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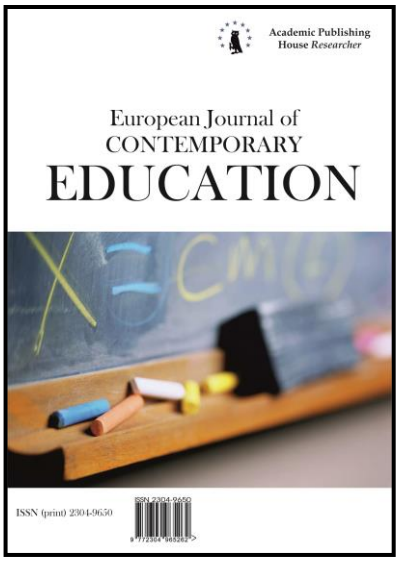

Physical and Sport Education as a Tool for Development of a Positive Attitude Toward Health and Physical Activity in Adulthood

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Abstract

The study explains the importance and the role of physical and sport education in development of a positive attitude toward physical activity and health in adulthood. The empirical study was aimed at finding the factor that contributed to the transfer of respondents' physical activity into their adulthood with regard to their health status. The group of respondents comprised 742 middle-aged inhabitants of the districts in Southern Slovakia, including 403 women (age = 37.2 ± 3.04 years, height = 167.9 ± 3.2 cm, weight = 65.3 ± 6.8 kg) and 339 men (age = 36.5 ± 4.54 years, height = 179.6 ± 6.3 cm, weight = 89.1 ± 7.9 kg). Their selection was intentional. We conducted the study in three stages by means of the standardized questionnaire. The results significantly show (χ^2 = 37.5297, $p < 0.01$) that the men enjoyed physical and sport education classes more (χ^2 = 26.9684, $p < 0.01$) than the women (only 1/3). The men were also more active as far as physical and sport education is concerned (r = 0.8363). Physical and sport education contributed to the transfer of physical activity from school years to adulthood more significantly (χ^2 = 112.47, $p < 0.01$) in the men (67.6 %; n = 229) than the women (33.7 %; n = 136). In this regard, the men also evaluated their present health status (r = 0.9139) and physical condition (r = 0.8300) better as compared to the women. The aforementioned findings prove that targeted education of population from childhood along with other effective preventive measures in health policy can approximate Slovakia to the developed European countries. These findings are partially included in the grant VEGA no. 1/0242/17 Physical activity as prevention of functional disorders related to the musculoskeletal system of secondary school students.

Keywords: adulthood, physical activity, physical education and sports, health.

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1. Introduction

The quality-of-life issue has moved to the forefront in the past decades (Borbély & Müller, 2008; Ihász & Rikk, 2010) in the USA, Europe and Slovakia, too. It deals with the contemporary lifestyle, which is sedentary and hypokinetic in more than 84% of the whole population regardless of age or gender (Fox, 1999; Salmon et al., 2003; Telama & Yang, 2000; Uvinha, 2010; Chovanová, 2011; Nemček et al., 2014; Ghyppo et al., 2016; Fyodorov & Erlikh, 2016). Such a lifestyle leads to deterioration of health status and occurrence of lifestyle diseases (Labudová & Tóthová, 2007; Pedersen, 2009; Prasad & Das, 2009; Kanásová, 2010; Cardon et al., 2012; Chovanová, 2013; Nemček et al., 2012; Nemček, 2013; McKenzie, et al. 2013; Ihász et al., 2015; Šimončičová & Kanásová, 2014; Bendíková et al., 2016).

According to international comparisons of morbidity and early mortality, Slovakia stands out most as far as preventable diseases are concerned. The most dominant are ischemic heart diseases that cause 26 % of deaths, which is most of all OECD member countries – three times more than the average! Other common diseases are the diseases connected with metabolic dysfunction such as type 2 diabetes mellitus, metabolic syndrome or obesity, which occur approximately in 31 % of the adult population in Slovakia (Dukát et al., 2007). It is necessary to point out that obesity causes about 40–70 % of hypertension, approximately 58 % of type 2 diabetes mellitus and 8–42 % of neoplasms (WHO, 2005). Therefore, only targeted education of population from childhood and other preventive measures in health policy can approximate Slovakia to the developed European countries. In this regard, Telama & Yang (2000) claim that people who were actively engaged in physical activity in their childhood and adolescence are more likely to do physical activities also in their adulthood.

Health status, quality of life and physical activity are being more and more discussed in connection to contemporary physical and sport education in Slovak elementary and secondary schools. This is also due to the fact that the number of pupils and students who are excused from physical and sport education classes owing to various diseases and disorders is increasing. The number of boys excused from physical education ranges from 27.7 % to 39.6 % and the number of girls excused from physical education ranges from 38.2 % to 48.1 %. What is more, according to the Ministry of Education of the Slovak Republic, approximately 30 % of pupils and students are regularly excused from physical and sport education classes also due to the fact that this subject is not graded (Rozim, 2005; Antala & Labudová, 2006; Antala, 2014; Bendíková, 2014). In reality, pupils and students are not interested in physical activity and physical education at school due to several subjective and objective factors. According to Bendíková (2011), the most common reasons why pupils and students at elementary and secondary schools are passive during physical and sport education classes are health problems, the subject curricula, insufficient motivation on the part of teachers, lack of interest in physical activity in general, laziness, lack of willpower, weak physical condition, teacher's personality, hygienic conditions at schools (showers), insufficient time for personal hygiene as well as the factors that are hard to understand (make-up, gel nails, changing clothes, sweat, tiredness caused by school classes, the time when physical education starts, learning for tests or other subjects).

As a result, it can be said that insufficient revitalisation and innovation of physical and sport education concerning its curriculum and teachers' attitude may cause lack of interest in the subject and the prevalence of the above-mentioned lifestyle diseases in pupils and students (Bendíková, 2014). Therefore, it is necessary to connect theory and practice because physical and sport education directly or indirectly enables diversification and implementation of innovative subject curricula (Bendíková, 2009) aimed at development of positive attitudes toward physical activity and health. The educational programme should contain diverse school lessons that can have a positive effect on physical, functional and musculoskeletal development as well as health oriented physical fitness of pupils and students. In the past, physical education and its tools were associated with survival. Nowadays, it is the same concerning the deeper and sophisticated ideas of survival in connection to the philosophy that explains positive effects of physical activity on human health (Blair et al., 2010; Uvinha & Velardi, 2014).

2. Aim

The study aimed to find the factor that contributed to the transfer of the respondents' physical activity into adulthood in relation to their health status in childhood. We assumed that

physical and sport education at school would significantly affect the transfer of physical activity into the respondents' adulthood as well as their health status.

3. Methods

Our group consisted of 742 middle-aged respondents from the southern districts of Slovakia (Komárno, Nové Zámky, Dunajská Streda), including 403 women (age = 37.2 ± 3.04 years, height = 167.9 ± 3.2 cm, weight = 65.3 ± 6.8 kg) and 339 men (age = 36.5 ± 4.54 years, height = 179.6 ± 6.3 cm, weight = 89.1 ± 7.9 kg). Table 1 presents the primary characteristics of the group. Their selection was intentional. The respondents had secondary or higher education and they all worked in private or state companies and institutions. None of them was retired due to partial or total disability. All of them were married, having one to three children.

Table 1. Group characteristics (n = 742)

Group	n	Age	Height/cm	Weight/kg	BMI	WHR
women	403	37.2 ±3.04	167.9 ± 3.2	65.3 ± 6.8	24.6 ± 3.9	86
men	339	36.5 ±4.54	179.6 ± 6.3	89.1 ± 7.9	24,9 ± 3.1	98

Legend: BMI – Body mass index, WHR – Waist to Hip Ratio

The research which was realized by us used an empirical, cross-sectional, pedagogical, field, two-group and multifactorial ex post facto research. The realized empirical research was conducted in 2014, in three primary stages. In the first stage (January – March 2014), we asked respondents from the southern areas of Slovakia who were willing to participate in research, even to gain and acquire information about the issue by studying literary sources. In the second stage of the research (April – June 2014), we carried out distribution of collected data collection from questionnaire. The basis of the third stage of the research (July – October 2014) was processing and evaluation of obtained qualitative results with subsequent interpretations presented.

In terms of methods of data collection, we used the method of studying literature sources where the information was obtained from the following databases:

- ✓ WHO – World Health Organization,
- ✓ PHA SK – Public Health Office of the Slovak Republic,
- ✓ SO SK – Statistical Office of the Slovak Republic,
- ✓ Domestic and foreign publications,
- ✓ Scientific journals,
- ✓ Internet portal of scientific and technical journals related to the field of research.

The second method of obtaining data was interrogative method – standardized questionnaire, known as "Physical Education and Physical Activity", which was anonymous, in printed form, consisted of 33 questions and aimed at monitoring the following areas:

1. Primary personal data.
2. The area of health.
3. The area of physical activity.
4. The area lifestyle and risk factors.
5. The area of physical education.

In terms of methods of data processing, the obtained data were processed by percentage frequency analysis (%) and chi-square test of good correlation (χ^2 $p < 0.01$, $p < 0.05$), by which we monitored the assess of the significance of differences in the responses to each question of the questionnaire between the sexes, as well as Pearson correlation coefficient (r $p < 0.01$, $p < 0.05$) for the assessment of the relationship between the monitored determinants of the monitored group while using the Cohen's table. Moreover, we used the method of logical analysis and synthesis while using inductive and deductive methods and comparison. The obtained results are also presented in tabular form.

4. Results and discussions

Following our goal, we present the part of results that require further and more exact processing. The presented results cannot be generalized. They need to be perceived as orientation

and source data that can be used to develop the children's and adolescents' positive attitude toward physical activity that will maintain their health status in adulthood. There are several factors that contribute to development and transfer of physical activity into adulthood. Undoubtedly, one of them is the school subject Physical and Sport Education. Therefore, we wanted to find out how physical education affected the respondents' attitude toward physical activity and its transfer into adulthood. The results are as follows. (Table 2) shows the respondents' view on the importance of physical and sport education in their life. Our significant ($p < 0.01$) finding was that the women understood the significance of physical education in terms of health 35.2 % (n = 142) (χ^2 = 26.2498), while the men in terms of developing a positive attitude toward physical activity (28.9 %, n = 98) and physical performance (26.3 %). The answer "development of a positive attitude toward physical activity" was chosen only by 27.5 % (n = 111) of the women. The respondents' answers prove that the women understood the significance of physical and sport education at school in terms of health status while the men in terms of a positive attitude toward physical activity that they are still actively engaged in their free time (56.3 %; n = 191) more than the women (31.0 %; n = 125).

Table 2. The respondents' view on the importance of PES in human life (n =742)

Group	Men (n=339)	%	Women (n=403)	%	χ^2	p
health status	77	22.7	142	35.2	26.2498	p<0.01
self-expression	42	12.4	64	15.9		
attitude toward PA	98	28.9	111	27.5		
cannot judge	25	7.4	21	5.2		
performance	89	26.3	61	15.1		
other	8	2.4	4	1.0		

Legend: PA – physical activity, PES – Physical and Sport Education χ^2 - chi-squared test

Our assumptions concerning the popularity of physical education among the respondents were confirmed by finding that only one third of the women (30 %, n = 121) enjoyed physical and sport education lessons, while the men enjoyed this subject much more (51.6 %, n = 175) ($\chi 2$ = 37.5297, $p < 0.01$, df-3), with the 21.6 % difference in their favour. 30.5 % (n = 123) of the women and 18.0 % (n = 61) of the men did not enjoy physical and sport education classes, which is by 12.5 % less (in favour of the men). 22.8 % (n = 92) of the women and 17.1 % (n = 58) of the men answered that they "sometimes" enjoyed physical and sport education. Finally, 16.6 % (n = 67) of the women and 13.3 % (n = 45) of the men had an indifferent attitude toward this subject (Table 3).

Table 3. Popularity of PES among the respondents (n = 742)

Group	Men (n=339)	%	Women (n=403)	%	χ^2	p
yes	175	51.6	121	30.0	37.5297	p<0.01
sometimes	58	17.1	92	22.8		
no	61	18.0	123	30.5		
I did not care	45	13.3	67	16.6		

Legend: PES – Physical and Sport Education, χ^2 - chi-squared test

Not only did the men enjoyed physical and sport education more than the women, but they were also significantly more active during the classes (χ^2 = 26.9684, $p < 0.01$, df-3). 41.6 % (n = 141) of the men and only 27.5 % (n = 111) of the women considered themselves to be active during PE classes, while 16.8 % (n = 57) of the men and 15.1 % (n = 61) of the women thought they were not active. The answer "rather active" was chosen by 40.9 % (n = 165) of the women and 34.8 % of the men (n = 118). 6.8 % (n = 23) of the men and 16.4 % (n = 66) of the women

considered themselves "rather not" active (Table 4). The results show that the men enjoyed physical and sport education classes and were more active (r = 0.8363) as compared to the women. Contemporary findings also prove that boys are more active than girls.

Table 4. The respondents' activity during PES classes (n = 742)

Group	Men (n=339)	%	Women (n=403)	%	χ^2	p
no	57	16.8	61	15.1	26.9684	p<0.01
rather not	23	6.8	66	16.4		
rather yes	118	34.8	165	40.9		
yes	141	41.6	111	27.5		

Legend: PES – Physical and Sport Education, χ^2 - chi-squared test

The extent to which physical and sport education contributed to development of a positive attitude toward physical activity and its transfer into adulthood was more significant (χ^2 = 112.4733, p < 0.01, df-4) in the 67.6 % of the men (n = 229) as compared to the women (33.7 %, n = 136) (Table 5). More men than women consider this transfer as beneficial to their present health status (r = 0.9139).

Table 5. Extent to which PES contributed to development of a positive attitude toward PA in adulthood (n = 742)

Group	Men (n=339)	%	Women (n=403)	%	χ^2	p
great	227	67.6	136	33.7	112.4733	p<0.01
standard	83	24.5	121	30.0		
almost no	11	3.2	84	20.8		
no	9	2.6	51	12.7		
cannot judge	7	2.1	11	2.8		

Legend: PA – physical activity, PES – Physical and Sport Education, χ^2 - chi-squared test

More men (45.7 %, n = 155; χ^2 = 177.8421, p < 0.01, df-4) than women (12.2 %, n = 49) considered their health status as "excellent"; 29.2 % (n = 99) of the men and 17.1% (n = 69) of the women chose the option "very good", 36.5 % (n = 147) of the women and 19.2 % (n = 65) of the men thought their health status was "good" and 2.7 % (n = 9) of the men and 8.2 % (n = 33) of the women regarded their health status as bad. The option "not good" was chosen only by 3.2 % (n = 11) of the men and by eight times more women (26.1 %, n = 105) (Table 6).

Table 6. Respondents' evaluation of their own health status (n =742)

Group	Men (n=339)	%	Women (n=403)	%	χ^2	p
excellent	155	45.7	49	12.2	177.8421	p<0.01
very good	99	29.2	69	17.1		
good	65	19.2	147	36.5		
not good	11	3.2	105	26.1		
bad	9	2.7	33	8.2		

Legend: χ^2 - chi-squared test

More men (54.9 %, n = 187), with a significant finding (χ^2 = 132.1577, p < 0.01, df-3), than women (only 21.6 %, n = 87) stated that they did not have any health problems (with a 33.3 % difference in favour of the men) (Table 7). On the contrary, only 10.9 % (n = 37) of the men and as many as 26.8 % (n = 108) of the women had some health problems. The answer "rather no" was

again chosen by more men (28.6 %, n = 97) than women (23.8 %, n = 96), while the option "rather yes" was chosen by as many as 27.8 % (n = 112) of the women and only by 5.6 % (n = 19) of the men

Table 7. Respondents' health problems (n = 742)

Group	Men (n=339)	%	Women (n=403)	%	χ^2	p
yes	37	10.9	108	26.8	132.1577	p<0.01
rather yes	19	5.6	112	27.8		
rather no	97	28.6	96	23.8		
no	187	54.9	87	21.6		

Legend: χ^2 - chi-squared test

The respondents' answers show that the men have fewer health problems than the women. What is more, we found the connection between active engagement in physical activity and subjective evaluation of health status (r = 0.9420), which means that those who are engaged in physical activity evaluate their own health status better (the men evaluated their own health status better than the women). Significantly higher number (χ^2 = 31.7832, p < 0.01, df-3) of the men (52.8 %, n = 179) felt healthy in comparison to the women (37.7 %, n = 152), with a 15.1 % difference in favour of the men. Similarly, we found the connection between engagement in physical activity and feeling healthy in men (r = 0.8921) and also the relation between health problems and well-being both in the men (r = 0.739) and the women (r = 0.6714).

Significantly (χ^2 = 103.84, p < 0.01, df-4) higher number of the men (31.5 %, n = 107) than women (9.6 %, n = 39) evaluated their physical fitness better, with a 21.9 % difference in favour of the men, while more women (22.1 %, n = 89) than men (5.3 %, n = 18) regard their physical condition as "very bad". Furthermore, 29.1 % of the men and 24.6 % of the women thought their physical condition was "good" and 32.3 % of the women and 13.2 % of the men considered their physical condition to be "satisfactory". Lastly, 20.9 % of the men and 11.4 % of the women regarded their physical condition as "praiseworthy". Our findings prove the relation between health status and physical condition in both the men (r = 0.8300) and the women (r = 0.7193). Furthermore, we found that the men see the relation between evaluation of their physical condition and the significance of engagement in physical activity (r = 0.791).

5. Conclusion

Our empirical study helps to broaden the knowledge of the importance of physical and sport education for development of a positive attitude toward lifetime physical activity and improvement of health status in the time characteristic of the prevalence of lifestyle diseases. We assumed that physical and sport education would significantly contribute to the transfer of physical activity into adulthood and maintenance of respondents' health status. A significantly higher number of men than women (only one third) enjoyed physical education and were more active during the classes. Physical education contributed to the transfer of physical activity from childhood into adulthood significantly in the men in comparison to the women. In this regard, the men also evaluated their health status and physical condition better as compared to the women. The respondents are aware of the fact that physical education is one of the factors that contribute to the transfer of physical activity conducted during physical and sport education classes into their present fitness and lifestyle.

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