

INFLUENCE OF PREVIOUS MOTOR EXPERIENCE ON ATTITUDES ABOUT SERVICE-LEARNING AMONG STUDENTS^{1 2}

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Abstract: Service-Learning (SL) as a growing innovative pedagogical model, has recently become more popular in higher education area dedicated to physical activity. Since physical education (PE) students are oriented toward society, it is extremely important for them to develop a sense of connection and responsibility toward society during their studies. This research was carried out on a sample of 58 students of a PE study program, aged between 20 and 22. The first step of the research was to determine six different groups of students using the poly-structured interview about their previous motor experience while considering the type of activity, the length of time engaged in a certain activity and the level of motor skills. Six investigated groups were formed according to their dominant previous motor activity: artistic and aesthetic activities, society-oriented recreational activities, self-directed recreational activities, team sports, individual sports, and martial arts. In order to determine the students' perception of SL Benefits, the SELEB questionnaire was used. The original 27 items generated for the SELEB scale that measure the benefit categories were divided into six categories: civic responsibility, interpersonal skills, leadership ability, ability to apply knowledge, general life skills and critical thinking. One-way Analysis of Variance was used to analyse the differences in investigated groups defined by previous motor experience on SL attitudes among students. The results showed significant differences between groups in SL experience ($F_{5,52} = 3,19$; $p=0,014$). The highest value on the SELEB scale was recorded in the group with dominant artistic and aesthetic activities, and the lowest value on the SELEB scale was recorded in a group with dominant previous experience in individual sports. Significant differences were determined with the post-hoc Tukey HSD test between groups with minimal previous experience in individual sports and groups with dominant previous experience in society-oriented recreational activities, team sports, and artistic/aesthetic activities.

Keywords: *SELEB scale, Sustainable Development Goals, physical activities*

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INTRODUCTION

Physical education at the university level is constantly developing in accordance with the modern goals of education toward inclusion. Since physical education is at its origin oriented towards global health, which implies sustainable development goal (SDG) number 3 (global health and well-being), it is not unusual that other methods lead to convergence towards listening to the needs of society, integrated at the university level of physical education. One of the possible tools is a service-learning (SL) method, which has recently gained significant acceptance among universities. Since physical education students are oriented toward developing a sense of connection and responsibility towards society during their studies, service-learning seems to fit their learning requirements (Herold & Waring, 2018). Francisco-Garcés et al. (2022) reported on the exponential uptake of the implementation of service-learning at the universities, among others, in the field of physical activity and sport (PAS), but they also pointed out the need to improve the quality of research in this field. The main focus of this new, innovative teaching method is challenge-based learning and the fact that learning is based on real-world problems and practices. It meets today's needs because using this tool, students are learning how to act proactively, work in teams with students from other study areas and react to social incites and problems (Jadrić et al., 2022). According to Warren (2012), the rise of service-learning has sparked great interest among educators at all educational levels and academic disciplines, including physical education. This approach brings interdisciplinary student-centered collaboration opportunities and a tool integrated with real-world examples. As major advantages of service-learning in the educational process, authors point out the following: the acquisition of necessary academic and personal skills (Hébert & Hauf, 2015), the development of critical thinking (Flinders, 2013), teamwork (Pazos et al., 2020) and the enhancement of interpersonal and human-relations skills (Prentice & Garcia, 2010). Also, the level of self-efficacy and social development of students who participated in the service-learning experience is higher, and students become aware of social problems and expand their network of social contacts. There are numerous different previous studies that deal with the problem of measuring the effects and benefits of service learning. Marco-Gardoqui et al. (2020) analysed the results among more than 4,000 students involved in service-learning activities as part of a systematic review of the published literature on the benefits of applying the service-learning methodology to business students. They reported that students see a number of effects after participating in a service-learning experience, with the most common outcome being greater social engagement. Larsen (2017) also stated that service-learning experiences would benefit student learning outcomes. For example, SL experiences increase students' civic responsibility, the sense of efficacy, and professional and interpersonal skills. However, the literature analysing the benefits of applying learning activities among physical education students is still limited.

One of the possible tools that can be used for measuring the benefits of the SL is the SELEB scale. It arose out of the need to identify benefits associated with the acknowledgement that students are likely to perceive a wide range of potential benefits from service-learning. Toncar et al. (2006) developed a scale called SELEB, which they judged to be useful for assessing the quality and efficiency of service-learning initiatives from the student's perspective. The title of the scale SELEB was created by a combination of key letters **S**ervice **L**earning **B**enefit (SELEB) and primarily refers to the measurement of the benefits that service-learning brings to students. The final scale consists of 27 items representing six core dimensions of the benefit categories: civic responsibility, interpersonal skills, leadership ability, ability to apply knowledge, general life skills and critical thinking. Accordingly, the scale can be used to develop specific service-learning goals, to measure how effectively those goals are being met, and to change project-specific aspects in response to student input. For the benefit of physical education students, by providing a way to measure student perceptions of service-learning experiences, the SELEB scale can help educators and researchers better understand the impact of service-learning on student learning outcomes and personal development.

The main goal of this research is to determine which of the six examined groups based on previous motor experience (artistic and aesthetic activities, society-oriented recreational activities, independent recreational activities, team sports, individual sports and martial arts) will best influence students' service-learning activities (civic responsibility, interpersonal skills, leadership ability, ability to apply knowledge, general life skills and critical thinking) defined by the SELEB scale.

METHOD

Sample of subjects

This research was carried out on a sample of 58 students of a PE study program, aged between 20 and 22. The participants became familiar with service-learning activities through their study program. Participation in the study was voluntary and the participants were informed that they could withdraw at any time. This research was implemented as a pilot study that provides an introductory picture of the issue of introducing service-learning into the education of kinesiology students.

Data collection

The first phase of the research was to identify research groups based on the subject's previous experience regarding motor skills. Using the poly-structured interview the same investigator examined all 58 students in order to determine the type of their dominant previous sports or other motor activity. After the three dominant lifetime motor skills were determined, each student determined their own level of motor skills mastery on a scale from 1 to 3. Level 3 denotes a professional level of motor skill mastery such as athletes with international competition experience. Level 2 denotes moderate but still significant motor skill mastery. Level 1 denotes motor skill mastery on an amateur or basic level. According to the information obtained, the groups of students were determined based on the type and level of their previous physical activity experience or motor skill mastery. The six investigated groups were formed according to their dominant previous motor activity: artistic and aesthetic activities, society-oriented recreational activities, self-directed recreational activities, team sports, individual sports, and martial arts. The participants from all groups were given basic information and instructions regarding: a) basic information on the study and the study objectives, b) basic information on the questionnaire being conducted and the way to fill out the questionnaire, as well as anonymity in the interpretation of results.

Variables

In the second phase of the experiment, students were asked to fill out the SELEB questionnaire. In order to identify the benefits that SL brings to students, Toncar et al. (2006) developed a questionnaire with the aim to identify the benefits of service-learning activities, consisted of six factors: civic responsibility, interpersonal skills, leadership ability, critical thinking, ability to apply knowledge and general life skills. Six factors were covered with a list of the 27 items that captured the range of benefits reported in prior literature. Subjects were asked to indicate how important each of the 27 items was to their educational experience, using a seven-point Likert scale anchored by "not at all important" and "very important."

Statistical procedures

One-way Analysis of Variance was used to analyse the differences in six investigated groups defined by their previous motor experience: artistic and aesthetic activities (U), society-oriented recreational activities (RS), self-directed recreational activities (RI), team sports (G), individual sports (I), and martial arts (B); and the students' attitudes on SL defined by six factors of SELEB scale (civic responsibility, interpersonal skills, leadership ability, critical thinking, ability to apply knowledge, and general life skills). The post-hoc Tukey HSD test was used to determine significant differences between means. The significance level was set at $p < 0.05$.

RESULTS

Firstly, descriptive statistics was calculated for analysing and comparing the subscales of SELEB. The mean values and standard deviations of the participants scored on the SELEB sub-scales, on the overall subject sample are shown in Table 1. All six sub-scales were tested (critical thinking, civic responsibility, interpersonal skills, leadership ability, ability to apply knowledge, and general life skills). The highest mean was detected at the sub-scale ability to apply knowledge and the lowest at the sub-scale general life skills. Basic statistical parameters show satisfactory dispersion of sub-scale distributions.

Table 1. Descriptive statistics of SELEB sub-scales

N=58	Min	Max	Mean	SD	Skew	Kurt
Critical thinking	3.00	7.00	5.67	1.13	-.60	-.23
Civic responsibility	3.00	7.00	5.63	.76	-.77	1.34
Interpersonal skills	2.40	7.00	5.69	.91	-.97	1.57
Leadership ability	3.25	7.00	5.70	.79	-.70	.57
Ability to apply knowledge	3.33	7.00	5.96	.84	-1.21	1.29
General life skills	3.00	6.30	4.92	.74	-.65	.24
SELEB	3.74	7.00	5.65	.69	-.59	.14

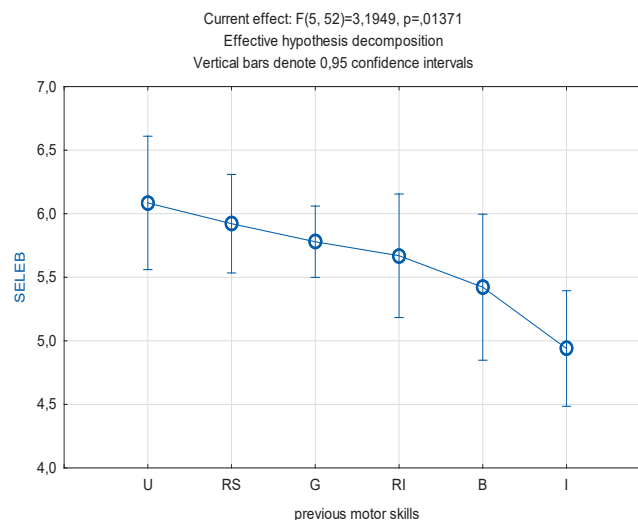
In order to determine which of the six research groups will best correlate with students' service-learning attitudes, the one-way Analysis of Variance (one-way ANOVA) was used (Image 1). The post-hoc Tukey HSD test was conducted to determine significant differences between means (Table 2). According to the post-hoc Tukey HSD test, significant differences were noticed between the artistic and aesthetic activities research sub-group and individual sports sub-group in favour of the artistic and aesthetic activities research sub-group ($p = 0.02$).

Table 2. Post-hoc Tukey HSD test – differences between six research groups

Groups defined according previous motor experience						
	U	RS	G	RI	B	I
U		1,00	0,91	0,85	0,53	0,02*
RS	1,00		0,99	0,96	0,70	0,02*
G	0,91	0,99		1,00	0,87	0,03*
RI	0,85	0,96	1,00		0,99	0,25
B	0,53	0,70	0,87	0,99		0,77
I	0,02*	0,02*	0,03*	0,25	0,77	

Sub-groups: artistic and aesthetic activities (U), society-oriented recreational activities (RS), team sports (G), self-directed recreational activities (RI), martial arts (B) and individual sports (I)

Then, significant differences were obtained between the society-oriented recreational activities research sub-group and the individual sports sub-group in favour of the society-oriented recreational activities research sub-group ($p = 0.02$). Finally, according to the post-hoc Tukey HSD test, significant differences were found between the team sports research sub-group and the individual sports sub-group in favour of the team sports research sub-group ($p = 0.02$).

Image 1. One-way Analysis of Variance (one-way ANOVA) between six research groups correlated with student's SL attitudes.

DISCUSSION

The overall SELEB scale and subscales results are comparable with previous studies. McGorry (2012) used the 12-item SELEB scale representing four underlying factors: practical skills, interpersonal skills, civic and personal responsibility in a sample of undergraduate students. The results were compared with mean scores obtained in the current research. The mean scores were between 5.3 for civic responsibility and 6.4 for interpersonal skills.

The highest value on the SELEB scale was recorded in the group with dominant artistic and aesthetic previous experience, and the lowest value of the SELEB scale was recorded in the group with dominant previous experience in individual sports. The artistic and aesthetic group members have prior experience in playing instruments, drawing, social dancing, and other activities with an artistic and/or aesthetic component. We can assume that such previous experiences affect a higher level of socialization, and thus social sensitivity, which we correlate with the motivation to participate in service-learning activities. On the other hand, long-term practice of individual sports can contribute to a reduced interest in understanding and engaging in service-learning activities. Further research is needed to confirm these assumptions.

Significant differences were determined using the post-hoc Tukey HSD test between groups with minimal previous experience in individual sports and groups with dominant previous experience in society-oriented recreational activities, team sports, and artistic/aesthetic activities.

The society-oriented recreational activities group imply previous engagement in activities such as cooking, operating machines, hiking, fishing, gardening, etc.; while team sports experiences assume long-term participation in sports such as football, basketball, volleyball, handball or water polo. Members of both research groups showed significantly more interest in service-learning activities than members of the individual sports group. However, it is important to note that this is only a preliminary observation and further analysis is needed to draw more definitive conclusions.

CONCLUSIONS

In conclusion, previous motor experience can affect attitudes and motivation for contributing to service-learning activities among physical education students. We can presume that students with previous experiences in artistic and aesthetic activities, society-oriented recreational activities, and team sports will be more inclined to engage in service-learning activities. Further research of physical education students' involvement in service-learning projects and their reflection on benefits after service-learning activities is needed to confirm these results.

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