

The influence of the K-1 combat sport academic module on first-year university students' views, awareness and knowledge

Authors' Contribution:

- A Study Design
- B Data Collection
- C Statistical Analysis
- D Manuscript Preparation
- E Funds Collection

Safet Kapo ^{1ABCDE}, Said El Ashker ^{2CDE}, Anida Kapo ^{3BC}, Lejla Kafedžić^{4DE}, Edin Urjan Kukavica^{5DE}, Nadža Kapo^{6BC}, Husnija Kajmović^{1ACD}, Damir Karpljuk^{7DE}, Jožef Šimenko ^{7,8ADE}

¹ Department of Combat Sports and Martial Arts, Faculty of Sport and Physical Education, University of Sarajevo, Sarajevo, Bosnia and Herzegovina

² Self-Development Department, Deanship of Preparatory Year, Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia

³ Department for Preschool Education, Faculty of Educational Sciences, University of Sarajevo, Sarajevo, Bosnia and Herzegovina

⁴ Faculty of Philosophy, Department of Pedagogy, University of Sarajevo, Sarajevo, Bosnia and Herzegovina

⁵ Art of Living, Faculty of Educational Sciences, University of Sarajevo, Sarajevo, Bosnia and Herzegovina

⁶ Faculty of Veterinary Medicine, University Sarajevo, Sarajevo, Bosnia and Herzegovina

⁷ Faculty of Sport, University of Ljubljana, Ljubljana, Slovenia

⁸ School of Life and Medical Sciences, University of Hertfordshire, Hatfield, United Kingdom

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Abstract

Background & Study Aim:

Even today, sport is essential in human development, so it is necessary to constantly remind ourselves of this fact and use it to educate children and young people. Martial arts and combat sports are recognized worldwide for their educational aspect and the moral values they instil, as their principles serve as inputs for quality educational systems in numerous countries. This study aims is knowledge about the effects of the implemented combat sport K-1 academic module on the change of attitudes and the quality of knowledge of male and female first-year students.

Material & Methods:

The study sample consisted of (n = 43) male and (n = 7) female students of the first year of the Faculty of Sports and Physical Education of the University of Sarajevo, attending theoretical and practical classes of the K-1 module during 2019/2020 academic year. The sample of variables for assessing attitudes towards combat sports consists of (n = 22) statements rated on a Likert scale from 1 to 5. The initial and final grades of male and female students were compared, and the results of the students' evaluation of the work of the K-1 module leader were analysed.

Results:

Statistically significant changes ($p < 0.05$) in the attitudes of male students in the final measurement occurred in 17 variables, while in female students such a change occurred in 7 variables. The research thus confirmed that the K-1 academic course has a lot of positive effects on both male and female students, which is reflected in the change of their opinions, high grades given to teachers for their work, as well as in the increase in students' achievements expressed through grades from the academic course.

Conclusions:

The martial arts and combat sports are more and better observed through an educational prism, and it is advisable to integrate the educational values of martial arts and combat sports into the educational system, being the practice in many advanced and organized societies in the world which lead the way toward well-being, quality and moral prosperity.

Keywords:

combat sports • curriculum • evaluation • martial arts

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Author's address:	Jožef Šimenko, Faculty of Sport, University of Ljubljana, 22 Gortanova str., 1000 Ljubljana, Slovenia; e-mail: jozef.simenko@fsp.uni-lj.si

Combat sport – *noun* a sport in which one person fights another, e.g. wrestling, boxing and the martial arts [53].

Martial arts – *plural noun* any of various systems of combat and self-defence, e.g. judo or karate, developed especially in Japan and Korea and now usually practised as a sport [53].

Brazilian Jiu Jitsu – is a type of fight in which a uniform or gi is used; its main purpose is to project or take your opponent down. Once on the ground, you must seek to control your adversary with different techniques (immobilizations, chokes, joints locks). In the absence of submission at the end of the fight, the winner is declared by the number of points won [54].

Capoeira – *noun* a martial art and dance form, originally from Brazil, that is used to promote physical fitness and grace of movement [53].

Krav maga – *noun* a martial art from Israel, used for self-defence and by the military, that emphasizes attack and techniques for causing injury [53].

Muay thai – or *thai boxing*, originates from southern Asia (not only from Thailand, but also from Burma, Cambodia, Vietnam and Malaysia). It was inspired by fighting skills used on battle fields during wars conducted by the Thais in the twelfth and thirteenth century AD. Apart from a fight with use of various weapons, during hand-to-hand fighting warriors used *kaad chuek* (wrappings around hand and fore-arm) which were hardened and studded with gravel to cause the greatest damage possible martial art originally from Thailand characterized by the combined use of fists, elbows, knees, shins and feet [55].

INTRODUCTION

Discussion about the practical and theoretical importance of sport and its disciplines in everyday life dates back to the distant past, as almost all contemporary sports disciplines were created to survive for the people and society of the old times. Even today, sport is essential in human development, so it is necessary to constantly remind ourselves of this fact and use it to educate children and young people. Great thinkers, artists and pedagogues Vittorino de Rambaldoni da Feltre, Jan Amos Komensky, John Locke, Jean Jacques Rousseau, Bernhard Basedow, Johann Heinrich Pestalozzi and others emphasized the importance of physical education and sports for overall human development [1].

Combat sports (CS) and martial arts (MA) involvement is believed to provide positive learning opportunities for youth in general and concerning specific target groups to shape young people's personalities in a socially acceptable way [2]. Martial arts and combat sports are recognized worldwide for their educational aspect and the moral values they instil, as their principles serve as inputs for quality educational systems in numerous countries. For example, in Japan, judo is practised in primary and secondary schools [3]; in China, there is kung fu (wu shu); in Korea taekwondo; in Thailand – Muay thai; in Russia – sambo; in France – savate; in Israel – krav maga, in Brazil – capoeira and Brazilian jiu jitsu, in Germany – karate, etc. Today's practice of MA and CS has a humanized form as a result of social and cultural transformation, but it is also the result of educational and academic needs. The universal sense of duty and concern for dignity, honour and integrity are consistent with the humanistic concept of martial arts theory [4].

It has been shown that physical activity through taekwondo training is considered very important for school education in the USA [5]. Additionally,

it has been shown that bullying is prevalent among students in higher education [6] and that this behaviour is increasing [7]. However, the research has highlighted that participants that practice martial arts may have better self-regulation and tend to perform fewer bullying behaviours [8] and are improving wellbeing outcomes including resilience and self-efficacy [9]. Therefore, the introduction of MA & CS content into higher education in the form of modules could be of great benefit from physical education, physical activity, and psycho-social point of view.

The basic meaning and purpose of practising martial arts and skills is the acquisition of specific motor skills, harmonious psychosomatic development, competence and satisfaction of motives [10]. MA & CS can positively affect physical fitness and health [11] as they impact positive health behaviours and quality of life [12]. Practising MA & CS improves the overall morphological status of students [13-16], improves motor skills [17-20], and improves socialization [21, 20, 22] while it builds character and reduces aggressiveness [23-25]. Additionally, by participating in MA & CS classes, children have a greater chance of achieving their academic potential [26].

In this sense, an important educational tool may be the K-1, which through its development program, focuses on better quality of life based on human, moral and spiritual values, a sense of purpose and meaning, and care for oneself, others, and nature. From the aspect of structural analysis, K-1 was created by sublimation of martial disciplines: karate, kempo, kickboxing, taekwondo, kakutogi, box, kung fu and Thai box. The best features of those motion structures were combined, and one dominant structure was made, which was named K-1. K-1 is a competition to determine the single best stand-up fighter in the world [27, 10].

Observing K-1 as a teaching module, its goals are distinguished: a) Education of students through the philosophy, codes and principles of martial sports with an emphasis on healthier lifestyle, better physical fitness, increasing of self-confidence, setting and achieving of set goals, increasing maturity, perseverance in everything they do, adaptation and affirmation in the community, respect for oneself, the others and the environment, the quality of interpersonal relationships; b) Education of students – through the history and rules of K-1, analysis of K-1 sport/structural analysis, anthropological characteristics, analysis of martial sports that participate in K-1, technical and tactical elements of K-1, basic methods in K-1 sport, specific methods of training in K-1 sport, evaluation of technical preparation in K-1 sport, obtaining information, through the study of K-1, about eight martial sports on the basis of which it is easier to decide for further training and studies related to martial sports; c) To master basic modern theoretical, scientific and practical (experiential) knowledge and skills about sports training and improvement of K-1; d) Master the specialties and specifics of sports didactics of K-1 in technique, tactics and motor skills; e) To enable students to successfully use the knowledge acquired in theoretical and practical classes as well as during training in the implementation of educational process for male and female pupils of different ages, as well as male and female students. According to the Faculty of Sports and Physical Education curriculum, the K-1 course consists of practical and theoretical parts. Practising martial K-1 art develops general and situational motor abilities and intellectual and functional abilities and influences the formation of specific structures of personality traits, systems of values and motivation [10].

Knowledge of students' opinions towards martial arts, i.e., their intensity and direction, is of particular importance due to the possibility of detecting possible prejudices to influence the shaping of male and female students' attitudes towards martial sports through the teaching process. Theories of teaching and learning have emphasized long time ago the important role that teachers play in supporting the development of students in areas beyond their core academic skills. For example, the conceptualization of high-quality teaching describes the set of emotional supports and organizational techniques that are as important to students as well as teaching methods used by

their teachers [28]. They reveal that by providing 'emotional support and a predictable, consistent and safe environment', teachers can help students to become more independent, motivated to learn, and willing to take risks.

Furthermore, by modelling strong organizational and management structures, teachers can help self-regulate behaviour, and they emphasize the importance of teachers in developing students' attitudes. High-quality teachers are expected not only to encourage higher test scores through their teaching but also to provide a stimulating environment that contributes to students' social and emotional development, as well as to manage classroom behaviour, present content, and support critical thinking [28-30]. Research shows that climate affects the academic achievements of students and their well-being, as well as personal and social development [31, 32]. In connection with the above-mentioned, martial arts and sports are increasingly viewed through an educational prism, and the moral values and principles of martial arts are presented as a framework through which a better system of upbringing and education can be established, which is already recognized and applied in the world [10].

This study aims is knowledge about the effects of the implemented combat sport K-1 academic module on the change of attitudes and the quality of knowledge of male and female first-year students.

MATERIAL AND METHODS

Sample

The sample of examinees in this study consists of first-year students of the Faculty of Sports and Physical Education of the University of Sarajevo that attended theoretical and practical parts of the K-1 module during the 2019/2020 academic year. The total number of students was (n = 49), of which (n = 43) were male and (n = 6) female.

All procedures have been made in accordance with the Helsinki Declaration recommendations and ethical standards of the Ethical Committee of the University in Sarajevo (01-4729/18).

Questionnaire

For this research, a modified questionnaire [33] was applied, graded on a 5-point Likert scale (completely correct 5, partially correct 4, not sure 3,

Sambo – is a Russian martial art and combat sport.

The word "SAMBO" is an acronym for **SAMozashchita Bez Oruzhiya**, which literally translates as "self-defense without weapons". Sambo is relatively modern since its development began in the early 1920s by the **Soviet Red Army** to improve their hand-to-hand combat abilities. It was intended to be a merger of the most effective techniques of other martial arts. The pioneers of Sambo were **Viktor Spiridonov** and **Vasili Oshchepkov**. Oshchepkov died in prison as a result of the **Great Purge** after being accused of being a Japanese spy. Oshchepkov spent several years living in Japan and training in **judo** under its founder **Jigoro Kano** [56].

Savate – also known as **French boxing (boxe Française)**, is a French kickboxing combat sport that uses the hands and feet as weapons combining elements of English **boxing** with kicking techniques [57].

Wushu – noun Chinese martial arts considered collectively [53].

partially incorrect 2, completely incorrect 1), from extremely negative to extremely positive attitude. The statements were clear and positioned in a specific order. The scale has been shown to have satisfactory metric characteristics with high validity and reliability ($r = 0.848$) [34, 35].

The variables of the questionnaire and knowledge check with module leader assessment

The following variables comprised the questionnaire: 1. I would never learn K-1 sport; 2. I don't understand people who enjoy fighting each other; 3. K-1 sport is exclusively stimulating for the physical development of man; 4. K-1 sport encourages aggressiveness; 5. It is my pleasure to overpower my opponent, using my own intelligence and skill; 6. K-1 is not more dangerous than other combat sports; 7. K-1 sport should be banned because it encourages violence between people; 8. K-1 stimulates the development of many psychological functions; 9. I enjoy watching K-1 fights; 10. K-1 sport should be introduced into mandatory educational plans and programs within physical and health education school modules; 11. K-1 is a sport that teaches people self-control and respect for others; 12. I would not allow my child to practice K-1; 13. K-1 is a sport that encourages us to always set new goals; 14. K-1 is a sport that requires discipline and sacrifice; 15. Skills acquired in K-1 are important in everyday life as well; 16. K-1 makes us more tolerant; 17. K-1 does not appeal to me because there is always a risk of hurting myself or someone else; 18. By training K-1, we become more resistant to stress; 19. Combativeness is a noble quality of people; 20. K-1 is an extremely violent sport and, as such, is undesirable; 21. Skills acquired by practising K-1 sports should be promoted more in media for the purpose of upbringing and education; 22. K-1 sport should be popularized more.

Variables for checking and evaluating knowledge were initially the first colloquium (8th week of module – theoretical and practical), second colloquium (15th – week of module – theoretical and practical) and after the course in the exam period the final exam (theoretical and practical) of K-1 module for the students.

Variables for teacher evaluation by students: 1. *Rate the quality of communication with the teacher taking into account unambiguous clarification of*

tasks related to teaching, polite and correct communication and respect, and appropriate relationship with students (OKKSN); 2. Rate how satisfied you are with the new knowledge you gained during the classes (OKSZKNSI) and 3. Rate how satisfied you are with the implementation of the lecture by the teacher (OKSZRPOSN).

Data collection methods

The data were collected during classes held at the Faculty of Sports and Physical Education as part of regular K-1 module classes that lasted for fifteen weeks. An initial survey of male and female students was conducted during the first week of the module. Afterwards, theoretical, and practical classes were conducted. In the 15th week, a final survey of male and female students was conducted. All teaching units were implemented following the implementation plan of 2 hours of theoretical sessions-lectures followed by 2 hours of practical sessions per week. In total the module lasted for 60h. Verification and evaluation of students' knowledge were carried out initially via first colloquium, second colloquium and final exam.

Statistical analysis

An analysis of the statistical data was conducted with SPSS V25.0 (SPSS Inc., Chicago, USA). The variables under investigation were described by their centre of tendency (means, **M**) as well as their standard deviation (**SD** or \pm). T-tests was used to reveal any statistically significant differences within groups (paired sample t-tests). Significance level was set at $p < 0.05$.

Sig(2-tailed) item in the output is the two-tailed p-value. The p-value is the evidence *against* a null hypothesis. The smaller the p-value, the stronger the evidence that you should reject the null hypothesis. If you have a small p-value in this area then the test has a significant result; You can reject the null hypothesis that the mean is not equal to a specified mean. A "small" p-value is one that is less than your chosen alpha level; If you didn't choose an alpha level, then use 5% (0.05). The "specified mean" is the one you stated in the "hypothesized mean difference" box when you ran the test.

RESULTS

The differences in results of the initial and final survey of male students after 15 weeks of the K-1 module, where statistical significance is noticeable

in 17 variables, namely: *Var 1*: I would never learn K-1 sport (0.005); *Var 2*: I don't understand people who enjoy fighting each other (0.001); *Var 4*: K-1 sport encourages aggressiveness (0.001); *Var 6*: K-1 is not more dangerous than other combat sports (0.000); *Var 7*: K-1 sport should be banned because it encourages violence between people (0.007); *Var 8*: K-1 stimulates development of many psychological functions (0.001); *Var 9*: I enjoy watching K-1 fights (0.007); *Var 10*: K-1 sport should be introduced into mandatory educational plan and program within physical and health education school subject (0.000); *Var 11*: K-1 is a sport that teaches people

self-control and respect for others (0.000); *Var 13*: K-1 is a sport that encourages us to always set new goals (0.007); *Var 15*: Skills acquired in K-1 are important in everyday life as well (0.001); *Var 16*: K-1 makes us more tolerant (0.000); *Var 17*: K-1 does not appeal to me because there is always a risk of hurting myself or someone else (0.006); *Var 19*: Combativeness is a noble quality of people (0.009); *Var 20*: K-1 is an extremely violent sport and as such is undesirable (0.000); *Var 21*: Skills acquired by practicing K-1 sports should be promoted more in media for the purpose of upbringing and education (0.015); *Var 22*: K-1 sport should be popularized more (0.000) (Table 1).

Table 1. Results (initial and final) of arithmetic mean, standard deviation, and t-test for dependent samples among male students (n = 43).

Variable (Var)	Initial		Final		95% Confidence Interval		t	Sig(2-tailed)
	M	SD	M	SD	lower	upper		
1	2.25	1.35	1.43	0.82	0.26	1.38	2.96	0.005
2	2.32	1.39	1.48	0.85	0.35	1.33	3.49	0.001
3	3.70	1.17	4.05	1.31	-0.92	0.23	-1.20	0.238
4	2.39	1.30	1.55	1.02	0.36	1.32	3.56	0.001
5	4.23	1.05	4.64	0.84	-0.82	0.00	-2.01	0.051
6	3.02	1.05	4.48	1.02	-1.91	-1.00	-6.49	0.000
7	2.07	1.28	1.34	0.86	0.21	1.25	2.83	0.007
8	3.75	0.97	4.50	0.88	-1.16	-0.34	-3.69	0.001
9	3.52	1.23	4.25	1.04	-1.24	-0.21	-2.86	0.007
10	3.34	1.18	4.36	0.84	-1.47	-0.57	-4.57	0.000
11	3.70	1.02	4.64	0.72	-1.33	-0.53	-4.69	0.000
12	2.11	1.35	1.64	0.99	-0.04	1.00	1.86	0.070
13	3.91	1.01	4.52	0.85	-1.05	-0.18	-2.84	0.007
14	4.18	0.79	4.57	0.87	-0.79	0.01	-1.95	0.058
15	3.82	0.99	4.50	0.76	-1.08	-0.28	-3.46	0.001
16	3.77	0.89	4.57	0.66	-1.16	-0.43	-4.42	0.000
17	2.68	1.33	1.82	1.11	0.27	1.46	2.92	0.006
18	3.86	1.07	4.23	1.08	-0.87	0.14	-1.44	0.156
19	4.20	0.82	4.68	0.64	-0.83	-0.13	-2.75	0.009
20	2.45	1.35	1.41	0.92	0.50	1.59	3.87	0.000
21	3.80	1.07	4.39	0.95	-1.06	-0.12	-2.54	0.015
22	3.80	1.11	4.59	0.76	-1.18	-0.41	-4.16	0.000

bold numbers $p < 0.05$

The differences in results of the initial and final survey of female students after 15 weeks of the K-1 module, where statistical significance is noticeable in seven variables, namely: *Var 4*: K-1 sport encourages aggressiveness (0.026); *Var 6*: K-1 sport is not more dangerous than other combat sports (0.006); *Var 8*: K-1 is a stimulating sport for the development of many psychological functions (0.018); *Var 11*: K-1 is a sport that teaches people self-control and respect for others (0.010); *Var 14*: K-1 is a sport that requires discipline and sacrifice (0.038); *Var 16*:

K-1 makes us more tolerant (0.004); *Var 20*: K-1 is an extremely violent sport and as such is undesirable (0.011) (Table 2).

The t-test for dependent samples was used to assess the effects of teaching during the first and second practical and theoretical colloquium of K-1 course. Among male students, there was a significant increase in grades, comparing initial checking of students' knowledge (M = 6.96 ±1.75) with final checking of students' knowledge (M = 8.12 ±1.26), t (31) = -6.85, p<0.001. Among

Table 2. Results (initial and final) of arithmetic mean, standard deviation, and t-test for dependent samples for female students (n = 6).

Variable (Var)	Initial		Final		95% Confidence Interval		t	Sig(2-tailed)
	M	SD	M	SD	lower	upper		
1	2.00	1.00	1.71	0.95	0.26	1.38	2.96	0.631
2	1.86	1.07	1.29	0.49	0.35	1.33	3.49	0.280
3	4.00	0.82	4.00	1.29	-0.92	0.23	-1.20	1.000
4	3.00	1.53	1.14	0.38	0.36	1.32	3.56	0.026
5	4.57	0.53	4.57	0.53	-0.82	0.00	-0.01	1.000
6	2.86	1.07	4.86	0.38	-1.91	-1.00	-6.49	0.006
7	1.86	1.07	1.14	0.38	0.21	1.25	2.83	0.094
8	3.71	0.49	4.71	0.49	-1.16	-0.34	-3.69	0.018
9	3.14	1.21	3.71	1.50	-1.24	-0.21	-2.86	0.508
10	3.29	1.25	4.29	0.49	-1.47	-0.57	-4.57	0.134
11	3.29	1.11	4.86	0.38	-1.33	-0.53	-4.69	0.010
12	2.00	1.29	1.71	1.11	-0.04	1.00	1.86	0.703
13	3.71	0.95	4.43	0.79	-1.05	-0.18	-2.84	0.220
14	4.00	1.00	5.00	0.00	-0.79	0.01	-1.95	0.000
15	3.71	0.76	4.57	0.53	-1.08	-0.28	-3.46	0.045
16	3.71	0.76	5.00	0.00	-1.16	-0.43	-4.42	0.004
17	2.43	1.13	1.43	0.79	0.27	1.46	2.92	0.062
18	4.00	1.15	4.14	0.90	-0.87	0.14	-1.44	0.604
19	4.43	0.79	4.57	0.79	-0.83	-0.13	-2.75	0.736
20	2.86	1.07	1.14	0.38	0.50	1.59	3.87	0.011
21	3.57	1.13	4.29	0.76	-1.06	-0.12	-2.54	0.182
22	3.86	0.90	4.14	1.21	-1.18	-0.41	-4.16	0.356

bold numbers p<0.05

female students, there was no significant increase in grades, comparing the initial knowledge test ($M = 8.00 \pm 1.63$) with the final knowledge test ($M = 8.85 \pm 0.37$), $t(6) = -1.686$, $p > 0.005$.

Very high student grades are visible, being as follows: (OKKSN) *Rate the quality of communication with the teacher, taking into account his unambiguous clarification of tasks in connection with the lesson, polite and correct communication, respect and appropriate relationship with students* (4.84), (OKSZKNSI) *Rate how satisfied you are with the level of new knowledge and information you have acquired during classes* (4.79) and (OKSZRPOSN) *Rate your satisfaction with the implementation of lectures by the teacher* (4.89) (Figure 1).

DISCUSSION

A motivation for implementing this research was to show how martial arts and combat sports can positively influence individuals and society differently than usual. First-year students' opinions and knowledge have been changed due to the implemented teaching, and a statistically significant difference in results between the initial and final survey was noticed. Statistical significance in the answers of male students was found in 17 variables, namely six variables with a negative sign and eleven with a positive sign. In comparison, in the answers of female students, statistical significance was found in seven variables, namely two with a negative sign and five with a positive sign.

The reason for changes in the opinion of male and female students towards K-1 and sports that participate in K-1 could probably be explained by their previous educational settings, where they did not have a clear perception of martial arts and combat sports and their positive effects in the educational and practical sense. Researchers who work in this field believe that the negative image of the analysed disciplines is mainly created by the media, which portrays the wrong image of martial arts and sports for their own benefit, separating them from their philosophical, religious, and ethical values, thus creating delusion and stereotypes. This can be supported by the research presenting that the brutalization of martial arts is largely the result of ignorance and misunderstanding of the underlying values of these disciplines [36].

Additionally, it has been discussed that popularization related to show business is very harmful, resulting in the identification of martial arts only with fighting and brutality [36]. Power and violence are still promoted in mass culture and often become behaviour model for children and young people [37]. All of the above can influence public opinion, including students. In the theoretical and practical parts of K-1 course, the work was synchronized in such a way that students could learn all its positive elements that can be applied in the teaching process and in life in general. Through K-1 teaching process, students learn to master themselves, which is the first step towards mastering the world around them. The combination

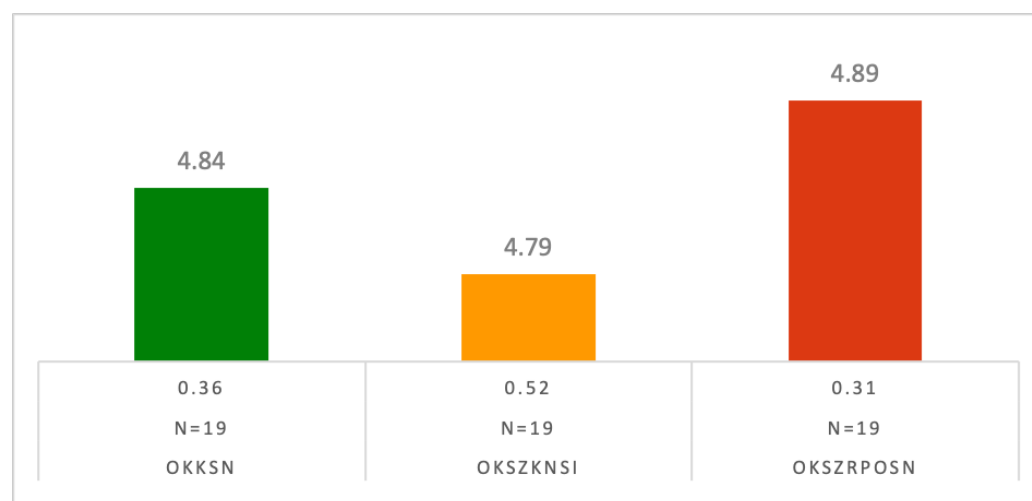


Figure 1. Average grades of students based on internal evaluation of K-1 module leader.

of ethics, discipline, and multiple movements with a thorough knowledge of the principles and goals of their course allows K-1 principles to optimally influence all spheres of life development, which students recognized by attending classes and taking exams from this subject. Male and female students highly rated the educational value of the K-1 course, and most of them changed their attitude towards this sport after the teaching process. As a result, they believe that elements of martial arts should be applied in the process of physical education of children and young people. The results from the research unequivocally indicate high awareness of students about the importance of the combat sports K-1 module, as well as the general importance of MA & CS and in the physical education of children and young people.

Several researchers have found that martial arts training effectively reduces hostility and anger among participants [38, 39]. It was also reported that taekwondo training positively affected young students' self-control, executive functions, classroom behaviour, and exercise functions [40]. The training also influenced young students' adaptation to school, as they experienced correspondingly favourable effects in relation to their relationships with teachers, friends, and school teaching and norms.

The description of axiological values of MA & CS points to the development of physical-physiological, psychological and personality traits with tendencies towards perfectionism [4]. Furthermore, a meta-analysis concluded that each group of young participants showed positive effects on their character development thanks to participation in martial arts [2]. Broadly speaking, practising martial arts and sports guarantees the development of students' physical abilities and personalities with the aim of further improvement but also prepares them for a creative and autonomous life and optimal action under challenging situations [41]. In addition to health benefits, practising MA and CS is used in many other fields: moral education, reduction of social brutality, then as a positive model of behaviour, while at the same time representing a source of well-being [36, 42, 2, 43]. Researchers from the European Association for Physical Education (EUPE) concluded that this specific form of physical activity provides many benefits due to its multiple values, martial arts have been introduced into school physical education programs in European countries [44].

It is important to note several important things that characterize this research, namely that the students had low grades at the first colloquium, most likely because they thought they understood and practically knew martial arts and related skills. However, through the process of learning different MA & CS, skills, and technical elements, they showed significant improvement in their theoretical and practical knowledge in the final exam. This is indicated by the statistically significant difference between the first colloquium and the final exam. Particularly interesting are the female students. They did not have statistically significant differences in their skills and knowledge, but their obvious continuity of knowledge, assessed by grades, is constant. This means that female students had a much more responsible approach to the process of acquiring K-1 module knowledge and skills. One of the most likely reasons for this is violence and insecurity in real life, which motivated them to learn MA & CS as best as possible, which could help them in various life activities, especially in incident situations.

The manner of presentation, methodology and interactive work of the module leader influenced the opinion of male and female students, as shown by the results of the internal evaluation. It is well known that educators' ethical and moral authority plays an important role in this process. The average student ratings for the module leader were OKKSN (4.84) – *Rate the quality of communication with the teacher, taking into account his unambiguous clarification of tasks in connection with the lesson, polite and correct communication, respect and appropriate relationship with students*; KSZKNSI (4.79) – *Rate how satisfied you are with the level of new knowledge and information you have acquired during classes* and OKSZRPOSN (4.89) – *Rate your satisfaction with the implementation of lectures by the teacher*. Research shows that strong relationships between students and their teachers are critical to student development in school [45, 46] and they suggest that a positive relationship with a teacher allows students to work independently because they know they can count on their teacher if problems arise, i.e. that the teacher will recognize the problem and respond to it. As children enter formal school settings, relationships with teachers provide the foundation for successful adjustment to social and academic environments. Research also highlighted

the practice of effective teachers and determined that 'an effective teacher-student relationship can be the keystone that allows other aspects to work well' [47].

Meyer and Turner [48] found that 'by studying student-teacher interactions, our conceptualization of what constitutes motivation to learn has increasingly included emotions as crucial to learning and teaching'. Their results support further study of interpersonal relationships in the classroom and the extent to which these relationships affect the learning environment for students. The quality of the student-teacher relationship results in a greater degree of learning in the classroom [49]. Therefore, some critical success factors must be considered. One of these factors is the type of leadership. It is the teacher's responsibility to acknowledge his students and, in accordance with that, to make the subject interesting, motivating, and attractive for his students. Therefore, future CS & MA modules in university settings should be carefully designed and an experienced teacher should be chosen to deliver the sessions. Student satisfaction is defined differently, depending on the focus of the researcher. In the academic environment, satisfaction is defined as the degree to which students are satisfied with various issues related to studies, the quality of teaching, the availability of courses and the size of teaching groups [50].

The K-1 module, based on the obtained results, perfectly integrates upbringing and personality education because MA & CS serve as a method of developing values and skills that students can use outside of class. Skills such as self-confidence, self-control, positive thinking, listening skills, respect, good manners, ability to focus, perseverance and courage represent the foundation of K-1 curriculum and sports. The core of the K-1 curriculum emphasizes the importance of a healthy mind and body, which are necessary for a productive life. The K-1 module, in which most of the listed MA & CS participation, produced statistically significant results in changing opinions of male and female students and benefits that the curriculum provided educative, educational, and practical effects. This research shows the strength and value of using martial arts sports. This fact leads to the idea of the necessity of practising martial arts and combat sports [51]. The research results highlight that a combination of ethics, discipline, and multiple movements

with fundamental knowledge of principles and goals enables the resources available in the K-1 subject to optimally affect all spheres of development of students during studies and in everyday life activities.

The research needs to acknowledge some limitations. The student feedback could be impacted by the 'Studentship' affect [52]. Therefore, a follow up study on the same participants in the higher years of study would be interesting in order to check their responses. Additionally, the impact of the module could be different if the module would be carried out in the 3rd year of studies when the students would have a much larger foundational knowledge of sports and pedagogical procedures. However, this needs to be further investigated.

CONCLUSIONS

The results obtained from this research confirm the high awareness of male and female students about the importance of martial arts within the K-1 curriculum. Many social communities worldwide have a significant presence of MA & CS in the curricula of Physical and Health Education in education processes at all levels. For this reason, the K-1 module, with its content and the professional work of teachers, provides tools that deliver knowledge and skills to students, which are transferable for their future, adaptation to difficulties, their ability to nurture universal life values, and building of man as a complete human being, preparing him for successful further life and work. It is well known that contemporary education is often focused on development of intellect and skills, while very little importance is given to development of positive traits and character in general. In this process, the upbringing plays a key role.

All of the above mentioned is confirmed by the answers of male and female students to the questions that have statistical significance, being as follows: 'K-1 sport should be introduced into mandatory educational plan and program within Physical and Health Education school subject' and 'K-1 sport can be method of upbringing within the process of developing of the values in children and young people', which gives clear guidelines that the education process should not only convey information, but develop life values as well.

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