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UTJECAJ PRETHODNIH MOTORIČKIH ISKUSTAVA NA STAVOVE STUDENATA O DRUŠTVENO KORISNOM UČENJU [1] [2]

Đurđica Miletić[3]
Kineziološki fakultet Sveučilišta u Splitu, Hrvatska

Ivana Jadrić
Sveučilište u Splitu, Hrvatska

Alen Miletić
Kineziološki fakultet Sveučilišta u Splitu, Hrvatska

Apstrakt: Društveno korisno učenje (DKU) je rastući inovativni pedagoški model, koji sve više postaje popularan u visokom obrazovanju u oblasti sporta i tjelesnog vježbanja. Studenti kineziologije orijentirani su na društvo, te je važno da za vrijeme obrazovanja razvijaju povezanost i odgovornost u odnosu na društvo. Ovo istraživanje provedeno je na uzorku 58 studenata kineziologije u dobi od 20 do 22 godine. U prvoj fazi istraživanja polistrukturiranim intervjuom utvrđeno je šest istraživačkih grupa formiranih prema prethodnim motoričkim iskustvima studenata s obzirom na vrstu motoričkih vještina i dužinu bavljenja određenom motoričkom aktivnosti. Šest istraživačkih grupa formirano je prema dominantnim motoričkim aktivnostima na: umjetničke i estetske aktivnosti, rekreativne aktivnosti usmjerene društvu, individualno usmjerene rekreativne aktivnosti, timski sportovi, individualni sportovi, borilački sportovi. Da bi se utvrdili stavovi studenata o koristima DKU, primijenjen je SELEB upitnik. Upitnik generira 27 itema koji čine SELEB skalu za mjerenje koristi DKU kroz šest kategorija: građanska odgovornost, međuljudske vještine, sposobnost vođenja, sposobnost primjene znanja, opće životne vještine i kritičko promišljanje. Korištena je Analiza varijance kako bi se utvrdile razlike u istraživačkim grupama definiranim prema prethodnom motoričkom iskustvu studenata. Rezultati pokazuju značajne razlike između stavova studenata o DKU (F5,52 = 3,19; p=0,014). Najveće vrijednosti SELEB skale zabilježene su u grupi s dominantnim umjetničkim i estetskim predznanjima, a najniže u grupi individualnih sportova. Značajne razlike utvrđene su Post-hoc Tukey HSD testom između grupe individualnih sportova sa grupama dominantnih predznanja u rekreativnim aktivnostima usmjerenih društvu, timskim sportovima te umjetničkim i estetskim aktivnostima.

Ključne reči: *SELEB skale, ciljevi održivog razvoja, fizičke aktivnosti*

UVOD

Edukacija o tjelesnom vježbanju na univerzitetskom nivou stalno se razvija u skladu sa suvremenim ciljevima obrazovanja okrenutim uključivosti. Kako je tjelesni odgoj u osnovi okrenut prema globalnom zdravlju, što implicira cilj održivog razvoja (*good health and well-being*) nije neobično u obrazovanju koristiti metode koje će doprinijeti prepoznavanju društvenih potreba i integrirati ih u proces visokog obrazovanja. Jedan od takvih metoda je i društveno korisno učenje (DKU) koje se sve značajnije primjenjuje u visokom obrazovanju. Studenti kineziologije orijentirani su prema povezivanju s društvom i odgovornosti za društvo tijekom studiranja, te se DKU uklapa u takve zahtjeve obrazovanja (Herold & Waring, 2018). Francisco-Garcés i sur. (2022) upućuju na eksponencijalni rast u implementaciji društveno korisnog učenja na univerzitetima uopće, pa tako i na univerzitetima u području obrazovanja tjelesnog vježbanja i zdravlja. Također, autori ističu kako je potrebno poboljšati kvalitetu istraživanja u ovom području.

Primarni fokus ove inovativne metode je podučavanje putem izazova i činjenica da se učenje zasniva na stvarnim problemima i izazovima iz prakse. Tako je obrazovanje u skladu sa suvremenim potrebama jer studenti koristeći metode DKU uče kako djelovati proaktivno, raditi u timu sa studentima drugih profila te odgovarati na potrebe i probleme društva (Jadrić et al., 2022). Prema Warren (2012), porast društveno korisnog učenja potakao je veliki interes na svim razinama obrazovanja i u različitim akademskim disciplinama, pa tako i u fizičkom obrazovanju. Ovaj pristup donosi interdisciplinarnu povezanost okrenutu studentu, te otvara mogućnosti i metode za integraciju kroz primjere iz prakse. Kao istaknute prednosti DKU u edukacijskom procesu različiti autori navode: usvajanje neophodnih akademskih i osobnih vještina (Hébert & Hauf, 2015), razvoj kritičkog razmišljanja (Flinders, 2013), timski rad (Pazos et al., 2020), vještine koje unapređuju međuljudske odnose (Prentice & Garcia, 2010). Također, viša je efikasnost i društvena aktivnost studenata koji sudjeluju u DKU, te studenti postaju osjetljiviji na društvene probleme i šire mrežu svojih društvenih kontakata. Veliki broj dosadašnjih istraživanja bavi se problemom mjerenja efekata i koristi od društveno korisnog učenja. Marco-Gardoqui i sur. (2020) kroz pregledno istraživanje objavljene literature analizirali su rezultate na više od 4000 studenata ekonomije koji su bili uključeni u DKU. Utvrdili su da su efekti za studente koji sudjeluju u DKU brojni, te da je najčešći ishod veća društvena angažiranost. Larsen (2017) također navodi kako će sudjelovanje u DKU poboljšati ishode učenja studenata kao što su društvena odgovornost, osjećaj efikasnosti, razvoj profesionalnih i osobnih vještina. Ali studije koje analiziraju koristi od sudjelovanja studenata kineziologije u aktivnostima DKU još su uvijek deficitarna.

Jedan od mogućih alata koji se mogu koristiti za mjerenje društveno korisnog učenja je i SELEB skala. Nastala je kao potreba da se identificiraju koristi povezane s prepoznavanjem da će studenti vjerojatno uočiti širok raspon potencijalnih dobrobiti od DKU. Toncar i sur. (2006) su razvili skalu naziva SELEB za koju su ocijenili da je korisna za procjenu kvalitete i efikasnosti inicijativa DKU iz perspektive studenata. Naziv **SE**rvice **LE**arning **B**enefit (SELEB) skala je nastala kombinacijom ključnih slova i prvenstveno se odnosi na mjerenje koristi koje studentima nosi društveno korisno učenje. Konačna skala se sastoji od 27 stavki koje predstavljaju šest ključnih dimenzija, kategorija koristi: građanska odgovornost, međuljudske vještine, vještine vođenja, mogućnost primjene stečenog znanja, generalne životne vještine i kritičko razmišljanje. Prema tome, skala se može koristiti za razvoj specifičnih ciljeva DKU, kako bi se pratilo ostvarivanje ciljeva, te kako bi se projekti DKU mijenjali u skladu s refleksijom studenata. Za dobrobit studenata kineziologije, utvrđivanje stavova studenata od DKU putem SELEB skale, može se pomoći nastavnicima i istraživačima da bolje razumiju utjecaj DKU na ishode učenja i njihov ukupni razvoj.

Glavni cilj istraživanja je utvrditi koje od šest istraživačkih grupa formiranih prema prethodnom motoričkom iskustvu (umjetničke i estetske aktivnosti, rekreativne aktivnosti usmjerene društvu, individualno usmjerene rekreativne aktivnosti, timski sportovi, individualni sportovi, borilački sportovi) će najviše utjecati na stavove studenata o DKU (građanska odgovornost, međuljudske vještine, sposobnost vođenja, sposobnost primjene znanja, opće životne vještine i kritičko promišljanje) definirane SELEB skalom.

METODE

Uzorak ispitanika

Istraživanje je provedeno na uzorku 58 studenata kineziologije, u dobi od 20 do 22 godine. Studenti su upoznati s aktivnostima DKU kroz redoviti studijski program. Sudjelovanje u istraživanju bilo je dobrovoljno, a ispitanici su informirani da mogu odustati u svakom trenutku. Riječ je o pilot istraživanju koje daje uvodnu sliku o problematici uvođenja DKU u obrazovanje studenata kineziologije.

Prikupljanje podataka

Prva faza istraživanja bila je identificirati istraživačke grupe bazirane na prethodnom motoričkom iskustvu ispitanika. Koristeći polistrukturirani intervju, isti istraživač je ispitao svih 58 studenata kako bi se utvrdila vrsta dominantne prethodne sportske ili druge motoričke aktivnosti. Nakon što su se definirala dominantna cjeloživotna motorička znanja, studenti su sami odredili njihovu razinu na skali od 1 do 3. Razina 3 označava profesionalnu razinu motoričkih znanja i vještina koji imaju međunarodna natjecateljska iskustva. Razina 2 označava umjerenu ali još uvijek značajnu razinu motoričkih znanja i vještina. Razina 1 označava amatersko ili početno vladanje motoričkim znanjima i vještinama. Prema dobivenim informacijama, određene su grupe prema tipu i razini prethodnih motoričkih znanja i vještina. Formirano je šest istraživačkih grupa prema dominantnoj prethodnoj motoričkoj aktivnosti: umjetničke i estetske aktivnosti, rekreativne aktivnosti usmjerene društvu, individualno usmjerene rekreativne aktivnosti, timski sportovi, individualni sportovi, borilački sportovi.

Ispitanici u svim grupama dobili su osnovne informacije i instrukcije vezane za: a) osnovne informacije o istraživanju i ciljevima istraživanja; b) osnovne informacije o provedenim upitnicima i načinu ispunjavanja upitnika, kao i o anonimnosti u interpretaciji rezultata.

Varijable

U drugoj fazi eksperimenta, studenti su ispunili SELEB upitnik. Sa ciljem identifikacije koristi koje sudjelovanje u društveno korisnom učenju donosi studentima, Toncar i sur. (2006) razvili su upitnik koji sadrži šest faktora: građanska odgovornost, međuljudske vještine, sposobnost vođenja, sposobnost primjene znanja, opće životne vještine i kritičko promišljanje. Šest faktora pokriveno je s 27 itema koji obuhvaćaju rang korisnosti prema dosadašnjoj literaturi. Ispitanici su zamoljeni da odrede koliko je važan svaki od 27 itema za njihovo iskustvo u obrazovanju, na Likertovoj skali od 1 (uopće nije važno) do 7 (jako je važno).

Statistička obrada

Analiza varijance (One-way) korištena je za analizu razlika između šest istraživačkih grupa definiranih prethodnim motoričkim iskustvima: umjetničke i estetske aktivnosti (U), rekreativne aktivnosti usmjerene društvu (RS), individualno usmjerene rekreativne aktivnosti (RI), timski sportovi (G), individualni sportovi (I), borilački sportovi (B) i stavova studenata o društveno korisnom učenju definiranih sa šest faktora SELEB skale: građanska odgovornost, međuljudske vještine, sposobnost vođenja, sposobnost primjene znanja, opće životne vještine i kritičko promišljanje. Post-hoc Tukey HSD test izračunat je kako bi se utvrdile razlike između aritmetičkih sredina istraživanih grupa na razini značajnosti $p < 0.05$.

REZULTATI

Na početku je izračunata deskriptivna statistika s ciljem analiziranja i uspoređivanja sub-skala SELEB-a. Srednje vrijednosti i standardne devijacije ispitanika dobivenih na SELEB sub-skalama na ukupnom uzorku ispitanika nalaze se u Tablici 1. Testirano je svih šest sub-skala SELEB-a (kritičko promišljanje građanska odgovornost, međuljudske vještine, sposobnost vođenja, sposobnost primjene znanja, opće životne vještine). Najviše vrijednosti detektirane su kod sub-skale *sposobnost primjene znanja*, dok su najniže detektirane kod sub-skale *opće životne vještine*. Osnovni statistički parametri pokazuju zadovoljavajuću disperziju i distribucije sub-skala.

Tabela 1. *Descriptivna statistika sub-skala SELEB-a*

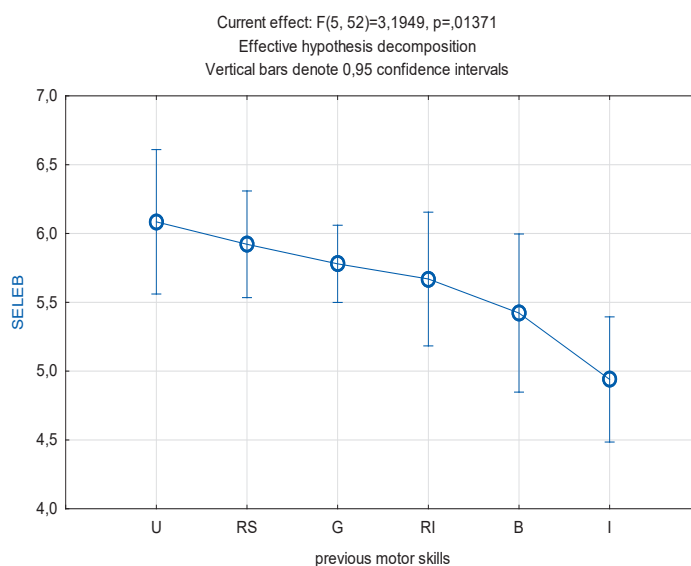| N=58	Min	Max	Mean	SD	Skew	Kurt
Kritičko promišljanje	3.00	7.00	5.67	1.13	-.60	-.23
Građanska odgovornost	3.00	7.00	5.63	.76	-.77	1.34
Međuljudske vještine	2.40	7.00	5.69	.91	-.97	1.57
Sposobnost vođenja	3.25	7.00	5.70	.79	-.70	.57
Sposobnost primjene znanja	3.33	7.00	5.96	.84	-1.21	1.29
Opće životne vještine	3.00	6.30	4.92	.74	-.65	.24
SELEB	3.74	7.00	5.65	.69	-.59	.14

U cilju određivanja koja je od šest istraživačkih grupa najviše povezana sa stavovima o DKU, korištena je Analiza varijance (One – way ANOVA) i prikazana je na Slici 1. Tukey Post-hoc test je izračunat kako bi se utvrdile značajne razlike između grupa (Tablica 2). Prema rezultatima Tukey Post-hoc testa značajne razlike utvrđene su između grupe umjetničkih i estetskih aktivnosti i grupe individualnih sportova u korist grupe umjetničkih i estetskih aktivnosti (p = 0.02).

Tabela 2. *Post – hoc Tukey HSD test – razlike između šest istraživačkih grupa*

	Grupe definirane prema prethodnom motoričkom iskustvu					
	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	

Istraživačke grupe: umjetničke i estetske aktivnosti (U), rekreativne aktivnosti usmjerene društvu (RS), individualno usmjerene rekreativne aktivnosti (RI), timski sportovi (G), individualni sportovi (I), borilački sportovi (B)

Zatim, značajne razlike utvrđene su između grupe rekreativnih aktivnosti okrenutih društvu i grupe individualnih sportova u korist grupe rekreativnih aktivnosti okrenutih društvu (p = 0.02). Konačno, prema rezultatima Tukey Post-hoc testa značajne razlike utvrđene su između grupe timskih sportova i grupe individualnih sportova u korist grupe timskih sportova (p = 0.02).

Slika 1. *Analiza varijance (One–way ANOVA) između šest istraživačkih grupa povezana sa stavovima o DKU.*

Current effect: F(5, 52)=3,1949, p=,01371
Effective hypothesis decomposition
Vertical bars denote 0,95 confidence intervals

DISKUSIJA

Rezultati ukupne SELEB skale i sub-skala usporedive su s dosadašnjim istraživanjima. McGorry (2012) koristio je 12 itemsku SELEB skalu sa četiri pripadajuća faktora: praktične vještine, međuljudske vještine, građanska i osobna odgovornost na uzorku studenata preddiplomskog studija. Rezultati se mogu usporediti sa srednjim vrijednostima u ovom istraživanju. Srednje vrijednosti se kreću u rasponu između 5.3 za građansku odgovornost i 6.4. za međuljudske vještine. Najviše vrijednosti SELEB skale zabilježene su u grupi s dominantno umjetničkim i estetskim motoričkim predznanjima, dok su najniže vrijednosti zabilježene u grupi s dominantnim prethodnim iskustvima u individualnim sportovima.

Ispitanici u grupi s umjetničkim i estetskim aktivnostima imaju dominantna prethodna iskustva u aktivnostima kao što su sviranje instrumenata, crtanje, društveni ples te druge aktivnosti s umjetničkim i estetskim sadržajima. Možemo pretpostaviti da takva prethodna iskustva utječu na višu razinu socijalizacije, pa tako i društvenu osjetljivost, što povezujemo s motivacijom studenata da sudjeluju u aktivnostima društveno korisnog učenja. S druge strane, dugogodišnje bavljenje individualnim sportovima može doprinijeti smanjenom interesu i angažmanu u društveno korisnim aktivnostima. Potrebna su dalja istraživanja kako bi se potvrdile ovakve pretpostavke.

Značajne razlike dobivene Post-hoc Tukey HSD testom između grupa s minimalnim prethodnim iskustvom u individualnim sportovima i grupe sa dominantnim prethodnim iskustvom u rekreativnim aktivnostima okrenutim društvu, timskim sportovima i umjetničkim i estetskim aktivnostima. Rekreativne aktivnosti okrenute društvu podrazumijevaju iskustvo u aktivnostima kao što su kuhanje, rukovanje strojevima, planinarenje, ribarstvo, vrtlarenje, i slično; dok grupa timskih sportova podrazumijeva dugogodišnje treniranje timskih sportova kao što su nogomet, košarka, odbojka, rukomet ili vaterpolo. Ispitanici obje grupe pokazuju veći interes za društveno korisne aktivnosti nego ispitanici u grupi s prethodnim iskustvima u individualnim sportovima. Važno je istaknuti da je ovo preliminarna opservacija koja mora potvrditi naredna istraživanja.

ZAKLJUČAK

U zaključku, prethodna motorička iskustva mogu utjecati na stavove i motivaciju za sudjelovanjem u aktivnostima društveno korisnog učenja kod studenata kineziologije. Možemo pretpostaviti da će studenti s prethodnim iskustvima u umjetničkim i estetskim aktivnostima, rekreativnim aktivnostima okrenutim društvu i timskim sportovima biti više zainteresirani za sudjelovanje u aktivnostima DKU. Dalja istraživanja su potrebna na uzorku studenata kineziologije koji aktivno prolaze programe DKU, te njihova refleksija na dobrobiti od DKU su neophodna kako bi se potvrdili dobiveni rezultati.

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INFLUENCE OF PREVIOUS MOTOR EXPERIENCE ON ATTITUDES ABOUT SERVICE-LEARNING AMONG STUDENTS [1][2]

Đurđica Miletić[3]
Faculty of Kinesiology, University of Split, Croatia

Ivana Jadrić
University of Split, Croatia

Alen Miletić
Faculty of Kinesiology, University of Split, Croatia

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*

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-cantered 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 **SE**rvice **LE**arning **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.*
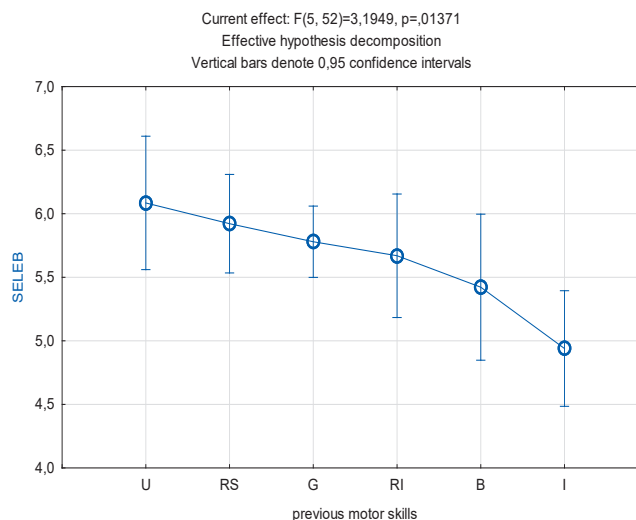
DISCUSSION

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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