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Service-Learning in Early Adolescence: Results of a School-Based Curriculum

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Abstract

Over the past few decades, service-learning has surged in popularity. Although most programs are implemented in high school and college classrooms, service-learning has the potential for great impact in middle school. The present article evaluates a pilot service-learning program for fifth- and seventh-grade (N = 86) children in a large, urban, midwestern city. For this project, a service-learning curriculum was developed, implemented, and assessed. Findings indicate that, relative to students in the control group, students participating in the service-learning curriculum demonstrated significantly higher scores on the measure of Leadership. Several Grade × Intervention interactions suggested stronger effects for fifth-grade students. A measure of Acceptance of Diversity did not show any significant differences. Implications and recommendations for developing future programs are discussed.

Keywords

service-learning, young adolescence, leadership, urban

Introduction

Over the past several decades, the popularity and awareness of youth engagement in community service has increased significantly. Kielsmeier, Scales, Roehlkepartain, and Neal (2004) found that approximately 56,000 public K-12 schools in the United

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States offer some sort of service opportunities, and roughly 23,000 public schools have formal service-learning projects or programs in place. Service-learning, in general, is a way to engage students in the learning process by having them provide meaningful service to others, connect this experience with the students' academic curriculum, and, frequently, reflect on the process in some fashion (Eyler, Giles, & Schmiede, 1996; Moely, Billig, & Holland, 2009).

A recent meta-analysis reviewed 62 empirical outcome studies of service-learning programs (Celio, Durlak, & Dyminicki, 2011) and found that these service-learning programs had significant positive effects on participating students; students profited personally, civically, socially, and academically from participating in service-learning programs. However, the program evaluations included in the review varied significantly with regard to methodological integrity. Therefore, the authors urged researchers to increase the methodological rigor necessary to allow confidence in results, specifically suggesting the use of reliable and valid measures and the inclusion of comparison groups (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004). Although there has been increased popularity of service-learning programs for students of all ages, a majority (59%) of evaluated programs targeted college students (Celio & Durlak, 2008). In fact, students below the ninth grade accounted for only 9% of evaluated service-learning programs. The purpose of the present study was to develop, implement, and evaluate a pilot service-learning curriculum for middle school students, designed specifically for integration into the regular academic curricula of Chicago Public Schools.

Service in Adolescence: Timing Is Everything

Participation in service-learning programs during early adolescence can produce several benefits. During this time, many adolescents begin to think abstractly about their futures (Nurmi, 1991; Piaget, 1972), engage in more intense social relationships (Montgomery, 2005), and contribute positively to their own lives and those of their peers, families, and communities (Lerner, Dowling, & Anderson, 2003; Search Institute, 2006). In fact, being involved in one's community can affect one's decisions to become involved in the future. An Independent Sector (2001) survey found that almost half (44%) of adults began doing service in their adolescence and that adolescents who do community service are twice as likely to volunteer as adults. The introduction of service work in adolescence can instill students with a sense of altruism, connect them more directly with their community, and even affect their future career choices (Astin, Vogelgesang, Ikeda, & Yee, 2000). Not surprisingly, adolescents involved in extracurricular or community-based activities tend to have higher levels of trust and more positive views of others in their communities than those not involved in such activities (Flanagan, Gill, & Gallay, 2005).

Early adolescence represents a crucial stage in identity development. At the onset of adolescence, youth are defining their self-concept with regard to family relationships, peer relationships, academic performance, and many other areas (Schwartz, 2008). In this stage, youth begin to discover and construct their identity by "trying on" goals,

values, and beliefs (Waterman, 1984). It is not surprising, then, that the development of civic identity is considered a key task of adolescence (Erikson, 1968; Sherrod, 2006; Youniss & Yates, 1997). Volunteering increases the anticipated importance of community involvement, potentially leading youth who are more invested in their communities to become involved as adults (Johnson, Beebe, Mortimer, & Snyder, 1998).

The development of civic identity is enhanced by the emergence of more sophisticated abstract thinking in early adolescence (Yurgelun-Todd, 2007). Adolescents' ability to engage in abstract thought allows them to comprehend the importance of service activities and their impact on the community. One key aspect of service-learning programs is the reflection process, in which students are encouraged to understand their experiences through a variety of activities, including engagement in discussion and journal writing (Eyler, 2002). In adolescence, students can more fully engage in reflection, and thus use service-learning opportunities to evaluate themselves, their roles in their schools, neighborhoods, and communities, and their relationship to community issues and societal problems. In the present study, Personal and Social Responsibility was expected to be enhanced by service-learning experiences and was examined as an outcome variable.

The importance of social relationships increases significantly in early adolescence and its prominence continues throughout the adolescent period. Among adolescents, feelings of peer solidarity are associated with commitments to public interest goals, such as serving one's community, nation, and people in need (Flanagan, Bowes, Jonsson, Csapo, & Sheblanova, 1998). Service programs provide opportunities for adolescents to exercise leadership skills. Particularly, for youth who are not gifted in sports or academics, service can provide an alternative arena in which they can excel and also connect with peers (Flanagan, 2004). Compared with clubs or extracurricular activities that are interest-based and tend to attract the same type of students, service has more potential for exposing youth to a variety of different people, situations, and issues in their community (Flanagan et al., 2005). Thus, those engaged in service-learning are expected to report more comfort with, and acceptance of, diversity.

The emerging importance of social relationships coincides with the refinement of social skills during adolescence. Service-learning can provide opportunities for students to engage in more sophisticated social relationships with peers. In fact, learning how to cooperate with peers and engage in teamwork has been described as part of one of the many benefits of youth activities (Jarrett, 1998). Furthermore, being involved in activities like service-learning as a young person also assists in helping the young person develop new peer relationships, develop group social skills such as taking responsibility, and learn how to work together as a team (Dworkin, Larson, & Hansen, 2003). Doing service with peers can create an atmosphere of equality with others, where, theoretically, students can resolve differences with each other and implement programs with less adult involvement. Assuming the role of team members, students engaged in service are more likely to feel accountable to the group for projects because they play an integral role (Flanagan, 2004).

In sum, because adolescence is a time of civic, career, and social exploration, this developmental period is well-suited for the initiation of service programs. Currently,

service-learning programs are more prevalent in high schools and colleges. However, service-learning programs may particularly benefit youth in early adolescence, during the middle school years.

Benefits of Service-Learning for Young Adolescents

Due to the preponderance of service-learning programs geared toward high school and college-age students, the majority of the empirical research has been focused on these age groups (Celio et al., 2011). And although most evaluations of service-learning have been done with older students, limited data suggest that younger students also benefit. For example, Stott and Jackson (2005) examined the effects of having middle school students become peer mentors for elementary school students. Through a retrospective, qualitative survey, the authors found that students reported enhanced academic development, life and career development, personal and social development, and multicultural and global citizenship (Search Institute, 2006; Stott & Jackson, 2005). Leadership is expected to be enhanced by this experience and, thus, will comprise another outcome measure.

Other data suggest that service-learning can affect academic success, connection to school, feelings about self, and social behaviors. For example, a study by Scales, Blyth, Berkas, and Kielsmeier (2000) investigated the effects of a service-learning program on sixth- through eighth-grade students in three different middle schools. Over the school year, students who were engaged in the service-learning talked to their parents more frequently, felt like they were effective at helping people, demonstrated greater concern for the welfare of others, and showed increased academic motivation (Scales et al., 2000). Another study with middle school students showed positive effects on social perceptions and feelings (Hecht & Fusco, 1996). Eighth-grade students visited service sites daily through a 10-week intervention, wrote reflection in journals, and discussed their experiences in class twice a week. At the conclusion of the program, students reported that the service experience provided them with unique learning opportunities, in which they felt like they made a contribution and had opportunities to express important, personal values (Hecht & Fusco, 1996). A measure of Civic Responsibility will be used as a fourth outcome.

Hypotheses

Although much theory and "buzz" surrounds service-learning, Billig (2000) wrote, "Research in the field of [service-learning] has not caught up with the passion that educators feel for it" (p. 660). To address this concern, the current pilot study aimed to (a) develop and implement a curriculum-based service-learning program for middle school students and (b) evaluate the effects of this pilot program on participants relative to control students at comparable schools on four relevant constructs: Leadership, Personal and Social Responsibility, Acceptance of Diversity, and Civic Responsibility. It was hypothesized that, relative to the comparison students, students involved in the service-learning curriculum would experience increases on the four measures.

Method

Research Design

The present study evaluated the impact of a Civic Engagement program implemented with fifth- and seventh-grade students at a public elementary school in Chicago. The program was implemented during the same semester in each classroom, but the curriculum was tailored to the two different grades. Two separate Chicago public schools, similar to the intervention school, provided classrooms for the comparison class in fifth- and seventh-grade classrooms. To assess program impact, participants in the intervention classrooms completed self-report questionnaires a few days prior to program implementation and within a week following program completion. The control classrooms, which did not receive any service-learning curriculum, completed the same questionnaires at similar intervals.

Participants

Three public schools in Chicago were recruited to participate in the pilot evaluation of the curriculum. One fifth-grade and one seventh-grade classroom at the same school served as the intervention group ($n = 45$). Teachers from the intervention classrooms worked with the research team to collaboratively develop modules of the curriculum. Two fifth-grade and three seventh-grade classrooms (in two other schools) served as the control group ($n = 41$).

The intervention school required all students in the intervention classroom to participate in the curriculum as part of the regular school day. Questionnaire data were only collected from students who provided written assent and parental written consent. In the intervention classrooms, only one student's family did not provide permission for participation in the evaluation study. However, in the control classrooms, parental consent was obtained by less than half of the children recruited, thus two schools were used to provide control participants. The intervention and control groups were similar in age and gender. Both the intervention and control groups included 37% boys and 63% girls. The intervention condition included 25 fifth graders and 20 seventh graders and the control condition included 17 fifth graders and 24 seventh graders.

Measures

The program evaluation consisted of both qualitative (regarding the process) and quantitative assessment (regarding outcomes at pre- and post-test). This article will focus on the results of the quantitative evaluation of the intervention.

To evaluate the extent to which the program succeeded in promoting positive attitudes toward Civic Engagement, participants completed pre- and postintervention questionnaires measuring Leadership, Personal and Social Responsibility, Acceptance of Diversity, and Civic Engagement. Separate analyses were conducted for each variable. Questionnaires of Leadership, Personal and Social Responsibility, and Acceptance

of Diversity were derived from the National Community Service Survey (Brandeis University, 1995).

Leadership. Leadership was assessed with the eight-item Leadership scale. Items were rated on a 4-point Likert-type scale and included statements such as "I am confident in expressing my opinions in front of a group" and "I know what is expected of a leader of a group project." To improve internal consistency, pre-test ($\alpha = .70$) and post-test ($\alpha = .72$), one item was removed. Therefore, the corrected scale included seven items. After the correction, the internal consistency was measured at pre-test ($\alpha = .76$) and post-test ($\alpha = .70$).

Personal and Social Responsibility. The Personal and Social Responsibility self-report measure had 15 items on a 5-point Likert-type scale. For each item, respondents were asked to choose the statement with which they most agree. For example, "being actively involved with community issues is . . . (a) everyone's responsibility, including mine and (b) not my responsibility. Internal reliability was measured at pre-test ($\alpha = .84$) and post-test ($\alpha = .86$).

Acceptance of Diversity. The Acceptance of Diversity Scale included 11 items, all rated on a 4-point Likert-type scale. Sample questions included, "I dislike being with people whose physical abilities are different from mine" and "I would have no problem working with a person whose race and ethnicity are different from mine." The pretest alpha ($\alpha = .71$) and posttest alpha ($\alpha = .71$) were achieved once 1 item was removed from the scale. The corrected scale included 10 items.

Civic Responsibility. Civic Responsibility was assessed with the 10-item Civic Responsibility Survey (Furco, Muller, & Ammon, 1998). The fifth-grade sample completed the Level 1 (Elementary) version ($\alpha = .76$); the seventh-grade sample completed the Level 2 (Middle School) version ($\alpha = .84$). The survey covered three topic areas: connection to community, civic efficacy, and civic awareness. Items were rated on a 6-point Likert-type scale. Sample items included, "Doing something that helps others is important to me" and "I feel like I can make a difference in the community." A test of internal reliability for the present study found a pretest alpha coefficient of .82 and a posttest alpha of .71 after 2 items had been removed. The corrected scale included 8 items.

Service-Learning Program

The program met for approximately 10 to 12 weeks, with weekly and twice per week sessions, for a total of approximately 12 sessions. Led by a team of researchers and graduate students from Loyola University Chicago, the curriculum in each classroom was administered by faculty with the support of at least two graduate students and one undergraduate student. The curriculum was divided into three components: Introduction, Getting Informed, and Getting Involved (see http://www.luc.edu/media/

Table 1. Comparison of Groups on Outcome Measures.

	Intervention				Control						
	Time I		Time II		Time I		Time II				
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	F^a	p^a	d^b
Personal and Social Responsibility[c]	3.90	0.59	3.86	0.60	3.86	0.62	3.72	0.58	.918	.341	0.02
Civic Responsibility[d]	3.65	0.51	3.58	0.54	3.77	0.75	3.77	0.57	.037	.848	−0.27
Leadership[e]	2.24	0.44	2.38	0.39	2.39	0.42	2.29	0.42	10.51**	.002	−0.49
Acceptance of Diversity[e]	3.38	0.24	3.27	0.34	3.25	0.38	3.21	0.39	.070	.792	0.41

[a]Statistical parameters for the interaction between Time and Condition.
[b]Effect size for differences at Time I by condition.
[c]Measured on a 5-point Likert-type scale.
[d]Measured on a 6-point Likert-type scale.
[e]Measured on a 4-point Likert-type scale.
**$p \leq .05$.

lucedu/psychology/pdfs/CEC%20Manual.doc for a more detailed description of the current program; Richards et al., 2013). The introduction units focused on introducing the Civic Responsibility curriculum to the students, exploring concepts such as the meaning of "community," "civic engagement," "leadership," and the particular topic area (e.g., hunger or community violence). During the "Getting Informed" stage of the project, students engaged with the topic that the classroom had chosen as their community issue. The fifth-grade classroom chose hunger and the seventh-grade chose community violence as their areas of focus. In the final phase of the intervention, the students demonstrated involvement in the community concerns. The fifth-grade classroom, after volunteering in local soup kitchens and reflecting on this experience, decided to organize a "toiletries" drive in their school for the local soup kitchens in which they had volunteered. The seventh-grade classroom invited a local community justice organization to facilitate peacemaking circles to address issues of respect, diversity, and social justice.

Results

Normality of distributions across all measures in both samples was determined to be within appropriate levels, although all skew tended toward negative. Before the effects of the curriculum on the middle school students were examined, pre-tests were studied to rule out differences between the students who participated in the curriculum and the students who did not participate. No significant differences were found between the control and intervention conditions on the four pre-tests (see Table 1). When effect sizes indicated significant effects might have been determined with more power, they suggested higher values for the control groups. These data suggest that results from the post-tests represent effects of the curriculum implementation, or lack thereof, and not

Table 2. Effect Sizes for Intervention and Control Conditions From Pre- to Post-Test.

	Time I to Time II	
	Intervention	Control
Personal and Social Responsibility	−0.12	−0.34
Civic Responsibility	−0.15	−0.04
Leadership	0.38	−0.34
Acceptance of Diversity	−0.22	−0.22

Note. Effect sizes measured in Cohen's *d*.

preexisting group differences. Correlations were computed among the outcome variables and they varied from pre- to post-tests and depending on what was correlated. The only one that was high across time was the correlation of Leadership to Personal and Social Responsibility, which averaged .59. Because these two instruments were measuring distinct constructs, they were left as individual scales.

Repeated-measures ANOVAs were used to examine the effects of the curriculum on the four measures of interest: (a) Leadership, (b) Acceptance of Diversity, (c) Personal and Social Responsibility, and (d) Civic Responsibility. ANOVAs of the interaction of Time (pre, post) and Condition (intervention, control) will be presented first, followed by ANOVAs of the three-way interactions of Time, Condition, and Grade (fifth, seventh) for each measure. A significant interaction of Time and Condition will indicate that the pre to post measure was significantly different for the intervention versus the control group. Table 1 presents the means and standard deviations for each measure by condition and time. To understand where the significant differences are found, paired-sample *t* test data were computed to discover which groups significantly differed from pre- to post-test. Table 2 displays the effect sizes for intervention and control conditions from pre–post test.

When Leadership was examined as the dependent measure, the repeated-measures ANOVA indicated a significant interaction between Time (pre, post) and Condition (intervention, control), $F(2, 81) = 10.51$, $p < .01$. When the post hoc analyses were examined, the intervention group was found to differ significantly from pre- to post-assessment ($t = 2.46$, $p < .05$, $d = 0.38$). These results indicated that the intervention group enhanced their beliefs about their own leadership capacities and potentials from before the curriculum to after it. The control group dropped significantly from Time 1 to Time 2 assessment ($t = -2.14$, $p < .05$, $d = -0.34$), suggesting that these students experienced less confidence in their leadership over time. Figure 1 illustrates this interaction of Time and Condition ANOVA. The three-way interactions of Condition (intervention, control), Time (pre, post), and Grade (fifth, seventh) revealed significant results for Leadership. Although the small cell sizes suggest caution in the interpretation of these pilot data, the results indicated that Grade moderated the effects of the Civic Engagement curriculum on Leadership, $F(4, 84) = 6.78$, $p < .05$, suggesting that the effects of the intervention were more pronounced for the

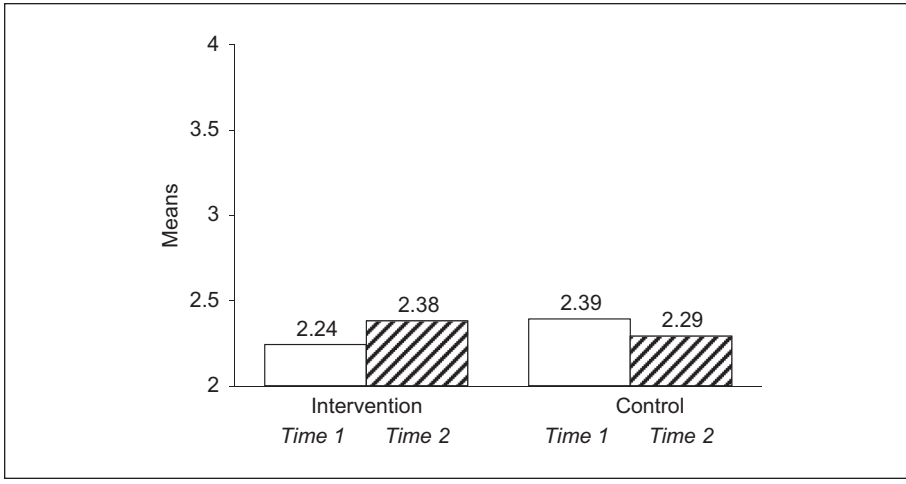

Figure 1. The Effect of Time and Condition on Leadership.

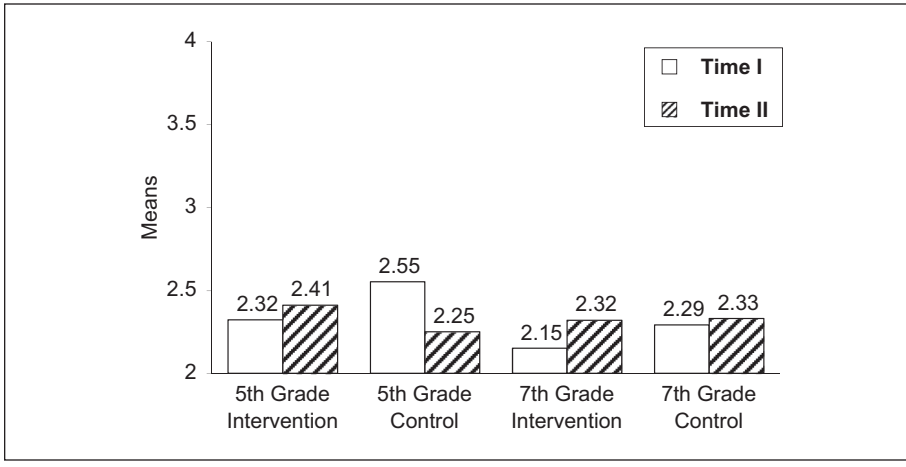

Figure 2. The Effect of Time, Condition, and Grade on Leadership.

fifth-grade students, $F(1, 38) = 15.20$, $p < .001$, $d = 0.37$, relative to the seventh-grade students, $F(1, 41) = 2.29$, $p = .138$. See Figure 2 for the pattern.

Turning to Personal and Social Responsibility, a similar, but not significant, pattern emerged, especially for the analysis that included grade. Thus, Time (pre, post) and Condition (intervention, control) did not interact, $F(2, 80) = .92$, $p < .34$. The three-way interactions of Condition (intervention, control), Time (pre, post), and Grade (fifth, seventh) revealed close to significant results. Although the small cell sizes

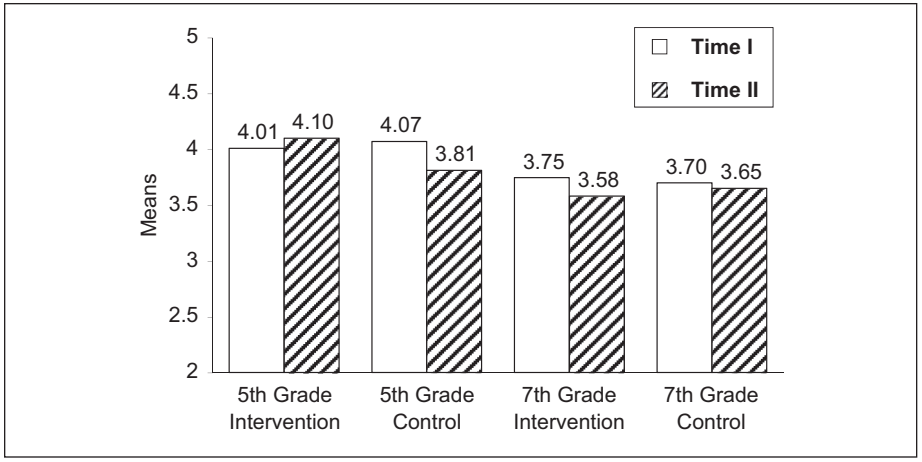

Figure 3. The Effect of Time and Condition and Grade on Personal and Social Responsibility.

suggest caution in the interpretation of these pilot data, the results indicated that grade trended toward moderation of the effects of the Civic Engagement curriculum on Personal and Social Responsibility, $F(4, 78) = 3.42$, $p = .07$, suggesting that the effects of the intervention were stronger for the fifth-grade students, $F(1, 38) = 2.88$, $p < .10$, $d = 0.14$, than for the seventh-grade students, $p = .45$, $d = -0.39$ (see Figure 3 for the pattern).

Finally, we expected that the middle school students would demonstrate a greater Civic Responsibility and Acceptance of Diversity after undergoing the curriculum. The repeated-measure ANOVAs suggested that the patterns of results for Civic Responsibility were consistent with the hypothesis when grade was examined as a possible moderator. The three-way interactions of Condition (intervention, control), Time (pre, post), and Grade (fifth, seventh) revealed significant results for Civic Responsibility, $F(4, 76) = 4.67$, $p < .05$, suggesting that the effects of the intervention were statistically significant for the fifth-grade students, $F(1, 37) = 4.91$, $p < .05$, $d = 0.20$) relative to the seventh-grade students, $p = .20$, $d = -0.72$ (see Figure 4 for the pattern). No two- or three-way interactions emerged for Acceptance of Diversity.

The three-way interactions of Condition (intervention, control), Time (pre, post), and Gender (female, male) did not reveal any significant three-way interactions. Thus, gender did not moderate the effects of the Civic Engagement curriculum on the four outcomes.

Discussion

This pilot study involved creating a Civic Engagement curriculum, implementing the curriculum, and evaluating the effects of the curriculum on four outcomes. These four

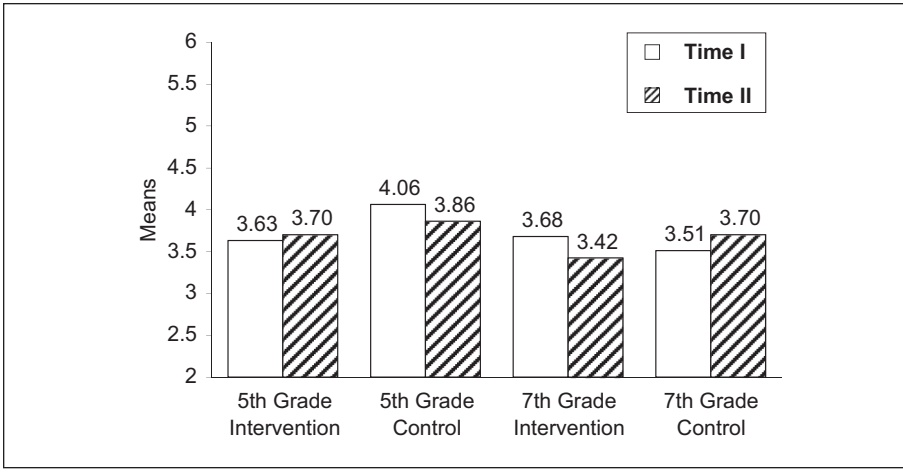

Figure 4. The Effect of Time and Condition and Grade on Civic Responsibility.

outcomes were chosen to capture four domains of attitudes and beliefs about leadership and responsibility as well as the self in relation to community and diversity. It was hypothesized that on post-tests, relative to students who had not undergone the curriculum, students participating in the curriculum would demonstrate relatively higher scores on measures of Personal and Social Responsibility, Civic Responsibility, Leadership, and Acceptance of Diversity. Our results suggested partial support for the hypotheses, in that on one of the four measures, the curriculum students reported a significant difference from the noncurriculum students from before to after the curriculum. Specifically, the measure of Leadership significantly increased for the curriculum condition relative to declines in the noncurriculum condition at post-test. On both this construct, as well as on Personal and Social Responsibility and Civic Responsibility, the fifth-grade students demonstrated stronger curriculum effects in the expected direction than did the seventh-grade students.

The Leadership construct, affected by the service-learning curriculum, is important to healthy civic development. Leadership demonstrated shifts over time with the intervention for the whole sample. The effects of the service-learning curriculum on fifth-grade Leadership as well as Personal and Social Responsibility and Civic Responsibility are consistent with other research focused on early adolescence. Data suggest that middle school students involved in service-learning are more likely to attend class regularly and spend longer time periods on task, which may indicate an increased desire to learn (Soslau & Yost, 2007), and an enhanced sense of personal responsibility. Leadership qualities could be considered similar to those of self-efficacy. A person who perceives him or herself as capable of influencing social situations that could significantly affect his or her life may feel useful, competent, hopeful, and confident (Bandura, 1997).

However, our measures of Diversity and Civic Responsibility did not follow the same pattern for the whole sample. Noncurriculum students scored higher on Civic Responsibility on pre-test and did not decline as much as the curriculum students on the post-test. The nonsignificant finding with Civic Responsibility among curriculum students is an effect found in other studies. Though middle school students increased the level of their intent to be involved in community action in Lakin and Mahoney's (2006) study, no gains were demonstrated in the students' sense of Civic Responsibility. College students in a service-learning course held less favorable attitudes toward community service after taking the course than before (Parker-Gwin & Mabry, 1998). Lakin and Mahoney reported that changes in self-efficacy were not significant after middle school students participated in a service-learning program. Data suggesting no change or declines following involvement in a service-learning program could be explained in a variety of ways. Many of the studies cited had small samples, which could have affected the reliability of the measures or limited the power to detect program effects (Lakin & Mahoney, 2006). In addition, exposure to the realities of Civic Responsibility may have clarified the challenges and thus limited students' ideas of what is possible (Parker-Gwin & Mabry, 1998).

The grade differences deserve a brief discussion. The lack of effects with the seventh-grade students may speak to the different community problems addressed by the different classes. In addition, the quality of classroom environment clearly affects both student learning and development (e.g., Pianta & Hamre, 2009) and appeared to vary in this study. The fifth-grade curriculum may have been implemented in a more effective way. The grade differences found here may reflect any or all of these possibilities.

Because little empirical data are available for service-learning programs targeting middle school students (Celio & Durlak, 2008), these findings contribute to the literature on service-learning in this population, by demonstrating an effect on a relevant construct. By engaging in a service-learning curriculum, students may be insulating themselves from possible declines in Leadership, and Personal and Social Responsibility that may occur at this age. It is clear that early adolescence can represent a time of both risk and vulnerability (Carlo, Fabes, Laible, & Kupanoff, 1999; Chen, 1997; Larson, 2006). Declines in measured outcomes are not uncommon with young people in service-learning courses. Shirilla (2009) observed declines in both service-learning and control students, exemplifying the transitional nature of middle school years. Service-learning programs that engage youth with their peers around issues of leadership, responsibility, equity, and empathy may work as a protective factor for youth during this risky developmental stage.

The evidence that service-learning students score better than their non-service-learning peers is stronger with older students. College students in service-learning courses reported higher levels of community efficacy and community connectedness than non-service-learning students (Eyler, Giles, & Braxton, 1997), while students in high school and college, following a service-learning course, showed an increase in feeling personally responsible for their own lives and their communities, and felt a need to take personal action (Billig, 2000; Conrad & Hedin, 1982; Newmann & Rutter, 1983). For college students, involvement in a service-learning program demonstrated

significant positive effects on academic performance (GPA, writing skills, critical thinking skills), values (commitment to activism and to promoting racial understanding), self-efficacy, leadership (leadership activities, self-rated leadership ability), choice of a service career, and plans to participate in service after college (Astin et al., 2000). Turning to younger students, previous partnerships between universities and urban middle schools have resulted in the creation of successful service-learning programs (Soslau & Yost, 2007), although fewer data are available. Soslau and Yost (2007) noted that authentic instruction in the context of community events, much like what was done in this program, has the potential to lead students to understand the natural connections between classroom learning and their community service.

Limitations

Due to the pilot nature of this study, there were a few methodological limitations that should be resolved in a larger evaluation of the curriculum. First, the intervention was nested within classrooms, within schools. Learning environments and social processes may differ significantly per classroom and per school. Classroom climate has been found to affect learning in important ways (e.g., Pianta & Hamre, 2009). Subsequently, it is unclear how the results were influenced by these potential factors. Second, even though the sample size was larger than most in the service-learning literature, it was small compared with other program evaluation research. The sample size limited our power to look for moderators such as gender and grade. Future studies are needed to replicate our study with larger numbers of classrooms and schools. Questions about how service-learning affects girls differently from boys and how development through middle school affects this type of learning can then be better addressed.

Although this program was consistent with the amount of class periods used in other schools attempting service-learning courses, students may have benefited more from a longer program. Billig, Hofschire, Meyer, and Yamauchi (2006) suggested that service programs often have negligible effects if they involve less than 40 hours of student engagement. Thus, future programs could involve more active hours of service and related curriculum.

Another concern is that a ceiling effect may have limited our capacity to find significant improvements from pre- to post-testing on most of our measures with the curriculum group. An examination of pre-test means revealed that the means were close to the maximum possible of 4 points for Acceptance of Diversity, 5 points for Personal and Social Responsibility, and 6 points for Civic Responsibility. This ceiling effect was less pronounced on the Leadership scale, and this was the one measure that showed improved scores for the curriculum group. The participating curriculum and noncurriculum classrooms were part of Chicago public schools with more resources than most of the other schools in the district. In addition, the participating students were more often from middle-income homes. This demographic of students may have had more exposure to diversity training and lessons in Civic Responsibility than other students of the same age. One of our long-term goals is to implement this curriculum in schools with fewer resources and to students who live in low-income communities.

The ceiling effect may also be partially explained by social desirability, particularly with regard to the questions about diversity. When items on measures are as transparent in their purpose, as in this study, students may tend to reflect socially desirable traits rather than their actual attitudes (Plant & Devine, 1998). To address the potential effects of this issue in the future, measures that are less susceptible to a ceiling effect, as well as a Social Desirability Scale, could be included.

Conclusion

In conclusion, although the findings of past research in Service Learning and Civic Engagement has been promising for adolescents, the number of studies is limited. Inconsistency in program characteristics, inadequate reporting in the studies, and poor methodological rigor affect the confidence in the findings and the ability to establish a set of "best practices" (Celio et al., 2011). In responding to these issues, the current work provides an important model for service-learning curriculum development and evaluation with young adolescents.

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