

PE & RECREATION

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Martial arts as a form of physical activity for children and young people in the opinion of adult inhabitants of Podkarpackie Voivodeship

Submission: 7.12.2019; acceptance: 2.02.2020

Key words: fighting arts, physical activity, children and young people

Abstract

Background. This article presents the results of multi-layered empirical research into martial arts as a form of physical activity for children and adolescents in the opinion of adult residents of Podkarpackie Voivodeship. A proper semantic and conceptual system was used for the work. The empirical study was conducted in May and June 2019.

Problem. The main goal of the quantitative and qualitative research for this article was to explore the approach to martial arts as a possible form of physical activity for children and adolescents from the perspective of the opinions of parents or other adult residents of Podkarpackie.

Method. The diagnostic survey method was used in this empirical study. The basic research tool was an anonymous questionnaire, consisting of 24 questions. Online techniques were used to conduct the survey. The quantitative range of the research group was $n = 150$ people - residents of Podkarpackie province. Statistical analysis was performed using χ^2 (chi square) independence tests. The strength of the relationship between the analyzed variables was determined using Pearson's C contingency coefficient.

Results. The respondents emphasized that martial arts have a significant impact on mental health and in shaping the character traits of young people. According to the respondents, practicing martial arts increases the level of physical fitness of children and adolescents, and teaches elements of self-defence. Gender significantly differentiates martial arts assessments.

Conclusions. Karate is the most popular martial art among the subjects. In turn, a large proportion of respondents felt that cycling or running are more suitable for children and young people than martial arts.

Introduction

Physical activity is a variety of activities related to skeletal muscle movements that cause energy expenditure at a higher level than at rest. We can mention here activities related to the performance of specific work, e.g. cleaning up the house, on the plot, related to movement, e.g. walking, running, cycling, roller-skating [Ward, Saunders, Pate 2007]. The right level of physical activity plays a very important role in the somatic, motor, social and psychological development of the young generation. Research conducted in the area of medical sciences, health sciences and physical culture sciences shows that systematic physical activity increases the efficiency of the

body, reduces the incidence of many diseases, as well as supports the healing and recovery process after injuries and illnesses. Scientific dissertations prove that regular physical activity reduces the risk of cardiovascular disease, diabetes, breast cancer, endometrial cancer or colorectal cancer [Katzmarzyk, Janssen 2004; Warburton, Nicol, Bredin 2006; Brown, Burton, Rowan 2007; Khan *et al.* 2012; Warburton, Bredin 2016].

Test results generally show a positive effect of physical activity on maintaining a normal BMI body mass index [Rashad 2007; Lakdawalla, Philipson 2007]. Increasing physical activity reduces the risk of obesity and improves overall fitness [Baker, Sirois-Leclerc, Tulloch 2016]. Increased physical activity reduces the risk

of death from 5% to 23% [Balía, Jones 2008]. Another researcher noted that at least one hour of moderate physical activity reduces the risk of death by 33% [Sabia *et al.* 2012]. Scientific studies also indicate a statistically significant decrease in the risk of death due to causes related to the cardiovascular system, on average by 35% [Cheng *et al.* 2013]. Reducing physical activity can lead to an increased risk of coronary heart disease in women and a heart attack in both sexes [Petersen *et al.* 2012].

Interesting are also scientific reports on the impact of physical activity on human mental health. Regular physical activity affects progress in the treatment of depression [Krogh *et al.* 2011; Silveria *et al.* 2013]. With systematic physical activity, you can also delay aging. For physically active people, the risk of cognitive skills decreases by up to 42%, the risk of developing Alzheimer's disease by 50%, and the risk of dementia by 37% [Laurin *et al.* 2001].

Scientific research also proves the impact of physical activity on the educational achievements of children and adolescents. Results of an experiment carried out in Trois-Rivieres (Quebec, Canada) between 1970 and 1977 showed the impact of increased physical activity (5 hours of physical education per week) students on higher average results in mathematics, but lower on a foreign language [Shephard, Trudeau 2008]. The results of another experiment indicated that the group who had been using additional physical education classes for two years had better reading results than the control group [Ericsson 2008]. Participation in inter-school competitions while studying increases the likelihood of graduating [Long, Caudill 1991]. Regular participation in extracurricular sports activities increases the cognitive and uncognitive skills of students, improves their health and has a positive impact on emotional state and social contacts [Felfe, Lechner, Steinmayr 2011]. Analysis of the impact of physical activity at the pre-school education stage showed that girls who had at least 70 minutes of physical education a week achieved better results in mathematical skills and reading [Carlson *et al.* 2008]. Data from the German Socio-Economic Panel (GSOEP) indicate that people who participated in extracurricular sports activities during school education later achieved a higher level of education than people who did not play sports [Pfeifer, Comelissen 2010].

Based on the selected positive aspects of systematic physical activity presented above, it can be seen that regular exercise of specific forms of physical exercise, taking into account their weekly size, appropriate level of intensity and volume is a prerequisite for proper human development – regardless of age. This is particularly important in relation to the young generation, i.e. children and young people. Therefore, it is worth looking for such forms of physical activity that will have a holistic and comprehensive impact on the various processes of psychophysical development of each student.

According to the authors, the features of this form of physical activity can be filled by martial arts.

Martial arts, e.g. *aikido*, *judo*, *jujutsu*, and *karate* (Japanese *budo*) or Chinese *kung-fu*, teach martial arts in themselves, self-improvement through the kind of martial arts practiced, harmony between the body and the spirit, and doing general good. We adopt the theoretical perspective and conceptual language of the General Theory of Fighting Arts [Cynarski, Skowron 2014; Cynarski 2019]. These arts are treated as a way of life [Aronson 1997]. Multi-faceted scientific research confirms the impact of martial arts on the comprehensive psychophysical development of people who systematically engage in this form of physical activity. Martial arts training improves willpower and discipline, requires regular and multiple repetitions, and this leads to perseverance. Nothing can be achieved without permanently following the steps of initiation. “Even a master should not neglect exercise. If he forgets about it, it's as if he can't do anything” [Yamamoto 2008: 110]. Learning more techniques in martial arts increases self-confidence, reduces the level of anxiety, increases a sense of security in situations of real danger, or helps control one's own emotions [Milkowski 1983]. Conclusions from other scientific studies prove that karate people are characterized by low nervous tension, less suspicion, as well as guilt and negativity [Weinberg, Stabourn, Jackson 1982].

Interest in martial arts of European society, including Polish, results from, among others from the fact that “people want to do something special, a little exotic. Many deal with Chinese philosophy or Japanese samurai tradition, Zen.” Therefore, undertaking martial arts training may be conditioned by exoticism and fashion, as well as an aspect of self-defence with the myth of the miraculous technique [Cynarski 2000: 83]. Practicing martial arts also develops mindfulness and readiness for immediate action, including an appropriate state of alertness, maintaining a certain level of attention and awareness of the environment [Yamatsuta 2012].

Taking into account health and educational effects, as well as those relating to human personality, the authors of this study undertook an empirical verification of the thesis that martial arts (traditionally understood and practiced) may be an appropriate form of physical activity for children and adolescents. The physical activity of children and adolescents should not only be a form of play, but it should also keep upbringing values, which in each person's life acquire meaning and expression with age [Marcinkowski 2004: 17]. Considering the fact of the natural need for physical activity from an early age, among all physical activities, those that act as stimulants of physical development and showing emotions [Wojnarowska, Jodkowska, Oblacinska 2000] are of special importance. They are designed to expand the range of practical skills and stimulate imagination and ambition. Properly selected types of physical activity can also build

self-confidence and be a source of healthy optimism in a young person [Tokarski 1989]. At the same time, they create the opportunity to shape positive character traits: discipline, accuracy, honesty, responsibility or self-control [Walendzik Zimna, Grzybowski 2003: 38]. In addition, it is also worth mentioning that they prepare children and young people for trouble-free cooperation and co-existence in a group, which translates into the ease of building good and healthy relationships in adult life, both private and professional [Zukowska 1995].

Today, Far Eastern martial arts are often perceived as an element of global culture in the world today. They are cultivated both as a kind of self-defence, as well as recreational and health exercises, as well as martial arts. Young generations are characterized by the need for identification, which is why they are open to role models promoted by the media world. The main sources of information for children and adolescents are available media sources. The development of the Internet and the unlimited availability of movies on martial arts and samurai culture make the awareness and knowledge of Western societies on this subject increase [Rychalska-Los, Pedek 2006]. In martial arts, you can adapt the training to the capabilities of the sport practitioners, so in the case of weaker people, the emphasis is on more subtle techniques. Due to the fact that most martial arts are not geared towards sports competition, it is a path that you can join at any age. In the case of children and adolescents, the exercises are adapted to the age, height, endurance, physical condition, weight and health parameters, therefore the risk of injury and injury during training is minimized. It is a form of physical activity that engages the whole body in active activity [Marcinkowski 2004].

Purpose of research

The main objective of the article was to examine the opinions of adult residents of Podkarpackie Voivodeship about martial arts as a form of physical activity for children and young people. In the general research perspective adopted in this way, attempts were made to determine the state of knowledge of adult residents of Podkarpackie Voivodeship on the subject of knowledge of martial arts and indicating the motives for choosing martial arts as a form of physical activity that can be practiced by children or young people – in the opinion of the respondents.

Methodology. Test methods

The research for this work was conducted using the diagnostic survey method among adult residents of Podkarpackie Voivodeship from May to June 2019, using

an anonymous questionnaire. The survey was conducted among respondents in various age groups. The diagnostic survey method was used with the survey technique and the pilot study carried out previously. The survey questionnaire adopted for the actual study consisted of a metric in which gender, age, place of residence and education were asked. The second part of the questionnaire consisted of questions related to the knowledge and opinion of the respondents about martial arts as a form of physical activity of children and youth. In total, the questionnaire contained 24 questions. Percentages were calculated here.

Statistical analysis was performed using χ^2 (chi square) independence tests. It allows to verify the hypothesis about the diversity of opinions expressed due to the grouping variable. The strength of the relationship between the analyzed variables was determined using Pearson's C contingency coefficient.

Social and demographic characteristics of the study group

The study involved $n=150$ adults living in Podkarpackie Voivodeship. Most of the respondents were women – 58%. The age of the respondents ranged from 18 to 73 years. The questionnaire used four age ranges: 18-30 years – 40.6% of respondents were selected, while in the 31-50 years range, 29.3% of respondents declared, 51-70 years received information from 22.6% of respondents, the smallest percentage was the group of respondents above 70 years – 7.3% (Fig. 1).

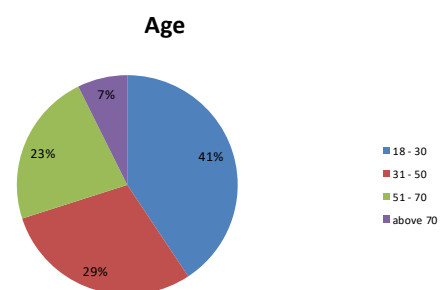


Fig. 1. Age of respondents

Source: authors' own research and development

The survey took into account the educational background of the respondents. The most numerous group were people with higher education. In this group of respondents, 46.6% of respondents had upper secondary education, 29.3% of respondents had undergraduate education. There were 10.6% of people with vocational education, 4.6% of the respondents were identified with additional post-graduate education and the same percentage were respondents with secondary education. Only 4% of respondents had basic level education (Fig. 2).

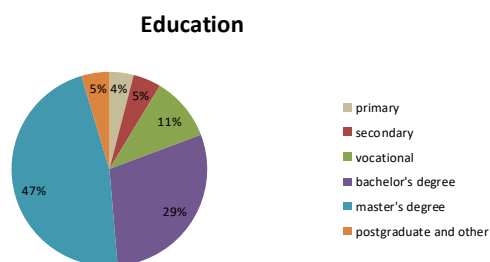


Fig. 2. Education of the respondents

Source: authors' own research and development

The vast majority of respondents lived in the city – 61.3%, while 38.6% of those surveyed were rural residents (Fig. 3).

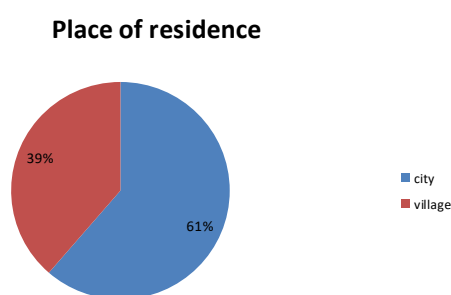


Fig. 3. Place of residence

Source: authors' research and development

Results

Figure 4 shows the place of martial arts as a form of physical activity for children and adolescents in the respondents' opinions. In this summary, for 7.10% of respondents, martial arts are a proper form of physical activity that can be practiced by children and young people.

Analysis of the collected material showed that 45.3% of respondents are of the opinion that young people should engage in physical activity at least 5 times a week. According to 24% of respondents, physical activity should be undertaken daily. A slightly lower percentage are people who consider the optimal frequency of movement less than three times a week. However, 7.3% believe that it should be less than once a week.

47.3% of respondents believe that martial arts are not an appropriate form of physical activity for children and adolescents. A slightly smaller percentage of respondents – 43.3% are of the opposite opinion and believe that this is an appropriate form of movement.

The subjects were asked about the types of martial arts they knew. Karate proved to be the most popular – 36.6%, while Taekwondo was selected by only 0.6% of respondents. The remaining results are illustrated in Figure 7.

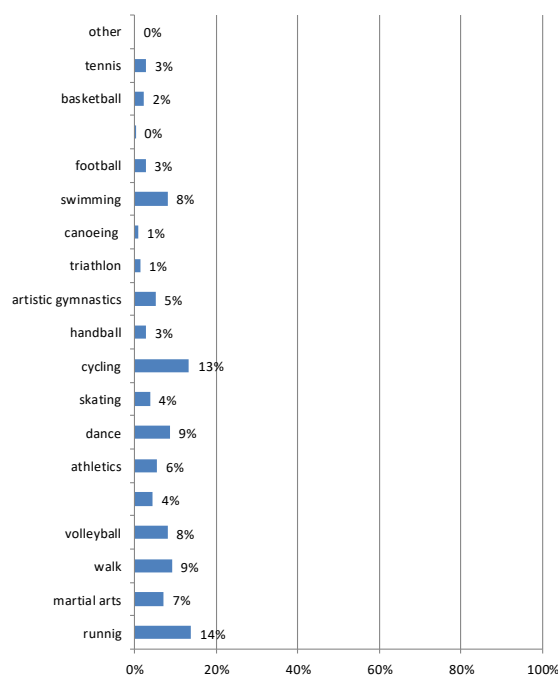


Fig. 4. Types of physical activity

Source: authors' own research and development

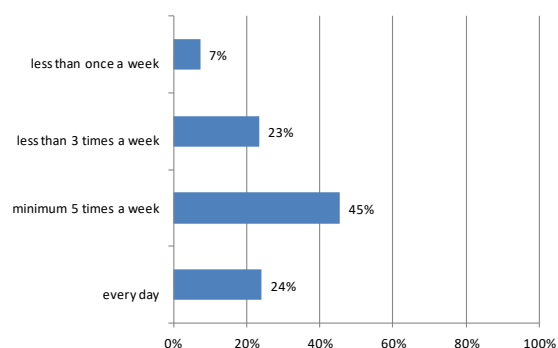


Fig. 5. The frequency of undertaking physical activity by children and adolescents

Source: authors' own research and development

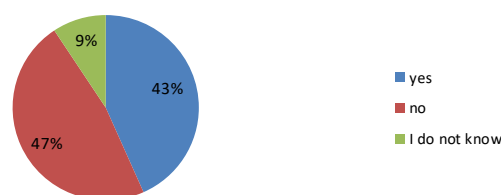


Fig. 6. Martial arts as physical activity for children and youth

Source: authors' own research and development

Another problem concerned expressing opinions on whether martial arts are a good way to “discharge energy” in children and adolescents. In this case, 64% of respondents considered this to be the right way, while 36% were of a different opinion. According to 83.3% of respondents, practicing martial arts increases physical

fitness in the young generation, while 16.7% of respondents had a different opinion.

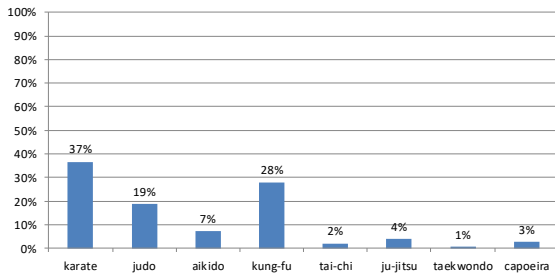


Fig. 7. The popularity of types of martial arts
Source: authors' own research and development

According to most respondents (53.4%), martial arts training should take place once a week. According to 21.3% of respondents, three times a week, the same percentage believes that training should take place less often than once a week. The smallest percentage – 4% were the respondents who decided that they should train every day (Fig. 8).

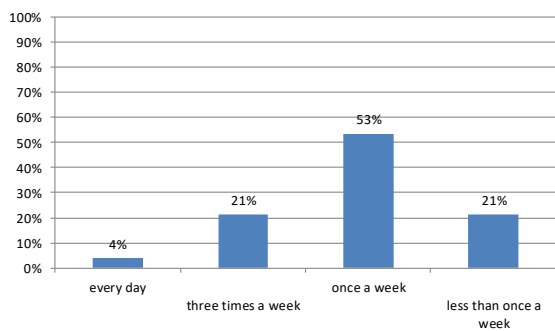


Fig. 8. Frequency of martial arts training
Source: authors' own research and development

Respondents' opinions were also examined about whether martial arts are a suitable sport for every young person, and in this case the analysis of empirical data showed that a high percentage were respondents who believe that this is not a suitable sport – 78.7%, while 21.3 % of respondents recognized that martial arts are a discipline for every young person.

According to 86% of respondents, martial arts are associated with a high risk of injury in young people, while 14% of respondents were of the opposite opinion. The most common injuries in martial arts training by children and adolescents – according to the respondents are joint injuries – 47.4% of selections, followed by bone injuries – 41.3% and muscular injuries – 11.3% (Fig. 9).

The majority of the respondents – 57.4% – said that martial arts training positively affects the mental health of young people, while 42.6% think it negatively. Referring to the issue of the impact of martial arts training on the mental health of young people, the aspect of induc-

ing aggression through this form of physical activity was also taken into account. In this case, 54% said that martial arts do not provoke aggression in children and adolescents, while 46% believe that there is a relationship between training martial arts and the occurrence of aggression.

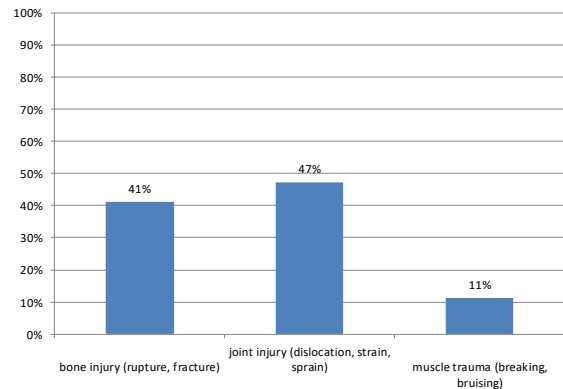


Fig. 9. Injuries occurring in children and adolescents while training martial arts
Source: authors' own research and development

According to 82.7% of respondents, martial arts are a field of physical activity shaping the appropriate character of a young person, while 17.3% of respondents are of the opposite opinion. According to the respondents, martial arts shape strength the most, while sensitivity the least. All indications are shown in Figure 10.

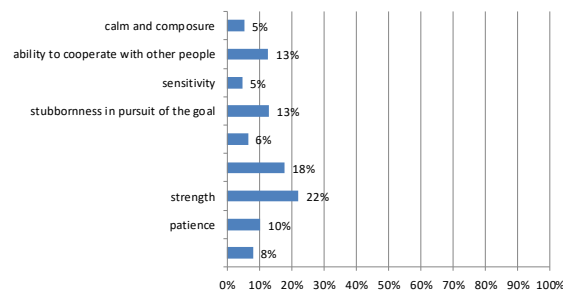


Fig. 10. Martial arts and character traits
Source: authors' own research and development

In the opinion of most respondents – 94.7% of martial arts are a form of self-defence science, only 5.3% of respondents think the opposite. The majority of respondents are of the opinion that martial arts in young people develop motor skills – 35.3% and physical performance – 34.7% (Fig. 11).

Among the respondents, 57.3% would not agree to their child's participation in martial arts classes, 42.7% would use this option. According to 62% of respondents, martial arts should not be taught as part of compulsory physical education classes at school, while 38% are of the opposite opinion. The majority of respondents – 76% believe that no more martial arts schools, sections and

clubs should be established in Podkarpacie. Only 24% are of the opinion that these sections should increase their numbers.

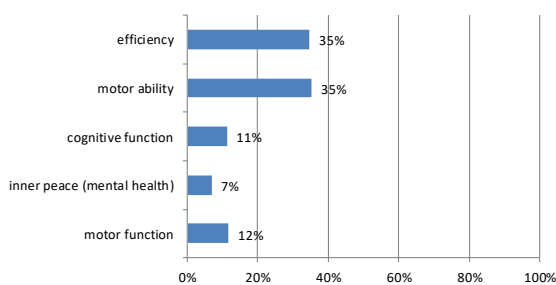


Fig. 11. Martial arts and the functional development of the human body

Source: authors' own research and development

The statistical analysis carried out showed statistically significant diversity of views based on gender for three questions. The hypotheses were verified at the significance level $\alpha = 0.05$. In the case of the question "Martial Arts as a suitable form of physical activity for children and adolescents according to respondents" depending on sex/gender, the value of the χ^2 test was 69.9. At 2 degrees of freedom, the "p" test probability is less than 0.0001. It should be noted that 80% of men consider martial arts / combat sports as an appropriate form of activity. Only 13.3% of women are of the same opinion (Fig. 12). 6.7% of men and 9.3% of women have no opinion. The value of Pearson's C correlation coefficient is 0.74, which can be considered a high correlation.

Tab. 1. Descriptive statistics for the main questions in the study of the reception of martial arts and their applications in recreation (Podkarpackie Voivodeship, Poland)

	χ^2	C Pearson	df	p=
Martial arts as a suitable form of physical activity for children and adolescents according to respondents (Fig. 6)	69,9	0,74	2	0,0001
Injuries while practicing martial arts according to respondents (Fig. 9)	8,2	0,29	3	0,042
Shaping character traits while practicing martial arts in the opinions of respondents (Fig. 10)	15,7	0,37	8	0,046

Source: authors' own research

Also, gender is different in terms of injuries sustained while practicing martial arts. The test probability value p is 0.042, and the Pearson's C correlation is 0.29. For views on shaping character traits, the value of the p coefficient is 0.046, and Pearson's C is 0.37. In both cases, the correlation should be considered low. Table 1

presents: test value χ^2 , value of Pearson's C correlation coefficient, number of degrees of freedom (df) and value of test probability p.

For the remaining analysed cases, no statistically significant differences in the response structure were found (at the significance level $\alpha = 0.05$). Therefore, it was considered that the variable education and age of the respondents did not affect the views expressed about martial arts. However, assuming a milder level of significance ($\alpha = 0.06$), in the case of respondents' age, statistically significant differences can be considered for views on "Martial arts as an appropriate form of physical activity for children and adolescents according to respondents" (Fig. 6 and 12).

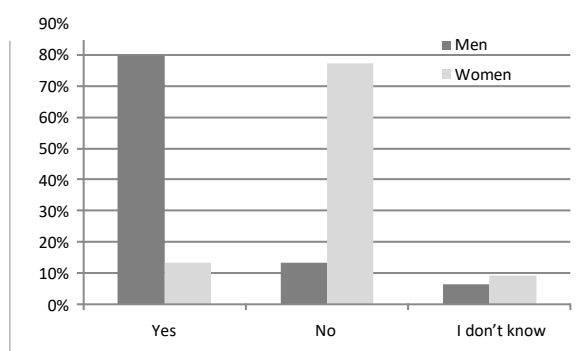


Fig. 12. Martial arts as a suitable form of physical activity for children and young people depending on the gender of the respondents.

Source: authors' own research and development

Discussion

Authors' own research has shown that 83.3% of respondents believe that practicing martial arts increases physical fitness in children and adolescents. An analogous regularity was observed by Sterkowicz-Przybycien and Przybycien, who analyzing the hierarchy of motives of people practicing *hapkido* stated that one of the main factors influencing the decision to practice martial arts was the aspect related to obtaining high physical fitness [Sterkowicz-Przybycien, Przybycien 2005]. Empirical studies of many authors have shown that practicing martial arts and sports has a positive effect on shaping the body balance of practitioners [Sterkowicz *et al.* 2012; Juras *et al.* 2013]. In turn, Wroblewski in his research noted that one of the reasons for undertaking *karate* training are hygiene and health factors [Wroblewski 2013]. Improving health is a significant motive for practicing martial arts, according to international and intercultural research [Zeng, Cynarski, Lisheng 2013; Cynarski *et al.* 2017].

For 64% of those surveyed, martial arts are a way to discharge energy in children and adolescents. Confirmation of this thesis is found in Lickiewicz [2006],

who stated that amateurs practicing martial arts train in controlled conditions, train mainly to relieve stress, maintain health and fitness and to master the basic elements of self-defence. When analyzing the participation of children and young people in classes related to physical activity, at least once a week, a total of 27.2% of respondents attended karate or judo classes. However, the percentage of adolescents who met the criteria of moderate or high physical activity (MVPA, VPA) in relation to karate or judo amounted to 26.5% of respondents in total. Both the first and second relative values were high among the other parameters studied. The percentage of young people who practice *karate*, *judo* and *taekwondo* 2-3 times a week or more often amounted to 4.4%, which was a very low indication compared to other forms of physical activity [Woynarowska, Mazur 2013]. The opinion that martial arts reduce the overall level of aggression is also confirmed, but not all components of aggression are reduced [Druminska *et al.* 2016].

It is difficult to overestimate social conditions that affect the leisure time physical activity [*cf.* Panczyk, Cynarski 2006; Cynarski *et al.* 2017]. This also applies to the recreational activity of Poles [Dziubinski 2016; Cynarski 2017; Dziubinski, Jasny 2017]. The participation of martial arts in physical recreation of adults is relatively high in Europe, despite the dominance of fashionable sports [Panczyk, Cynarski 2006; Cynarski 2017; Biernat, Krzepota, Sadowska 2018; *cf.* Kajtna, Doupona Topic 2017].

Studies of junior high school youth conducted in 2015 on a group of 1067 students from selected voivodships of Poland (Kuyavian-Pomeranian, Masovian, Warmian-Masurian, Lodz and Greater Poland) regarding the exercise of organized and unorganized forms of physical activity by children in their free time showed that sports and martial arts systematically cultivates 37.5% of respondents. Martial arts were qualified to organized forms of physical activity practiced by young people in their free time [Vikuk-Lubowiecki, Biernat 2015]. The scientific works also contain reports of a greater risk of injury or injury in people who intensively train specific areas of physical activity, which can certainly include martial arts [Zlotkowska *et al.* 2015].

Relatively low percentage – 7.10% of respondents referring to martial arts as a form of physical activity for children and adolescents may result from the fact that only 2% of Polish society regularly practices sports and martial arts, as follows from a survey conducted in 2013 by the Public Opinion Research Centre [CBOS 2013: 3]. According to data from the Central Statistical Office of 2018, total martial arts in Poland were regularly practiced by 11.2% of practitioners, which places this form of physical activity very high among recreational sports most often chosen by adult residents of our country [CSO 2018: 2]. Thus, we observe an optimistic phenomenon

of a significant increase in people practicing martial arts compared to the data from 2013.

We treat martial arts as a specific field of physical culture, because on the one hand it derives from the European knightly ethos, and on the other it refers to Far East war rules and codes, including to Japanese *Bushido*. Particularly noteworthy is the fact that there is a specific etiquette in sports and martial arts that applies to welcoming players, thanking you for fighting, adhering to the extensive system of penalties and reminders for circumventing the rules, and behavior that is contrary to the spirit of fair play. The identity of martial arts integrates three specific factors: pragmatic, utilitarian and mental, which affect the psychophysical and moral education of man. That is why sports and martial arts are definitely more than just sports. These are specific forms of physical education, civic education – mainly defence and philosophy [Boguszewski 2013: 89-97; *cf.* Cynarski, Warchol 2004; Cynarski 2019].

Conclusions

The main purpose of this article and the novelty brought to this state of knowledge with this work was to examine the opinion of the inhabitants of Podkarpackie Voivodeship about martial arts as a form of physical activity of children and young people. According to the respondents, martial arts can only be partially recognized as a proper form of physical activity for students. The respondents treat this form of physical activity mainly as a way to increase physical fitness in young people, but much less often they define it as a factor shaping character and improving mental health. Respondents are aware of the risk of injury caused by practicing martial arts by children and young people.

The vast majority of respondents believe that physical activity is one of the main factors for maintaining good health and comprehensive development of the body. For most respondents, running and cycling are the best ways for children and adolescents to be active. Martial arts in the opinion of the respondents are not the most suitable sport for children and young people. *Karate* is the most popular martial art among respondents. According to the respondents, martial arts are an appropriate way to “discharge energy”, as well as to increase the motor potential in children and adolescents. The respondents rightly recognized that martial arts affect mental health and shape many beneficial character traits of young people. Martial arts are also a form of self-defence learning for respondents. Despite the knowledge about the beneficial effects of martial arts training on the body, more than half of the respondents would not agree to the child’s participation in activities in this type of sport (or physical culture).

In the final conclusion, however, the authors believe – based on individual practical experience that martial

arts have the qualities of health training, because they are characterized by a large variety of exercises, shape all sides of human personality, can be cultivated at any age, regardless of gender, body structure and fitness physical or motor body. Therefore, it is one of the few forms of physical activity cultivated by children and young people during the period of education, which to a large extent meets the postulate of physical education prospect and is one of the canons of lifelong sports.

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Sztuki walki jako forma aktywności fizycznej dzieci i młodzieży na przykładzie opinii dorosłych mieszkańców województwa podkarpackiego

Słowa kluczowe: sztuki walki, aktywność fizyczna, dzieci i młodzież

Abstrakt

Perspektywa. Niniejszy artykuł przedstawia wyniki wielowarstwowych badań empirycznych nad sztukami walki, jako formą

aktywności fizycznej dzieci i młodzieży w opinii dorosłych mieszkańców woj. podkarpackiego. W pracy zastosowano właściwy system znaczeniowy i pojęciowy. Badanie empiryczne przeprowadzono w miesiącu maju i czerwcu 2019 roku. Problem. Nadrzędnym celem badań ilościowych i jakościowych prezentowanego artykułu była eksploracja ujęcia sztuk walki jako możliwej formy aktywności ruchowej dzieci i młodzieży z perspektywy opinii rodziców lub innych dorosłych mieszkańców Podkarpacia.

Metoda. W badaniu empirycznym zastosowano metodę sondażu diagnostycznego. Podstawowym narzędziem badawczym był kwestionariusz anonimowej ankiety, składający się z 24 pytań. Do przeprowadzenia ankiety wykorzystano techniki *online*. Zakres ilościowy grupy badawczej to $n=150$ osób – mieszkańców woj. podkarpackiego. Analizę statystyczną przeprowadzono z wykorzystaniem testów χ^2 (chi kwadrat) niezależności. Siłę związku pomiędzy analizowanymi zmiennymi określono za pomocą współczynnika kontyngencji C Pearsona.

Wyniki. Badani podkreślili, że sztuki walki mają istotny wpływ na zdrowie psychiczne i kształtowanie cech charakteru młodych ludzi. Według badanych uprawianie sztuk walki podnosi poziom sprawności fizycznej dzieci i młodzieży, a także uczy elementów samoobrony. Płeć istotnie różnicuje oceny sztuk walki.

Wnioski. *Karate* to najbardziej popularna sztuka walki wśród badanych. Z kolei duża część respondentów uznała, że jazda na rowerze lub bieganie są bardziej odpowiednim sportem do uprawiania przez dzieci i młodzież, niż sztuki walki.