

PHYSICAL AND SPORTS EDUCATION AS A MEANS OF FORMING A RELATIONSHIP TO LIFELONG PHYSICAL ACTIVITY AND HEALTH

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Abstract

The aim of the study presents and points out the importance of including physical and sport education in movement regime of pupils as a mean involved in forming the relationship to lifelong physical activity. The research sample consisted of $\Sigma n=726$ pupils in Slovakia, of which 378 girls in age (x) 17.5 ± 1.4 years (body height (x) 166.4 ± 3.6 cm, body weight (x) 61.9 ± 4.8 kg) and 348 boys in age (x) 17.9 ± 1.2 years (body height (x) 178.9 ± 7.9 cm, body weight (x) 63.2 ± 5.6 kg). In terms of data collection methods in the period 2020-2021, an interrogation method was used, based on pedagogical practice. Our findings show that physical and sport education is perceived in both genders with a positive attitude, but different interests with a significant difference ($p < 0.01$) to the detriment of girls. Demands for the quality of the subject content is ($p < 0.01$) higher in girls. Girls prefer within the PA subject of aesthetic focus, without direct contact ($p < 0.01$), while boys prefer dynamic and conditioning PA ($p < 0.01$). In girls and boys, this subject belongs to those that significantly ($p < 0.01$) form a relationship to lifelong PA as well as to health ($p < 0.01$). In the overall movement regime of pupils, there are significant ($p < 0.01$) differences between the genders to the detriment of girls in terms of bulk of performed PA, frequency, and intensity ($p < 0.01$). Which is related ($p < 0.01$) also to a worse perception of health and health problems ($p < 0.01$). At the same time, we significantly ($p < 0.01$) confirm that physical and sport education is one of the transformational means involved in performing PA in daily movement regime of pupils (even in the pandemic period). This project was supported by VEGA 1/0519/19.

Keywords

Health; interest; physical activity; physical and sport education; pupil.

1 INTRODUCTION

The issue of health and quality of life has come to the fore especially in recent decades (Ihász, Rikk, 2010; Nemček et al., 2019, Nemček, 2020) both in the USA, Canada, Europe, and Slovakia, which is characterized by hypokinetic, sedentary and consumptive lifestyles in more than 84% of the entire population, regardless of age and gender. There is a wide range of deteriorating conditions of human life, concretized in unsatisfactory health indicators referred to as "diseases of civilization" (Lambert, Lambert, 2011, Bunc, 2018, Ahmed et al., 2016, Wąsik, Wójcik, 2017).

It is the reduction of the recommended volume of physical activities (WHO, 2010) that is one of the factors currently contributing to the deterioration of health and health status of

the school population, which most often manifests itself in musculoskeletal, cardiovascular, metabolic, or respiratory system disorders in the form of functional and structural impairments of health (Mitova, 2015, WHO, 2018).

Influenceable risk factors (smoking, poor eating habits, insufficient physical activity, psychosocial stress ...) of chronic non-infectious diseases, directly related to the lifestyle of the school population, play an important role in terms of health and health status. Overweight, obesity, diabetes mellitus, metabolic syndrome, or hypertension, or vertebrogenic diseases are directly related to these factors. It is important to minimize these risk factors in the form of primary prevention, which can only be done if the school

population is interested in their own health. In this context, it is necessary to pay attention to the movement regime of a person, which becomes an integral part of the lifestyle, involved in prolonging the productive age and its activity in adulthood and old age.

The authors dealing with the movement regime point out that each of us, whether conscious or not, has his own movement regime, where for most people it is a matter that is created based on a specific situation. At present, the movement regime is also subject to a certain fashion and often to uncritical evaluation. The extent, content and intensity of the exercise regime are conditioned by subjective and objective factors (age, gender, health condition, social status, environment, attitudes, interests, desires as well as leisure time) (Biddle et al., 2009, Gray et al., 2015, Bendíková, 2017, Nemček, Wittmannová, 2021).

Physical activity is the most effective component in the movement regime, both intentional, organized, and its spontaneous forms. If the exercise regime is to meet the optimality to achieve the goal (health, recreation, adaptation, performance), then it must be optimized according to the interests of the school population (Telama, Yang, 2000; Fyodorov, Erlikh, 2016; Švamberk Šauerová, 2017).

In this context, Bendíková (2012) states that to know the movement interests of students, effective motivation, optimal choice of goals of the didactic process, appropriate choice of content in the summary of the effectiveness of the didactic process and the whole school physical and sports education is necessary.

If research shows a decline in pupils' functional ability, then the reasons should be found both in the "reduced number of hours of physical and sport education" in schools and in the "content" and access to the subject at the societal level, among other things.

Bendíková (2018, 2020) introduces "Physical and sport education directly or indirectly creates the space for diversification and innovation of the curricula and classes that should have a positive effect on health determinants as well as physical, functional and motor development and health-focused

physical efficiency of school-aged children and adolescents".

Some observations focused on exercise programs and the application of various forms of intervention aids in physical and sport education confirm their positive impact, whether on changes in the level of physical development, physical performance and functional ability of students (Chovanová, 2010, 2018; Chovanová, Majherová, 2010), improvements in the skeletal and locomotor system (Motow-Czyż et al., 2014; Bendíková, Stackeová, 2015; Balkó et al., 2016; Bendíková, 2016) or interest in the subject.

The teacher of physical education should therefore apply various forms of motivation (Zrnzević, Arsić, 2013), which would lead to a targeted emphasis on and support of the health aspect of specific health-promoting exercises in student (Kolooli et al., 2014, Kim et al., 2015) in conjunction with appropriately chosen and applied didactic styles by methods and forms (Bendíková, 2011; 2018).

From the above facts follows the need to establish the relationship of the school population to their own health and personal responsibility for their health, as well as the search for preventive measures in their lifestyle. In addition to the family (Moore et al., 1991; Jago et al., 2017), physical and sport education in schools can also play an important role in this context (Cardon et al., 2000; Perlman, 2014; Ghyppo et al., 2016).

It is the health, quality of life, lifestyle and physical activity of pupils that are an increasingly discussed topic (Panahi, Tremblay, 2018) in relation to today's physical and sport education in primary and secondary schools not only in Slovakia but also abroad (Rouppert, 2013 Aghypoo et al., 2016; Nagy et al., 2018).

2 OBJECTIVE

The aim of the study is to present and point out the importance of including physical and sport education in movement regime of pupils as a mean involved in forming the relationship to lifelong physical activity.

3 METHODOLOGY

The research sample consisted of $\Sigma n=726$ pupils in Slovakia, of which 378 girls in age (x) 17.5 ± 1.4 years (body height (x) 166.4 ± 3.6 cm, body weight (x) 61.9 ± 4.8 kg) and 348 boys in age (x) 17.9 ± 1.2 years (body height (x)

178.9 ± 7.9 cm, body weight (x) 63.2 ± 5.6 kg). The primary characteristics of the body development of the sample is presented in Table 1.

Table 1 Primary characteristic of the sample (n=726)

Gender/ Somatic indicators	Height/(cm)	Weight/(kg)	BMI
Girls (n=378)	166 \pm 3.6	61.9 \pm 4.8	23.18 \pm 1.35
Boys (n=348)	178.9 \pm 7.9	63.2.6 \pm 5.6	22.26 \pm 2.19

Legend: BMI – Body mass index

We realized the research in three primary stages. In terms of data collection methods in the period 2020-2021, an interrogation method was used, based on pedagogical practice. The primary method of data collection was the non-standardized "PE" questionnaire.

In processing the obtained qualitative and quantitative data, we used the basic methods of descriptive statistics: percentage frequency analysis (%), standard deviation (s), arithmetic mean (x). We used the Chi-square test of goodness (χ^2 $p < 0.01$, $p < 0.05$) to test the independence of individual characters. In terms of determining causal relationships, we applied a correlation coefficient (r, $p < 0.01$, $p < 0.05$). We also used methods of logical analysis and synthesis using inductive and deductive procedures, comparison, and generalization. We also ensured the external validity of the research by examining and addressing the pedagogical reality in its natural conditions.

4 RESULTS AND DISCUSSION

Based on the aim of the research, we present the results that need to be understood in the overall context as indicative and initial in relation to the health of the school population. By constantly raising the standard of living, the space for multifaceted use of free time is

expanding, in which physical activity should also be adequately represented. This should be part of the way the school population lives. Our findings show that the total volume of physical activity of a sport and recreational nature on average per week in the group we monitored (n=348) was 3 hours and 55 minutes in boys, while in girls only 2 hours and 15 minutes with a significant difference ($\chi^2 = 12.831$, $p < 0.01$). The difference between the genres is 1 hour and 26 minutes, which is 86 minutes to the detriment of the girls during the observed period (Table 2). The boys were more active, which is probably related to their need to relax and gain new strength through active recreation using sport and recreational activities.

In terms of determining the frequency of physical activities, we found out that girls engaged in physical and recreational activities in 68% irregularly, while boys only in 19% with a significant difference in the disadvantage of girls ($\chi^2 = 28.928$, $p < 0.01$) (table 3).

Once a week, 11% of girls and 19% of boys engaged in physical activities, while up to 49% of boys and 13% of girls performed it twice a week. Twice as many boys (13%) as girls (6%) performed physical activities three times a week. More than 3 times a week, only 2% of girls and 4% of boys were engaged in physical activities.

Table 2 Average volume of physical activity in pupils (n=726)

Gender	Volume of physical activity/on average per week	difference
Girls (n=378)	2 hours and 15 min	1 hour and 40 min
Boys (n=348)	3 hours and 55 min	

Table 3 Frequency of physical activities in pupils (n=726)

Frequency of PA/gender	Girls (n=378)	Boys (n=348)
Irregularly	68 %	15 %
Once a week	11 %	19 %
Twice a week	13 %	49 %
Three times a week	6 %	13 %
More than three times a week	2 %	4 %

Legend: PA – Physical activity

The mentioned pupils performed the most of exercises at home, endurance running (outdoors or at home on a treadmill), outdoor workout, hiking, cross-country skiing. The girls preferred aesthetic forms of exercise enhanced by music (aerobics, zumba, cardio exercise), with an aspect on shaping body culture and movement. This is where the emotional component manifests itself - the motive, as a specific character and a significant stimulating value for movement. While the boys preferred dynamic physical activities (workout, endurance running).

The intensity of physical activity is very important from the point of view of the health of schoolchildren, similarly to the above-mentioned frequency. The intensity of physical activities in the observed group was

on average 75% low for girls with a significant difference between the genres ($\chi^2 = 27.947$, $p < 0.01$), 22% medium and only 3% high. The situation was different for boys. Boys performed physical and recreational physical activities at a higher rate than girls, where high intensity was found in 11% of boys, medium in 66% and low in 23% (Table 4). These findings, as we found out, were related to the performance of both girls and boys.

Physical activities of sport and recreational character with insufficient volume as well as frequency and intensity in this difficult pandemic period can significantly support the emergence of various functional and structural health disorders (at the physical and mental level).

Table 4 Intensity of physical activities in pupils (n=726)

Intensity of PA/gender	Girls (n=378)	Boys (n=348)
Low intensity	75 %	23 %
Middle intensity	22 %	66 %
High intensity	3 %	11 %

Legend: PA – Physical Activity

Significantly more boys (56%, $\chi^2 = 28.138$, $p < 0.01$) than girls (18%; $n = 49$) rate and perceive their health as "excellent". 29% of boys and 49% of girls rate and perceive their health as "good". While girls (33%) perceive and rate their health "badly" compared to boys (15%).

With a higher percentage and significantly ($\chi^2 = 28.138$, $p < 0.01$) more boys (58%) than girls (only 19%) stated that they don't have health problems. In contrast, 18% of boys and 36% of girls have health problems, while up to 45% of girls and 24% of boys report "partial" health problems. At the same time, we found a significant relationship ($p < 0.01$) in boys between the implementation of physical activity and the evaluation of their health and health condition ($r = 0.8113$), which means that those who perform physical activities evaluated and perceive their health better (boys compared to girls). We state that better perception and evaluation of health as well as health problems in boys may be related to less frequent experiences of negative emotions, and at the same time they manage their emotions better than girls, they are less focused on interpersonal relationships.

In the overall movement regime of students,

there are significant ($\chi^2 p < 0.01$) differences between genders in disadvantaged girls in terms of volume of physical activity performed, frequency and intensity ($\chi^2 p < 0.01$). Which is related ($r p < 0.01$) also to a worse perception of health and health problems ($r p < 0.01$).

Adequate and especially regular physical activity also belongs to a healthy lifestyle, realized also in the form of a school subject: Physical and sport education, which is known for its physiological and psychological effects on the health of pupils. Therefore, we were interested in how pupils perceive this subject through attitudes and interest in it (Table 5).

Our findings show that high school students have a positive attitude towards physical and sport education, as evidenced by an average of about 74% (girls 70%, boys 77%) of positive answers. 21% of girls and 19% of boys reported an indifferent attitude, while only 6% of girls and 4% of boys reported a negative attitude. On average, boys had a more positive attitude towards physical and sport education than girls, but the difference was not statistically significant ($\chi^2 p > 0.05$) in contrast to the interest in the subject. In terms of interests, the situation was different.

Table 5 Attitudes and interest of pupils in physical and sport education (n=726)

Attitude/gender	Girls (n=378)	Boys (n=348)
Positive attitude (+)	70 %	77 %
Interest (+)	36 %	88 %
Indifferent attitude (\pm)	21 %	19 %
Indifferent interest (\pm)	15 %	7 %
Negative attitude (-)	6 %	4 %
Disinterest (-)	49 %	5 %

Significantly ($\chi^2 = 31.251$, $p < 0.01$) more boys (up to 88%) than girls (36%) are interested in this school subject. Up to 49% of girls stated that they are not interested in physical and sport education, while in boys only 5%. Indifferent interest from girls was in 15% and in boys in 7%. Our findings showed that physical and sport education is perceived in both genders with a positive attitude, but different interests with a significant ($\chi^2 p$

< 0.01) difference in the disadvantage of girls. We add that interests, unlike attitudes, represent dynamic personality traits that are an integral part of their motivational structure, i.e., those factors that activate and encourage the pupil to exercise.

An important indicator of interest in physical activities are the motives and motivations for exercise within the physical regime, which also includes physical and sport education. In

the sample, we found out that the three motives for girls are in the first place the effort to lose weight (35%), in the 2nd place health (26%) and in the 3rd place is the looks of the figure (20%). Conversely, in boys there is a condition in the first place (63%, $\chi^2 = 31.329$, $p < 0.01$), while in girls it is in 5th place (9%). For boys (20%) as well as for girls, the motive of health is in second place. The motive of a good-looking figure also plays an important role in boys (13%). It is also interesting to note that up to 17% of girls and 19% of boys mentioned social contact as a motive for sport activities (especially with the opposite gender, an effort to get to know each other). In the evaluation of interest preferences, we consider from the point of view of health an important knowledge and representation of

physical activities, which should significantly intervene in the content of pupils' free time through the prism of physical and sport education.

Demands for the quality of the subject content are significantly ($\chi^2 = 29.092$, $p < 0.01$) higher for girls (Table 6). They rated the content on average with a score of 4 from a five-point rating scale (1 best - 5 worst), while boys rated 2. Girls also prefer aesthetic physical activities in physical and sport education, without direct contact ($\chi^2 = 21.462$, $p < 0.01$) (aerobics, zumba), while boys prefer dynamic and conditioning physical activities ($\chi^2 = 30.039$, $p < 0.01$) (sport games).

Table 6 Evaluation of the content of physical and sport education (n=726)

Gender/evaluation	1	2	3	4	5
Girls (n=378)	4 %	8 %	13 %	72 %	3 %
Boys (n=348)	9 %	69 %	15 %	5 %	2 %

Physical and sport education for girls as well as for boys are among those who significantly (p girls $r = 8.011 < 0.01$, boys $r = 9.302 < 0.01$.) form a relationship to lifelong physical activity as well as health (girls $r = 7.988$, boys $r = 8.857$, $p < 0.01$).

At the same time, we significantly confirm that physical and sport education is one of the transformational means involved in performing physical activity in their physical regime (boys $\chi^2 = 29.144$, $p < 0.01$).

Given the current and emerging models of teaching physical and sport education is and will be characterized by greater respect for the individuality of each pupil, even in terms of his sport interests, level of independence, creativity, management skills, etc. There is also a typical effort of the new concept of "internal activity" of pupils in physical activity and highlighting their contribution to the learning atmosphere, well-being, joy, sociability, cooperation, and emotionality of the teaching process. We think that changing the content of school physical and sport education can significantly affect pupils' interest in it, as

well as increase its effectiveness in the quality of the physical education process. Innovative direction in the school educational program - the subject Physical and sport education is currently more connected with health care and the emphasis is on movement as a means of prevention against health disorders.

5 CONCLUSIONS

The current research results unequivocally document the deepening trends in the consumerist way of life of the school population.

We assume that the time management of the exercise regime in high school students was based on their current priorities, goals, but also on the pandemic situation. In the overall movement regime of pupils, there are significant ($p < 0.01$) differences between the genders to the detriment of girls in terms of volume of performed PA, frequency, and intensity ($p < 0.01$). Our findings show that physical and sport education is perceived in both genders with a positive attitude, but

different interests with a significant difference ($p < 0.01$) to the detriment of girls. In girls and boys, this subject belongs to those that significantly ($p < 0.01$) form a relationship to lifelong PA as well as to health ($p < 0.01$). We significantly ($p < 0.01$) confirm that physical and sport education is one of the transformational means involved in performing PA in daily movement regime of pupils (even in the pandemic period).

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