Capstone Projects and Master's Theses

Spring 2017

# The Effect of Campus Service Learning on Adolescent School Connectedness

Joseph Sinnott
*California State University, Monterey Bay*

Follow this and additional works at: https://digitalcommons.csumb.edu/caps_thes_all

The Effect of Campus Service Learning on Adolescent School Connectedness

Joseph Sinnott

Thesis Submitted in Partial Fulfillment of the Requirements for the
Degree of Master of Arts in Education

California State University, Monterey Bay

May 2017

The Effect of Campus Service Learning on Adolescent School Connectedness

Joseph Sinnott

APPROVED BY THE GRADUATE ADVISORY COMMITTEE

_____
Kerrie Chitwood, Ph.D.
Advisor and Program Coordinator, Master of Arts in Education

_____
Casey McPherson, Ph.D.
Advisor, Master of Arts in Education

_____
Erin Ramirez, Ph.D.
Advisor, Master of Arts in Education

_____
Kris Roney, Ph.D. Associate Vice President
Academic Programs and Dean of Undergraduate & Graduate Studies

# Abstract

School connectedness refers to a psychological perception among students that they belong and are valued as members of their school community. Service Learning is a teaching technique that combines community service with formal reflection and instruction.  The aim of this quasi-experimental study was to examine the effect of service learning upon feelings of school connectedness among high school aged students. Participants were $10^{th}$ grade students who took part in a five-week, on-campus service learning project.  School connectedness was measured using the Psychological Sense of School Membership Scale (PSSM; Goodenow) as a pretest and posttest.  Results were compared to a control group who received no intervention.  It was hypothesized that the five-week service learning intervention would lead to increased levels of school connectedness; however, results of independent and paired t-tests indicated no statistically significant differences in school connectedness from pretest to posttest in either the treatment or control groups.  Further research should extend the duration of the intervention, adjust the curriculum of the project, allow for participant choice of topic, and use more purposeful sampling procedures.

*Keywords*: school connectedness, service learning, on-campus service learning

## Table of Contents

The Effect of Campus Service Learning on Adolescent School Connectedness

**Literature Review**

Students' level of *school connectedness* refers to their felt sense of belonging or psychological membership in their school or classroom; it measures the extent to which students feel personally accepted, respected, included, or valued at their school (Goodenow, 1993). School connectedness produces feelings of bonding and social inclusion, which are integral for promoting the healthy development of young people (Catalano, Oesterle, Fleming, & Hawkins, 2004). School connectedness is important because it correlates strongly to positive adolescent mental health indicators such as feelings of self-esteem, inclusion and acceptance while negatively correlating to feelings of depression and anxiety (Shochet, Dadds, Ham & Montague, 2006). In addition, students who report feeling connected to their school tend to perform better academically, feel supported by their teachers, enjoy positive relationships with peers, and believe more strongly in their own value as part of the school (Libbey, 2004).

According to Social Control Theory, adolescents who feel connected and enjoy positive social bonds are more likely to rise to meet positive expectations and avoid deviant behavior (Hirschi, 1969). Students who develop these positive school affiliations are less apt to engage in problematic behaviors such as bullying, fighting, substance abuse and truancy (Simons-Morton, Crump, Hainey, & Saylor, 1999; Zins, Bloodworth, Weissberg, & Walberg, 2007).

**Consequences of Lacking School Connectedness**

While the presence of school connectedness correlates with healthy student behaviors and engagement, its absence can instead result in adolescent disengagement

from the school and learning community (Bond et al., 2006; Simmons-Morton et al., 1999). Evidence of this can take the form of student truancy, academic disengagement, and evidence of problematic behaviors.

**Truancy.** Truancy is defined as unexcused and unlawful absence from school without parental knowledge and consent (Bell, Rosen, & Dynlacht, 1994). Truancy is a clear warning sign that students are potentially heading for social isolation, academic failure, drop-out and delinquent behavior (Reed, Butler, & LeCrice, 2009). Truancy leads to deterioration of academic progress among students; studies indicate that students with high truancy rates, for example, are the same students with the lowest achievement levels and highest drop-out rates (Bell et al., 1994). A feeling of low school connectedness can be a significant contributor to the development of problematic truancy issues (Kinder, Wakefield & Wilkin, 1996; Reid, 2005). While the causes of truancy are complex, truant students have self-reported low feelings of school connectedness in the form of perceived disrespect from teachers, inability to relate to the content of the curriculum, and a classroom context without attention to learning differences or difficulties (Reid, 2005).

**Disengagement.** In addition to truancy, feelings of low school connectedness can lead students to disengage from their academic work at school (Bond et al., 2006). This disengagement can lead to academic difficulty and even failure, as levels of student engagement have been correlated to academic achievement among adolescents (Goodenow, 1993; Willingham, Pollock, & Lewis, 2002). Engaged students tend to invest more time and energy on assignments to create new learning while disengaged students more frequently do not. A student-teacher relationship that is cooperative and

supportive, an experience of mutual respect within the classroom, and a curriculum that utilizes cooperative learning are central to a positive classroom learning environment (Furlong et al., 2003).  In order to be an environment leading to school connectedness, the classroom and school must engender a student's felt sense of belonging and inclusive membership.

**Problematic behaviors.**  Finally, a lack of school connectedness can result in an increase in problematic and antisocial behaviors among students.  The Seattle Social Development Project (Catalano et al., 2004) provided a longitudinal study that examined this correlation between low school connectedness and problematic behaviors.  Varied, long-term interventions were provided to high-risk students that focused exclusively on school bonding and connectedness (rather than targeted academic support like tutoring, for example).  Their longitudinal study drew conclusive correlations between a students' level of school bonding and their ability to produce positive outcomes like higher academic performance and social competence.  In addition, strong school bonding resulted in less tobacco, alcohol, and drug use, as well as a decrease in participating students' criminal involvement, gang membership and school dropout.  When a school campus suffers from a low level of connectedness or bonding, greater numbers of students are at increased risk for negative behaviors, academic failure and social isolation (Catalano et al. 2004).

**An Overview of Service Learning**

One solution to student disengagement, truancy and problematic behaviors while simultaneously increasing school connectedness is *service learning* (Celio, Durlak, & Dymnicki, 2011; Conrad & Hedin, 1982; Markus, Howard, & King, 1993).  In their

longitudinal study of 22,236 college aged students, Astin and colleagues (2000) found that service learning led to significant and positive effects by increasing student belief in their abilities to contribute, motivation to pursue a certain career path, get better grades, and increasing self-rated leadership ability. Although the benefits of service learning on college student performance and attitude has been documented for several years, the demand for these programs in America's high schools exceeds the actual opportunities available, especially in schools and districts serving large populations of minority students (Bridgeland, DiIulio, & Wulsin, 2008).

Service Learning is a teaching and learning approach that combines academic study and community service; at its center, the goal of service learning is to enrich student learning outcomes, teach civic responsibility, and strengthen communities (Fiske, 2002). There are five distinct objectives to service learning. First, service learning should aim to reverse student disengagement from school and community; second, it should provide real-life context to reinforce standards-based school reform; third, it must promote public purposes of education through involvement in civic action; fourth, it should promote willingness of students to become involved in service; and finally, service learning should aim to contribute to personal and career development in adolescent participants (Fiske, 2002).

Service learning is not strictly synonymous with community service. It implies a more specialized process in which classroom learning accompanies and enhances a student's active involvement in their community (Conrad & Hedin, 1982; Markus, Howard, & King, 1993). This can be done through investigative research into a community problem, methodically planning ways to solve it, articulation and

demonstration of results, and finally a formal reflection on the experience and what was

learned (Bridgeland et al., 2008).  The components that make service learning unique are

its integration with classroom learning; students must be offered opportunities to reflect

upon and connect their service experiences with learning done in the classroom (Markus

et al., 1993).  Therefore, classroom learning and the service experience form a symbiotic

relationship, each informing the other to achieve the established learning goals.

Service learning is a growing educational model that has been proven to engage

learners to a significantly greater degree than classroom learning alone (Celio, Durlak, &

Dymnicki, 2011; Conrad & Hedin, 1982).  A 2008 national survey (Bridgeland et al.,

2008) polled 807 high school students, 151 of whom were 'at risk;' of those polled, 82%

of students who participated in service learning said their feelings about attending high

school became more positive as a result; 77% of students in service learning programs

say that the experience had a "big effect" on motivating them to work hard.  In addition

to students self-reporting positive results, school districts and individual schools are

rapidly expanding their service learning curriculum options.  While only 2% of schools in

1984 had service learning programs, approximately 30% of schools had such programs as

of 2008 (Bridgeland et al., 2008).  The expansion and development of the service

learning model in America's public schools represents a growing evolution of our

curriculum model to integrate community action and service in conjunction with

academic learning in the classroom.

**Service learning and reflection.**  One of the key components of service learning

is the aspect of *reflection,* defined as the intentional consideration of an experience in

light of particular learning objectives (Bringle & Hatcher, 1999).  Community service, in

and of itself, does not always produce learning. Reflection activities, such as group discussion, note taking and journaling, can provide the necessary bridge or connector between the active component and content learning. The presence of a weekly seminar to make time for formal reflection and debriefing during the service experience is one of the strongest predictors of positive student change (Conrad & Hedin, 1982). To be most effective, reflection activities should support students' discovery of the value of dialogue, leading them to embrace the importance of the learning process and the ability to make meaning of personal experience (Astin et al., 2000; Bringle & Hatcher, 1999). Thus, service learning opportunities must include this reflective component in order to maximize the benefits of the experience while leading to greater student empowerment and connectedness to their schools and communities.

**On-Campus Service Learning**

Service learning projects can be *on-campus service learning projects;* that is, they can be performed on the high school campus itself. The essential components of an on-campus service learning project would be to provide meaningful service activities where students can feel useful and appreciated as contributors while also formally reflecting on their experience and telling their story (Benard & Slade, 2009). Ideas might include improving one's school environment through beautification or offering help to fellow students, teachers or staff.

**Service learning as positive on-campus involvement.** Proponents of on-campus involvement assert that there are definitive correlations between participation on campus and socially positive and healthy behaviors and attitudes among adolescents. The Michigan Study of Adolescent Life Transitions (MSALT) was a longitudinal study

conducted from 1983-1997 involving approximately 1800 students from public schools in southeast Michigan (Eccles, Barber, Stone, & Hunt, 2003).  At intervals throughout these years, students were interviewed and data was collected concerning students' on-campus extra-curricular activity involvement, risk behaviors, educational outcomes, and job characteristics.  Eccles and colleagues (2003) documented that adolescents in pro-social activities on campus reported greater enjoyment of school among 10th graders and a higher grade point average (G.P.A.) among 12th graders.  In addition, involvement in activities that were school spirit oriented, focused on volunteerism, or related to school government showed particular correlation to higher G.P.A., enjoyment of school, and less risky behaviors reported (Eccles et al., 2003).  It is important to note, however, that these positive correlations were related to pro-social involvement other than sports; adolescent student athletes in this study actually demonstrated an increased likelihood of becoming involved with risky behaviors such as drinking alcohol, although they did report higher levels of enjoyment of school and higher G.P.A.'s than non-participants.

Adolescent students who participate in pro-social and communal activities on campus are offered an opportunity to express their identity and affirm their talents and interests within a social context that brings an improved sense of community and greater meaning to their lives (Benard & Slade 2009; Catalano et al., 2004; Eccles et al., 2003). Engaged within a communal context, teens report that these activities "got me thinking about who I am" and "doing new things" more often than they did solely through academic coursework (Hanson, Larson, & Dworkin, 2003).  Within the context of this study, the on-campus service learning project can be the experience to provide students

with this pro-social and communal opportunity that leads to these increased positive outcomes.

**Purpose of this Study**

Research indicates that higher levels of school connectedness, participation in pro-social activities on campus, and involvement in service learning programs can contribute to greater social, emotional and academic success for adolescents at their schools (Bridgeland et al., 2008; Conrad & Hedin, 1982; Hirschi 1969; Mahoney, Larson, Eccles, & Lord, 2005). These factors contribute to higher levels of student engagement and play a part in preventing student disengagement, a quality which can be deleterious for adolescent students (Bond et al., 2006; Simons-Morton et al., 1999; Zins et al., 2007).

What is less clear from research is whether student participation in service learning (specifically a service learning opportunity on the high school campus) has a measurable effect on students' levels of school connectedness. Research supports the fact that both can be beneficial for the adolescent student, but it is less clear if one factor influences the other. This study will aim to explore in greater depth if active participation in service learning corresponds to increasing levels of school connectedness among adolescent high school students.

**Method**

**Research Question**

Does participation in a 5-week, on-campus service learning project lead to higher levels of school connectedness among 10$^{th}$ grade public high school students?

**Hypothesis**

Studies have suggested that service learning increases opportunities for adolescents to learn collaboratively through action, bond socially with their community, and reflect upon their learning in supported and structured ways (Bridgeland et al., 2008; Conrad & Hedin, 1982; Fiske, 2002). A 5-week service learning program that included these active, collaborative and social learning experiences was predicted to increase feelings of school connectedness among 10th grade adolescent participants.

**Research Design**

The study was a quantitative, quasi-experimental study with a nonequivalent groups pretest-posttest design. There was one control group and one treatment group. The control group was comprised of a single 10th grade classroom; this classroom did not receive any intervention. The treatment group was comprised of a separate but similar 10th grade classroom of students; these students participated in a 5-week on-campus service learning project facilitated by the researcher during the regular school day. Both the treatment and control class groups took a pretest survey (i.e., the Psychological Sense of School Membership Scale [PSSM]) developed by Goodenow (1993) to measure the students' self-reported feelings of school connectedness. After completion of the treatment five weeks later, the same PSSM (Goodenow, 1993) survey on school connectedness was administered as posttest to both the control and treatment class groups.

**Independent variable.** The independent variable in this study was a five week on-campus service learning project facilitated by the researcher. *Service learning* is a teaching and learning strategy that integrates meaningful community service with

instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities (Fiske, 2002). An on-campus service learning project is a project that matches this description but occurs exclusively on the high school campus itself. All service work, reflective discussion and instruction occurred either inside the classroom or within the confines of the school campus.

**Dependent variable.** The dependent variable in this study was school connectedness. *School Connectedness* is a term that signifies the students' felt sense of belonging or psychological membership in their school or classroom; it measures the extent to which students feel personally accepted, respected, included, or valued at their school (Goodenow, 1993). For the purposes of this study, the feeling of school connectedness was defined by the scores that students self-reported on the Psychological Sense of School Membership (PSSM) scale (Goodenow, 1993).

## Setting and Participants

The study occurred at a high school on the Central Coast of California. The high school has approximately 559 students and 29 teachers. The school is 50.1% Latino, 18.6% White, 6.3% African American, 7.9% Asian, 6.4% Filipino, 4.7% Pacific Islander, and 5.4% two or more races. 63.3% of students at the school are socioeconomically disadvantaged.

Participants consisted of 58 secondary students, aged 15-16 years, all of whom were enrolled in a 10th grade English Language Arts (ELA) class. Pretest and posttest administration, reflection, and debrief sessions with students occurred in the 10th grade English Language Arts classroom. Both convenience and purposeful sampling were used for this study. The sampling was convenient because the researcher worked as an

instructional coach at the same central California high school where the study occurred; it was purposeful because both classes had matching characteristics of the target population: adolescents, public high school students, predominantly socio-economically disadvantaged (SED), and currently enrolled in regular level academic coursework (not Honors, AP nor remedial).

**Treatment group.** The treatment group was a $10^{th}$ grade ELA classroom comprised of 27 students, all aged 15 -16 years. Twenty students were male (74%) and seven students were female (26%). Four students were White (15%); 19 Hispanic (70%); two African American (7.5%); two Pacific Islander (7.5%). Among the treatment group class, 12 students were English Only (EO; 44.5%); 12 were Redesignated Fluent English Proficient (RFEP; 44.5%); and three were English Learners (EL; 11%). Two students in the class were in Special Education (SPED; 7.5%); a total of 21 students were Socio-Economically Disadvantaged (SED; 78%).

**Control group.** The control group was also a $10^{th}$ grade ELA classroom on the same high school campus, comprised of 31 students, all aged 15-16 years as well. Twenty students were male (65%) and 11 students were female (35%). Four students were White (13%), 16 Hispanic (52%), three African American (10%), two Asian (6%), three Filipino (10%), one Pacific Islander (3%), and one of Two or More Races (3%). Among the control group class, 13 students were EOs (42%); 11 were RFEP (35%); and six students were ELs (19%). Two students in the class were in SPED (6%); a total of 23 students were SED (74%).

**Measures**

The pretest and posttest survey questions were both drawn from the Psychological Sense of School Membership (PSSM) questionnaire (Goodenow, 1993). Goodenow developed the measure and tested its use with students from three different schools before finalizing scale reductions; validity and reliability results were also published. The PSSM measure has subsequently been used by many researchers in studies regarding school connectedness (Crooks et al., 2007; Hagborg, 1994; Libbey, 2004; Shochet et al., 2006).

The PSSM (Goodenow, 1993) is an 18-item questionnaire that measures school connectedness by asking students to respond on a Likert scale format of 1- 5 (1 = Not at all true; 5 = Completely true) to demonstrate their level of agreement with a list of statements (see Appendix A). Statements address issues such as inclusion, acceptance, school pride, self-confidence, respect, encouragement, relationship to adults and peers on campus, and motivation. Statement examples include: "People at my school notice when I am good at something," "Sometimes I feel as if I don't belong in my school," or "I feel proud to belong to my school." The measure asked students to rate their own feelings; they responded to each item in accord with their own individual perception. Item responses were summed and then divided by the total number of questions to yield an average score of school connectedness.

**Validity.** To assess the predictive validity of the PSSM, Goodenow (1993) had English teachers rate each of their students' social standing with peers. It was predicted that students who had a higher social standing rating would demonstrate higher levels of school connectedness as measured on the PSSM. This was validated and confirmed after

one-way analysis of variance: students who were rated as high, medium and low in social

standing by their teacher scored correspondingly on the PSSM (average score ratings of

4.32, 3.87, 3.32 comparatively; Goodenow, 1993).  In addition, it was predicted that

suburban students who were experienced and familiar with the town would demonstrate

higher school connectedness.  Newcomers to the town, living there two years or less,

scored significantly lower on the PSSM than longer term residents ($F = 7.16, p < .01$),

which confirmed and validated researcher predictions (Goodenow, 1993).

Evidence for concurrent validity has been cited by several follow up studies that

compared results on the PSSM measure to other measures used to determine students'

mental and emotional health.  Shochet and colleagues (2006) found evidence of negative

correlations between the PSSM and the scores from Goodman's (1997) Strengths and

Difficulties Questionnaire (r = -.60 to -.68) and Kovac's (1979) Children's Depression

Inventory (r = -.67 to -.74).  This demonstrates that higher scores on the PSSM, or higher

school connectedness, would correspond to lower levels of reported depression and

unmanageable difficulties, a finding that offers evidence for the concurrent evidence

between the measures.

**Reliability.**  Internal consistency reliability for the measure has been analyzed for

both suburban and urban students across multiple studies (Goodenow 1993, Hagborg

1994).  An internal consistency (Cronbach's Alpha) score of .88 was found for suburban

students; for urban students, the PSSM internal consistency reliability was .80 for

students responding to the questionnaire in English (Goodenow 1993).  Helmstadler

(1964) reports the median reliability alpha of .79 for published scales that measure

attitudes; in comparison, the PSSM is an internally consistent and reliable measure.

The PSSM shows relative high levels of stability and test-retest reliability. Hagborg (1994) reported high test-retest reliability (.78) over a period of 4 weeks. However, Shochet and colleagues (2006) showed a lower test-retest reliability (.60) when the time between retests was extended to 12 months.  The PSSM clearly demonstrates higher rates of stability over shorter periods of time.

**Intervention**

A meta-analysis of 62 studies involving 11,837 students at the high school and college levels found that participants in service learning programs experienced more positive gains in attitudes towards self, attitudes towards school and learning, civic engagement and social skills than their control group counterparts (Celio, Durlak, Dymnicki, 2011).  These qualities, especially attitudes toward school and learning, are associated with school connectedness, sometimes known as school bonding, attachment, or school engagement (Libbey, 2004).  It has become apparent from the research that service learning can lead to gains in those same skills that characterize higher levels of school connectedness.  The current study was aimed at building upon that research and further examined the connection between service learning and connectedness to school.

Students in the treatment group participated in a five week service learning project centered on campus trash cleanup and separation of recycling.  The project featured two components.  The first component was the service work done outside of the classroom to bring awareness to the litter and recycling problems on the school campus. The second component was a 20 minute, one-time per week reflection session to occur inside the ELA classroom; this component was centered on discussion and review of the service experience.  Topics and themes of the reflective component included not only the

consequences of littering and leaving garbage on the high school campus, but also the benefits of recycling, having a positive sense of school pride, taking time for campus beautification, and the power of setting a positive example to other students.

The service learning experience was not guided by a single or preset curriculum. Instead, it was comprised of both action and discussion-based components, including documenting and bringing awareness to the litter problem on campus and picking up litter ourselves while actively separating recycling.  Lastly, the intervention featured a final showcase in which student participants in the treatment group organized their own lunchtime event to bring greater awareness to littering and recycling on campus.

**Procedures and Data Collection**

The on-campus service learning project intervention lasted five weeks.  Research supports service learning project time durations of at least one to two months to affect any positive change in student attitudes toward school or community (Callahan, Root, & Billig, 2005).  The control group, which consisted of a similar 10$^{th}$ grade English Language Arts class, received no intervention and did not participate in the service learning project.

On the first day of the service learning intervention, both the students in the treatment and control groups completed the 18 item PSSM survey as a pretest.  The same PSSM survey was administered as a posttest to both groups five weeks later.  Specifically, the posttest was administered on the day following the finale of the service learning project.  This project finale featured a showcase that occurred at the center of the high school campus during a single lunchtime.  This showcase included a student-organized table at lunchtime that featured informational handouts as well as an event for

prizes that encouraged all members of campus to participate in trash removal, recycling and campus beautification efforts.

Measurements were only taken at the start and end of the intervention; no measurements of either the control or treatment groups were taken during the five weeks between pretest and posttest.

**Fidelity.** To ensure intervention fidelity, the researcher was the only facilitator of the classroom reflection/instruction component of the service learning project. The classroom ELA teacher and other teachers were instructed not to continue the intervention, discuss further, or share their opinions about the project outside of the 20 minute per week intervention time. Participants in the study, in both the treatment and control groups, were not informed of the purpose of the study regarding school connectedness. Prescribed time allotments were honored; classroom interventions did not exceed 20 minutes per week but occurred each week without fail; the intervention did not continue past five weeks. In addition, fidelity was ensured through monitoring and observation made by the ELA teacher in the treatment group classroom. The control group ELA classroom teacher similarly monitored and ensured that the researcher did not implement the intervention with control group participants (see Appendix B for Observation Checklist).

**Ethical Considerations**

The Service Learning Project intervention was not potentially harmful to any person involved; there were no threats to bodily injury nor were there any significant emotional risks. All service work and reflection occurred on the high school campus and did not require students to travel to any other location that could present any danger or

lack of security.  Additionally, students did not have to sacrifice time outside of the regular school day.

The study did require student participants to miss approximately 20 minutes of ELA instruction each week.  Ethically, this might be considered unfair for these students because they had less instructional time per week than their peers to prepare for examinations and complete classwork.  In order to address these issues of instructional time loss, the researcher secured permission from school administration and the ELA teacher whose classroom was utilized for the study.  The ELA teacher assured her students in the treatment group that they would receive extra time to complete classwork as necessary if interrupted by the intervention.

**Validity threats**.  Several steps were taken to reduce threats to the validity of the study.  Although some convenience sampling was utilized, sampling bias was avoided by including entire classes of students for each group rather than specific individuals.  It was ensured that the control and treatment groups matched one another generally in characteristics of demographics, age, overall academic skill level and class size.  Additionally, it was feasible that some students in the treatment group would refuse to participate in the service learning project.  In any classroom there is the likelihood for some disengagement; this intervention however focused on the efforts of the entire class as a whole.  The class as a whole was able to continue with the service project intervention despite occasional student disinterest or refusal from a few members.  Finally, students in the treatment group were instructed by the researcher not to share details of the study with the control group class.  If the control group had been informed anyway and became agitated, the researcher would have discussed options of doing a

future project with the control group class some time after the current study had been

concluded.  However, that possibility did not in fact occur.

**Data Analysis**

All data were entered into the Statistical Package for the Social Sciences®

(SPSS®) for Windows, version 24.0.0 (SPSS, 2016).  No names or identifying

information were included in the data analysis.  Before analysis was conducted, all data

were cleaned to ensure no outliers were present (Dimitrov, 2012).  A total of 15

participants were removed from the data file due to missing or incorrectly completing the

pretest or posttest.  After cleaning the data, the final sample size was 24 participants for

the treatment group and 19 participants for the control group.  Independent (control and

treatment groups) and paired (pretest and posttest) sample t-tests were conducted to

determine the significant difference in school connectedness between the mean scores on

Psychological Sense of School Membership (PSSM) scale.  Further, before interpreting

the analytical output, Levene's Homogeneity of Variance was examined to see if the

assumption of equivalence had been violated (Levene, 1960).  If Levene's Homogeneity

of Variance was not violated (i.e., the variances were equal across groups), data was

interpreted for the assumption of equivalence; however, if the variances were not equal

across groups the corrected output was used for interpretation.

## Results

Two independent samples t-tests were conducted on the whole sample ($n = 43$)

for both the pre and post assessment scores.  Results for the pretest were calculated to

find the mean for the treatment group ($M = 3.24$) and standard deviation ($SD = .72$) and

mean for the control group ($M = 3.56$) and standard deviation ($SD = .45$).  Levene's

Homogeneity of Variance was not violated ($p > .05$), meaning the variance between

groups was not statistically different and no correction was needed and the t-test showed

non-significant differences between the mean scores on the pretests between the two

groups $t(41) = -1.69, p > .05$.  Therefore, there was no statistical difference between both

groups, thus they could be easily compared (see Table 1).  Results for the posttest were

calculated to find the mean for the treatment group ($M = 3.27$) and standard deviation (*SD*

$= .72$) and mean for the control group ($M = 3.46$) and standard deviation ($SD = .42$).

Levene's Homogeneity of Variance was not violated ($p > .05$), meaning the variance

between groups was not statistically different and no correction was needed and the t-test

showed non-significant differences between the mean scores on the posttests between the

two groups $t(41) = -.99, p > .05$.  Thus, there was no significant difference on the posttest

between the two groups (see Table 1).  This finding does not support the original

hypothesis that the five week service learning project would increase levels of school

connectedness among participants in the treatment group.

Table 1

*Results of Independent Samples T-Tests*

|  | Mean | SD |
| --- | --- | --- |
| Pre Test |  |  |
|    Treatment | 3.24 | .72 |
|    Control | 3.56 | .45 |
| Post Test |  |  |
|    Treatment | 3.27 | .72 |
|    Control | 3.46 | .42 |

*Note.* SD = Standard Deviation.

After determining the differences between pre and post assessment scores

between groups, two paired t-tests were run for both groups (i.e., treatment and control)

to determine if participants' mean scores from pre to post were significantly different

within each group (see Table 2). Results for each group were as follows: treatment group

$t([23]) = -.39, p > .05$; control group $t(18) = 1.35, p > .05$. These data show that neither

treatment groups nor control groups demonstrated statistically significant differences in

results between pretests and posttests. Additionally, the negative t-value for the treatment

group indicates an increase in scores from pre to post assessment. This indicates that the

treatment group demonstrated a slight increase in participant average scores, while the

positive t-value in the control group shows a small decrease in that group's average

scores. These findings do not support the original hypothesis that the five week service

learning project administered to treatment group participants would increase their

feelings of school connectedness in a statistically significant way.

Table 2

*Results of Paired T-Tests*

| | Mean | SD |
|---|---|---|
| Treatment Group | | |
| Pre | 3.24 | .72 |
| Post | 3.27 | .72 |
| Control Group | | |
| Pre | 3.56 | .45 |
| Post | 3.46 | .42 |

*Note.* SD = Standard Deviation.

**Discussion**

The purpose of this study was to determine if participation in a five week, on-campus service learning project would increase school connectedness among $10^{th}$ grade high school students. The study provided data on 24 students in a treatment group that participated in the five week service learning project and 19 students in a control group who did not participate in any project. It was hypothesized that participants in the treatment group would demonstrate increased feelings of school connectedness from week one to week five as self-reported on the 18 item PSSM measure (Goodenow, 1993).

Service learning was chosen as an intervention to address the problem of low school connectedness, an issue which has been linked to student disengagement, truancy, and problematic behaviors (Bond et al., 2006; Simmons-Morton et al., 1999). A program of service learning was implemented because of its potential to reverse the effects of these problems. Through a curriculum of thoughtful reflection and community action, service learning can promote positive bonds between students and their schools and communities, leading to a greater sense of purpose, meaning and even enjoyment of school among participants (Bridgeland et al., 2008; Celio, Durlak, & Dymnicki, 2011).

In the current study, the service learning intervention administered to the treatment group was based upon research-supported practices. These practices included combining classroom learning with active service work, reflecting upon experience, using a curriculum of student-centered learning approaches, utilizing a problem-solution format, and focusing on the local community and serving its needs (Conrad & Hedin, 1982; Markus, Howard, & King, 1993; Fiske 2002; Bridgeland et al., 2008). Such approaches were predicted to increase school connectedness among participants.

Although these approaches were predicted to yield increases in school connectedness, the data did not support the hypothesis. Results according to the PSSM measure indicated no statistically significant gains in school connectedness among the student participants in the service learning project during the course of this study. Students in the control group similarly reported no statistically significant difference in their self-reported feelings of school connectedness. There were slight increases in school connectedness in the treatment group (.03 increase in average PSSM score) and a slightly larger corresponding decrease in school connectedness (.10 decrease) among control group members. However, these results do not suggest strong enough evidence that the service learning intervention definitively impacted student feelings of school connectedness in any significant way.

Other factors suggested by the research may have yielded the unexpected results. Previous studies about the benefits of service learning have more often centered upon college-aged students (Astin et al., 2000). It is conceivable that 15-16 year old adolescent students in the 10th grade are still too young to developmentally benefit from service learning in an immediately impactful and measurable way. In addition, research supports the effectiveness of service learning projects that are tied to a student's sense of meaning, belief, potential connection to a future career of interest, and/or connection to peers (Fiske, 2002; Benard & Slade, 2009). However, the topic of the service learning project in this study was preselected and centered on spreading awareness of littering, recycling and caring for the school campus. This topic, while selected by the researcher, may have lacked the necessary meaningfulness for students.

**Limitations**

This study had several limitations that could have contributed to the rejection of the researcher's hypothesis.  One such limitation was the design of the intervention itself. Service learning experiences have proven effective when conducted over longer periods of time, from several months to a year in duration (Conrad & Hedin, 1982; Celio, Durlak, & Dymnicki, 2011; Bringle & Hatcher, 1999).  The current study, however, was limited to five weeks in duration, potentially far too short in length to yield significant changes in student attitudes toward their school.  Additionally, although the sample groups were purposely chosen to be similar to one another and represent average secondary students, the researcher did use convenience sampling techniques for time management and efficiency.  Participants in the selected treatment group already demonstrated satisfactory levels of school connectedness as reported on the pretest; therefore, it was difficult to find growth.  Greater use of purposeful sampling might target students with especially low levels of initial school connectedness which could provide additional variance, and could potentially be great enough to demonstrate growth.

Further, the researcher for this study visited a classroom as a guest instructor for 20 minutes, once per week for five weeks.  It has been established that a high quality student-teacher relationship and cooperative and supportive classroom environment are integral for students to develop feelings of school connectedness (Furlong et al., 2003). As a visiting instructor with time constraints, the researcher may not have developed these relationships and improvements to the environment in a satisfactory way.

Finally, the intervention included a culminating showcase led by students that occurred at lunchtime for the campus community. While strongly encouraged,

participation was not mandatory and approximately half of the treatment group attended the event. The students who did attend the showcase event were those who demonstrated higher levels of school connectedness to start. Therefore, because the final showcase was optional, some of the participants may have missed an opportunity to be impacted by a critical event within the intervention to connect with their school, thus leading to no increase in their PSSM score on the posttest. Moreover, time constraints of the intervention did not provide time for a potentially critical final classroom reflection after the showcase. Thus, the element of reflection, which is critical to effective service learning, may not have been utilized to its fullest capacity in the finale of the intervention in order to sufficiently inspire class-wide increases in school connectedness.

**Future Studies**

Recommendations for further research would include utilizing qualitative research methods to learn more about the individual experiences of students. Although average scores on the PSSM measure may have remained the same from pretest to post, individual students may have had valuable experiences that could only be explored by qualitative inquiry and analysis. An additional recommendation would be altering the intervention to meet the interests of the students in the treatment group. The service learning project intervention could begin by addressing the concerns and observations of the students and then designing the service learning experience to meet those stated areas of interest. In such a way, student participants may be afforded topics of greater meaning and interest to their lives rather than choosing a researcher selected, one-size-fits-all approach to the topic of service.

During the five weeks of this study, the treatment group showed no signs of decreased school connectedness, although a slight decrease was noted in the control group. Further studies might expand on this finding and explore how on-campus service learning may play a role in preventing decreases in school connectedness during the progression of a school year. Service learning has the potential to be a powerful tool to increase the social, emotional and even academic success of secondary students (Conrad & Hedin, 1982; Fiske, 2002; Celio, Durlak & Dymnicki, 2011). It may have the power to positively affect school connectedness among students, which is a vital component of a young person's experience and integral for a healthy functioning campus (Goodenow, 1993; Catalano et al., 2008). Changes in the duration of the intervention, providing participants a choice of curriculum and topic, and a more purposeful sampling procedure may result in stronger results in future studies.

**References**

Astin, A. W., Vogelgesang, L. J., Ikeda, E. K., & Yee, J. A. (2000). How service learning affects students. Los Angeles, CA: Higher Education Research Institute, University of California.

Bell, A. J., Rosen, L. A., & Dynlacht, D. (1994). Truancy intervention. *Journal of Research and Development in Education, 27,* 203-211.

Benard, B., & Slade, S. (2009). *Handbook of positive psychology in schools*. New York, NY: Routledge.

Bond L., Butler H., Thomas L., Carlin J., Glover S., Bowes G., Patton G. (2007). Social and school connectedness in early secondary school as predictors of late teenage substance use, mental health, and academic outcomes. *Journal of Adolescent Health, 40*, 357-372.  doi:10.1016/j.jadohealth.2006.10.013

Bridgeland, J. M., DiIulio Jr, J. J., & Wulsin, S. C. (2008). Engaged for Success: Service-Learning as a Tool for High School Dropout Prevention. A Research Report by Civic for the National Conference on Citizenship.

Bringle, R. G., & Hatcher, J. A. (1999). Reflection in service learning: Making meaning of experience. *Educational Horizons*, *77,* 179–185.

Callahan, J., Root, S., Billig, S. (2005).  *Improving service learning practice: Research on models to enhance impact.*  Greenwich, CT: Information Age Publishing.

Catalano, R. F., Oesterle, S., Fleming, C. B. and Hawkins, J. D. (2004). The importance of bonding to school for healthy development: Findings from the social development research group. *Journal of School Health, 74*, 252–261. doi:10.1111/j.1746-1561.2004.tb08281.x

Celio, C., Durlak, J., Dymnicki, A. (2011).  A meta-analysis of the impact of service

   learning on students.  *Journal of Experiential Education,* 34, 164-181.

   doi.org/10.1177/105382591103400205

Conrad, D. and Hedin, D. (1982). The impact of experiential education on adolescent

   development. *Child and Youth Services, 4*, 57-76.

   http://dx.doi.org/10.1300/J024v04n03_08

Crooks, C., Scott, K., Wolfe, D., Chiodo, D., & Killip, S. (2007). Understanding

   the link between childhood maltreatment and violent delinquency: What do

   schools have to add? *Child Maltreatment*, *12*, 269−280.

   doi:10.1080/19361521.2010.523062

Dimitrov, D.M. (2012).  *Statistical methods for validation of assessment scale data in*

   *counseling and related fields.* Alexandria, VA: American Counseling Association.

Eccles, J. S., Barber, B. L., Stone, M. and Hunt, J. (2003). Extracurricular

   activities and adolescent development. *Journal of Social Issues, 59*, 865–889.

   doi: 10.1046/j.0022-4537.2003.00095.x

Fiske E.B. (2002). *Learning in deed. The power of service-learning for American*

   *schools.* Battle Creek, MI: WK Kellogg Foundation.

Furlong, M. J., Whipple, A. D., St. Jean, G., Simental, J., Soliz, A., & Punthuna,

   S. (2003). Multiple contexts of school engagement: Moving toward a unifying

   framework for educational research and practice. *California School Psychologist,*

   *8,* 99-114. doi:10.1007/BF03340899

Goodenow, C. (1993). The psychological sense of school membership among

adolescents: Scale development and education correlates. *Psychology in the

Schools, 30*, 79-90.

Goodman R. (1997). The strengths and difficulties questionnaire. *Journal of Child

Psychology and Psychiatry*, *38,* 581–586.

doi:10.1111/j.1469-7610.1997.tb01545.x

Hagborg, W. J. (1994). An exploration of school membership among middle- and high

school students. *Journal of Psychoeducational Assessment*, *55*, 312–323.

Hansen, D. M., Larson, R. W., & Dworkin, J. B. (2003). What adolescents learn

in organized youth activities: A survey of self-reported developmental

experiences. *Journal of Research on Adolescence, 13,* 25–55.

Helmstadter, G. C. (1964). *Principles of psychological measurement.* New York,

NY: Meredith Publishing.

Hirschi, T. (1969). *The causes of delinquency*. Berkeley, CA: University of California

Press.

Kinder, K., Wakefield, A., & Wilkin, A. (1996). *Talking back: Pupil views on

disaffection*. Berkshire, England: National Foundation for Educational Research.

Kovacs, M. (1979). *Children's Depression Inventory*. Pittsburgh, PA: University of

Pittsburgh.

Levene, H. (1960). Robust tests for equality of variances. *Contributions to probability

and statistics*, *1*, 278-292.

Libbey, H. (2004). Measuring student relationships to school: Attachment, bonding, connectedness, and engagement. *Journal of School Health, 74*(7), 274-283. doi:10.1111/j.1746-1561.2004.tb08284.x

Mahoney, J. L., Larson, R. W., Eccles, J. S., & Lord, H. (2005). *Organized activities as contexts of development: Extracurricular activities, after-school and community programs*. Mahwah, NJ: Taylor and Francis

Markus, G. B., Howard, J. P., & King, D. C. (1993). Notes: Integrating community service and classroom instruction enhances learning: Results from an experiment. *Educational Evaluation and Policy Analysis*, *15*(4), 410-419.

Reed, D., Butler, C. & LeCrice, L. (2009). A local case study on students' perceptions of truancy and delinquent behaviors. *Southwest Journal of Criminal Justice, 5,* 243-257.

Reid, K. (2005). The causes, views and traits of school absenteeism and truancy: An analytical review. *Research in Education*, *74*, 59-82.

Shochet I., Dadds M.R., Ham D., & Montague R. (2006). School connectedness is an underemphasized parameter in adolescent mental health: Results of a community prediction study. *Journal of Clinical Child and Adolescent Psychology, 35*(2), 170–179. http://dx.doi.org/10.1207/s15374424jccp3502_1

Simons-Morton, B. G., Crump, A. D., Haynie, D. L., & Saylor, K. E. (1998). Student-school bonding and adolescent problem behavior. *Health Education Research, 14,* 99-107. https://doi.org/10.1093/her/14.1.99

Willingham, W. W., Pollack, J. M., & Lewis, C. (2000). Grades and test scores:

    Accounting for observed differences. *ETS Research Report Series*.

    doi:10.1111/j.1745-3984.2002.tb01133.x

Zins, J. E., Bloodworth, M. R., Weissberg, R. P., & Walberg, H. J. (2007). The

    scientific base linking social and emotional learning to school success. *Journal of*

    *Educational and Psychological Consultation, 17,* 191–210.

**Appendix A**

Psychological Sense of School Membership (PSSM; Goodenow, 1993)

| Circle the answer for each statement that is most true for you | 1 = Not at all True<br>5 = Completely True | | | | |
|---|---|---|---|---|---|
| 1) I feel like a part of my school. | 1 | 2 | 3 | 4 | 5 |
| 2) People at my school notice when I am good at something. | 1 | 2 | 3 | 4 | 5 |
| 3) It is hard for people like me to be accepted at my school. | 1 | 2 | 3 | 4 | 5 |
| 4) Other students in my school take my opinions seriously. | 1 | 2 | 3 | 4 | 5 |
| 5)  Most teachers at my school are interested in me. | 1 | 2 | 3 | 4 | 5 |
| 6) Sometimes I feel as if I don't belong in my school. | 1 | 2 | 3 | 4 | 5 |
| 7)  There is at least one teacher or adult I can talk to in my school if I have a problem. | 1 | 2 | 3 | 4 | 5 |
| 8)  People at my school are friendly to me. | 1 | 2 | 3 | 4 | 5 |
| 9)  Teachers here are not interested in people like me. | 1 | 2 | 3 | 4 | 5 |
| 10) I am included in lots of activities at my school. | 1 | 2 | 3 | 4 | 5 |
| 11) I am treated with as much respect as other students in my school. | 1 | 2 | 3 | 4 | 5 |
| 12) I feel very different from most other students at my school. | 1 | 2 | 3 | 4 | 5 |
| 13) I can really be myself at my school. | 1 | 2 | 3 | 4 | 5 |
| 14) Teachers at my school respect me. | 1 | 2 | 3 | 4 | 5 |
| 15) People at my school know that I can do good work. | 1 | 2 | 3 | 4 | 5 |
| 16) I wish I were in a different school. | 1 | 2 | 3 | 4 | 5 |
| 17) I feel proud to belong to my school. | 1 | 2 | 3 | 4 | 5 |
| 18) Other students at my school like me the way that I am. | 1 | 2 | 3 | 4 | 5 |

**Appendix B**

**Fidelity Checklist**

| Date | Treatment/Control | Signature / Initials |
|------|-------------------|----------------------|
| Monday, February 13, 2017 | Control Group | |
| Tuesday, February 14, 2017 | Treatment Group | |
| Tuesday, February 21, 2017 | Treatment Group | |
| Wednesday, March 1, 2017 | Treatment Group | |
| Tuesday, March 7, 2017 | Treatment Group | |
| Monday, March 13, 2017 | Treatment Group | |
| Tuesday, March 14, 2017 | Control Group | |