and social justice scales were highly correlated, especially for males, $r = .79$ and $.90$ for females and $r = .90$ and $.97$ for males (Wang et al., 2005). Charitable responsibility, social justice, and personal competency were all shown to be internally consistent with Cronbach’s coefficient alpha values ranging from .76 to .89. However, the interpersonal relationship scale had coefficient alphas of .69 and .68 for two separate samples. Wang et al. (2005) concluded that the interpersonal relationship scale may not be appropriate for testing the effects of service-learning on student development of interpersonal relationships and hypothesize that the construct may be multidimensional. Furthermore, Wang et al. (2005) were unable to establish factorial invariance across gender. The external stage of Benson’s framework was not addressed.

**Community Service-Learning Assessment Test**

The scales used in the current study have been modified over the years to form the CSAT. Researchers of the CASQ and SSLCS have not adequately addressed all the stages for construct validation outlined by Benson. Furthermore, neither of the two original instruments described were designed specifically to address service-learning through an Alternative Break program. The CSAT combines modified scales from two instruments to address Alternative Break specific program outcomes.

**Adoption and adaption of CSAT scales.** All scales were adopted to map back to specific Alternative Break program student learning objectives. Some items were slightly reworded, and the response scale for the civic action and interpersonal problem-solving
scales was changed from a 5-point Likert to a 7-point Likert for instrument consistency. Three scales were not adapted from the CASQ; political awareness, leadership skills, and social justice attitudes. Political awareness is not a specific learning outcome for the Alternative Break program and therefore was not adopted. The leadership skills scale was not adapted as increase in leadership abilities was presumably measured by the personal competency scale from SSLCS, which had a higher reliability estimate (coefficient alpha of .76 to .84) than the leadership skills scale of the CASQ (coefficient alpha of .79). Finally, the social justice attitudes scale was not adapted because social justice awareness was presumably measured by the social justice scale adapted from the SSLCS which showed a higher internal consistency (coefficient alpha of .78 to .83) than the social justice attitudes on the CASQ (coefficient alpha of .69 and .70). Charitable responsibility was the only scale not adapted from the SSLCS as it was shown to be highly correlated with social justice and the goal of increasing social justice aligned more with the ideology behind Alternative Break participation than charitable responsibility.

**Mapping to program objectives.** It is important to use measures that specifically address the student learning objectives for a particular program. Alternative Break program objectives and corresponding CSAT scales are shown in Table 1.

**Table 1. Alignment of CSAT scales to program objectives.**

<table>
<thead>
<tr>
<th>Student Learning Objective: Students will</th>
<th>CSAT scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop confidence in leadership skills</td>
<td>Personal competency</td>
</tr>
<tr>
<td>Improve interpersonal skills</td>
<td>Interpersonal relationships</td>
</tr>
<tr>
<td>Develop an appreciation for diverse perspectives</td>
<td>Interpersonal relationships</td>
</tr>
<tr>
<td>Increase in their awareness of social justice issues</td>
<td>Social justice</td>
</tr>
<tr>
<td>Develop a commitment to future service</td>
<td>Civic action</td>
</tr>
<tr>
<td>Improve problem-solving skills</td>
<td>Interpersonal problem-solving</td>
</tr>
</tbody>
</table>
The social justice scale maps back to the program objective that students will increase in their awareness of social justice issues. Service-learning gives students the chance to witness social injustice first-hand. Einfeld and Collins (2008) describe social justice education as an opportunity to spread awareness and to empower students to make social justice changes. Students should increase in social justice awareness through empathy and identification of similarities between them and the people they serve on their trip. Having experienced service-learning through an alternative break, students should desire to make societal changes of “equality, support for diversity, economic justice, participatory democracy, environmental harmony, and resolution of conflicts nonviolently” (Warren, 1998, p. 134). Social justice awareness is a large part of the education and reflection components of a quality alternative break experience. Prior to and during the Alternative Break trip, students participate in several activities designed in increase their awareness of social justice issues. Leaders attend training sessions on social justice issues that include group discussions, forums, and presentations. Leaders are encouraged to give participants videos and articles about their specific social issue and have reflections about social injustice. Partner agencies often give presentations about the relevant social justice issues at the beginning of the service week.

The interpersonal relationships scale maps back to two program objectives: students will improve interpersonal skills, and students will develop an appreciation for diverse perspectives. Research has shown that students indicate enhanced interpersonal engagement as a result of service-learning, which Gallini and Moely (2003) attribute to participation in reflections, trainings, orientations, and traveling together as a group.
which provided various contexts for peer interaction. The direct service, training, and diversity components of quality alternative break experiences are designed to increase students’ interpersonal relationship skills. Service groups are required to meet multiple times prior to their trip and ought to participate in a pre-trip service to begin relationship building. Individuals are likely to hold negative stereotypes about groups they do not interact with (Morgan & Streb, 2001). Students have revealed that service-learning experiences have broken down their stereotypes and prejudices through exposure to stereotyped groups (Astin et al., 2000). The direct service component is a way to break down negative stereotypes by giving students the opportunity to engage with a diverse group of people and gain an understanding of another’s perspective.

The civic action scale maps back to the program objective that students will develop a commitment to future service. Interviews with students have indicated that direct service and application of educational concepts develops their sense of civic responsibility. Apart from direct service, the reorientation component of a quality alternative break is aimed at increasing students’ commitment to service. Students are encouraged to continue service in their home community, or to get involved in a long-term service opportunity. Prior to the trip leaders attend informative presentations from community service organizations and all students are given additional resources after their trip. Morgan and Streb (2001) argue that civic involvement is only enhanced through a service-learning activity if the students have a voice. The Alternative Break program allows student leaders the chance to make decisions about the service trip with the rest of their group, allowing individuals to have a voice in the project, and thus potentially increasing students’ commitment to civic action.
The interpersonal problem-solving scale maps back to the program objective that students will improve problem-solving skills. Qualitative analysis of college service-learners indicated that the process of interpersonal learning from service-learning is though social-emotional learning. Social-emotional learning is a process by which students care about others and make rational problem-solving decisions (Simons & Cleary, 2006). Leaders attend training sessions in which they learn about group dynamics and conflict resolution. Leaders are also given group activities to use with their participants in order to facilitate discussion of conflict resolution strategies.

The personal competency scale maps back to the program objective that students will develop confidence in leadership skills. Service participation has been shown to increase self-confidence and leadership ability (Astin & Sax 1998). Students have also acknowledged a greater sense of their own personal strengths and weaknesses as well a greater ability to adapt to challenging circumstances (McKeena & Rizzo, 1999). Trip leaders go through a 15 week training program in which they learn how to handle logistics and how to facilitate group activities. Leaders are encouraged to allow group members to make decisions and lead reflections if comfortable.

**Previous structural findings.** Preliminary examinations of the structure of the five CSAT scales indicate the need for further study and possibly instrument development. Researchers (Waugh & Anderson, 2011a) conducted a one factor confirmatory factor analyses on each separate scale of the CSAT. The $X^2$, standardized root mean square residual, root mean square error of approximation, and the comparative fit index were examined for each scale to determine model fit for each set of items. The standardized covariance residuals were also examined for item misfit. Results from the
study found that a one-factor model was plausible for the social justice scale with a few items having high standardized covariance residuals indicating the relationships between the items may not be well reproduced by the model and ought to be further examined (Waugh & Anderson, 2011a). Previous examination of the social justice scale found good reliability (omega = .87). Waugh and Anderson (2011a) found that a one-factor model was also plausible for the civic action scale. The current civic action scale score also demonstrated good reliability (omega = .90). However, a couple of items had high standardized covariance residuals (Waugh, & Anderson, 2011a).

Findings related to the remaining scales were less promising (Waugh, & Anderson, 2011a). A one-factor model did not fit the data for the interpersonal relationships scale; however, the standardized covariance residuals were not high (Waugh, & Anderson, 2011a). A one-factor model was found to not fit the data for the interpersonal problem-solving scale. Furthermore, a one-factor model did not fit the data for the personal competency scale and numerous items had high residuals (Waugh, & Anderson, 2011a). Preliminary findings related to the factor structure of each of the five CSAT scales start to address Benson’s structural stage of construct validity evidence. However, these findings remain preliminary and point to the possible need for further scale development. Following a re-examination of the factor structure of the CSAT, the external stage of construct validity must also be addressed.

**Service-learning outcomes and external variables**

To begin to address Benson’s external stage, predicted relationships of CSAT constructs with external variables were examined. These external variables were: achievement goal orientation, psychological entitlement, and perceived cohesion.
Hypotheses were formulated for the relationships between these external variables and the social justice and civic action scales on the CSAT as previous research has indicated that these two scales are likely to have an interpretable factor structure (Waugh & Anderson, 2011a).

**Achievement goal orientation.** Achievement goal orientation variables included mastery-avoidance, mastery-approach, performance avoidance, performance approach, and work avoidance (Elliot & McGregor, 2001). Mastery-avoidance goals indicate a desire to not lose one’s abilities or task knowledge, whereas mastery-approach goals indicate a desire to gain task improvement. Mastery goals are motivated by positive outcomes and persistence in the face of failure (Elliot, 1999). Performance-avoidance goals indicate the desire to avoid performing worse than others, whereas performance-approach goals indicate a desire to outperform others. Both types of performance goals are thought to be motivated by a fear of failure (Darnon, Harackiewicz, Buteram, Mugny, & Quiamzade, 2007). Work-avoidance goals indicate a desire to exert minimal effort into achievement tasks (Elliot & Thrash, 2001). Work avoidance is motivated by a behavioral strategy focused on “getting by” (Elliot, 1999, p. 184).

Based on the theoretical frameworks of these constructs, it was hypothesized that the civic action scale would be positively correlated with mastery-approach and performance approach, negatively correlated with performance-avoidance and mastery-avoidance, and highly negatively correlated with work-avoidance. The rationale was that individuals that are more likely to become involved in community programs are more likely motivated by positive processes. Thus, these individuals focus on gaining desirable goals (approach goals) as opposed to avoiding negative goals (avoidance). The same
pattern of correlations with motivation variables was hypothesized for the social justice scale. Individuals who are more committed to making social changes are also more likely to be motivated by approach goals because students that are more civically engaged have been shown to engage in active approaches when it comes to learning (Moely et al., 2002). Furthermore, Elliot and Thrash (2010) showed that approach temperament is related to extraversion and avoidance temperament is related to neuroticism. Approach motivation is guided by positive and desirable events whereas avoidance motivation is guided by negative and undesirable events (Elliot, 1999).

**Psychological entitlement.** The psychological entitlement construct was defined as “a stable and pervasive sense that one deserves more and is entitled to more than others” (Campbell, Bonacci, Shelton, Exline, & Bushman, 2004, p. 30-31). It was hypothesized that the social justice scale would be negatively correlated with the psychological entitlement scale. Individuals committed to making changes to promote social and economic equality should be low on entitlement because social and economic equality is focused on others as opposed to a focus on deservingness of self. It was also hypothesized that scores on the civic action scale would be negatively correlated with the scores on the psychological entitlement scale. Students participating in community service to help others should not feel more deserving because the participants are motivated to give to others as opposed to being motivated to gain for self.

**Perceived cohesion.** Bollen and Hoyle (1990) defined perceived cohesion as follows: “Perceived cohesion encompasses an individual’s sense of belonging to a particular group and his or her feeling of morale associated with membership in the group” (p. 482). Perceived cohesion is theoretically defined as two facets and is measured
by two variables: sense of belonging and feelings of morale (Bollen & Hoyle, 1990). The sense of belonging variable indicates how connected individuals feel to a specific group, which in this case is their academic environment. Researchers have shown that having a high sense of belonging is associated with positive aspects of school-related experiences, including academic motivation, and self-efficacy (Freeman, Anderman, & Jense, 2007). Sense of belonging has both a cognitive and affective component; a student’s cognitive perception of group role results in an affective response (Hurtado & Carter, 1997). Feelings of morale elicit the emotional response of belonging to a group. The group in this case is identified as the academic environment. It was hypothesized that both the civic action and social justice scales would be positively correlated with sense of belonging and feelings of morale. Experiences outside of the classroom lead to a greater sense of belonging (Bringle & Hatcher, 1996). Therefore, students who feel involved in community programs and are actively working for positive social change through University programs will perceive their role in the group as a positive and important one.

**Conclusion**

Based on theoretical definitions, CSAT constructs were expected to relate to external variables (motivation, entitlement, and perceived cohesion) in particular ways. Expanding the nomological net of service-learning constructs contributes to the construct validity of the constructs. However, prior to examining external relations, the dimensionality of the constructs needs to be examined. All five CSAT constructs (civic action, interpersonal problem-solving, social justice, interpersonal relationships, and personal competency) are theoretically unidimensional in nature, therefore a five-factor model indicating responses to each item is driven by a single construct, was examined.
Examining the dimensionality of the CSAT is an important step in providing construct validity evidence for the scales and subsequent inferences based on scores.
CHAPTER 3

Method

Participants and Procedure

Data for this study was collected at a mid-sized, mid-eastern public university during a university-wide assessment day in the Spring of 2011. All students at the University are required to participate in assessment day activities twice during their undergraduate careers; once as first-year students, and again once they have completed 45 to 70 credit hours. Students typically fall within this window when they are second-semester sophomores. Therefore, there are two assessment days each academic year, one at the beginning of the fall semester and one during the spring semester. Because students are required to attend, all classes are cancelled during assessment day activities. On each assessment day the University proctors administer multiple instruments measuring cognitive, affective, and behavioral outcomes. For the most part, the same assessments are administered to students at both time points (incoming and after having earned 45-70 credits), facilitating the assessment of student growth over time. Assessment day activities are low-stakes testing situations in that there are no consequences for individuals’ based on their assessment scores; however, students are not allowed to register for classes if they do not complete the required assessments.

Data for this study was collected during Spring 2011 assessment day activities from sophomore and junior students completing their second assessment day. A total of 2,226 students completed the paper and pencil version of the CSAT. A randomly selected sample of 1,113 students comprised the first sample for initial analysis (calibration sample). Another 1,113 students were randomly selected to comprise the second,
validation sample. The validation sample was used to validate any empirically-based changes to the measure made using the calibration sample.

Measures

Community Service-Learning Assessment Test (CSAT). The CSAT is a 40 item self-report instrument comprised of five scales developed to represent the constructs of civic action, social justice, personal competency, interpersonal relationships, and interpersonal problem-solving. All items were designed and modified to assess outcomes of service-learning. Participants responded to all statements on a 7-point Likert scale ranging from 1 (“Strongly Disagree”) to 7 (“Strongly Agree”).

Attitudes Toward Learning (ATL; Finney, Piper, & Barron, 2004; Pieper, 2003). The ATL consists of five subscales created to assess achievement goal orientation. These five scales include mastery approach, performance approach, mastery avoidance, performance avoidance, and work avoidance. The items on the ATL were adapted from the Achievement Goal Questionnaire (AGQ; Elliot & McGregor, 2001). The mastery approach, performance approach, and performance avoidance scales are each comprised of 3 items. Mastery approach is operationalized as the desire to gain concept knowledge. Performance approach is conceptualized by the desire to gain knowledge above others. Performance avoidance is identified by the desire to avoid knowing less than others. The mastery avoidance scale is comprised of 6 items. Mastery avoidance is operationalized as the desire to avoid task incompetence. The work avoidance scale is comprised of 4 items. Work avoidance is identified as the desire to exert minimal effort in achievement situations, and items are written to assess that desire. Students responded to all items on a 7-point scale ranging from 1 “Not at all true of me” to 7 “Very true of me”. Previous
research examining factor structure provides support for the validation of the inferences made using AGQ motivation scores (Elliot & McGregor, 2001).

**Psychological Entitlement Scale (PES; Campbell et al., 2004).** The PES is a self-report measure consisting of 9 items. Students responded to items on a 7-point Likert scale ranging from 1 “Strong Disagreement” to 7 “Strong Agreement”. Items were designed to assess individuals’ sense of both entitlement and deservingness across situations. Campbell et al., (2004) found their data supported a unidimensional structure and found the scale to be a reliable measure (.85 alpha coefficient).

**Perceived Cohesion Scale (PCS; Bollen & Hoyle, 1990).** The perceived cohesion scale is an instrument composed of two subscales, sense of belonging and feelings of morale. The sense of belonging subscale consists of three self-report items designed to evaluate the extent to which individuals feel connected to a specific group. The specific group referenced for the assessment day administration of the scale is the University community examined in the current study. The feelings of morale subscale is comprised of three self-report items that are designed to evaluate the emotional responses of belonging to a specific group (again, the current University). Bollen and Hoyle’s (1990) found data was consistent with the proposed two-factor model. Respondents answered all items on a 9-point scale ranging from 1 “Strongly Disagree” to 9 “Strongly Agree”.

**Data Analysis**

**Structural stage.**

**Five-factor model.** The proposed five-factor model hypothesized that responses to items were determined by a single latent construct (Figure 1). A confirmatory factor analysis
tested the hypothesized five-factor model for the CSAT. Fit indices were examined to
determine how well the relationships, based on the model, match the observed
relationships in the data. Factor pattern coefficients, fit indices, and standardized
covariance residuals were examined to determine model-data consistency. The
standardized covariance residuals were interpreted as z-scores or as the number of
standard deviations the observed residuals were from zero. One would expect the
residuals to be zero if the model had fit perfectly.
Figure 1. Five-factor model of the CSAT
External stage. To address the external stage of Benson’s validation program, for those scales for which a total scale score could be supported, students’ scale scores were examined in relationship to other constructs. A priori hypotheses of relationships based on the theoretical definitions of the constructs were evaluated. The relationships between CSAT scales having an interpretable structure with adequate reliability and the external variables were modeled at the latent level by specifying single-indicator variables for the external constructs. It was hypothesized that students scoring higher on civic action and social justice would likely score higher on approach goal achievement and perceived cohesion. Students scoring higher on civic action and students scoring higher on social justice were predicted to score lower on avoidance goal achievement and entitlement.
CHAPTER 4

Results

Data Screening and Descriptive Statistics.

Prior to conducting analyses to examine structural validity and external validity for the CSAT, several data screening procedures were conducted. Data was first screened for multivariate outliers utilizing Mahalanobis distances. Skewness and kurtosis values were examined to assess univariate normality. Multivariate normality was assessed by examining Mardia’s normalized coefficient. Finally, item correlations and descriptive statistics were examined.

It is well-known amongst analysts that outlier detection is one of the most important tasks in data analysis (Filzmoser, 2004). In this case the concern is multivariate outliers. Multivariate outliers are cases that deviate from the typical variability of response sets in the sample. These outliers are not of interest in the current study as it is a psychometric study and the focus is on the functionality of the instrument in a typical population, and is not concerned with extreme cases. Furthermore, given the situation in which data was collected, students often do not give full effort or attention during assessment day, which could result in their responses being outliers. Therefore, cases identified as multivariate outliers were removed prior to analysis. Each sample was screened for multivariate outliers by examining Mahalanobis distances. Mahalanobis distances take into account the covariance matrix of the data. The Mahalanobis distance indicates the distance of a case from the centroid, thus large values identify cases that fall outside the cluster of other cases (DeCarlo, 1997). The examination of Mahalanobis distances resulted in the deletion of only two cases from each sample whose Mahalanobis
distance was substantially different from the remainder of cases. Thus, the final number of students in each sample was 1,111. Demographics showed that Sample 1 was 62% female, was 80% Caucasian, and had a mean age of 19.15 while Sample 2 was 62% female, was 77% Caucasian, and had a mean age of 19.20.

Univariate normality was assessed by examining skewness and kurtosis values for each item. Skewness values greater than 2 in absolute value and kurtosis values greater than 7 in absolute value indicate univariate non-normality (West, Finch, & Curan, 1995). All skewness and kurtosis values in both samples fell below these suggested cutoffs. Multivariate normality was assessed for each sample by Mardia’s normalized multivariate coefficient (DeCarlo, 1977). Mardia’s values greater than 3 in absolute value indicate multivariate non-normality (Bentler & Wu, 2002). Mardia’s value for both samples was well above three (Sample 1 = 158.29, Sample 2 = 150.17) indicating deviation from normality, thus maximum likelihood estimation with Satorra Bentler adjustments to $X^2$ values, fit indices, and standard errors (Satorra & Bentler, 1994) was used for analyses.

Data was also examined for bivariate and multivariate multicollinearity. Bivariate multicollinearity was assessed by examining item correlations (see Tables 2-5). Item correlations in Sample 1 ranged from -.10 to .754. Item correlations in Sample 2 ranged from -.07 to .787. Many item correlations in both samples were moderately positive but the varied magnitude suggests that CSAT is indeed multidimensional. High correlations among the latent constructs would result in multivariate multicollinearity which has been shown to increase Type II error rates in structural equation modeling (Grewal, Cote, &
Baumgartner, 2004). Multivariate collinearity was assessed by examining VIF values which were all lower than 10 indicating no multicollinearity (O’Brien, 2007).

If the five-factor model were plausible for our data we would expect to see moderate to high correlations among items on the same scale and low correlations among items on different scales. For example the correlations among the civic action items for Sample 1 are moderate ranging from .447 to .768. The correlations of the civic action items with items from the other four scales are much lower. Thus, we would expect the model to fit our data for the civic action items. However, such a distinction is not found among all the scales. For example correlations among the personal competency items for Sample 1 range from .179 to .748 with most correlations in the .2 to .3 range and correlations among the interpersonal problem-solving items ranging from .203 to .704 with most correlations in the .2 to .4 range. The correlations between personal competency and interpersonal relationship items have a similar range. This lack of a strong distinction between scales based on item correlations indicates that the model may not fit the data well for these scales.
### Table 2.

**Correlation Matrices and descriptive Statistics for CSAT scores for Sample 1 (N=1,111) and Sample 2 (N=1,111)**

| Item | 1     | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | M    | SD   | Skew  | Kurt  |
|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1    | -     | .648 | .729 | .038 | .123 | .306 | .207 | .075 | .384 | .184 | .102 | .497 | .358 | .401 | .518 | .427 | .303 | .250 | .113 | .333 | .371 | .335 | 4.72 | 1.56 | -.34 | -.50 |
| 3    | .748  | .676 | -    | .042 | .155 | .326 | .249 | .086 | .422 | .232 | .100 | .469 | .375 | .385 | .241 | .158 | .102 | .274 | .284 | .313 | 4.97 | 1.39 | -.52 | -.08 |
| 4    | .041  | .079 | .053 | -    | .188 | .079 | .130 | .149 | .070 | .032 | .189 | .067 | .091 | .028 | .118 | .031 | .159 | .100 | .069 | .042 | 4.78 | 1.95 | -.52 | -.94 |
| 5    | .094  | .156 | .101 | .213 | -    | .055 | .282 | .141 | .047 | .095 | .165 | .000 | .090 | .000 | .288 | .167 | .194 | .143 | .130 | .020 | 5.29 | 1.72 | -.97 | .06 |
| 6    | .314  | .454 | .345 | .082 | .054 | -    | .166 | .111 | .211 | .164 | .083 | .228 | .675 | .433 | .176 | .270 | .081 | .255 | .459 | .504 | 4.59 | 1.48 | -.27 | -.17 |
| 7    | .240  | .310 | .275 | .179 | .408 | .194 | -    | .235 | .129 | .128 | .127 | .120 | .170 | .140 | .355 | .151 | .174 | .194 | .188 | .082 | 5.23 | 1.60 | -.72 | -.35 |
| 8    | -.02  | .025 | .015 | .183 | .098 | .110 | .252 | -    | .13  | -.05 | .109 | .004 | .162 | .085 | .162 | .118 | .226 | -.02 | .130 | .110 | 3.43 | 1.59 | .44  | -.37 |
| 10   | .179  | .229 | .178 | .116 | .124 | .082 | .133 | -.06 | .364 | -    | .015 | .304 | .162 | .137 | .111 | .130 | -.01 | .379 | .212 | .101 | 5.92 | 1.01 | -.99 | 1.4  |
| 11   | .130  | .104 | .118 | .148 | .154 | .084 | .183 | .069 | .134 | .010 | -    | .123 | .036 | .007 | .134 | -.07 | .099 | .086 | .015 | .020 | 4.03 | 1.59 | .00  | -.78 |
| 12   | .485  | .392 | .463 | .029 | .024 | .185 | .128 | -.06 | .608 | .310 | .129 | -    | .320 | .409 | .038 | .025 | -.04 | .334 | .191 | .260 | 4.92 | 1.40 | -.40 | -.22 |
| 13   | .347  | .485 | .352 | .119 | .077 | .713 | .233 | .111 | .231 | .093 | .094 | .280 | -    | .593 | .196 | .315 | .099 | .261 | .462 | .515 | 4.41 | 1.46 | -.10 | -.30 |
| 14   | .373  | .427 | .417 | .026 | -.06 | .520 | .162 | .071 | .332 | .045 | .148 | .380 | .616 | -    | .137 | .229 | .007 | .233 | .330 | .519 | 3.89 | 1.45 | -.09 | -.41 |
| 15   | .177  | .240 | .172 | .224 | .338 | .212 | .405 | .183 | .024 | .059 | .100 | .022 | .212 | .048 | -    | .251 | .236 | .135 | .202 | .067 | 4.97 | 1.80 | -.57 | -.79 |
| 16   | .168  | .360 | .215 | .078 | .140 | .417 | .201 | .089 | .147 | .102 | -.01 | .076 | .416 | .296 | .243 | -    | .073 | .239 | .522 | .197 | 4.95 | 1.58 | -.66 | -.05 |
| 17   | .028  | .079 | .059 | .165 | .198 | .116 | .193 | .143 | .022 | -.02 | .085 | -.00 | .126 | .044 | .227 | .048 | -    | -.00 | .048 | -.02 | 4.20 | 1.86 | -.07 | -.98 |
| 18   | .273  | .413 | .304 | .110 | .177 | .287 | .208 | .028 | .328 | .354 | .097 | .338 | .300 | .229 | .157 | .257 | .026 | -    | .373 | .226 | 5.96 | 1.16 | -.12 | 1.4  |
| 19   | .234  | .414 | .272 | .109 | .139 | .508 | .211 | .085 | .197 | .133 | -.02 | .160 | .531 | .341 | .229 | .582 | .077 | .351 | -.448 | 4.96 | 1.38 | -.48 | .15 |
| 20   | .365  | .385 | .361 | .089 | .005 | .462 | .140 | .037 | .249 | .082 | .051 | .258 | .565 | .506 | .142 | .298 | .028 | .253 | .431 | -    | 4.20 | 1.44 | -.07 | -.23 |

**Note.** Values below the diagonal represent the correlation matrix for Sample 1; values above diagonal represent the correlation matrix from Sample 2.
Table 3.

Correlation matrix continued for Sample 1 (N=1,111)

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Table 5.

Correlation Matrices and Descriptive Statistics for CSAT scores for Sample 1 (N=1,111) and Sample 2 (N=1,111)

<table>
<thead>
<tr>
<th>Item</th>
<th>21</th>
<th>22</th>
<th>23</th>
<th>24</th>
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<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>Skew</td>
<td>Kurt</td>
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<td></td>
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<td></td>
</tr>
<tr>
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<td>5.33</td>
<td>5.25</td>
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<td>4.32</td>
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<td>1.5</td>
<td>1.0</td>
<td>.67</td>
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</tr>
</tbody>
</table>
Structural Validity Evidence.

Estimation method. Selecting the appropriate estimation method is important, as estimation methods will yield different results that could change the interpretations made about items and instruments as a whole. Properties of both the model and that data collected are taken into consideration. Specifically, when deciding which estimation method to use both model misspecification and multivariate normality are considered. A comparison of three common estimation methods (Maximum Likelihood, ML; Generalized Least Squares, GLS; and Weighted Least Squares, WLS) results in selecting ML estimation as the most appropriate for the current study. Mardia’s normalized multivariate coefficient has indicated that data for both samples in the current study are multivariate non-normal. Furthermore, our model is assumed to be misspecified to some extent (as all models are). ML estimation is more robust to model misspecification than GLS and WLS estimation methods. It has been shown that GLS estimation produces fit indices that indicate better fit when the model is misspecified and therefore produces biased parameters (Olsson, Foss, Troye, & Howell, 200). ML estimation will produce greater $X^2$ values than generalized least squares estimation as model misspecification increases. In other words, ML estimation will pick up on the misfit whereas generalized least squares will not and will produce better indication of fit, thus increasing Type II errors. When models are misspecified, WLS estimation produces fit indices that indicate better model-data fit as the data become more kurtotic. These fit indices may lead researchers to fit a model that is actually misspecified and commit Type I errors because the standard error of the parameter estimates are biased down. Furthermore, WLS requires a very large sample size. Therefore, because of the non-normality of our data and
due to the fact that all models are misspecified to some extent, ML estimation should be used in this case. Additionally, because the data is non-normal, the Satorra-Bentler $X^2$ and robust standard errors will be used to adjust for effects of non-normality. This adjustment reduces the frequency of committing Type I errors by producing more accurate standard error values. The standard errors are adjusted upward, decreasing the $X^2$ value (Chou & Bentler, 1995).

**Assessing model-data fit.** The proposed five-factor model for the CSAT is based on the hypothesis that responses to each item are determined by a single latent construct. Sample 1 was used to test this five-factor model through confirmatory factor analysis (CFA). Sample 2 was used to replicate Sample 1 findings. A model with scale modifications based on results from Sample 1 and Sample 2 was tested on Sample 2. All CFAs were conducted on covariance matrices utilizing LISREL 8.80 (Jöreskog & Sörbom, 2006).

The $X^2$ test statistic along with three model fit indices, the robust standardized root mean square residual (SRMR), the robust root mean square error of approximation (RMSEA), and the robust comparative fit index (CFI) were examined in determining model fit. The $X^2$ test statistic measures the discrepancy between the sample covariance matrix and the implied covariance matrix based on the specified model. The $X^2$ test statistic is actually a badness of fit test, therefore a nonsignificant $X^2$ indicates model-data fit. However, the test statistic is sensitive to sample size. Therefore, goodness of fit indices will be examined along with the $X^2$ test statistic. The SRMR is an absolute fit index and is a measure of the average different between model implied and observed relationships on a correlation metric. A cutoff value of .08 or less has been suggested as
an indication of good fit (Hu & Bentler, 1999). RMSEA is also an absolute fit index and is a measure of the difference between model implied and observed relationships. RMSEA gives a measure of fit per degree of freedom and a value of .08 or less indicates good fit for the RMSEA (Hu & Bentler, 1999). The CFI is an incremental fit index and measures the improvement in the fit of the specified model over an independent model. CFI values of .95 or greater indicate good fit (Hu & Bentler, 1999).

Standardized covariance residuals were examined to identify local area of misfit. These residuals indicate the degree to which observed covariances among variables are reproduced by the specified model. Standardized covariance residuals greater than the absolute value of 4 are considered large, indicating the relationship between any two items is not well reproduced by the specified model. Standardized covariance residuals can be positive or negative. A positive standardized covariance residual indicates that the model is underestimating the relationships between items. A negative standardized covariance residual indicates the model is overestimating the relationship between items. Items found to have large standardized covariance residuals across both samples were dropped, and modified scales and model were tested on the second sample.

The standardized path coefficients (factor loadings) are the correlations between the item and the latent factor. Factor loadings should be .7 in order to be confident an item loads onto the latent factor. A loading of .7 is congruent with an $R^2$ value of .50, indicating 50% of the variance in the item can be accounted for by the latent factor. Factor loadings are only examined if the model is determined to fit the data.

**Sample 1.** The Satorra Bentler $X^2$ indicated the five-factor model for the CSAT did not fit the data ($X^2 = 4523.28$; Table 6). The CFI index also indicated model-data
inconsistency (CFI = .91). However, both the RMSEA and SRMR fit indices indicated adequate fit (RMSEA = .08; SRMR = .08). These results point to the need to assess local misfit to determine if the five-factor model adequately reproduces the data.

Table 6. *Fit Indices (N = 1,111)*

<table>
<thead>
<tr>
<th>Sample</th>
<th>$\chi^2$</th>
<th>df</th>
<th>CFI</th>
<th>SRMR</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Five-factor Sample 1</td>
<td>4523.28*</td>
<td>730</td>
<td>0.91</td>
<td>0.08</td>
<td>0.08</td>
</tr>
<tr>
<td>Five-factor Sample 2</td>
<td>4591.52*</td>
<td>730</td>
<td>0.91</td>
<td>0.08</td>
<td>0.08</td>
</tr>
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<td>Two-factor Sample 2</td>
<td>694.57*</td>
<td>19</td>
<td>0.95</td>
<td>0.08</td>
<td>0.07</td>
</tr>
</tbody>
</table>

*Note. $\chi^2$ = Satorra Bentler Chi-square goodness of fit statistic; CFI = adjusted Comparative Fit Index; SRMR = standardized root mean square residual; RMSEA = adjusted root mean square error of approximation.*

* $p < 0.001.$

Examination of the standardized covariance residuals showed that many of the personal competency items shared a substantial amount of variance with other personal competency items after controlling for the factor. For example, items 1 and 3 had a standardized covariance residual of 14.96 indicating the proposed model underestimated the relationship between the items. Multiple personal competency items also had high standardized covariance residuals with items from the civic action and interpersonal problem-solving scales. Items 1 (“I know how to lead in a cross-cultural situation”) and 18 (“I know that I can make a positive difference in the life of others”) on the personal competency scales were particularly problematic. Item 1 had numerous negative standardized covariance residuals with other items (for example, -.805 with item 29 on the interpersonal problem-solving scale) indicating the proposed model overestimated the relationship between item 1 and other items. Additionally, item 18 had many large positive standardized covariance residuals. For example, item 18 had a residual of 9.02 with item 40 on the civic action scale and a standardized covariance residual of 5.77 with
item 33 on the interpersonal problem-solving scale. The numerous high positive and negative residuals within and across scales for the personal competency items indicate that many of the personal competency items may be multidimensional in nature. Some of the items share variance with items from other scales which may indicate that personal competency items are measuring some aspect of another construct. Other personal competency items share substantial variance within the scale indicating the items may be measuring a separate component of personal competency that other personal competency items are not measuring.

A high positive standardized covariance residual (8.35) was also identified between two items, item 25 (“I plan to become involved in programs to help clean up the environment”) and item 26 (“I plan to participate in a community action program”) on the civic action scale, indicating the five-factor model is underestimating the relationships between the two items and that the items are sharing variance after controlling for the factor. After answering item 25 students may be conceptualizing an environmental program as a community action program, in which case their answer to item 25 may be influencing their answer to item 26. The wording and placement of these items on the instrument may be contributing to the possible item redundancy.

Additionally, high residuals were found between many items on the interpersonal problem-solving scale. Specifically, item 27 (“I try to find effective ways of solving problems”) and 28 (“I can think logically in solving problems”) on the interpersonal problem-solving scale had a residual of 7.40 and also appeared to be redundant. Furthermore, items 28, 33, 34, and 38, all on the interpersonal problem-solving scale, showed high positive and negative residuals with one another. This may indicate that the
interpersonal problem-solving scale is multidimensional in nature as the relationships between some items are overestimated while others are underestimated by the model. Items sharing variance with one another after controlling for the factor (high positive standardized covariance residuals) may be a separate dimension from the items with which they have negative standardized covariance residuals.

These results indicated that the five-factor model was not a plausible model for the items based on the data. If the high standardized covariance residuals replicated on the second sample, model and scale modification would be warranted to better fit the data.

**Sample 2.** The Satorra Bentler X² indicated the five-factor model for the CSAT did not fit the data (X² = 4591.52; Table 6). The CFI fit index also indicated model-data inconsistency (CFI = .91). However, both the RMSEA and the SRMR fit indices indicated adequate fit (RMSEA = .08; SRMR = .08). These results follow the same pattern as Sample 1 and again indicate the need to examine local misfit.

The standardized covariance residuals replicated the findings from Sample 1 in showing many of the personal competency items shared variance with one another and with items from the civic action and interpersonal problem-solving scales. Again items 1 and 3 had a large positive residual (12.69). Furthermore items 1 and 18 were largely problematic following the same pattern shown in Sample 1. Additionally, the large positive standardized covariance residual (10.42) between items 25 and 26 on the civic action scale indicated shared variability, which based on the wording and placement of the items may be due to redundancy. Finally, the residuals were also large among many of the interpersonal problem-solving items (27 and 28, 33, 34, 39), again replicating
Sample 1 findings. Once again, numerous items had large residuals, both positive and negative, and therefore scale and model modification was needed.

**Modified model.** Based on results from Sample 1 and 2, modifications were made to the scales. Specifically, both the personal competency and interpersonal problem-solving scales were removed. Results indicated many personal competency items were multidimensional in nature and share variance with other scales. The relationships between numerous items on the interpersonal problem-solving scale were not well reproduced by the five-factor model.

The interpersonal relationships scale was also removed. As indicated in Table 7, most of the item correlations among the interpersonal relationships items were low. Almost any confirmatory factor analysis model put forth would likely fit the data well when there are low correlations across variables. This is due to the fact that there is little covariation to explain because most of the variance is in the error term. Furthermore, previous research (Waugh & Anderson, 2011b) on this scale showed that some reliability of the scale can be attributed to the fact that all items are worded in such a manner as to require reverse scoring. When items were written to not require reverse scoring, the reliability of the scale decreased and it was concluded that there was likely a wording effect holding these items together (Waugh & Anderson, 2011b). Therefore, although the standardized covariance residuals did not indicate misfit within the interpersonal relationships scales, there is little covariation among the items and the nature of the wording of all the items makes it difficult to tease out variance that may be due to a possible wording affect.
Table 7. Sample 1 item correlations for interpersonal relationships scale (N=1,111)

<table>
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<th>IR items</th>
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<th>5</th>
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<th>8</th>
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<td>8</td>
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<tr>
<td>11</td>
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<td>.338</td>
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<td>.198</td>
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<td>.341</td>
<td>.565</td>
<td>.220</td>
<td>.107</td>
<td>.483</td>
<td>.211</td>
</tr>
</tbody>
</table>

For the remaining two scales, social justice and civic action, only one item was removed—item 25 on the civic action scale was determined to be redundant. The remaining items and the two factor model are identified in Figure 2. This model was tested on Sample 2.

*Figure 2. Modified Two Factor Model*

The Satorra Bentler $X^2$ indicated the two-factor model was not plausible ($X^2 = 694.57$; Table 6). All three fit indices indicated adequate model-data fit (CFI = .95; RMSEA = .08; SRMR = .07). Standardized covariance residuals were examined to determine local misfit. The largest residual was 9.23 between items 16 and 19 (both on the social justice scale). This large positive residual indicated the two-factor model was underestimating the relationship between item 16 and 19. Item 16 states “This society needs to increase social and economic equality”. Item 19 states “We should create
programs and public policies to address social issues”. The large amount of variance shared between these two items after controlling for the factor could be due to redundancy as students may be conceptualizing an “increase in social and economic equality” as similar or the same thing as “policies to address social issues”. The remaining residuals indicated relationships among items were adequately reproduced by the two-factor model. Therefore, the parameter estimates for these two scales are reported in Table 8. $R^2$ values ranged from .17 to .80. The majority of items had an $R^2$ value indicating at least 30% of the item’s variance was explained by the associated factor. Overall, the items appeared to represent the corresponding factor well.

McDonald’s (1999) coefficient omega was calculated for a reliability estimate and indicated good reliability for the social justice and civic action scales (omega = .84 and .90 respectively). The correlation between the social justice and civic action factors was moderate ($r = .55$), suggesting that the factors are related, yet distinct constructs. This moderate correlation makes sense in light of the definitions of both constructs. Both social justice and civic action indicate a high involvement in society and a sense of civic engagement. However, the constructs are distinct in that social justice focuses on social injustice issues such as race and gender equality whereas civic action focuses on community involvement in general. Variance extracted by each factor was calculated. The civic action factor explained an acceptable amount of variance in the civic action items (58%). The social justice factor, however, explained only 44% of the variance in the social justice items. In other worlds, variance due to measurement error for the social justice items is larger than the variance measured by the social justice factor.
Table 8. Parameter Estimates: Two Factor Model (N = 1,111)

<table>
<thead>
<tr>
<th>Item</th>
<th>Social Justice</th>
<th>Civic Action</th>
<th>R²</th>
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<td>2</td>
<td>0.61</td>
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<td>0.37</td>
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<tr>
<td>6</td>
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<td>0.57</td>
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<tr>
<td>13</td>
<td>0.84</td>
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<td>0.67</td>
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<td>0.17</td>
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<td>24</td>
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<td>0.77</td>
<td>0.59</td>
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<td>0.82</td>
<td>0.67</td>
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<td>32</td>
<td></td>
<td>0.87</td>
<td>0.75</td>
</tr>
<tr>
<td>35</td>
<td></td>
<td>0.67</td>
<td>0.46</td>
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<tr>
<td>36</td>
<td></td>
<td>0.90</td>
<td>0.80</td>
</tr>
<tr>
<td>40</td>
<td></td>
<td>0.69</td>
<td>0.48</td>
</tr>
</tbody>
</table>

External Validity Evidence.

Although the five-factor model for the CSAT scales (personal competency, interpersonal relationships, civic action, interpersonal problem-solving, and civic action), did not adequately reproduce the data, a two-factor model of the modified version of the civic action and social justice scales was determined to adequately fit the data. Thus, the structural stage of Benson’s (1998) program of construct validation provided evidence for the civic action and social justice scales.

In an effort to gather further validity evidence for the social justice and civic action scales, scores from the two scales were correlated with theoretically-related external variables using Sample 2. The relationships between civic action and social justice and the external variables were modeled at the latent level by specifying single-indicator variables for the external constructs. Relationships were modeled at the latent level to account for measurement error. Single indicator factors were estimated by
summing the items for the external variable measure to create composite scores. The error variance parameters for the composite indicators were fixed to \((1 - \text{reliability}) \ast (\text{variance})\), where reliability in this case is Coefficient alpha and variance is the total variance of the external variable. The pattern of relationships between the two CSAT scales (social justice and civic action) and the external variables somewhat aligned with the theoretical predictions (See Table 9).

Table 9. *Latent relationships between CSAT scales and external variables.*

<table>
<thead>
<tr>
<th></th>
<th>Civic action</th>
<th>Social justice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastery-approach</td>
<td>.34</td>
<td>.27</td>
</tr>
<tr>
<td>Mastery-avoidance</td>
<td>.26</td>
<td>.25</td>
</tr>
<tr>
<td>Performance-approach</td>
<td>.09</td>
<td>.05</td>
</tr>
<tr>
<td>Performance-avoidance</td>
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<td>.08</td>
</tr>
<tr>
<td>Work-avoidance</td>
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<td>-.22</td>
</tr>
<tr>
<td>Psychological entitlement</td>
<td>-.12</td>
<td>-.08</td>
</tr>
<tr>
<td>Perceived cohesion</td>
<td>.32</td>
<td>.12</td>
</tr>
</tbody>
</table>

**Goal orientation variables.** Recall that mastery goals are defined by a focus on increasing competence and mastering tasks. Performance goals are defined by a focus on competence relative to peers (Dweck, 1986; Elliot, 1999). Approach goals are defined by behavior that is motivated by positive events, whereas avoidance goals are defined by behavior that is motivated by undesirable events (Elliot, 1999). Recall it was hypothesized that both civic action and social justice scores would be positively related to approach goals (mastery and performance) and negatively related to avoidance goals (mastery, performance, and work).

Congruent with hypothesized relationships, social justice and civic action were both positively related to mastery approach (latent \(r = .27\); latent \(r = .34\)). Social justice and civic action were also positively related to performance approach; however, the
relationship was much smaller than anticipated (latent $r = .05$; latent $r = .09$). Also congruent with hypothesized relationships, social justice and civic action were both negatively related to work avoidance (latent $r = -.22$, latent $r = -.34$). The relationships between social justice and civic action with mastery avoidance (latent $r = .25$, latent $r = .26$) and performance avoidance (latent $r = .08$; latent $r = .05$) did not align with the theoretical hypotheses. However, the relationships between social justice and civic action and performance avoidance were minimal. This pattern of relationships indicates that the students are differentiated more by the mastery-performance dichotomy than by the avoidance-approach dichotomy as originally hypothesized. These results are explored further in the discussion.

**Psychological entitlement.** Both civic action and social justice scale scores were correlated with a psychological entitlement variable. Recall it was hypothesized that individuals more active in community involvement and more focused on pro-social changes are focused on others and are therefore less narcissistic than those that have little concern for community and social justice. This would translate into less entitlement by those individuals. Both social justice and civic action were weakly negatively related to psychological entitlement (latent $r = -.08$; latent $r = -.12$). These results indicate that students more engaged in community activities and aware of social justice issues are less entitled than those that are not.

**Perceived cohesion.** Students’ perceived cohesion was measured by the perceived cohesion scale, which consists of both sense of belonging and feelings of moral items (Bollen & Hoyle, 1990). Recall it was hypothesized that both civic action and social justice scales would be positively related to the perceived cohesion scale as it has
been shown that experiences outside of the classroom, such as service-learning, lead to a greater sense of belonging (Hurtado & Carter, 1997). Congruent with hypothesized relationships, both the civic action and social justice scale scores were positively correlated with sense of belonging scores. Civic action was moderately positively correlated (latent $r = .32$) and social justice was weakly positively correlation with sense of belonging (latent $r = .12$). In alignment with previous research, students higher in civic action and social justice report greater perceived cohesion with the University.
CHAPTER 5

Discussion

The purpose of this study was to evaluate the psychometric properties of the CSAT and to gather construct validity evidence for the CSAT’s five sub-scales: civic action, interpersonal problem-solving, social justice, interpersonal relationships, and personal competency. The CSAT is used to assess student learning outcomes resulting from participation in service-learning activities conducted as part of an Alternative Break Program. The CSAT was adapted from two pre-existing instruments: the SSLCS and the CASQ. Both of these instruments were developed and used for assessing classroom-based service-learning outcomes. Although previous studies showed good functionality for most of the scales on the SSLCS and CASQ, the items on the CSAT have been modified to address non course-based service-learning outcomes, specifically Alternative Break program outcomes. In addition, the population of interest is different, course-based service-learners are a different population than students choosing to participate in an Alternative Break program. Therefore, it is important to determine how the CSAT items, in their current form, are functioning.

In an effort to gain construct validity evidence for the use and interpretation of the CSAT scores, this study first addressed Benson’s structural stage by examining factor structure. Following the structural stage, this study began to address the external stage of construct validation by examining the relationship of the scales found to have an interpretable structure to theoretically relevant external variables. The factor structure examination resulted in interpretable scores for both the civic action and social justice scales. The observed relationship of scores from the two scales to theoretically related
external variables were then examined in an attempt to expand the nomological net of both the civic action and social justice constructs. The external variables under consideration were motivation variables, entitlement, and sense of belonging. Further discussion and implications of these findings are presented below.

**Factor Structure**

A five-factor model indicating that responses to each item were driven by a single latent factor was tested on both samples. This proposed five-factor model for the full CSAT was not found to adequately represent the relationships among items for the five theoretically distinct constructs: personal competency, interpersonal relationships, civic action, social justice, and interpersonal problem-solving.

All six items on the personal competency scale had multiple positive and negative standardized covariance residuals with other personal competency items as well as with items from the other four scales in the five-factor model. On the personal competency scale the highest residuals were among items 1 and 18. These items shared a lot of variance with items from the civic action and interpersonal problem-solving scales. Item 1 states, “I know how to lead in a cross-cultural situation”. This item had high residuals with other personal competency items that also included the wording “cross-cultural” and “I know how to lead”. Thus, the wording of these items could be cause for redundancy in responses. Additionally, item 18 states, “I know that I can make a positive difference in the life of others”. This statement could be multidimensional due to vagueness. Item 18 had numerous large positive standardized covariance residuals with items on other scales, meaning the five-factor model tested underestimated the relationship item 18 had with the other factors. Revisiting the definitions for the five constructs presumably measured by
the CSAT, it becomes apparent that this item along with other personal competency items could theoretically fall under multiple constructs. The personal competency construct includes development of confidence, leadership, and communicative ability. This definition alone could indicate a multidimensional construct. On the CSAT, communication is a component of personal competency as well as interpersonal problem-solving. The personal competency scale was chosen to be a part of the CSAT to measure Alternative Break student learning outcomes because it maps back to the objective that states students will develop confidence in leadership skills. In order to function adequately and be structurally sound, the scale used for the instrument should be more narrowly defined, addressing primarily leadership skills as that was what it was operationally adapted for. Thus items should more clearly address leadership abilities as opposed to the additional component of communicative ability, which is operationally defined by other constructs and scales of the instrument.

Although the standardized covariance residuals for the interpersonal relationships items in the five-factor model indicated the scale was structurally sound, correlations among all the items were low and all items are reverse scored. In addition, Wang et al. (2005) determined that the scale has a slightly lower than desirable reliability, particularly among females and should be used and interpreted with caution. This is a concern as the majority of students at the university, and more specifically the majority of students participating in service-learning programs are female (Eyler & Giles, 1999). Therefore, it was determined that this scale needs significant revisions before being examined again. The content of the items should be revised to be more internally
consistent. In addition, items should be reworded so as not to require reverse scoring for consistency with the rest of the items on the instrument.

The results of the five-factor model study indicate that the majority of the civic action items are structurally sound with the exception of a large positive standardized covariance residual between items 25 and 26 found in both samples. These items share variance above what is predicted by the five-factor model. Further examination of these items indicates that they may possibly be redundant. Item 25 states, “I plan to become involved in programs to help clean up the environment”, while item 26 states, “I plan to participate in a community action program”. Students’ answers to these two items may not be completely independent because of the wording and positioning of the items on the instrument. A students’ answer to item 25 could have an influence on their response to item 26. In this study, item 25 was removed as the definition of the civic action construct focuses on community engagement without necessarily a focus on environmental action.

Results from the five-factor confirmatory factor analyses indicated that the social justice items were structurally sound. The social justice construct is defined by a focus on equality and awareness of social injustice issues. Upon closer examination of the items, many items include words like “society” and “equality”. This overlap in wording among the items could indicate a possible common method bias in which respondents’ interpretations of items may be due to its relation to other items (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Thus, future research should continue to examine the structure of this scale as well as to gather more construct validation evidence to provide an argument against a possible wording effect.
The five-factor confirmatory analyses model indicated the interpersonal problem-solving scale was not structurally sound. Items 27 and 28 on the interpersonal problem-solving scale had a high positive standardized covariance residual, meaning the predicted model underestimated the actual relationship between these items. Item 27 states, “I try to find effective ways of solving problems” and item 28 states, “I can think logically in solving problems”. These items could clearly be redundant as students may view effective ways of solving problems as logical ways, making the items practically identical. Additionally, items 27, 28, 33, and 34 had large positive residuals with one another and item 39 had large negative standardized covariance residuals with those items. Item 39 states, “I find it easy to make friends”. This particular item is not as focused on problem-solving specifically as the other items appear to be. The five-factor model is overestimating the relationship of the item with the other interpersonal problem-solving items. The interpersonal problem-solving scale includes cooperation, communication, and problem-solving. Item 39 may not fit into that definition. Furthermore, the various components identified in the definition of the construct may indicate that the scale is multidimensional in nature. The definition of the construct should be narrowed to more clearly relate to the intended student learning outcome that students should improve problem-solving skills. Perhaps the student learning objective itself should be more narrowly defined.

Based on the results of the five-factor confirmatory factor analyses, a modified two-factor model of two slightly modified scales, the civic action and social justice scales, was tested. This two-factor model did adequately reproduce the relationships among the items for those two variables. The internal consistency for both scales (as
measured by McDonald’s omega coefficient) indicated high reliability. Further, the moderately positive relationships between the two variables indicated that civic action and social justice are related, as expected, yet are distinct constructs. They were expected to be related constructs as they both deal with an involvement in society. Social justice is defined by an awareness of social justice issues and an effort to work for equality while civic action is defined by a commitment to community involvement.

**External Variables**

Benson’s external stage was addressed by correlating student scores on the CSAT scales determined to be unidimensional (civic action and social justice) with other also measured on Assessment Day. The relationships found between social justice and civic action scores and the external variables provide a limited amount of validity evidence for scores obtained from the two scales.

**Achievement goal orientation.** It was hypothesized that students scoring higher on the CSAT scales would score higher on approach goal motivation variables (mastery approach and performance approach) and lower on avoidance goal motivation factors (mastery avoidance, performance avoidance, and work avoidance). This was largely because students that are more civically engaged have been shown to engage in active approaches to learning (Moely et al., 2002). Approach goals are pro-active in nature entailing a focus on attaining desirable goals (approach goals) as opposed to avoiding negative goals (avoidance goals). Congruent with hypotheses, results indicated a positive relationship between civic action and social justice scores with both approach goal variables. However, civic action and social justice were not negatively related to avoidance goal variables. Interestingly for both civic action and social justice, the
correlations with both performance goal variables were quite small, approaching no relationship while the correlations of both civic action and social justice with mastery goal variables were larger.

Table 10. *Achievement Goal Orientation latent correlations.*

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<thead>
<tr>
<th></th>
<th>Mastery approach</th>
<th>Mastery avoidance</th>
<th>Performance approach</th>
<th>Performance avoidance</th>
<th>Work avoidance</th>
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<tbody>
<tr>
<td>Civic action</td>
<td>.34</td>
<td>.26</td>
<td>.09</td>
<td>.05</td>
<td>-.34</td>
</tr>
<tr>
<td>Social justice</td>
<td>.27</td>
<td>.25</td>
<td>.05</td>
<td>.08</td>
<td>-.22</td>
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*Note.* Bolded relationships were hypothesized to be positive, and non-bolded relationships were hypothesized to be negative.

The results from this study indicate that both civic action and social justice may be related to goal orientation variables (motivation) by a distinction among performance and mastery as opposed to approach and avoidance. Performance goals are thought to be motivated externally and by a fear of failure, whereas the mastery goals are more intrinsically motivated (Daron, Harackiewicz, Buteram, Mugny, & Quiamzade, 2007). The conclusion that can be drawn from the observed relationships in the current study is that students that are more involved in the community and more aware of social justice issues are more intrinsically motivated. The hypothesis that civic action and social justice would be differentiated on motivation variables by approach goals and avoidance goals was based on the research indicating approach goals are more positively motivated and a more pro-active engaging process. However, mastery goals are actually a positive process as a whole and performance goals are less of a positive process (Elliot, 1999). Future research should examine this conclusion and attempt to determine how civic action and social justice are related to motivation, and more specifically to the goal orientation variables.
Psychological entitlement. It was also hypothesized that students scoring higher on civic action and social justice would score lower on psychological entitlement. Students that are high on psychological entitlement are more selfless and less empathetic (Campbell et al., 2004). Theoretically, students higher on civic action and social justice scales experience more empathy as they are concerned with social issues and the welfare and equality of others in the community. Furthermore, students high on civic action expect to work hard (Moely et al., 2002). It was because students high on social justice and civic action were expected to be more empathetic than those low on social justice and civic action, that a negative relationship between each of the two scales and entitlement was predicted. As hypothesized, civic action and social justice scores were both weakly negatively related to psychological entitlement. Students that are more inclined to be civically involved in the community and to be aware of social justice and work for pro-societal changes appear to be less entitled. That is they do not believe they deserve more than others. These results may be attributed to the fact that community involvement and social justice activism is naturally a focus on others as opposed to self. Although there have been some theories indicating community involvement is often motivated by a narcissistic value as opposed to an altruistic one, the results of this study do not support that. This weak relationship provides some limited support for service-learning programs on campus, as well as for interventions aimed at decreasing entitlement. However, one must remember that a correlation does not indicate whether service-learning can help decrease students’ entitlement or if entitlement can even be changed; some research has indicated that psychological entitlement is a stable disposition (Campbell et al., 2004). It is likely that students choosing to participate in service-learning programs, such as
Alternative Breaks are less entitled to begin with. It could also be the case that students become less entitled after having become involved in community action programs. More research is needed to determine causal relationships among the entitlement and the CSAT constructs. Enhanced understanding of the causal relationship among the constructs will assist in developing programs aimed at increasing civic action and social justice and also decreasing entitlement.

**Perceived cohesion.** Finally, it was hypothesized that students scoring higher on civic action and social justice would have scored higher on perceived cohesion as it has been shown that students engaging in experiences outside of the classroom feel a greater sense of belonging (Bringle & Hatcher, 1996). Results showed a positive correlation between civic action and perceived cohesion and a weak positive correlation between social justice and perceived cohesion. The hypothesized relationship was a positive one as students involved in positive school-related experiences and experiences outside of the classroom are associated with a greater sense of belonging (Bringle & Hatcher, 1996; Freeman, Anderman, & Jense, 2007). Students more actively involved in the community have a higher sense of belonging among the University community. As prior research has indicated, students engaging in opportunities that facilitate experiences outside of the classroom actually feel a deeper sense of belonging to the University community. Further research should examine this relationship more in depth to determine how civic action and social justice may be related to students’ perceived cohesion within different groups or across various communities.

**Implications**
This study does not provide strong validity evidence for the CSAT as a whole. However, some validity evidence has been provided for two scales, the civic action and social justice.

Researchers can be confident in interpreting student scores on the civic action and social scales when determining the effectiveness of the Alternative Break programs on campus. Accurate interpretations of CSAT scales lead to accurate programmatic changes based on changes in student scores before and after participation in the program. In addition to assessing service-learning student outcomes, the civic action and social justice scales could be used in conjunction or independently for various programs on campus. The scales could also be used to identify those individuals or groups that are low in civic action and social justice in an effort to design programs toward those groups.

In light of current findings, the service-learning constructs studied should be more narrowly defined. Specifically the interpersonal problem-solving, interpersonal relationships, and personal competency scales. In addition, the student learning objectives of the Alternative Break program may need to be revisited in order to more clearly define the program’s intended outcomes. After revisiting the substantive stage for the constructs, items and scales should be revised to more accurately represent the constructs. This will necessitate a re-examination of dimensionality.

**Limitations and future research**

All of the research focusing on the current version of the CSAT has been conducted at a single university, with students participating in Assessment Day activities. Psychometric properties of the CSAT (the full five scales) should be examined at other universities. Furthermore, the functionality of all five CSAT scales should be examined
with students that have chosen to participate in service-learning, and more specifically Alternative Break programs. It may be possible that the factor structure of the CSAT items differs across groups. Those students who have chosen to participate in service-learning programs may be substantially different from those students who do not participate in service-learning programs.

Future research should also focus on gathering more construct validity evidence for the civic action and social justice scales. Measurement invariance can be studied across groups (leaders and participants, men and women), across times, and across contexts (course-based Alternative Breaks and non course-based; differing social issues).
Appendix
CSAT scales

Please use the scale below to respond to the following statements

- Strongly Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree

1) I know how to lead in a cross-cultural situation.
2) I am confident that I can help in promoting equal opportunities for all people.
3) I know how to communicate my ideas in a cross-cultural situation.
4) There are some topics that should never be discussed in a college classroom.**
5) I deal with students who are different from me (for example, of another race or who speak a different language) by being polite and staying away from them as much as possible.**
6) I have a responsibility to help efforts directed at social justice changes today.
7) I avoid groups where I would be of the minority race.**
8) I become annoyed with people who frequently try to change the rules.**
9) I know how to communicate my ideas in a situation that is new to me.
10) I am very aware of some of my own weaknesses and strengths.
11) I generally keep my beliefs to myself in order to avoid offending others.**
12) I know how to lead in a new situation.
13) I will act to work for social justice changes in society.
14) I know how to organize efforts for social changes.
15) I find it annoying when I hear people talking in a language I don't understand.**
16) This society needs to increase social and economic equality.
17) I think most women tend to respond to situations emotionally, while men respond by thinking.**
18) I know that I can make a positive difference in the life of others.
19) We should create programs and public policies to address social issues.
20) I have a good understanding of the social justice issues in the community where I am going to provide services.
21) I would prefer not to room with someone who is from a different culture or race.**
22) I can easily get along with people.
23) I tend to solve problems by talking them out.
24) I plan to become an active member of my community.
25) I plan to become involved in programs to help clean up the environment.
26) I plan to participate in a community action program.
27) I try to find effective ways of solving problems.
28) I can think logically in solving problems.
29) I can work cooperatively with a group of people.
30) I can successfully resolve conflicts with others.
31) I plan to do some volunteer work.
32) In the future (i.e. after this alternative spring break trip), I plan to participate in a community service organization.
33) When trying to understand the position of others, I try to place myself in their position.
34) I can listen to other people's opinions.
35) I plan to help others who are in difficulty.
36) I plan to become involved in my community.
37) I can communicate well with others.
38) I can think analytically in solving problems.
39) I find it easy to make friends.
40) I am committed to making a positive difference.

**Item is reverse scored**

**Personal Competency Subscale**: 1 + 3 + 9 + 10 + 12 + 18

**Interpersonal Relationships Subscale**: 4r + 5r + 7r + 8r + 11r + 15r + 17r + 21r

**Social Justice Subscale**: 2 + 6 + 13 + 14 + 16 + 19 + 20

**Civic Action Subscale**: 24 + 25 + 26 + 31 + 32 + 35 + 36 + 40

**Interpersonal Problem-Solving Subscale**: 22 + 23 + 27 + 28 + 29 + 30 + 33 + 34 + 37 + 38 + 39
Modified social justice and civic action scales

Social Justice:

1. I am confident that I can help in promoting equal opportunities for all people.
2. I have a responsibility to help efforts directed at social justice changes today.
3. I will act to work for social justice changes in society.
4. I know how to organize efforts for social changes.
5. This society needs to increase social and economic equality.
6. We should create programs and public policies to address social issues.
7. I have a good understanding of the social justice issues in the community where I am going to provide services.

Civic Action:

1. I plan to become an active member of my community.
2. I plan to become involved in programs to help clean up the environment.
3. I plan to do some volunteer work.
4. In the future, I plan to participate in a community service organization.
5. I plan to help others who are in difficulty.
6. I plan to become involved in my community.
7. I am committed to making a positive difference.
Attitude Toward Learning and Performance in College This Semester

The following statements concern your attitudes toward learning and performance in all of your college classes this semester. Please indicate how true each statement is of you. If you think the statement is very true of you, mark a 7. If a statement is not at all true of you, mark a 1. If the statement is more or less true of you, find the number between 7 and 1 that best describes you. **There are no right or wrong answers. Just answer as accurately as possible.**

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<tr>
<td>Not at all true of me</td>
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<td>Very true of me</td>
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1. My goal this semester is to get better grades than most of the other students.
2. I just want to avoid doing poorly compared to other students this semester.
3. Completely mastering the material in my courses is important to me this semester.
4. I really don’t want to work hard in my classes this semester.
5. I’m afraid that I may not understand the content of my classes as thoroughly as I’d like.
6. It is important for me to do well compared to other students.
7. I want to learn as much as possible this semester.
8. The fear of performing poorly this semester is what motivates me.
9. I want to do as little work as possible this semester.
10. The most important thing for me this semester is to understand the content in my courses as thoroughly as possible.
11. I worry that I may not learn all that I possibly could this semester.
12. I want to do better than other students this semester.
13. I want to get through my courses by doing the least amount of work possible.
14. I am definitely concerned that I may not learn all that I can this semester.
15. My goal this semester is to avoid performing poorly compared to other students.
16. I look forward to working really hard this semester in my coursework.

ATL Scoring Key

<table>
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<tr>
<th>Mastery-Approach Items (k=3):</th>
<th>Performance-Approach Items (k=3):</th>
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<tr>
<td>4+ 8+ 12</td>
<td>1+ 7+ 14</td>
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<td>Performance-Avoidance Items (k=3):</td>
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<td>2+ 10 + 17</td>
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<td>Work Avoidance Items (k=4):</td>
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<td>5+ 11+ 15+ 18 (reverse scored)</td>
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Perceive Entitlement Scale (PES)

The following items are asking about your personal attitudes about the college experience. Not all students feel the same way or are expected to feel the same way. Remember, **there are no right or wrong answers. Just answer honestly.**

Please respond by indicating how much you agree or disagree with each statement using the response options 1 (strongly disagree) to 7 (strongly agree).

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<td></td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Slightly disagree</td>
<td>Neither agree nor disagree</td>
<td>Slightly agree</td>
<td>Agree</td>
<td>Strongly agree</td>
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1. I honestly feel I’m just more deserving than others.
2. Great things should come to me.
3. If I were on the Titanic, I would deserve to be on the first lifeboat!
4. I demand the best because I’m worth it.
5. I do not necessarily deserve special treatment.
6. I deserve more things in my life.
7. People like me deserve an extra break now and then.
8. Things should go my way.
9. I feel entitled to more of everything.

**SCORING GUIDELINES**

**Perceive Entitlement Scale (PES) Scoring**

A total score is computed by summing each of the 9 items. **Item 5 is reversed scored.**

Total PES = i1 + i2 + i3 + i4 + i5r + i6 + i7 + i8 + i9
Perceived Cohesion Scale (PCS)

The following items are asking how you feel about JMU. Not all students feel the same way or are expected to feel the same way. Please read each item carefully and respond according to how you feel at this current moment. There are no right or wrong answers. Just answer as honestly as possible.

Notice the change in response scale below (1= Strongly Disagree, 9=Strongly Agree).

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Strongly Disagree    Neutral    Strongly Agree

1. I feel a sense of belonging to JMU.
2. I am happy to be at JMU.
3. I see myself as part of the JMU community.
4. I am enthusiastic about JMU.
5. JMU is one of the best schools in the nation.
6. I feel that I am a member of the JMU community.
References


Multivariate Software, Inc.


Elliot, & Thrash (2010). Approach and avoidance temperament as basic dimensions of personality. *Journal of Personality, 78*(3), 865-906.


