

The Effectiveness of Service-Learning: It's Not Always What You Think

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Service-learning is a teaching strategy that offers students opportunities to learn both in the classroom and in the wider world. This pedagogical tool provides students with chances to directly interact with local agencies and effect change in the community. Thus, service-learning holds the potential to broaden and significantly enhance the learning climate for students. Based on an established theoretical model of academic motivation, the present study examined the effectiveness of service-learning to enhance the learning climate across a variety of academic disciplines. More than 600 students registered in service-learning courses from more than 30 different disciplines took part in the study. Results showed that when service-learning contributes to an enhancement of the positivity of the learning climate, then positive forms of motivation, civic skills, problem solving, and appreciation of diversity significantly increased over the course of the semester. Results also showed that type of involvement, amount of in-class discussion, and reflections are important factors contributing to the effectiveness of the service-learning environment.

Keywords: Service-Learning, Motivation, Civic Skills, Engagement, Self-Determination Theory

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Missouri State University (MSU) is a public-affairs university with a mission to produce citizens of enhanced character who are more sensitive to the needs of their community. At MSU, faculty members are encouraged to incorporate service-learning into their courses and to think of it as a teaching tool for engaging students in the learning process and developing them as educated citizens.

Several empirical sources substantiate this approach (Bringle, 2005; Delve, Mintz, & Stewart, 1991). For example, Bringle (2005) discussed service-learning as a type of intervention that enhances learning outcomes as well as civic engagement, volunteering, political participation, and intergroup relations in college students. Similarly, Reeb, Sammon, and Isackson (1999) found that college students enrolled in an abnormal psychology course with a service-learning component were more likely than traditional students to perceive themselves as developing greater social responsibility.

Service-learning is also a teaching strategy that offers students opportunities to learn both in the classroom and in the wider world (Berman, 2006). This educational practice provides students with chances to interact directly with local agencies and to effect change in the community. Thus, service-learning holds the potential to significantly enhance the learning climate for students. Typically, before implementing a service-learning project in a classroom, the instructor will carefully plan and think about the different aspects of the service-learning project and how the students will interact with the community partners. Berman (2006) outlined a few key elements that instructors need to consider when implementing their service-learning project and helping students gain a deeper understanding of the course content while impacting their community. For example, instructors need to think about aligning the goals of the course with the goals of the community partners. In addition, instructors must involve students in the decision-making process and craft creative activities that will foster students' reflection and self-evaluation. In short, to produce the level of reflection vital to the success of the service-learning experience, the course content and placements utilized must be clearly connected to the meaningful involvement of students at these placements (Berman, 2006).

It would thus appear that the success of service-learning projects and their ability to foster student engagement, learning, and civic development is in part determined by the presence of key elements in the

service-learning environment. We argue that the presence of these key elements would activate motivational processes in students that would lead to several desirable learning outcomes.

Levesque, Sell, and Zimmerman (2006) developed a model showing how different components of the learning environment could enhance or hinder the development of student motivation, their level of civic engagement, and student learning outcomes. In this model, components of the learning environment include the participants (students as well as the instructor), the context, the course content, the objectives of the class, and the strategies used to increase student learning. When the components of the learning environment are positive, then positive types of motivation are fostered. In contrast, when the components of the learning environment are negative, then negative types of motivation are expressed. The positivity of the learning environment is not assessed objectively, but depends on how it is perceived by students. Students' level of motivation will eventually be affected by the learning environment, and their perceptions of that environment will determine the effect on their level of motivation and, consequently, the learning outcomes.

The learning environment is usually perceived to be positive when it satisfies three basic psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 1985). These concepts and the following descriptions of the different forms of motivation are derived from Self-Determination Theory (Deci & Ryan, 1985).

Autonomy signifies choice, not independence. When the learning environment is positive, there tends to be built-in choices and options for students. For example, when instructors involve students in the decision-making process and craft creative activities, this creates choices for students, which then enhances students' perceptions of autonomy in the learning environment. In service-learning courses, choice can take the form of choice of sites (in component courses), negotiated choice of activities, and choice in content of reflection exercises (e.g., journaling). Competence is a sense of mastery that is provided by the learning environment and is probably the easiest to understand and define in a learning context. For example, in service-learning courses, students feel competent when they fulfill the organizational expectations and obtain positive feedback from clients. Finally, relatedness is a sense of connectedness provided by the learning environment. This could be connectedness with other students, the instructor, or in this special case, the community partners with whom the students collaborate. Attention to the connection between course content and students' placements will enhance students' perceptions of relatedness.

When the learning environment fulfills the basic needs of autonomy, competence, and relatedness, then self-determined or positive forms

of motivation are fostered. When it does not, then non-self-determined or negative forms of motivation tend to be expressed instead.

Self-determined or positive forms of motivation include intrinsic motivation, integration, and identification (see Figure 1). Intrinsic motivation represents the motivation that is activated when people are doing an activity simply for the pleasure of doing that activity. Integration represents the type of motivation that underlies behaviors that are performed because they are an integral part of who a person is. Identification represents behaviors that are performed because they are recognized as important and valued by the individuals. These three forms of motivation are self-determined because when performing behaviors with these underlying types of motivation individuals feel volitional.

Non-self-determined or negative forms of motivation include introjection, external regulation, and amotivation. Introjection is the motivation that underlies behaviors performed out of guilt or ego involvement. External regulation is the motivational type commonly referred to as extrinsic motivation. When behaviors are extrinsically motivated, they are performed to gain a reward or avoid a negative consequence. Finally, amotivation represents the absence of motivation. When behavior is amotivated it is done without a sense of purpose. Amotivation eventually leads to disengagement from the task and dropping out. These three forms of motivation are non-self-determined, because when performing behaviors with these underlying types of motivation, individuals feel pressured. All these forms of motivation can be aligned on a continuum in function of their underlying level of self-determination.

In our study, we hypothesized that service-learning classes would generally enhance the positivity of the learning climate such that the use

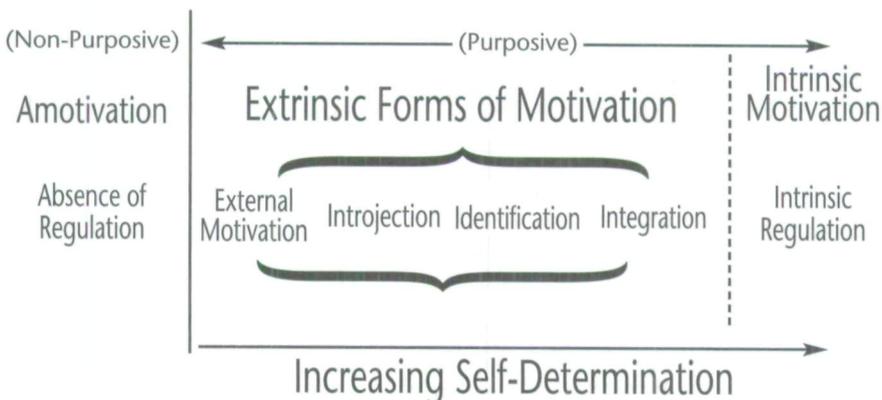


Figure 1. Continuum of self-determination.

of this technique would foster higher levels of autonomous forms of motivation, lower levels of controlled forms of motivation, and higher levels of civic skills throughout the semester.

However, this global effect would only be observed if service-learning contributes to the enhancement of the positivity of the learning climate. If it does not, this global effect should be weakened or may not emerge as significant. Therefore, as a secondary hypothesis, we expected the positive effects of the service-learning classroom environment to be observed only in the classes in which service-learning is perceived by students as contributing to the enhancement of the positivity of the learning environment.

In our study, we also tested a general model that built upon Self-Determination Theory by examining the proposed relationships between the positivity of the learning climate, the satisfaction of the basic psychological needs, the level of self-determination, and the civic skills outcomes. This theoretical model was then tested using Structural Equation Modeling. Structural Equation Modeling assesses the relationships between constructs while simultaneously controlling for the influence of all other constructs in the model. Globally, we used the theoretical model to assess the links between some important antecedents, motivational processes, and learning outcomes at play in service-learning. More specifically, we tested a model in which we first expected the positivity of the learning climate (the antecedent construct), as assessed with the Learning Climate Questionnaire (LCQ), to increase students' perceptions of autonomy, competence, and relatedness (the motivational constructs), as assessed with the Basic Needs Scale. Second, we expected the satisfaction of the basic needs of autonomy, competence, and relatedness to increase the level of self-determination or the positive forms of motivation for taking the service-learning class (the motivational constructs), as assessed with the State Academic Motivation Scale. Third, we expected self-determination to lead to greater levels of problem-solving skills, civic action skills, and diversity awareness (the learning outcomes), as assessed with the Civic Skills Scale. Finally, we tested the link that satisfaction of the basic need for autonomy will directly lead to increases in problem-solving skills, because providing more choices to students should directly lead to an increase in the ability to solve problems.

Method

Participants and Procedures

Undergraduate students enrolled in service-learning courses in the spring 2006 semester were invited to participate in this survey study. The Citizenship and Service-Learning office (CASL) at Missouri State University provided us with a list of instructors teaching service-learning classes

and their contact information. We then contacted these instructors and solicited their participation in the study. Service-learning at MSU is conducted in two ways—as Integrated Service-Learning (ISL) classes or as Component Service-Learning (CSL) classes. ISL classes incorporate 15-hour service projects into class requirements. All students perform services for one community partner or for a small number of community partners designated by the instructors. In this format, service-learning is a required part of the course and the service-learning activities are built into the regular class activities and class sessions. Students from 25 ISL courses from 17 academic disciplines were included in this study.

CSL courses consist of traditional three-credit-hour classes in which students may voluntarily enroll in an additional one-hour service-learning component. Typically, in CSL courses a relatively small number of students opt to participate in the related service-learning component course, and they choose the community agency from an extended list offered by the instructor or the CASL office. The service-learning activities are not fully integrated with the class activities. Students in 74 CSL classes representing 21 academic disciplines participated in this study. Overall, students enrolled in 99 classes from 31 different disciplines took part in this study. The 61 different instructors whose students participated in the study did not receive uniform training in service-learning practices. Service-learning educators have a wide range of experience, preparation, and academic background related to service-learning. Instructors have the academic freedom to structure and teach their classes as they see fit. Students participate in a variety of projects including, but not limited to, conducting research for not-for-profit organizations, conducting life reviews for clients, and participating in projects designed to enhance elementary students' literacy.

Prior to beginning service, 633 students completed a pen and paper survey. Of these students, 436 were registered in an ISL class and 197 students were registered in a CSL class. At the end of the spring semester, 341 students filled out a second survey. On this second survey, questions were added to measure the intensity and duration of service, the types of activities and diverse clientele that students worked with, the degree of integration of the service-learning experience with classroom activities, and the importance of reflection. A total of 220 students completed both surveys.

Instruments

The Learning Climate Questionnaire is a 15-item measure that assesses students' perceptions of the autonomy supportiveness of the instructor (Williams & Deci, 1996). Items are answered on a 7-point Likert-type scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Examples of items include: "I feel that my instructor provides me with choices and

options” and “My instructor conveys confidence in my ability to do well in the course.” The internal reliability of the scale was excellent ($\alpha = .96$).

The Basic Needs Scale is composed of 21 items designed to assess the three different basic psychological needs proposed by Self-Determination Theory: autonomy, competence, and relatedness (Deci & Ryan, 2000). In our study, we asked students to answer the questions in relation to their experience in the class. Autonomy was assessed with seven items (e.g., “I feel like I can make a lot of inputs in deciding how my work gets done”), competence was assessed with six items (e.g., “Most days I feel a sense of accomplishment from being in this class”), and relatedness was assessed with eight items (e.g., “I really like the people I interact with in this class”). The internal reliabilities of the three basic needs subscales were very good ($\alpha = .66, .71, \text{ and } .86$ for autonomy, competence, and relatedness, respectively).

The State Academic Motivation Scale was used to assess the six different levels and forms of motivation proposed by Self-Determination Theory (Deci & Ryan, 1985). The scale comprises 18 items, each assessing reasons for taking the class (Guay & Vallerand, 1997). Items are answered on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Examples of items include: “Because I really enjoy it” (intrinsic motivation); “Because it’s a sensible way to get meaningful experience” (identification); “Because I would feel bad if I didn’t” (introjections); and “Because that’s what I’m supposed to do” (external regulation). The internal reliabilities of the different motivational subscales were excellent (.91 for intrinsic motivation; .77 for integration; .84 for identification; .79 for introjections; .84 for external regulation; and .80 for amotivation). For purposes of testing the general Structural Equation Model (described previously), Self-Determination Indices (SDIs) were computed based on the relative level of self-determination underlying each one of the different forms of motivation. Because intrinsic motivation is the most self-determined or positive form of motivation, the items representing intrinsic motivation are given a weight of +3 in the construction of the SDIs. The items representing integration are given a weight of +2 because integration is next to intrinsic motivation on the continuum of self-determination (see Figure 1). The items representing identification are given a weight of +1 because identification is still a self-determined or positive form of motivation. Introjection is the first form of motivation on the continuum that is non-self-determined or negative; therefore, the items representing introjections are given a weight of -1 in the construction of the SDIs. External regulation is the next non-self-determined or negative form of motivation, thus the items representing external regulation are given a weight of -2. Finally, because amotivation is the absence of self-determination, the items representing amotivation are given a weight of -3 in the

construction of the SDIs. Taking one item from each type of motivation, the SDIs were computed in the following way:

$$SDI_1 = (3*IM) + (2*INTEG) + (IDEN) - (INTRO) - (2*ER) - (3*AMO)$$

The Civic Skills Scale is a 31-item scale that was adapted from the Civic Attitudes and Skills Questionnaire developed by researchers at Tulane University (Moely, Mercer, Ilustre, Miron, & McFarland, 2002). It is comprised of six subscales: social justice, civic action, political awareness, diversity, problem solving, and leadership. In our study, we only used three of the six subscales: civic action (e.g., "I plan to become an active member of my community"), diversity (e.g., "Cultural diversity within a group makes the group more interesting and effective"), and problem solving (e.g., "I try to find effective ways of solving problems"). The leadership subscale was found to have low internal reliability in preliminary analyses, and the other subscales were used as part of another study. The internal reliabilities of the three subscales used in the present study were adequate: .66 for diversity, .81 for problem solving, and .89 for civic action.

Results

Overall, aggregate results for the entire sample did not support the global hypothesis of the positive impact of service-learning. For the entire heterogeneous sample, there were no overall significant increases in any of the autonomous forms of motivation (intrinsic, integration, and identification) and no significant decreases in the non-autonomous forms of motivation (introjection, external regulation, and amotivation) from the beginning to the end of the semester. In fact introjection significantly increased over the course of the semester ($M_1 = 1.84$ and $M_2 = 2.14$, $p < .01$) as well as amotivation ($M_1 = 1.47$ and $M_2 = 1.72$, $p < .01$). Similarly, no gains were showed in civic skills over the course of the semester.

Aggregate results, which show that across-the-board service-learning did not have the expected positive effects on students from the beginning to the end of the semester, may be misleading. As discussed in the introduction, the ways in which the service-learning courses were administered and conducted certainly contributed to the effects on the motivation and learning outcomes of the students. Across the nearly 100 courses in which students were enrolled, the *application* of that variable differed substantially and was not controlled by the experimenters. In other words, the learning climate created in each of the different service-learning sections varied widely. The "no effect" outcomes may result from this heterogeneity of operationalization and application of service-learning as a teaching tool. When the learning climate variable was correlated with the motivational outcomes and the components of the Civic

Skills Scale, correlations were significant and in the predicted direction, as shown in Table 1.

Table 1
Correlation Among All Variables at Time 2

	1	2	3	4	5	6	7	8	9	10
(1) LCQ	—									
(2) IM	.53**	—								
(3) Integ.	.48**	.62**	—							
(4) Iden.	.56**	.73*	.75**	—						
(5) Intro.	-.11*	-.03	-.06	-.08	—					
(6) Exter.	-.05	-.22**	-.12*	-.14**	.29**	—				
(7) Amo.	-.43**	-.44**	-.38**	-.48**	.43**	.24**	—			
(8) Prob. solv.	.35**	.26**	.43**	.38**	-.08	.00	-.26**	—		
(9) Civic	.33**	.30**	.42**	.37**	-.09	-.08	-.22**	.59**	—	
(10) Diverse	.32**	.19**	.34**	.23**	-.19**	-.11*	-.24**	.38**	.39**	—

Note. 1 = Learning Climate Questionnaire; 2 = intrinsic motivation; 3 = integration; 4 = identification; 5 = introjection; 6 = external regulation; 7 = amotivation; 8 = problem solving; 9 = civic action; 10 = diversity.

* $p < .05$. ** $p < .01$.

This suggests that in classes where service-learning enhances the learning environment, motivation and civic skills can be positively affected. We then moved on to test our secondary hypothesis, which was that the positive effects of the service-learning classroom environment would only be observed in the classes in which service-learning is perceived by students as contributing to the enhancement of the positivity of the learning environment.

To test this assumption, we randomly selected a class in which the learning environment was perceived to be positive, as evidenced by an increase in the Learning Climate Questionnaire score from Time 1 to Time 2. In this class we expected to observe the predicted increases in levels of motivation and civic skills from the beginning to the end of the semester. We also randomly selected a class in which the learning environment was perceived to be negative, as evidenced by a decrease in the Learning Climate Questionnaire score from Time 1 to Time 2. In contrast to the other class, in this class we expected to observe no positive effects on levels of motivation and civic skills.

Tables 2 and 3 display our findings. When the service-learning environment enhanced the positivity of the learning climate, then the positive forms of motivation significantly increased and external regulation decreased over the course of the semester. In addition, civic skills also significantly increased (see Table 2). In contrast, when the service-

learning environment was detrimental to students' perceptions of the learning climate, then the positive forms of motivation decreased and the negative forms of motivation increased over the course of the semester. In addition, civic skills significantly decreased (see Table 3).

Table 2
Service-Learning Class With Increase in LCQ Score From Time 1 to Time 2

	Time 1	Time 2
LCQ mean score	4.86	6.03**
AMS—Amotivation	1.47	1.70
AMS—External regulation	5.19	4.85*
AMS—Introjection	1.44	1.75
AMS—Identification	4.39	4.92*
AMS—Integration	4.68	5.06*
AMS—Intrinsic motivation	3.77	4.40*
Civic action	3.88	4.32*

Note. Significant differences between Time 1 and Time 2 are two-tailed: * $p < .05$, ** $p < .01$. LCQ = Learning Climate Questionnaire, based on 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*); AMS = Academic Motivation Scale, based on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Social justice, civic action, and political awareness were assessed on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Table 3
Service-Learning Class With Decrease in LCQ Score From Time 1 to Time 2

	Time 1	Time 2
LCQ mean score	5.34	4.88**
AMS—Amotivation	1.45	1.83**
AMS—External regulation	4.11	4.92*
AMS—Introjection	2.08	2.26*
AMS—Identification	5.81	5.33**
AMS—Integration	5.39	5.10**
AMS—Intrinsic motivation	5.43	4.86**
Civic action	3.88	3.88

Note. Significant differences between Time 1 and Time 2 are two-tailed: * $p < .05$, ** $p < .01$. LCQ = Learning Climate Questionnaire, based on 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*); AMS = Academic Motivation Scale, based on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Social justice, civic action, and political awareness were assessed on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

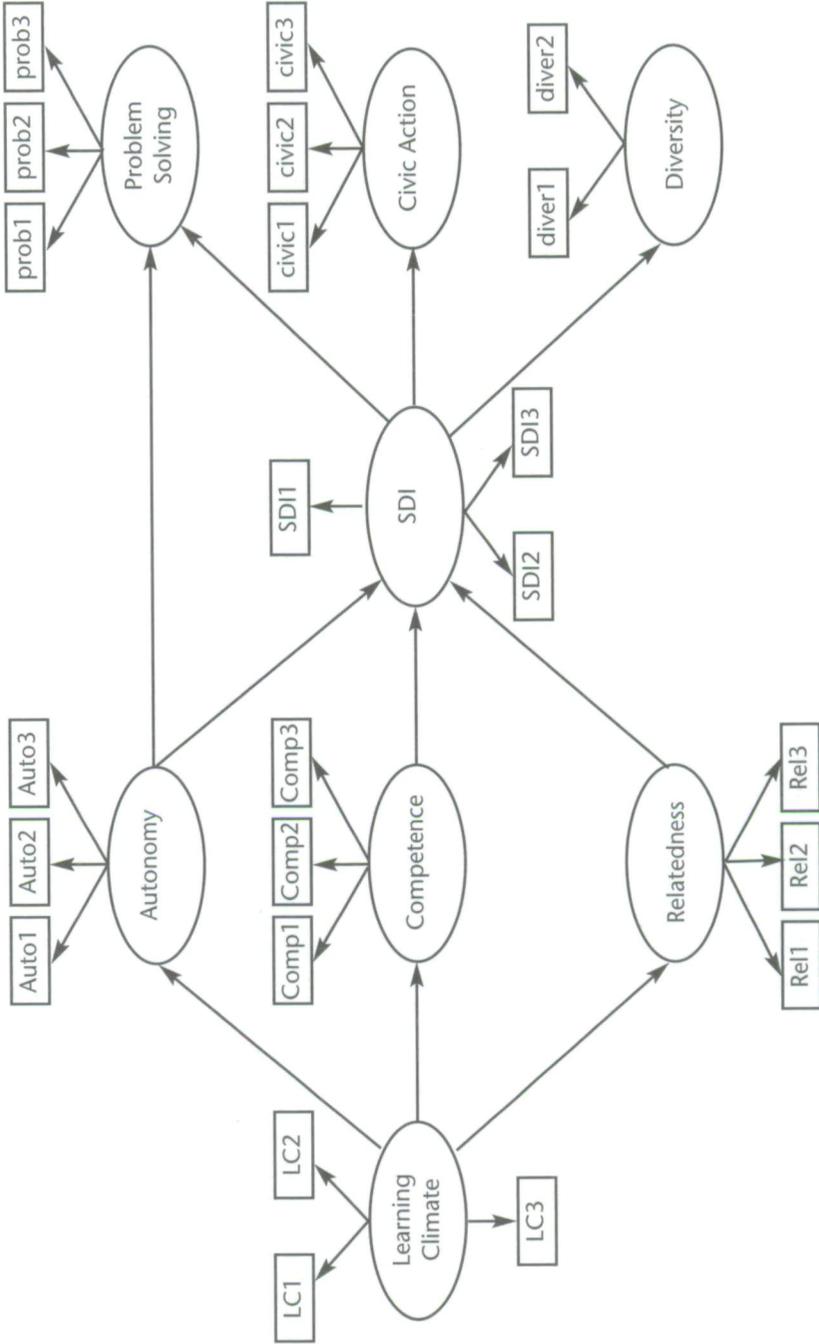


Figure 2. Hypothesized model.

Note. SDI = Self-Determination Index.

To more broadly assess the relationships between the learning climate, the motivational variables, and the civic skills outcomes, we tested a general Structural Equation Model. Structural Equation Models are based on variance and covariance matrices estimation where all variables of interest in the model are evaluated simultaneously (Byrne, 1998). The hypothesized model tested is presented in Figure 2.

We hypothesized that the autonomy supportiveness of the learning climate would be positively associated with the basic needs of autonomy, competence, and relatedness. In turn the basic psychological needs would be positively associated with the level of self-determination toward school. Finally, increased levels of self-determination would be positively associated with problem-solving skills, civic action, and diversity.

The test of the hypothesized model showed that the general Structural Equation Model was excellent, $\chi^2(217) = 626.50, p < .001$; CFI = .97; IFI = .97; GFI = .86; RMSEA = .078 as indicated by the CFI and the IFI over .90 and the RMSEA under .10. The standardized regression coefficients are presented in Figure 3. As seen in this figure, the regression links in the hypothesized model were generally supported. Significant positive relationships were found between the learning climate and the three basic psychological needs of autonomy, competence, and relatedness. In turn, only competence was directly associated with the level of self-determination in school, when we hypothesized that all three basic psychological needs would show positive relationships with self-determination. As predicted, self-determination in service-learning classes was then positively associated with problem-solving skills, civic action, and diversity. In addition, autonomy was also directly associated with problem-solving skills in students.

We then examined the components of service-learning that could help explain the positive impact of service-learning on the learning climate. What are the essential components necessary to create a service-learning environment that would be perceived as positive?

Components of Service-Learning

Type of involvement with the target population. When students were directly involved with the people receiving the services ($N = 133$) compared to when they were indirectly involved through special projects for the group ($N = 110$), they perceived the learning environment to be significantly more positive. Consequently, students who were directly involved also reported higher levels of need satisfaction in the forms of greater autonomy, competence, and relatedness. Students who were directly involved compared to those who were only indirectly involved also reported higher levels of intrinsic motivation, integration, and identification; that is, they scored significantly higher on all the

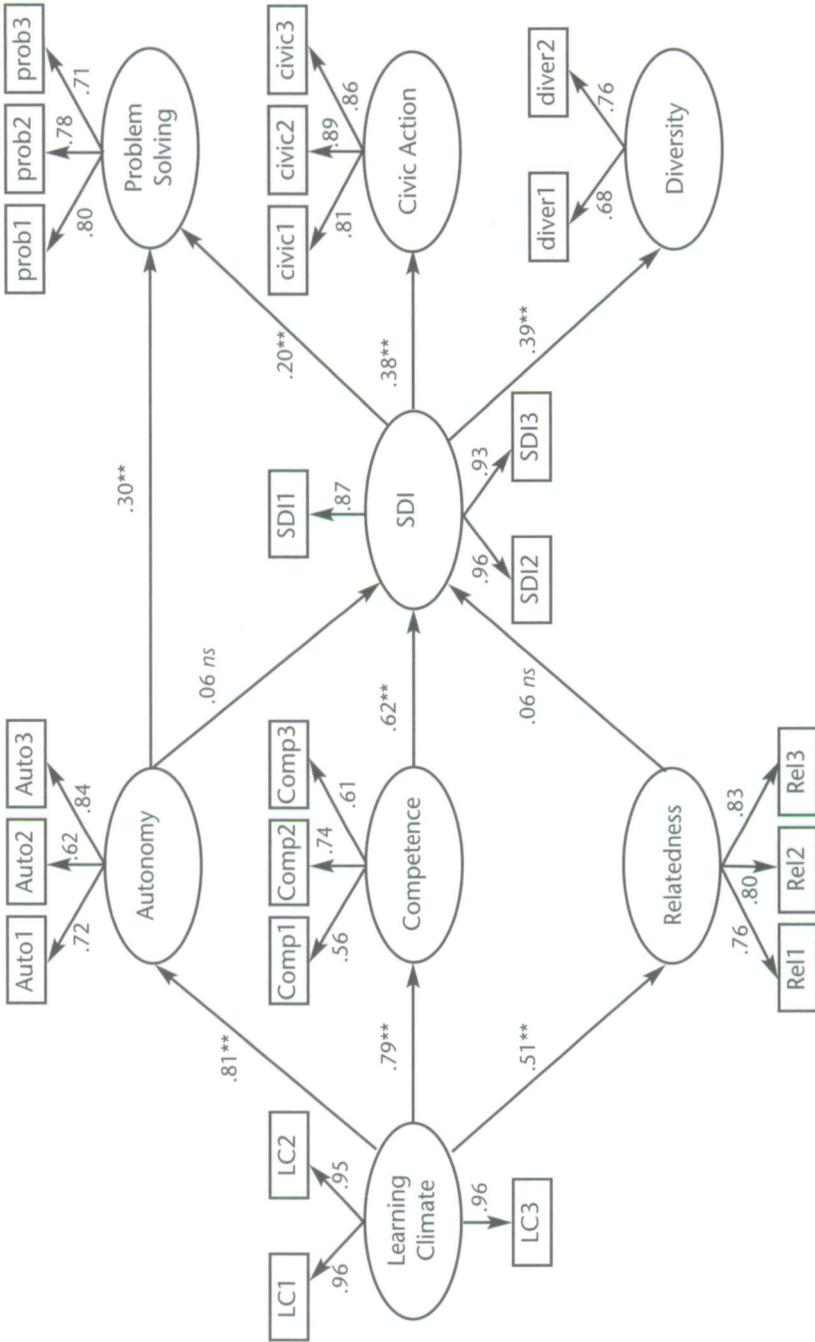


Figure 3. Hypothesized model with standardized regression coefficients.

Note. SDI = Self-Determination Index. * $p < .05$. ** $p < .01$. ns = non-significant.

self-determined forms of motivation. In addition, students who were directly involved scored significantly higher on the Civic Skills Scale.

Amount of in-class discussion. Students who often had the opportunity to discuss their service-learning experience in class perceived the learning climate as more positive than students who only rarely discussed their experiences. Consequently, they also reported higher levels of need satisfaction in class. In addition, students who were given the opportunity to discuss their experience had higher levels of problem-solving skills than students who were given this opportunity only rarely.

Importance of reflection in journals and assignments. Students who were in service-learning courses in which the importance of reflection in journals and assignments was emphasized perceived the learning climate as more positive compared to students for whom the importance of reflections was not emphasized. Consequently, when reflections were emphasized, students felt a greater sense of autonomy, competence, and relatedness compared to students for whom reflections were not emphasized. In addition, they scored higher on perceptions of diversity, problem solving, and civic action.

Discussion

The results of the present study strongly suggest that when evaluating the effectiveness of service-learning as a teaching tool, it is very important to examine the factors in the application of service-learning that enhance the learning environment and thus lead to desirable educational outcomes. One of these factors seems to be the presence of an environment that supports autonomy. As shown in Table 1, autonomy supportiveness, as measured by the positivity of the learning environment, was significantly and positively associated with self-determined forms of motivation, such as intrinsic, integration, and identification motivation, as well as with civic skills, such as problem solving, civic action, and diversity. In a classroom in which the learning environment was perceived to be positive, throughout the semester we observed an increase in levels of motivation and civic skills and a decrease in external forms of regulation. In a classroom where students perceived a negative learning environment, no beneficial changes in motivation and civic skills occurred (see Tables 2 and 3).

Our conclusions are also founded on results from a theoretically based Structural Equation Model of motivation in a sample of nearly 100 service-learning courses spanning more than 30 disciplines. In this model, we found that the autonomy supportiveness of the learning environment was positively associated with the satisfaction of the basic psychological needs of autonomy, competence, and relatedness. In turn, the satisfaction

of the need for competence in class was associated with an increase in self-determination toward the service-learning class, which was then associated with an increase in problem-solving skills, civic action, and understanding of diversity. The satisfaction of the need for autonomy was also directly associated with an increase in problem-solving skills in students.

Our results also suggest that other components seem to be essential for the effectiveness of service-learning. In our study, direct student involvement with people receiving the service was found to enhance the effectiveness of service-learning possibly because students felt they were making a difference, experienced greater relatedness, and had more vivid experiences to take back to the classroom. In addition, in our study, the amount of class time spent discussing the service-learning projects also contributed to the enhancement of the service-learning experience. Using class time for this purpose may help validate the importance of the out-of-class activity and may offer students an opportunity to connect course material to their experiences in the community, thus increasing their levels of competence and relatedness. Finally, in our study, students for whom reflections in journals and in-class discussions were emphasized reported greater positive outcomes from the service-learning experience. This also may help validate the importance of student perceptions of the service-learning experience and their involvement as partners in the educational enterprise, thus increasing their sense of autonomy, competence, and relatedness.

Given the results of the present study and its implications, we offer several suggestions to increase the effectiveness of service-learning practices. First, it would seem important to work on enhancing the satisfaction of students' basic needs of autonomy, competence, and relatedness. In addition to satisfying the need for competence by providing skills training for students, enhancing the need of autonomy can be accomplished by offering choices and options to students, thus allowing them opportunities to take ownership of their learning experience. Choice of sites, choice of projects for the different sites, and choice of tasks to work on within the projects would all be effective ways to increase a sense of autonomy in one's learning. Relatedness could be satisfied through student journaling, which would establish a "journal dialogue" as the instructor makes substantive comments on the students' submissions and engages the students in a conversation to increase their sense of relatedness. In addition, relatedness would be enhanced by cultivating a sense of connectedness among group members and between students and the community partners or the clients served. It is our recommendation that community sites be thoroughly researched by the faculty members or service-learning staff on campus to offer the best experience possible for students.

For example, one of the authors of the present paper learned from experience that it is not advisable to have students work with "hardened offenders" or very seriously mentally ill clients. The students in this class worked at a local mental health agency in a program for juvenile males who had committed serious sexual offenses. The juveniles had also been victims of child abuse or neglect themselves. The service-learning students involved in this project were mainly supervising and monitoring the boys, and they were not able to develop close relationships with any of the juvenile offenders. In addition, the professional staff at the mental health agency did not accept the students as colleagues, thus the students experienced very little autonomy or relatedness with either the staff or the offenders.

In contrast, the same author found that when service-learning students have the opportunity to volunteer at an organization where they can develop a greater sense of autonomy and relatedness, the experience is much more satisfying. For example, some students volunteered at a group home for juvenile boys who had been convicted of minor offenses, such as drug possession or stealing. The service-learning students engaged in a range of activities from sports to the creation of musical "raps." In addition, there were group discussion sessions in which all boys and available staff, including the service-learning students, participated. The service-learning students' views were appreciated and considered, and consequently they felt accepted as important participants by the staff of the group home. These students felt that they had helped the boys (competence), had considerable influence in hosting activities and in deciding which individual they worked with (autonomy), and were well integrated into the group (relatedness).

In sum, the present study offered some insights into the components that enhance the effectiveness of service-learning across a variety of service-learning courses from a number of disciplines. It is not only the technique of service-learning per se that leads to positive motivational and learning outcomes in our students, but also it is the way in which it is used and the nature of the environment that is created around the technique that makes it an effective learning context.

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