



Everyday Physical Activity of Students in Nyíregyháza

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Abstract: *The popularity of physical education lessons has already been demonstrated by a lot of essays, however, it has also been revealed that this popularity, as well as the frequency of doing sports, tends to decrease at later ages of life. Pursuing sports has a positive effect on academic performance. Introducing PE as an everyday lesson at schools was a milestone in physical education. Provided the aims are realised successfully, the general state of health of students can show a favourable change. The aim of our research, on the one hand, is to reveal how important physical education is as contrasted with other school subjects, according to those students asked. On the other hand, we aim to examine how the certain positive and negative attitudes of the subjects of our study appear in the resulting figures. The research was conducted in the form of self-completion questionnaires in four different funded institutions in Nyíregyháza (n=285), in May, 2014. In the course of evaluation, we have used multivariate function analysis as well as frequency research and cross table reference. Participants mainly regard PE as important as other school subjects, however, boys significantly regard it more important than girls do. Those who do sports on a regular basis were more likely to agree that PE lessons are conducted in a friendly atmosphere than those who do sports less. Significantly, boys tended to agree with positive statements about sport.*

Keywords: physical education, everyday physical education, elementary schools, physical activity

Introduction, relevance of the topic (hypothesis)

The health and health maintenance of the young is a crucially important topic because this is the age when they acquire the patterns which will have an influence on all their lives (Rácz, 2005; Halmai & Németh, 2011). There are several behavioural factors that threaten health, among them unhealthy eating, a lifestyle that neglects physical exercise and risky behavioural patterns (smoking, drug and alcohol abuse, early sexual life) are the most outstanding ones. Unhealthy eating and physically inactive lifestyle were considered the most important risk factors in 2010 regarding the whole population of the Earth (Lim et al., 2012). The general state of health of adolescents (eating habits, doing physical exercise, risky behavioural patterns) is also important from the point of view of evaluating the population's health conditions. If healthy choices are supported at adolescent age, this might have positive outcomes in adulthood (Páll, 2004).

Doing sports or regular physical activity – the accepted amount is 60 minutes' physical activity of average intensity a day (Strong et al., 2005) has a central role. So much the more, as doing regular physical exercise or sport in adolescence has a favourable effect on physical activity in adulthood (Telama et al., 2005). Hungarians have been characterised with negative attributes regarding doing sports by researchers for decades (Gál, 2008). A serious problem is, that according to the findings of the past twenty years, more than half of those between 7 and 25 do only moderate physical exercise. 50% of those who do not do any sports move only 1-2 hours a week. *Nyerges and Laki* (2004) have found that 58,2% of senior section elementary school students (our sample group) do sports beside the curricular PE lessons, however, this proportion significantly decreases as age advances. As regards genders, girls are lagging behind boys in doing sports regularly (Ács, Borsos & Rétsági, 2011), which is verified by one of our previous studies (Fintor, 2014).

The evolvement of health maintenance is the result of a long socialisation process. Besides family, education can have a decisive contribution to the achievement of health development aims (Bognár et al., 2005). Education institutions are one of the scenes of daily life that have a several hundred years' tradition in teaching a healthy way of life (Kéri, 1998). This is why it is important that education institutions should regard regular physical exercise as a value and encourage a positive attitude towards sports as well as a commitment to an active lifestyle (Csányi, 2010). In this way, school can be regarded as one of the most important scenes of health development (Somhegyi, 2012). Regular and properly intensive physical exercise can be best provided within the framework of out-of-school sport associations (Barabás & Nagy, 2012). The importance of physical activity besides PE lessons has already been emphasised by many (Kozma, 2001).

Several activities belong here, for example entertainment, taking part in organised programs (such as church-organised programs, scout organisations) or activities connected to self-education (such as going to the library, study circles, trainings etc.) (Juhász & Forray, 2008; Pusztai, 2009).

Theoretical background

Physical education is a purposeful activity that aims to make the body stronger and more viable. It is based on medical grounds with respect to pedagogical principles. Any kind of sport, physical activity, exercise, or training may belong under this concept. What we mean by Physical education lesson is a school lesson that serves the purposes of health education. Any actual activity that is exclusively conducted for health education reasons (Szabó, 2003).

School sport and physical education is an educational field that is determined by the National Curriculum of Hungary (one of the basic content-regulatory documents of the Hungarian education system). Also, it can be regarded a curriculum drawn up according to European principles. When examining the curricula of other countries, it turns out that each contains the concept of health maintenance, which is further discussed in Hamar's study (1998). The National Curriculum of Hungary (NAT, 2012) introduced in 1995 contains the general and developmental tasks of physical education in accordance with the international trends.

In the 2012 modified version of the Curriculum mental and physical health education is presented as one of the concrete educational purposes. It is specified that students should have the motivation to eat healthy and do regular physical activity, in general, to lead a healthy way of life. In order to realise the aims and principles, it is essential for the students to have a certain familiarity with games and sports. Also, it is important for them to develop the need for building up a health conscious system of activities. Widening and developing theoretical sport education, participation in out-of-school and sport competitions, regular physical activity and encouraging students to regard healthy lifestyle as a core value are among the most important aims of physical education at schools.

The significance of the subject, popularity and importance of physical education lessons

Hamar (1998) says physical education does not only mean doing exercises in the school gymnasium or on the sport fields far from the school. But also, it is a kind of educational area that - together with other fields - seeks to find solutions for some complex problems of education. It undertakes a role in creating a balance of mental and physical health, educating to follow a healthy way of life, fighting against addictions, maintaining proper hygienic and sexual habits, as well as in the fields of recreation and rehabilitation. Physical education lessons help conducting the suggested amount of physical activity which is 60 minutes a day between the age of 5 and 18, according to the WHO (Strong et al., 2005).

According to Makszin (2002), the role of physical education and sports at school is to make students aware of the importance of healthy lifestyle as well as to develop their physical abilities and to provide the new generations for professional sport. This is further reinforced by the study

of Dale et al. (2000) who found that students were more active (also after school) on the days when they had PE lessons. The survey among adolescents conducted by Gordon-Larsen and their team (2000) has pointed out that even one PE lesson a week increases the likelihood that the weekly physical activity of the students gets into the most favourable category. Five PE lessons a week doubles this probability.

By conducting a 5-year longitudinal study, Shephard et al. (1984) found that a group of students who had five PE lessons a week did better at school than the control group, which had 40 minutes physical education a week.

It is also important to discuss what students themselves think about the subject. Hamar and Karsai (2008) examined the attitude of students between the age of 11 and 18 in a cross sectional arrangement (n=2840). They found that boys show a more adaptive behaviour than girls. Furthermore, positive emotional attitude significantly decreases among girls parallel with age. The physical education teacher also plays a role in forming attitudes. Positive emotions emerging in the course of teaching may increase the pedagogical efficiency of not only physical education, but the whole education process as well.

Oláh and Makszin (2005) studied the attitude of primary and secondary school students towards physical education lessons (n=897). Their work reveals that 94% of students consider PE lessons important. Bíróné Nagy (2004) states it as a fact that physical education is the favourite subject. Báthory (1997) also puts across that Physical education has an outstanding popularity among primary school students, however, at the same time indicates that this phenomenon decreases as students grow older. He also adds that PE is ranked higher by boys than it is by girls. This is further reinforced by Hamar et al.'s study (2012) which compares students from Transylvania and Hungary in the 2006/2007 academic year.

According to the findings of a nation-wide representative research, 60% of the population used to like PE lessons while still at school and 22% did not. Similar results emerged in the case of secondary education, however, the positive judgement regarding the importance of sport dramatically decreased at higher education. It was more preferred by men than by women. When asked about the reasons, those who had not liked physical education at school, mentioned straining, clumsiness and the evaluation system as reasons (Neulinger, 2009). The results of another, representative survey show an even more unfavourable picture. This research deals with the lifestyle of 8-grade students as well as with their opinion about physical education. Only less than half of the respondents said they liked PE lessons at school. They stated the content of the lessons as the main reason of their disinclination, the person of the teacher ranked second and finally the exhausting nature of the lessons. However, in spite of the negative data, only one third of the students would abolish PE lessons (Rétsági & Ács, 2010). According to Kovács and Velenczei (2007), the bad news is that only half of the students are fully satisfied with their physical education lessons. Following the first impressions, only the really devoted students get involved in out-of-school sport activities.

Everyday physical education

The introduction of everyday physical education at schools was already urged as early as the beginning of the 20th century, in the 1910s. From 1925 *Kmetykó János*, Principle of the College of Physical Education also took efforts to achieve it. In 1933 *Hóman Bálint*, the Minister of Religion and Public Education introduced it in five schools in the capital. Later, in the 1980's other institutions followed the example in the country (Ivanics, 1993).

The introduction of everyday physical education has been an integral part of the National Public Health Program. Physical education is institutionalised in the Hungarian public education system and takes the form of school lessons. It is one of the subjects taught in all school types at all grades, which means, it has a serious significance. In practice, it means that physical education is declared compulsory by basic school documents from grade 1. to grade 12.. The most important starting-points of this are the syllabuses. It is a substantial change nowadays that from the 2012/2013 academic year, in the 1st, 5th and 9th grades – and in all the successive grades – everyday physical education lessons are compulsory.

The CXC. (190.) national public education law of 2011 can do a lot to encourage the physical activity and health maintenance education of children, which seems to have been stagnating for some time. The law identifies some core aims and principles. Among others, these are the physical and mental wellbeing of children, or providing the proper conditions of teaching them the principles of sustainable development and healthy way of life. 27.§ of the law compulsorily prescribes the introduction of everyday physical education in all full time institutions, that is, five PE lessons per week.

In 1983-ban everyday physical education was introduced in an experimental purpose in three schools (one institution in Csongrád, one in Szeged and one which was rather poorly equipped for such an experiment, in Makó). All the participants developed the motivation to do physical exercise. According to the educators, the 'everyday students' became more expeditious, their concentration and reaction time improved (Szegfű, 1989).

In Nógrád County, the program started in the 1986/87 academic year, motivated by the stirring example of Csongrád. Thirty-three schools applied, most of them only involving one or two grades, or a restricted circle of students in the project. The most important facilities and equipment was provided almost everywhere, however, in the wintertime possibilities became restricted at many institutions. Those schools which refused to take part in the program alluded to their poor conditions. During the execution of the program, local playgrounds and sports facilities were widely used, table tennis equipment was generally used on corridors of schools in the breaks and also, possibilities to buy sports equipment for day-boarding groups were extended (Zagyvai et al., 1989).

Everyday physical education was first introduced in Nyíregyháza in the 21th Elementary School in the 1985/86 academic year. The 3rd, 4th and 5th grades were involved in the project. Experts wanted to find out what effect it has on physical education as a school subject. At the same time, they made comparisons between the academic performance of the students.

According to the experience of three years, everyday physical education had a positive effect on conducting popular championships and competitions between different grades. The best results appeared where the project was introduced from the 3rd grade. Students who had had movement coordination problems formerly, performed the greatest improvement (Diczkó, 1988).

What are the results of the everyday physical education program in Kecskemét? 1991 was the fifth academic year when the school conducted 40-minute PE lessons every day. They draw their conclusions by filling in medical forms about the students. According to their opinion, the students got to like physical education, became healthier and the subject gained a greater respect among other teachers. Even an extension of the facilities and equipment was realised (Grosán, 2001).

Vári et al. (2012) followed the results of 61 students attending the same grade during a four-year period. The first surveys were conducted in 2008/2009, and were repeated for four years afterwards, as long as until 2011/2012. The experts tried to draw conclusions about the effects of everyday physical education. They found that taking the process of gaining biological maturity into consideration, five PE lessons a week within the framework of public education contribute to the development of students' stamina.

On the basis of all these, *Mikulán's statement* (2013) might be well-founded, saying that the introduction of everyday PE lessons is a milestone in physical education. With its help, students' health-behaviour patterns can take a permanently positive turn. *Borbély's research* (2014) national study has revealed that 70% of the respondent parents agrees with the introduction of daily physical education. Also, they find it important that their children should like PE teachers, as well as the subject itself.

Empirical research

Aims, methods, samples

One of the aims of our research is to find out, how important physical education is for the respondents as compared to other school subjects. On the other hand, we wanted to know how they relate to the subject. Also, we wanted to see how the research figures indicate the positive and negative attitudes of the respondents to the subject.

Data were gathered from four differently funded (state, church, ministry and other – Waldorf) schools in Nyíregyháza in May, 2014, with the help of self-completion questionnaires. The collection of the data was previously arranged and coordinated with the principles of the institutions. It was conducted during lessons and took about 20 minutes at a time. Filling in the questionnaires was optional and anonymous. Only one grade from the senior sections (5th-8th grades) of the schools took part in the survey, so our research can be regarded as representative only for senior section students. Our self-made questionnaire contained several factors – statements about the everyday physical education, which were geared to the aims of the National Curriculum). It covered sports habits,

free time activities, academic performance, attitudes to the subject, health maintenance habits and sociological background variables.

Research questions, hypotheses

The first group of questions was meant to study the students' relation to the subject (regarding importance and content). Most research findings show that this subject is liked by students (Báthory, 1997; Hamar, 1998; Oláh & Makszin, 2005).

In the second part of the questions we analyse the students' attitudes towards everyday physical education. On the basis of the reference literature, experts are optimistic. They expect a favourable scenario after the introduction of everyday PE lessons (Mikulán, 2013, related aims of the National Curriculum of Hungary – NAT, 2012). Also, earlier experiences (experiences in the 1980s) show a positive picture.

Hypotheses

H1: We presume that PE is considered important by students, however, their positive attitudes towards the subject decrease as they get older.

H2: We presume that the vast majority of the respondents have positive opinions about everyday physical education. At the same time, we expect a significant difference between genders, namely, in favour of boys.

H3: We expect no differences between the respondents' answers to the statements about everyday physical education depending on their frequency of doing sports.

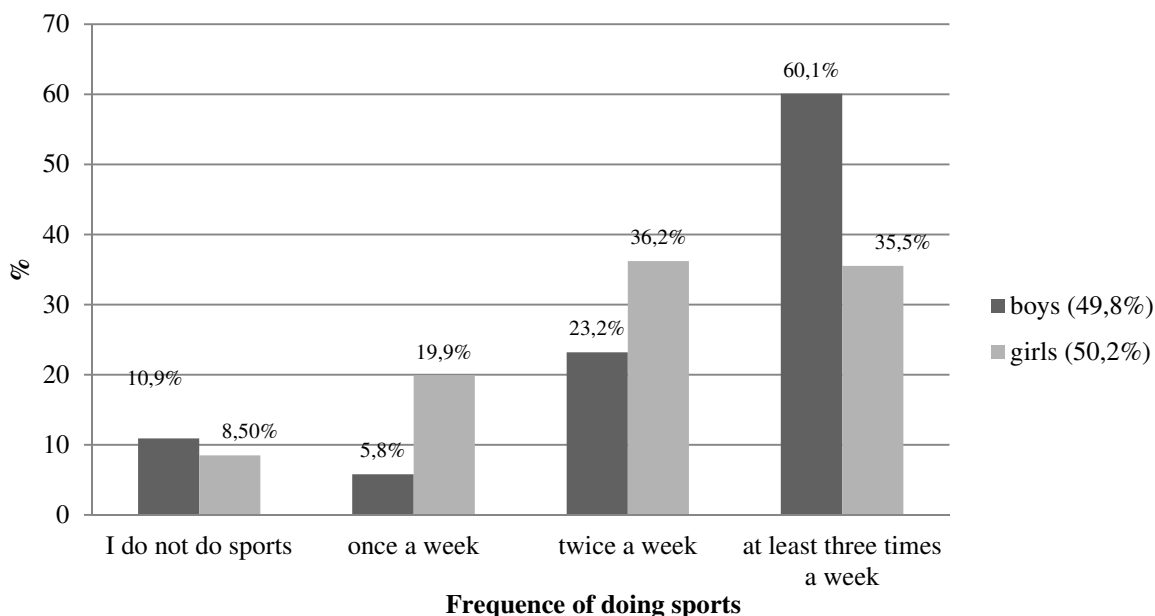
Description of the sample

The sample contained 285 individuals, which is almost evenly divided between the two genders. 49.8% of the respondents were boys, 50.2% girls. 9.7% of the sample do not pursue any sports, 12.9% does sport once a week, 29.7% twice a week and 47.7% at least three times a week. Here, there is a substantial difference between genders because in the "at least three times a week" category 60.1% are boys and only 35.5% are girls (Figure 1). We made it clear to respondents that by sport we mean physical exercise that lasts at least 30 minutes at a time, with PE lessons excluded. As regards the level of sports, 62.1% of the sample do sports as a hobby, 7.9%, within school frameworks and 30.0% is a member of a sport association. There was a significant difference between genders because 45.6 % of the boys do sports within an association, however, this figure is only 18.7% in the case of girls.

All the grades were represented equally in the sample but the questions regarding everyday physical education were implicitly answered only by 5th and 6th graders (140 students). The data were processed with the help of SPSS 20. statistic program. During the process of evaluation, we used multivariate factor analysis besides frequency research and cross table

reference. Factor analysis was conducted regarding the statements about everyday physical education. This is a certain type of correlation analysis with several variables, that uses latent variables (i.e. factors) that can be deduced from the items of the test. The relevance of the method is proved by the KMO index, which shows a moderate result (KMO=0,786).

Figure 1. The frequency of doing sports and the repartition of genders % (n=285)



Source: the author's own research

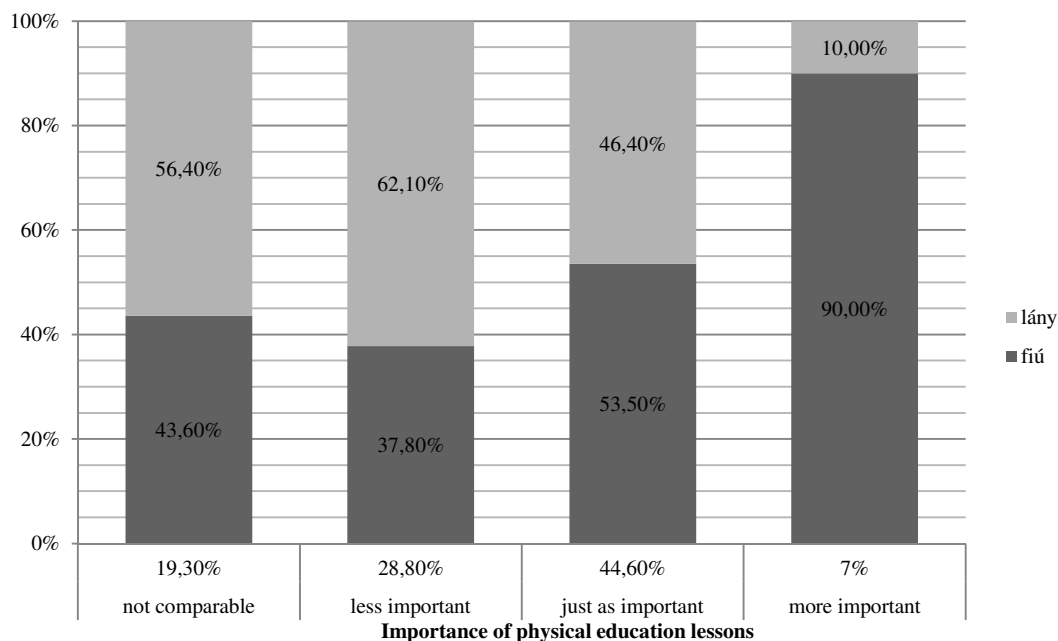
Results

Physical education as a school subject has been analysed from two aspects. On the one hand, we examined how important it is for students as contrasted to other subjects. Secondly, they were asked to mark whether or not they agree with certain statements about physical education.

As regards the importance of PE lessons (H1), 51.6% of the students consider it at least as important as any other school subject. 28.8% rate it into the 'not so important' category (Figure 2). A significant difference shows between genders ($\chi^2=20,203$, $p=0,000$). 60.6% of the boys consider physical education at least as important as other subjects. This figure is only 42.7% in the case of girls. 90% of those who regard the subject more important are boys.

In this way, our results confirm the findings of former researches (Báthory, 1997; Oláh & Makszin, 2005). However, when examining the frequency of doing sports, no significant differences were detected between the grades. This contradicts Hamar and Karsai's study (2008).

Figure 2. Repartition of the importance of doing sports in relation to other subjects as regards genders % (n=285) $p \leq 0,000$



Source: the author's own research

As regards the statements in connection with the level of sports, there are also substantial differences. The atmosphere of PE lessons (Kruskal-Wallis test, Chi-Square= 10,294, $p=0,006$) is more likely to be regarded as great by those who do sport as a hobby (mean rank= 115,5) and those who pursue it within an association (mean rank= 130,08) - as opposed to those who do sports only within school frameworks (mean rank= 76,58). However, this latter category indicated that they 'get exhausted by the end of the lesson' (Kruskal-Wallis test, Chi-Square= 10,513, $p=0,005$) with the highest figures (mean rank= 156,87). This figure is smaller in the case of those who do sports as a hobby (mean rank= 123,87) or are members of a sport association (mean rank=104,47). Regarding the statement 'we regularly play during PE lessons' (Kruskal-Wallis test, Chi-Square= 9,195, $p=0,010$) the hobby (mean rank= 122,26) and association (mean rank= 121,71) category's agreeing answers are far more in number than in the 'only at school' category (mean rank= 72,47).

Surveys among different grades also show some significant differences (Table 1.). They reveal that the atmosphere of PE lessons is the most positively evaluated by the 8th class and it is ranked the lowest by the 5th.

Getting exhausted after the lessons has gained the highest rates in the 5th and 7th grades. In the case of 5th graders, this can be attributed to the change of the academic environment (they enter the senior section of elementary school). As regards the 7th grade students, they have some new subjects in this academic year, which might explain the results. Regular games during lessons were marked mostly by 8th graders, while the strictness of teachers was indicated mainly by 5th grade students.

Table 1. Correspondence between statements about physical education and grades (rank average) (n=265)

	There is always a good atmosphere during PE lessons p=0,017	I get really tired by the end of PE lessons p=0,026	We regularly play games during PE lessons p=0,003	Our PE teacher is stricter than other teachers p=0,000
5 th grade	111,85	143,77	114,16	150,87
6 th grade	127,17	124,67	137,99	135,70
7 th grade	124,05	149,80	114,48	147,30
8 th grade	149,39	116,57	153,19	105,21

Source: the author's own research

In the second part of our research (H2, H3) we went on to the examination of everyday physical education. As we have indicated earlier, by the description of the sample, these questions were answered only by 5th and 6th grade students.

We have conducted factor analysis regarding the statements in connection with the everyday physical education lessons. On the basis of the emerging correlation matrix, we identified the following factors:

Table 2. The results of the factor analysis

	1	2	3	4	5
The expectations of the teaches have increased	0,579				
I can get to know several ways of doing physical exercise	0,654				
I have an increased motivation to move	0,575				
Due to PE lessons, I have become healthier	0,697				
It has had a good effect on my academic performance	0,550				
I pay a greater attention to my diet	0,610				
I have taken up sports apart from PE lessons as well		0,653			
I do even more sports apart from PE lessons		0,814			
Since then, I like sports programmes and broadcasts on tv and on the internet		0,552			
I enjoy PE lessons more than I used to			0,784		
My relationship with my teacher has improved			0,834		
Due to the PE lessons, I have become much more facile			0,504		
We have more time to play			0,506		
I can take part in more competitions				0,641	
We accomplish greater sport achievements				0,683	
I and my classmates do more sports together in our free time				0,654	
I do less sports outside PE lessons					0,217
Due to PE lessons, I am much more exhausted during the day					0,488
I have to spend more time at school					0,702
I have to get up earlier					0,665
I have less time for free time activities					0,750

Those statements that are related to the efficiency of the teacher's work belong to factor 1 (Table 2). Factor 2 shows the results out of the school framework and devotion to physical activities. Factor 3 contains those positive statements which represent the students' emotional relation to PE lessons. Statements in connection with efficiency are grouped in factor 4. Factor 5 contains negative utterances.

We have examined the results of the factor analysis with special regard to gender and the frequency of doing sports. As regards genders, it clearly shows that the rank average of activities out of school (factor 2) is significantly higher for girls than it is for boys (Table 3.). What is more characteristic of boys is that they have taken up some sport activity and do even more physical exercise with their classmates (factor 4) apart from PE lessons as well. Also, boys tend to watch more sport related tv programs. We found that those who do sports regularly are more active in their free time activities as well – as opposed to those who do not pursue any sports (Fintor & Szabó, 2012; Fintor, 2013; Fintor, 2014). As to the negative statements (factor 5), girls show higher rank averages. They tend to do less sport besides what they are expected to do at school. What is more, they are more exhausted as a result of the everyday PE lessons.

Table 3. Correlations between statements in connection with everyday physical education (factors) and gender (rank average) (n=140)

	gender	rank average
I have taken up sports outside PE lessons as well p=0,026 (factor 2)	boy	84,66
	girl	69,44
I do even more sports apart from PE lessons p=0,020 (factor 2)	boy	86,62
	girl	70,38
Since then, I like sports programmes and broadcasts on tv and on the internet p= 0,000 (factor 3)	boy	89,88
	girl	65,12
We have more time to play p= 0,026 (factor 3)	boy	84,71
	girl	69,36
I can take part in more competitions p=0,043 (factor 4)	boy	85,4
	girl	71,6
I and my classmates do more sports together in our free time p=0,000 (factor 4)	boy	91,35
	girl	64,82
I do less sports apart from PE lessons p=0,045 (factor 5)	boy	69,82
	girl	83,01
Due to PE lessons, I am much more exhausted during the day p=0,011 (factor 5)	boy	68,11
	girl	85,78

Source: The author's own research

As to the frequency of doing sports (Table 4.), physical activity apart from school lessons shows the greatest rank average in the case of those who do sports at least three times a week. This means that those who did

regular physical exercise formerly, claim to have been doing even more since the introduction of everyday physical education lessons.

The popularity of sports programs (factor 2) is directly proportional to the frequency of doing sports. As regards the efficiency of sport (factor 4), we have received the greatest rank averages from those who do sports at least three times a week. In connection with the negative statements (factor 5), the results of those who do not do any sports at all show the most outstanding figures. They feel more exhausted and move less as a result of the introduction of the new system. These findings confirm the experiences of the 80s and partly match the aims of the National Curriculum of Hungary, because the system has only activated those students who are more devoted to doing sports anyway. However, the resulting data show that the new system has not managed to motivate those students who did less sport in the past.

Table 4. Correlations between statements about everyday physical education (factors) and the frequency of doing sports (rank average) (n=140).

	frequency of doing sports	rank average
I have an increased motivation to move p=0,025 (factor 1)	I do not do any sports	51,79
	once a week	62,11
	twice a week	77,03
	at least three times a week	82,32
I do even more sports apart from PE lessons p=0,000 (factor 2)	I do not do any sports	28,46
	once a week	38,03
	twice a week	68,38
	at least three times a week	98,76
Since then, I like sports programmes and broadcasts on tv and on the internet p= 0,000 (factor 2)	I do not do any sports	35,11
	once a week	71,95
	twice a week	64,59
	at least three times a week	89,39
I have taken up sports apart from PE lessons as well p=0,000 (factor 2)	I do not do any sports	32,5
	once a week	33,66
	twice a week	75,28
	at least three times a week	93,02
I can take part in more competitions p=0,000 (factor 4)	I do not do any sports	38,76
	once a week	71,84
	twice a week	69,56
	at least three times a week	88,11
We accomplish greater sport achievements p=0,000 (factor 4)	I do not do any sports	44,57
	once a week	67,24
	twice a week	72,82
	at least three times a week	85,39
I and my classmates do more sports together in our free time p=0,000 (factor 4)	I do not do any sports	45,43
	once a week	61,24
	twice a week	66,87
	at least three times a week	90,06
I do less sports outside PE lessons p=0,000 (factor 5)	I do not do any sports	111,93
	once a week	103,58
	twice a week	84,8
	at least three times a week	54,24
Due to PE lessons, I am much more exhausted during the day p=0,015 (factor 5)	I do not do any sports	88,35
	once a week	98,76
	twice a week	74,9
	at least three times a week	66,83

Source: The author's own research

Summary

The bodily development, general state of health, bearing and stamina of the Hungarian up-growing generation lags behind the youth of other European countries. A wide social cooperation is necessary in order to stop this process, in which educational institutions, elementary schools and the system of everyday physical education introduced in 2012 are given an outstanding role. Research has shown that five PE lessons a week contribute to the proper standard of fitness and has a positive influence on the academic performance of students. Those who do sports regularly are more self-confident and future-oriented. They are characterised by an increased level of psychological and psycho-social health.

Our H1 hypothesis has been only partly proved because although the respondents regard physical education important, our research has shown that this attitude decreases as students grow older. Our H2 hypothesis has been proved. As regards genders, boys tend to experience the positive, while girls the negative sides of everyday physical education. Our H3 hypothesis has not been proved because according to the answers, everyday physical education has not succeeded in motivating those who did less or no sports at all before the introduction of the system. Also, certain differences in the frequency of doing sports can be detected in connection with the positive statements about everyday physical education.

References

- Ács P., Borsos A., & Rétsági E. (2011). *Gyorsjelentés a magyar társadalom életminőségét befolyásoló fizikai aktivitással kapcsolatos attitűdjeiről*. Budapest: Magyar Sporttudományi Füzetek.
- Barabás K., & Nagy L.-né (2012). Egészségi állapot, egészségmagatartás. In Csapó B. (Ed.), *Mérlegen a magyar iskola* (pp. 477-511). Budapest: Nemzeti Tankönyvkiadó.
- Báthory Z. (1997). *Tanulók, iskolák – különbségek*. Budapest: OKKER.
- Bíróné Nagy E. (2004). *Sportpedagógia. Kézikönyv a testnevelés és a sport pedagógiai kérdéseinek tanulmányozásához*. Budapest; Pécs: Dialóg Campus.
- Bognár J., Tóth L., Baumgartner E., & Salvara, Marina I. (2005). Tanulás, célok és testnevelés: Előtanulmány az általános iskola felől. In *IV. Országos Sporttudományi Kongresszus Tanulmánykötet II.* (pp. 29-34). Budapest.
- Borbély Sz. (2014). As parents see physical education (PE) from a representative survey's point of view. In Karlovitz J. T. (Ed.), *Mozgás, környezet, egészség* (pp. 39-54). Komárno: International Research Institute.

- Csányi T. (2010). A fiatalok fizikai aktivitásának és inaktív tevékenységeinek jellemzői. *Új Pedagógiai Szemle*, 60 (3-4), 115-129.
- Dale, D., Corbin, C. B., & Dale, K. S. (2000). Restricting opportunities to be active during school time: Do children compensate by increasing physical activity levels after school? *Research Quarterly for Exercise and Sport* 71 (3), 240-248.
- Diczkó J.-né (1988). Mindennapos testnevelés a nyíregyházi 21. Sz. Általános Iskolában. *Pedagógiai Műhely*, 14 (2), 16-19.
- Fintor G., & Szabó J. (2012). A televíziós sportműsorok hatása az egyes társadalmi rétegekre. *Zempléni Múzsza* 12 (1), 23-30.
- Fintor G. J. (2014). A sportágválasztást és sportolási gyakoriságot befolyásoló tényezők az általános iskolásoknál. In Ceglédi T., Gál A., & Nagy Z. (Eds.), *Határtalan oktatáskutatás. Tanulmányok a 75 éves Kozma Tamás tiszteletére* (pp. 69-77). Debrecen: Debreceni Egyetem Felsőoktatási Kutató és Fejlesztő Központ (CHERD-Hungary).
- Fintor, G. J. (2013). Correlations of Sport Levels and Popularity of Sport Programmes among Elementary School Students. *Hungarian Educational Research Journal*, 3 (3).
- Gál A. (2008). A Magyar lakosság egészségtudatossága és szabadidő-sportolási szokásai. In Földesiné Szabó Gy., Gál A., & Dóczi T. (Eds.), *Társadalmi riport a sportról* (pp. 9-39). Budapest: Önkormányzati Minisztérium Sport Szakállamtitkárság; Magyar Sporttudományi Társaság.
- Gordon-Larsen, P., McMurray, R. G., & Popkin, B. M. (2000). Determinants of adolescent physical activity and inactivity patterns. *Pediatrics*, 105, e83.
- Grosán P. (2001). Ízelítő a mindennapos testnevelés jegyében született iskolai programokból. *Új Pedagógiai Szemle*, 51 (11), 149-152.
- Halmi R., & Németh Á. (2011). Fizikai aktivitás és szabadidős tevékenységek. In Németh Á., & Költő A. (Eds.), *Serdülőkorú fiatalok egészsége és életmódja 2010. Az Iskoláskorú gyermekek egészségmagatartása című, az Egészségügyi Világszervezettel együttműködésben zajló nemzetközi kutatás 2010. évi felméréséből készült nemzeti jelentés = Health Behaviour in School-aged Children (HBSC): A WHO-collaborative Cross-National Study National Report 2010* (pp. 26-31). Budapest. Országos Gyermkegészségügyi Intézet.
- Hamar P. (1998). A testnevelés tartalmi korszerűsítésének nemzetközi trendjei a közoktatásban. *Új Pedagógiai Szemle*, 48 (4), 48-56.
- Hamar P., & Karsai I. (2008). Az iskolai testnevelés affektív jellemzői 11-18 éves fiúk és lányok körében. *Magyar Pedagógia*, 108 (2), 135-147.
- Hamar P., Versics A., Adorjáné Olajos A., & Karsai I. (2012). 11-18 éves magyar és erdélyi tanulók iskolai testnevelés kötődés vizsgálatának összehasonlító elemzése c. tanulmányról = About the Comparative Study of 11-18 Year-Old Hungarian and Transylvanian Students' Attitude to Physical Education. *Magyar Sporttudományi Szemle*, 13 (51), 10-15.
- Ivanics G. (1993). Mindennapos testnevelés. *Fejlesztő pedagógia*, 4 (1-2), 11-13.
- Juhász E., & Forray K. (2008). Az autonóm tanulás és az oktatás rendszere. *Új Pedagógiai Szemle*, 58 (3), 62-68.

- Kéri K. (1998). „A beteg szíve kedvetlen, az étele ízetlen...” Egy 18. századi magyar orvos könyvei az egészségről. *Egészségnevelés*, (4), 183-184.
- Kozma T. (2001). *Bevezetés a nevelésszociológia alapjaiba*. Budapest: Nemzeti Tankönyvkiadó.
- Kovács Á., & Velenczei A. (2007). A sport presztízse. In: Szatmári Z. (Ed.), *Sport, életmód, egészség* (pp. 627-629). Budapest: Akadémiai.
- Lim, S. S., et al. (2012). A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet*, 380 (9859), 2224-2260.
- Makszin I. (2002). *A testnevelés elmélete és módszertana*. Budapest; Pécs. Dialóg Campus.
- Mikulán R. (2013). Az iskolai testnevelés szerepe és jelentősége az egészségfejlesztésben. *Új Pedagógiai Szemle*, 63 (7-8), 48-69.
- NAT 2012. *Új Pedagógiai Szemle*, 62 (1-3), 30-256.
- Neulinger Á. (2009). A szabadidősport iránti érdeklődés Magyarországon 3. – Társas kapcsolatok és interakciók a sportban = Interest in Free Time Sports in Hungary – Social Relationships and Interactions in Sport. *Magyar Sporttudományi Szemle*, 11, (3-4), 29-32.
- Nyerges M., & Laki L. (2004). A fiatalok sportolási szokásai néhány társadalmi összefüggése = Some social Correlations of the Youth's Habits of Pursuing Sports. *Magyar Sporttudományi Szemle*, 5 (2-3), 5-15.
- Oláh Zs., & Makszin I. (2005). A tanulók viszonyulása a testneveléshez és a testnevelési osztályzatokhoz = Students' Attitude to Physical Education and the its Evaluation. *Magyar Sporttudományi Szemle*, 6 (21), 23-27.
- Páll G. (2004). Gyermekegészségügy. In Bakacs M., & Vitrai J. (Eds.), *Népegészségügyi jelentés 2004. Szakértői változat* (pp. 476-517). Budapest: Országos Epidemiológiai Központ.
- Pusztai G. (2009). *A társadalmi tőke és az iskola*. Budapest: Új Mandátum.
- Rác L. (2005). Értékek és ifjúság. In Pikó B. (Ed.), *Ifjúság, káros szenvedélyek és egészség a modern társadalomban* (pp. 58-85). Budapest: L'Harmattan.
- Rétsági E., & Ács P. (2010). A serdülők életmódja es testneveléssel kapcsolatos véleményük = Adolescents' way of life, and their opinion on their PE classes. *Magyar Sporttudományi Szemle*, 11 (4), 13-18.
- Somhegyi A. (2012). A teljes körű iskolai egészségfejlesztés országos megvalósítását elősegítő elemek a nemzeti köznevelésről szóló 2011. évi CXC törvényben. *Népegészségügy*, 9 (3), 202-213.
- Shephard, R. J., et al. (1984). Required physical activity and academic grades: a controlled longitudinal study. In Ilmarinen, J., & Valimaki, I. (Eds.), *Children and Sport* (pp. 58-63). Berlin: Springer.
- Strong, W. B., Malina, R. M., Blimkie, C. J. R., Daniels, S. R., Dishman, R. K., Gutin, B., Hergenroeder, A. C., Must, A., Nixon, P. A., Pivarnik, J. M., Rowland, T., Trost, S., & Trudeau, F. (2005). Evidence based physical activity for schoolage youth. *Journal of Pediatrics*, 146 (6), 732-737.

- Szabó K. (2003). Iskolai testnevelés és társadalmi sport. Rendes tanári székfoglaló értekezés, Sárospatak, 1931. *Zempléni Múzsá*, 3 (11), 29-40.
- Szegfű I. (1989). Történeti áttekintés a mindennapos testedzésről. In Süli J. (Ed.), *A mindennapos testedzés kézikönyve* (pp. 2-6). Szeged: A Csongrád Megyei Tanács V.B. művelődési osztálya és Pedagógiai Intézete.
- Telama, R., Yang, X., Viikari, J., Välimäki, I., Wanne, O., & Raitakari, O. (2005). Physical activity from childhood to adulthood: A 21-year tracking study. *American Journal of Preventive Medicine*, 28 (3), 267-273.
- Vári B., Marton A., & Balogh L. (2012). A mindennapos testnevelés hatásának követéses vizsgálata 1-4. osztályos tanulók körében = Follow-up Research of the Effects of Everyday Physical Education Among 1.-4. Grade Students. *Magyar Sporttudományi Szemle*, 14 (54), 59-60.
- Zagyvai S., Vass J., & Havril J. (1989). *A mindennapos testnevelés tapasztalatai Nógrád megye általános iskoláiban: Tematikus vizsgálat*. Salgótarján: Nógrád Megyei Pedagógiai Intézet.