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Perspectives from Europe

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The Impact of Service-Learning on Secondary School Students' Social and Civic Competencies, and Engagement and Motivation in School

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Abstract
This study investigated the impact of the service-learning PLACE model on the social and civic competencies, and motivation and engagement in secondary school students. The methodological design was quasi-experimental with a nonequivalent control group. With the data collected from 232 secondary school students from five European countries, the following hypothesis was tested: students who engage in service-learning will have more developed social and civic competencies, higher motivation and engagement in school, and a lower tendency to drop out. Before and after the intervention, the measurement showed statistically significant differences between the groups in several traits and attributes related to social competency measures, social responsibility, personal values, academic perseverance, learning mindset, and overall student engagement and motivation. The results confirmed that service-learning can work effectively on social and civic competencies, to prevent social exclusion risks.

Keywords: *civic competences, dropout, secondary school students, service-learning, social competences*

El impacto del aprendizaje-servicio en las competencias sociales y cívicas de los estudiantes de secundaria, así como en el compromiso y la motivación en la escuela

Perspectivas desde Europa

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Resumen
"Este estudio investigó el impacto del modelo PLACE de aprendizaje-servicio en las competencias sociales y cívicas, así como en la motivación y el compromiso con el centro educativo de estudiantes de educación secundaria. El diseño metodológico fue cuasi-experimental con un grupo de control no equivalente. Con los datos recopilados de 232 estudiantes de educación secundaria de cinco países europeos, se contrastó la siguiente hipótesis: los estudiantes que participan en el aprendizaje-servicio tendrán un mayor desarrollo de sus competencias sociales y cívicas, mayor motivación y compromiso con el centro educativo y una menor tendencia al abandono escolar. Antes y después de la intervención, se identificaron diferencias estadísticamente significativas entre los grupos en varios rasgos y atributos relacionados con las medidas de competencia social, responsabilidad social, valores personales, perseverancia académica, mentalidad de aprendizaje y compromiso y motivación general de los estudiantes. Los resultados confirmaron que el aprendizaje-servicio puede mejorar eficazmente las competencias sociales y cívicas, para prevenir los riesgos de exclusión social."

Palabras clave: *competencias cívicas, abandono escolar, estudiantes de secundaria, aprendizaje-servicio, competencias sociales*

Editors' Note: Translation provided by ***Jose L. Arco-Tirado and Francisco D. Fernández-Martín***
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As stated by the European Commission (2015), secondary education gives young people the essential knowledge and skills needed to start their careers successfully. The skills and competencies gained in high school equip young people with the necessary tools to navigate life, helping them realize their potential and become engaged, productive members of society. The proportion of people not in employment, education, or training (NEET) is negatively correlated with the skill levels of young people (Organisation for Economic Cooperation and Development, 2012). The "Education and Training in the European Union—Facts and Figures" report, published by Eurostat (2023), identified an average of 9.6% of early leavers from education and training within the EU. However, there were differences between the member states, gender, and young people living in areas with different degrees of urbanization. It is well documented that early leaving from education and training leads to reduced employment opportunities and increased likelihood of unemployment, poverty, and social exclusion (Organisation for Economic Cooperation and Development, 2012). The prevailing understanding of the impact of early school leaving on both society and individuals has prompted policymakers to devise interventions. In 2021, the European Union established a target, mandating that the proportion of early school leavers should not exceed 9% by 2030 (Council of the European Union, 2021). Achieving this objective poses significant challenges due to the multifaceted nature of early school leaving, which stems from personal, social, economic, educational, and familial factors. Various research reports such as Eurydice, the European Commission/EACEA/Eurydice/Cedefop (2014) report, and Brunello and Paola (2014) have highlighted numerous school-level factors that can contribute to the prevention of school dropout, including school and classroom practices, teaching content and structure, teachers' attitudes and styles, engagement in high-quality preschool programs and effective management of the transition from elementary to secondary education. Service-learning, an educational strategy gaining traction across the European Union, shows promise in addressing various academic challenges, inspiring educators to explore its potential in their own practices.

Service-learning, its theoretical underpinnings, and its practical applications has seen a significant interest over the past two decades as a realization that standard, mainstream educational pedagogies struggle to capture the teaching and learning needs of a considerable group of young students. Scales et al. (2000) propose that service-learning is believed to effectively address the developmental needs of young adolescents by enabling them to take on meaningful roles that help foster a sense of value, competence, and connection to others. They further suggest that for numerous young students, the shift to middle school can be challenging, potentially leading to declines in self-confidence, positive school engagement and motivation, and perceived academic abilities. Service-learning may be particularly appropriate for the developmental needs of young adolescents and could help sustain or enhance their academic engagement and self-assurance (Scales & Roehlkepartain, 2005). In particular, service-learning complements existing strategies to target young learners struggling to regulate the typical stress accompanying formal examinations and terminal exams (Vestad et al., 2022). At its core is the premise that learning opportunities that align with prescribed learning outcomes exist in scenarios and situations outside the traditional classroom where nontraditional methodologies can be used to attain desired results. There is an inherent risk in adopting new approaches to teaching and learning that propose non-traditional methods, in that they can intuitively appear to have credibility and validity, as they appeal to such a significant group of learners and their teachers. Education determines life satisfaction across job opportunities, healthy living, and life expectancy (The United Nations Educational, Scientific and Cultural Organization, 2020). Educators, policymakers, social scientists, and politicians desire that no one is left behind, given the impact that primary and secondary education can have on students' lives. It behooves researchers to critically examine and methodically test the parts of any new departure from traditional educational approaches to ensure that those who are often vulnerable entering the education system are not further discriminated against by being exposed to flawed pedagogy, dubious interventions, or unchecked assertions.

Service-learning programs have rapidly progressed at the primary and secondary education level, especially in North America (Arrington, 2010; Billig, 2000; Fair & Delaplane, 2015), with the result that much of the existing empirical literature pertains to the United States, where there has also been a longer

tradition of testing the validity of service-learning and examining its impact (Filges et al., 2022). However, most service-learning research has been geared toward universities and colleges. A meta-analysis by Celio et al. (2011) revealed that only 4.6% of the sample included elementary and middle school students. Filges et al. (2022) present a systematic review of research in which authors searched for studies covering service-learning outcomes for primary and secondary school students. They ultimately analyzed only 10 studies that met the criteria for review, producing inconclusive evidence. The authors concluded that the current research landscape on service-learning in primary and secondary education has yet to be thoroughly evaluated.

Furco (2010) states that service-learning is one of the fastest-growing educational initiatives in contemporary primary, secondary, and post-secondary education. In Europe, service-learning is mainly found in university-level education; however, in recent years, examples of service-learning have developed at primary and secondary school levels (e.g., Spain, Netherlands, Germany, Ireland, Bosnia and Herzegovina, Romania). In several European countries, non-profit organizations have programs dedicated to providing support for the development of service-learning in schools, for example, Lernen durch Engagement in Germany, Center for Frivilligt Socialt Arbejde in Denmark, Noi-Horizonturi in Romania, Central and Eastern European Service-Learning Network. Our study is one step in addressing the paucity of research-informed knowledge in the European evidence base.

Overall, the available literature highlights positive results for service-learning initiatives (Celio et al., 2011; Newman et al., 2015; Warren, 2012). However, a more recent review by Filges et al. (2022) cautions against over-optimism based on their inconclusive evidence for significant change in those who engage in service-learning projects. It is evident, therefore, that policymakers and practitioners in this area must continue to explore and test the validity of service-learning to better understand what works and what does not work.

Service-learning as a strategy for mitigating school dropout primarily centers on socioemotional competence, civic attitudes, civic skills, and student motivation and engagement in school. Service-learning aims to facilitate active, authentic learning experiences and is positioned as a preventive measure against school dropout. Furco (2007) asserts that while service-learning may not consistently yield a direct impact on academic performance, it holds considerable potential for nurturing student development in areas that indirectly influence educational achievement and school success, thereby reducing the likelihood of dropout. Research on service-learning is increasingly shifting from assessing direct outcomes like graduation rates to exploring indirect effects—particularly personal and social outcomes—to elucidate the link between service-learning, and student success. In this study, we will focus on the impact of service-learning on social and civic competencies, motivation and engagement in schools, and intention to drop out in five European Countries involved in testing the service-learning implemented in an intervention called the PLACE model.

Service-Learning PLACE Model

The service-learning PLACE model was developed within the Erasmus+ Project, "SLUSIK: Service-Learning Upscaling Social Inclusion for Kids." The overall aim of the project was to promote and support social inclusion among school leavers. The PLACE model focuses on enabling secondary school youth to acquire social and civic competencies, fostering knowledge and ownership of values and fundamental rights. The PLACE model was implemented in five European countries—Spain, Austria, Slovakia, Croatia, and Ireland in selected secondary schools from September 2021 to June 2022. The scope and size of the PLACE model implemented in each location varied. It had different lengths and themes (e.g., environment or social justice), and service-learning projects responded to a specific localized need.

The service-learning PLACE model facilitated collaboration between secondary schools, universities, and communities by engaging university students as role models in projects developed in secondary schools and facilitated by universities. The model was implemented in five stages, described in detail in the Toolkit "Service-Learning Upscaling Social Inclusion for Kids" and presented briefly below:

1. *Preparation*: Secondary school teachers and university students worked together to prepare and design the service-learning experience.
2. *Link*: This stage focused on connecting students with community partners, role models, and each other. It involved choosing community needs or activities that supported student learning goals and establishing clear participant roles.
3. *Action*: Students linked their learning to real-world issues and developed their ideas with community partners. This enabled them to apply their knowledge to address problems and opportunities, fostering responsible behaviors toward the community. The action stage also reflected on what was done and what students learned from the experience.
4. *Celebrate*: Students presented the impact of their work at a public event for community partners, friends, families, and policymakers.
5. *Effect*: When the student projects were completed, they could apply formal and informal learning, recognize the mutual benefits, and contribute to the community (Centre for European Volunteering, 2022).

Literature Review

Several investigations of service-learning at the secondary school level have emerged in recent years, mainly in the United States. Research into high-quality service-learning programs at the secondary level in Europe remains in its infancy. Despite this, service-learning has enormous potential in the secondary school years for the development of social and civic competencies, and the motivation and engagement of students.

Service-Learning and Outcomes in Social Competencies

Social competencies are closely connected with student success. The American Psychological Association Dictionary of Psychology (American Psychological Association, n.d.) defines social competence as effectiveness or skill in interpersonal relations and social situations, which is increasingly considered an essential component of mental health. Social competence is an individual's ability to navigate social situations and relationships effectively. It encompasses a range of skills, including emotional regulation, communication, empathy, and social problem-solving (Semrud-Clikeman, 2007). It includes the skills needed to recognize the emotions and intentions of others, as well as the ability to select appropriate social behaviors based on the context. Social competence is closely related and can be measured using the trait of emotional intelligence, a constellation of emotional perceptions assessed through questionnaires and rating scales (Petrides et al., 2007). According to Chiva-Bartoll et al. (2020), the existing literature has limited reporting on the impacts of service-learning on associated emotional and social factors. In this sense, the promising results in extant studies suggest that service-learning can provide the real-life practice that is necessary to reinforce social and emotional skills and competencies learned through the classroom (Dymnicki et al., 2013; Felten et al., 2006; Hegarty & Angelidis, 2015). As stated by Rimm-Kaufman et al. (2021), service-learning necessitates collaboration with peers and community members, requiring students to develop proficiency in social skills. Essential relationship skills, such as active listening, cooperation, constructive conflict resolution, and social awareness skills, including perspective-taking and empathy, enable students to work effectively with individuals holding diverse viewpoints. Given the inherent challenges of collaborative work, students must cultivate self-awareness and emotional regulation to navigate frustrations and progress toward their goals. Through service-learning projects, students can learn how to work effectively together to solve problems, improve their leadership skills, develop empathy, altruism, and understanding for others, and build critical social-emotional skills that will help them succeed in school and beyond (Chung & McBride, 2015; Farber & Bishop, 2018; Gutzweiler et al., 2022; Richards et al., 2013; Terry & Bohnenberger, 2004; Yusop & Correia, 2013).

Service-Learning and Outcomes in Civic Competencies

Fostering civic skills and knowledge has emerged as a critical priority in the education policies of the European Union. Member countries have agreed that this competence is one of the eight core competencies necessary for economic success in Europe and greater social inclusion (Education Council, 2006). The 2007 Council conclusions on "A Coherent Framework of Indicators and Benchmarks" (Education Council, 2007) identified that civic competence—the individual learning outcomes required for active citizenship—should become one of the 16 indicators to measure progress in education and training. Civic competence is the knowledge, skills, and dispositions required for active citizenship and social participation (Brennan & Railey, 2017). It includes understanding civic institutions and processes, analyzing and addressing societal issues, and committing to democratic values such as fairness and equality. This denotes the personal learning objectives necessary for engaged citizenship, encompassing the knowledge, abilities, and mindset essential for being a well-informed and active member of one's community (Tedeschi et al., 2021). The civic effects of service-learning are well documented. Service-learning facilitates students to gain hands-on experience with community service while deepening their understanding of the needs and challenges of their community. In addition, service-learning can also increase students' awareness and understanding of political and social issues and encourage them to take an active role in shaping their community. By learning how to effect positive change in their societies, students can also strengthen their skills and confidence and develop a deeper understanding of how they can effect positive social change as active citizens (Aslanargun, 2012). A small number of studies highlight that elementary and middle school students involved in service-learning showed more civic responsibility compared with peers not involved in it (Billig, 2000; Johnson & Notah, 1999; Stephens, 1995). In a comprehensive study across middle schools, Scales et al. (2000) reported that service-learning students maintained their concern for others' social welfare throughout the school year, and notably enhanced their belief in the effectiveness of their helping actions compared to control groups. Hart and Wandeler (2018) suggested that service-learning initiatives could bolster middle school students' civic commitment and competence, mainly through direct interactions with community members. Beyond the confines of the school, direct engagement with the community has been associated with advancements in civic competence. Service-learning implies cooperation and cohesion, generates the opportunity to be responsible, and creates a space for collaboration where everybody offers and receives something of value (Chiva-Bartoll et al., 2020). Service-learning has proven to be one method of reigniting community engagement behavior in today's youth. It is a way to help children learn to change their communities while giving them the skills and materials to do so (Shiller, 2013). Notably, service-learning exhibits significant potential to augment civic efficacy, commitment, and engagement among students in general (Díaz et al., 2019).

Students' Engagement and Motivation in School and Service-Learning

Students' "engagement in school and motivation" refers to the extent to which students are invested in their educational experiences and motivated to finish their studies. Low levels of engagement and motivation can lead to poor academic performance and an increased risk of dropping out. Students' engagement in school and motivation to finish their studies refers to their level of interest, involvement, and commitment to their academic work (Bridgeland et al., 2006). High engagement and motivation are associated with positive academic outcomes such as higher achievement, lower dropout rates, and greater post-secondary education attainment. Overall, service-learning can help provide a comprehensive educational experience beyond classroom learning and help students gain essential skills and experiences that will help them succeed in school and beyond (Hutchinson, 2011; Jacoby, 2014; Marttinen et al., 2020). Service-learning, by connecting education to real-world issues and allowing students to address problems they identify, may be particularly efficacious as it increases engagement and motivates students, particularly students who might not respond well to more traditional teaching methods (Bridgeland et al., 2008; Kraft & Wheeler, 2003; Scales & Roehlkepartain, 2005). According to the National Commission on Service-Learning in the United States (2002), students who participate in service-learning become more engaged in their education, as they can take ownership of their learning process. Eccles et al. (1984) found that students showed greater motivation when involved in service-learning because of their control over their education. Several studies

showed that service-learning could change perceptions toward educational institutions (Corbatón et al., 2015; Li et al., 2019; Zucchero & Gibson, 2019). Both students and teachers have a more positive image of the school, consider it a place for participation and active learning, and see it as closely related to the community (Chiva-Bartoll et al., 2020). Puig et al. (2011) state that service-learning reinforces the feeling of belonging and cohesion of individuals living in the same region and favors positive attitudes and feelings toward the environment. Research also shows that service-learning may increase students' motivation and academic commitment (Corbatón et al., 2015; Chiva-Bartoll et al., 2020).

Although research evidence exists on service-learning outcomes related to the development of social and civic competencies, engagement, and motivation in schools, studies have yet to examine them at the secondary education level in the European context. Therefore, the main aim of this study is to analyze the impact of service-learning on social and civic competencies and engagement in schools of secondary education students in five European countries. The study aimed to test the following hypothesis: *Students who engage in service-learning will have more developed social and civic competencies, higher motivation and engagement in school, and a lower tendency to drop out.*

Methods

Participants

The research sample consisted of a total of 232 secondary school students ($N = 232$; $Am_{age} = 13.7$; $SD_{age} = .3$; Male 47.4%), of which the experimental group included 138 respondents ($N = 138$; $Am_{age} = 13.8$; $SD_{age} = 1.3$; Male 39.8%) and the control group consisted of 94 respondents ($N = 94$; $Am_{age} = 13.5$; $SD_{age} = .7$; Male 57.4%). Respondents were from five European countries: Spain ($N = 57$), Austria ($N = 59$), Ireland ($N = 28$), Slovakia ($N = 59$), and Croatia ($N = 29$). The experimental group of students participated in each country; the control group is missing in Ireland because of legal barriers pertaining to child welfare regulations. The control group comprises students from the same secondary schools as the experimental group. During the same period, control group participants did not experience service-learning but did experience traditional teaching methods in the different subjects involved. Most students came from public schools (75.86%), 12.93% from private schools and 11.21% from religious schools. The sample selection procedure was based on a non-probabilistic convenience sampling technique (Kalton, 2020).

Data Collection and Analyses

The study adopts a quasi-experimental research design with a non-equivalent control group (Ato et al., 2013). Data collection occurred before the PLACE model implementation (September–October 2021) and at the end of the intervention (May–June 2022). During the intervention, university coordinators were in contact with secondary school teachers, students, university students, and community partners to monitor the fidelity of the implementation process. A combination of instruments, delivered as one questionnaire, was used to collect the data. The questionnaire was prepared in English and later translated into the partner country's language (Slovakian, Croatian, Spanish, and German). Data were collected through paper and pencil questionnaires and later recorded to one dataset. Informed consent to conduct research was issued individually in each country and received from schools, parents or guardians depending on the local regulations in the particular region. The study followed the Ethical Committee of the University of Granada (1974/CEIH/2021) and the Declaration of Helsinki (World Medical Association, 2013). The data were analyzed using the Statistical Package for the Social Sciences (SPSS) 19.0 (IBM Corporation, Armonk, NY, USA). Collected data did not show normal distribution; therefore, Wilcoxon and Mann-Whitney *U* tests were used to detect statistical differences.

Instruments

Social competencies were defined as a constellation of emotion-related factors located at lower levels of personality hierarchies and are also referred to as a trait of emotional self-efficacy (Petrides et al., 2007).

The short-form version of the trait emotional intelligence questionnaire (Petrides, 2009) was used to measure this variable. It is a Likert-type scale made up of 30 items rated between one (*Completely disagree*) and seven (*Completely agree*) points that evaluate four trait emotional intelligence factors and a *global trait emotional intelligence* score: (a) the self-control factor covers tendencies to control emotions and impulses and comprises the facets of emotion regulation (low), impulsiveness, and stress management; (b) the emotionality factor reflects the perception and expression of emotions and includes the facets of trait empathy, emotion perception, emotion expression, and relationship skills; (c) the sociability factor reflects the inner affectivity in interpersonal relations and comprises the facets of assertiveness, emotional management of others, social relationships, and social competence; and (d) the facets of trait optimism, trait happiness, and self-esteem are clustered under the well-being factor. In its original version, this questionnaire revealed adequate levels of internal consistency, in addition to showing proof of the validity of its factor structure and concurrent validity (Laborde et al., 2016).

Civic competencies were considered to be aligned with civic readiness, which involves possessing the knowledge, skills, and disposition needed to be an informed and active member of one's community after graduation (Brennan & Railey, 2017). In this sense, *civic attitude* (i.e., a student's responsibility and disposition toward or opinions about diversity, the environment, community, community involvement, and the importance of helping others) was measured using level 2 of the civic responsibility survey (Furco et al., 1998), and the civic efficacy, the social responsibility and personal beliefs, and the social responsibility personal values subscales of the civic values and beliefs scale (Syvertsen et al., 2015). *Civic skills* (i.e., a student's skills, personality disposition, and competencies related to civic readiness) were measured using the participation skills subscale of the civic values and beliefs scale (Syvertsen et al., 2015). The civic responsibility survey (Furco et al., 1998) is a ten-item self-report civic responsibility scale with a six-point Likert-type scale ranging from one (*Strongly disagree*) to six (*Strongly agree*). The original survey showed satisfactory internal consistency ($\alpha = 0.84$) (Furco et al., 1998). The civic efficacy subscale of the civic values and beliefs scale presents three Likert-type items, rated between one (*Strongly disagree*) and five (*Strongly agree*) points. The social responsibility and personal beliefs, the social responsibility personal values subscales, and the participation skills subscale of the civic values and beliefs scale are Likert-type scales made up of four items, each rated between one (*Strongly disagree, Not at all important, I definitely cannot*) and five (*Strongly agree, Extremely important, I definitely can*) points (Syvertsen et al., 2015). These subscales presented satisfactory levels of internal consistency (α between 0.80 and 0.90, ω between 0.77 and 0.84) and acceptable validity indexes in their original versions.

Student engagement and motivation in the school were defined as students' beliefs about themselves and their capacity to succeed in school: (a) *academic perseverance*, the tendency to work hard and take responsibility for academic progress; (b) *learning mindset*, belief in one's ability to learn and succeed, the belief that intelligence can increase through individual effort, enjoyment of learning, and willingness to try new things, and belief that work done in the school is relevant for longer-term goals; and (c) *school belonging*, perception of acceptance and support in the school learning community. The student engagement, motivation, and beliefs survey (The Roadmap Project, 2015) was used to measure this variable. This is a Likert-type scale made up of 16 items rated between one (*Completely disagree*) and five (*Completely agree*) points grouped into three scales (i.e., academic perseverance, learning mindset, and school belonging), and in its original version, it revealed adequate levels of internal consistency (α between 0.67 and 0.84) (The Roadmap Project, 2015).

School dropout intention was measured through a one-item indicator (i.e., I am thinking about leaving this school) with a Likert-type scale between one (*Completely disagree*) and five (*Completely agree*) points.

Cronbach's alpha assessed reliability in terms of internal consistency for all scales, and they all reached satisfactory values, as reported in Table 1.

Table 1.

Reliability of the Data of the Observed Variables in the Pre-test and Post-test

Scale	Pre-test	Post-test
Global Trait Emotional Intelligence—Short form	.805	.824
Civic Responsibility Survey Level 2	.799	.845
Civic Efficacy Scale	.701	.781
Social Responsibility Personal Beliefs Scale	.702	.697
Social Responsibility Personal Values Scale	.762	.783
Participation Skills Scale	.788	.801
Student Engagement and Motivation Scale	.820	.829

Results

The impact of the service-learning intervention was assessed by comparing the data in the monitored variables, which were measured before and after the application of service-learning in the experimental group. At the same time, to comply with the experiment's methodological design, parallel measurements were made in the control groups where service-learning was not applied. In the pretest, no statistically significant differences existed between the experimental and control groups in any of the variables studied.

The first test was to establish if there were statistically significant differences in the observed variables between the measurements before and after the intervention. Statistical testing of differences using the Wilcoxon test was undertaken. The results for the experimental group are presented in Table 2, and for the control group in Table 3—only those variables in which differences were found to be statistically significant are reported.

Table 2.

Difference in the Observed Variables Between the Measurements Before and After Service-Learning in the Experimental Group (n = 138)

		Mean	SD	Median	Z	CLES
Social responsibility personal values	Pre	4.03	.70	4	−1.896a*	.16
	Post	3.89	.74	4		
Academic perseverance	Pre	3.75	.91	3.8	−2.727a**	.23
	Post	3.55	1.04	3.6		
Learning Mindset	Pre	3.99	.65	4	−4.297a***	.37
	Post	3.72	.71	3.8		
Overall student engagement and motivation scale	Pre	3.28	.40	3.3	−3.801a***	.32
	Post	3.12	.51	3.2		

Note. *$p < .05$; **$p < .01$; ***$p < .001$, *CLES* common language effect size

Table 3.

Difference in Observed Variables Between Pre- and Post-Measurements in the Control Group (Time-Parallel by SL Completion in the Experimental Group) (n = 94)

		Mean	SD	Median	Z	CLES
Social responsibility personal values	Pre-test	3.90	.78	4.0	−3.580a***	.37
	Post-test	3.48	.82	3.5		
Academic perseverance	Pre-test	3.80	.84	3.9	−4.222a***	.44
	Post-test	3.45	.84	3.4		
Learning mindset	Pre-test	3.91	.71	4.0	−3.774a***	.39
	Post-test	3.58	.72	3.7		
School belonging	Pre-test	3.45	.79	3.4	−2.715a**	.28
	Post-test	3.22	.71	3.2		
Intention to drop out	Pre-test	1.94	1.29	1.0	−2.696b**	.28
	Post-test	2.35	1.29	2.0		
Overall student engagement and motivation scale	Pre-test	3.27	.45	3.3	−2.284a*	.24
	Post-test	3.15	.50	3.1		

Note. *$p < .05$; **$p < .01$; ***$p < .001$, *CLES* common language effect size

The experimental group demonstrated statistically significant differences in the Social Responsibility personal values, Academic Perseverance, Learning Mindset, and Overall Student Engagement and Motivation scales; however, participants scored higher on the pre-test versus the post-test on the mean score. The same trend was observed in the control group of respondents. The variables social responsibility personal values, academic perseverance, learning mindset, school belonging, intention to drop out, and overall student engagement and Motivation scale showed higher scores in the pre-test. In comparison, post-test scores were statistically significantly lower. However, the intention to drop out variable showed a statistically significant difference in the control group, with higher scores in the post-test. In all the variables studied where the statistical significance of differences was confirmed, these were of moderate significance.

In addition to the changes observed in the different research groups, any statistically significant differences between the experimental and control groups were also of interest. The differences were tested using the Mann-Whitney test in both the pre-test and post-test. Statistically significant differences between the experimental and control groups were demonstrated in the post-test in the variables presented in Table 4.

Table 4.

Differences in the Post-test Variables Between the Experimental (n = 138) and Control (n = 94) Groups

		Mean	SD	Median	Mann-Whitney U	CLES
Well-being	Exp	5.09	1.26	5.2	4102*	.37
	Control	4.73	1.20	4.7		
Global trait emotional intelligence	Exp	4.72	.72	4.8	4249.5*	.34
	Control	4.54	.73	4.4		
Civic responsibility	Exp	4.35	.84	4.4	5053**	.22
	Control	4.03	.80	4.1		
Civic efficacy	Exp	3.57	.77	3.7	4994**	.23
	Control	3.27	.83	3.2		
Social responsibility personal values	Exp	3.89	.74	4.0	4604***	.29
	Control	3.48	.82	3.5		
School belonging	Exp	3.51	.75	3.6	3867**	.40
	Control	3.22	.71	3.2		
Intention to drop out	Exp	1.72	1.12	1.0	3682.5***	.43
	Control	2.35	1.29	2.0		

Note. *$p < .05$; **$p < .01$; ***$p < .001$, *CLES* common language effect size

The analysis of post-test differences showed statistically significant differences in the following variables: well-being, global trait emotional intelligence, civic responsibility, civic efficacy, social responsibility personal values, and school belonging; with statistically significant higher scores for participants in the experimental group. The only variable where the control group respondents scored significantly higher was the Intention to drop out variable. In all the variables studied where the statistical significance of differences was confirmed, these were of moderate significance.

Discussion

The results in this study show that before applying the service-learning intervention with the experimental group, no statistically significant differences were noted on any of the variables tested between the two groups. Both groups showed predominantly lower scores on variables related to wellbeing and achievement after completion of the intervention which was not originally hypothesized. Given the content of the intervention this is not easily explained by factors related to the study, especially as a similar trend was observed for both groups. The macro context related to the impact of COVID-19 and its sequelae may have influenced the general school experience for all participants in this unpredicted manner, with study measures showing a longitudinal malaise that was ongoing during the timing of data collection.

Post-intervention scores show statistically significant differences, in favor of the experimental group, in well-being, global emotional intelligence, civic responsibility, civic efficacy, and social responsibility personal values. These are positive, generalizable traits related to social belonging and cohesion; results that offer some support for the research hypothesis. The school belonging variable and intention to drop out variable were also positively impacted in the experimental group suggesting that a more personal experience is likely to increase experiences of success and mastery that will sustain engagement with the school environment on an individual basis.

Following the application of service-learning, the experimental group attained significantly higher scores on social competency measures, which we view as evidence to tentatively support our hypothesis. These results align with similar studies by Chiva-Bartoll et al. (2020), Lapan et al. (2024), and Lee et al.

(2021) with secondary school students. The results also highlight some positive civic outcomes of service-learning for those in the experimental group. Such outcomes were also reported by Díaz et al. (2019), Ryu and So (2020), and Hart and Wandeler (2018). This difference in our post-intervention data is welcome, as it can be proposed that learning outcomes related to school-based pedagogy are linked to social and psychological well-being, which is essential in the real world and will help promote experiences of social inclusion (Walker, 2015).

The differences were also documented in the variable "School belonging" in favor of the experimental group. This variable is strongly connected to student motivation and engagement in school, and it is in line with several other studies. According to Chiva-Bartoll et al. (2020), students participating in service-learning develop a more favorable perception of the school environment, viewing it as a hub for engagement, active learning, and community integration. Puig et al. (2011) assert that service-learning strengthens the sense of belonging and unity among individuals within a shared community, fostering positive attitudes and emotions toward the surrounding environment. These findings are also in line with the work of Hutchinson (2011), Jacoby (2014), and Marttinen et al. (2020), who report that students who are exposed to service-learning pedagogy perform better in school, and report being better equipped to manage real-world experiences outside of the school environment.

Both groups scored higher before the intervention across all variables except on "Intention to Drop out," which showed a statistically significant difference in favor of the control group, with higher scores also in its post-test profile. Our findings are consistent with studies by Trager (2011) and Moberg and Kramer (2015), indicating that involvement in service-learning initiatives holds promise in averting early school dropout occurrences. It can be asserted that the completion of service-learning had a direct impact on "Intention to Drop Out," as those students who completed service-learning activities showed a statistically lower tendency to drop out than those who did not. This attests to the potential positive impact of service-learning, even in the context of the social upheaval and adversity caused by the COVID-19 pandemic.

No discussion of educational intervention during the past 4 years can ignore the impact of COVID-19, which in and of itself was both dramatic and significant, nor the long tail sequelae of the many and varied political and health interventions that curtailed the normal operations of educational activity. While the evidence base continues to emerge, Spiteri et al. (2023) have already established that the impact on education was significant and problematic.

One of the intervention results noted was a statistically significant decrease in several variables in the group of secondary school students who implemented service-learning projects during the school year 2021/2022 and in the group of secondary school students who did not implement service-learning. Variables such as "Social responsibility" and "Personal Values," "Academic Perseverance," "Learning Mindset," and "Overall Student Engagement and Motivation" were negatively impacted. In addition, there was a statistically significant decrease in the "School Belonging" variable in the control group. We suggest that the decline in individual scales could be considered in the context of the COVID-19 pandemic. The measures associated with preventing the spread of the COVID-19 disease also significantly affected not just the functional operation of schools but particularly the dynamic relational variables between schools and their students that underpin achievement and well-being variables. Schools in all countries implementing the service-learning PLACE model switched to online teaching, and contact with students was often sporadic, ad hoc, and limited. These constraints also persisted during the implementation of service-learning projects. The impact of what Miles and Cole (2022) called "the Pandemic whiplash" was profound and tangible, and we would suggest it is still unfolding, but it offers some plausible context for the decrease in scores for both the experimental and control groups. The subsequent transition back to school was complicated for students and is likely to have negatively impacted the personal and educational competency scores employed in this study. The control and experimental groups manifested similar trends in their profiles, suggesting that the intervention itself cannot be the sole cause of this. One possibility is that typical school workload incrementally consumed time and effort that may have been originally available for service-learning initiatives. Another is that the "return to normal process" involving school and civic relationships was not as easily negotiated as the "return to the normal event" of simply reopening

schools and that the post-intervention measures tapped into stress-mediated outcomes that led to a reduction in the measures used in this study. This would align with research indicating that lockdowns significantly impacted adolescents due to these occurring at a developmentally sensitive period. Loades et al. (2020) have previously argued that the pandemic "drastically curtailed the conditions for teens to meet their developmental needs."

This study has generated additional support for the argument that service-learning positively impacts secondary school students' social and civic competencies when applied with sound pedagogical endeavor. It also indicates positive trends in their engagement and motivation in school after being immersed in such learning experiences when compared to students in a control group. The fact that these trends were observed in students from different European countries enhances the generalizability and cross-cultural potential for the core principles of service-learning. What remains to be examined is the impact of local settings on how these principles are adopted to understand further and precisely, and what experiences determine the positive outcomes. The typology and nature of service-learning projects are as numerous as the participants involved, and it is possible that with further study, this breadth is a complementary factor to any success associated with integrating it as a core pedagogical platform for all students in all learning settings. Additional study is necessary to distill the impact of other potential influencing variables such as gender, ethnicity, various intelligences that comprise overall intellectual functioning, and, of course not to forget the effect of relational variables between the teacher and the student. Service-learning as a field of inquiry remains a rich and exciting source for further inquiry and research. The evidence presented here strengthens the empirical foundation and lays the groundwork for further exploration, which could ultimately lead to incorporating service-learning or comparable approaches into current educational curricula.

Limitations

The study findings should be interpreted cautiously due to limitations in the study design, such as the need for more randomization at the student level to ensure equal distribution of relevant confounding variables between the groups before the intervention. A second possible source of bias is the non-probabilistic sampling adopted, which may have compromised the sample's representativeness and, therefore, the potential generalizability of research findings. This type of sampling is unavoidable, particularly when resources, time, or the schools' willingness or ability to participate are constrained. Additionally, in this case, we cannot ignore the negative and pervasive impact of COVID-19 on schools' normal functioning. A third source of bias is the sample size. Although the sample size was acceptable, the probability of detecting an educationally or clinically significant statistical difference may be lower, increasing the chance of obtaining inconclusive or nonsignificant results. With a larger sample size, the study would have greater statistical power to more reliably identify meaningful effects of the service-learning intervention on student outcomes. Even with these limitations, the credibility of the results remains intact due to the adoption of a quasi-experimental research design in a topic and research area characterized by the scarcity of studies adopting this type of research design.

Conclusions

Based on the results obtained, the following conclusions can be drawn from this study. First, teachers and school staff across countries in Europe can count on an a promising and impactful service-learning model and program to prevent not only students' intention to drop out of school and therefore early leavers rate in Europe but also to improve key personal, educational, and social skills (i.e., emotional intelligence, civic responsibility, civic efficacy, social responsibility personal values, and school belonging) to prevent or reduce potential social exclusion risks.

Second, in order to increase the quantity and quality of the evidence supporting the PLACE model and program reported in this study, future research should conduct more studies adopting this model across different age groups, school profiles and countries. In those instances, educators and researchers should

focus on two key issues to move the PLACE model from a promising practice with moderate evidence supporting its effectiveness to an evidence-based model and program. On one hand, researchers and educators should increase their efforts to adopt either a RCT (Randomized Control Trial) or a QED (Quasi-Experimental Design) in case randomization is not possible. And on the other hand, they should make sure that the PLACE model is implemented with fidelity, that is, any potential diversions from the original recommendations are documented and reported.

Third and finally, if researchers and educators collaborate and coordinate their efforts in the adoption of a teaching method and philosophy like service-learning is, and the necessary institutional support is provided, then national education systems could deliver not just curricular learning but also civic engagement and values among future citizens.

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