



## PHYSICAL ACTIVITY OF PRIMARY SCHOOL STUDENTS

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### **Abstract**

*A significant decrease in physical activity and a growing incidence of obesity are becoming problems of contemporary times, the economic and social costs of which we are bound to face. The systemic actions undertaken are aimed at creating space for physical activity and shaping health-oriented attitudes among children and young people. Promotion of health-oriented attitudes among children is one of the ways of preventing illnesses associated with lifestyle, and are also a significant factor influencing the condition of society and future generations.*

*This study forms a preliminary evaluation of attitudes among primary school students in Lublin towards physical activity – its preferred forms and frequency. Moreover, the study presents a preliminary and general analysis of pain within the locomotor system in children.*

*A survey in the form of a questionnaire was conducted in a primary school in Lublin among children at various stages of education. The questionnaire contained data about the children's age and gender. Other questions concerned preferred forms of physical activity, its frequency and attitudes of schoolchildren to physical activity.*

*The results obtained indicate that the majority (99%) of the children definitely like to undertake physical activity in various forms and they regard it as fun and an interesting way of spending free time. A significant share (51%) of the respondents reply that they undertake physical activity every day (apart from activities organized at school). However, the number of affirmative answers to the question about pain is worrying.*

*The results obtained demonstrate quite a high level of physical activity among schoolchildren. However, the alarming results concerning incidences of pain (47%) point to the need for further in-depth research on this area.*

**Key words:** *physical activity, pain, health-oriented attitudes*

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### **Introduction**

Widespread illnesses associated with lifestyle, resulting from incorrect diet, obesity and limited physical activity, pose an increasing challenge to health care services. A growing number of children and young people seek rehabilitation treatment due to pain, e.g. of the spine [6]. Decreased physical fitness is also observed in a situation where sports facilities have become more common and accessible in our country and schools have better sports equipment. Promotion of health-oriented attitudes among children is one of the ways of combatting illnesses

associated with lifestyle and an important factor influencing the condition of society and future generations. It is emphasized that body posture is formed on both a morphological and functional basis, and effective operation of the muscular (and nervous) system significantly contributes to its development [2].

### **Aim**

The objective of the study was to preliminarily examine the attitudes of primary school students from Lublin towards the extent and forms of physical activity, additionally supplemented with information concerning pain. How often and with what motivations do children take physical

activity in the study group? How often do children in the study group experience pain? A question about pain was introduced due to the fact that both lack of physical activity and intensive practising of sports are indicated as causes of spinal conditions in children and youth [1].

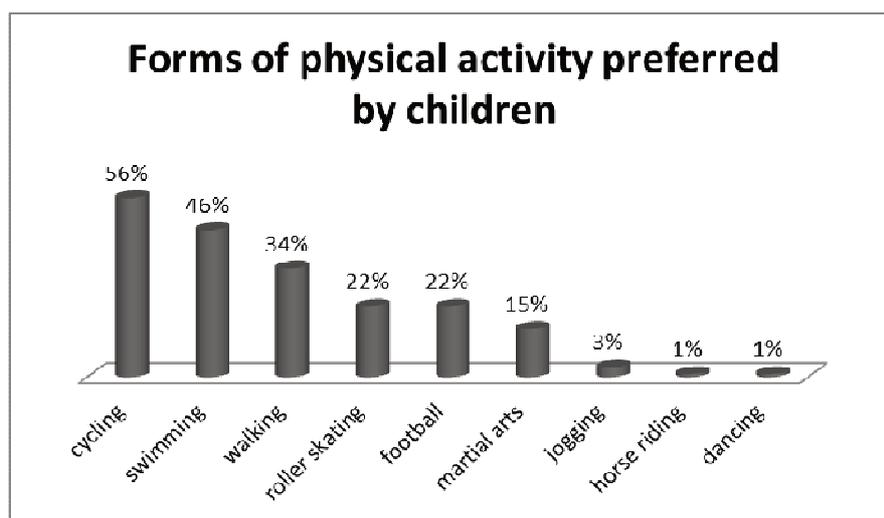
### Material and methods

The survey was conducted in a primary school in Lublin among children at various stages of school education. 140 questionnaires (own authorship) were used, of which 127 questionnaires, correctly filled in, were taken into account in the study. The age of the children completing the questionnaires was 6-12. Parents of all children received the questionnaire by e-mail before the survey at school and gave their consent for the children's participation in the survey. In the questionnaire it was noted that in

responses concerning the frequency of physical activity, no school activities should be taken into account. Children were required to indicate activities which lasted at least 20 min, taking into account difficulties with accurate definitions of time in this age group. Children were clearly instructed to focus on a purposeful physical activity and not to regard e.g. going to a nearby shop as a walk. During the survey the children were informed that the question concerning pain did not refer to pain connected with a fall or a strike, but should be understood as pain in the back or the limbs not caused by any injury.

### Results

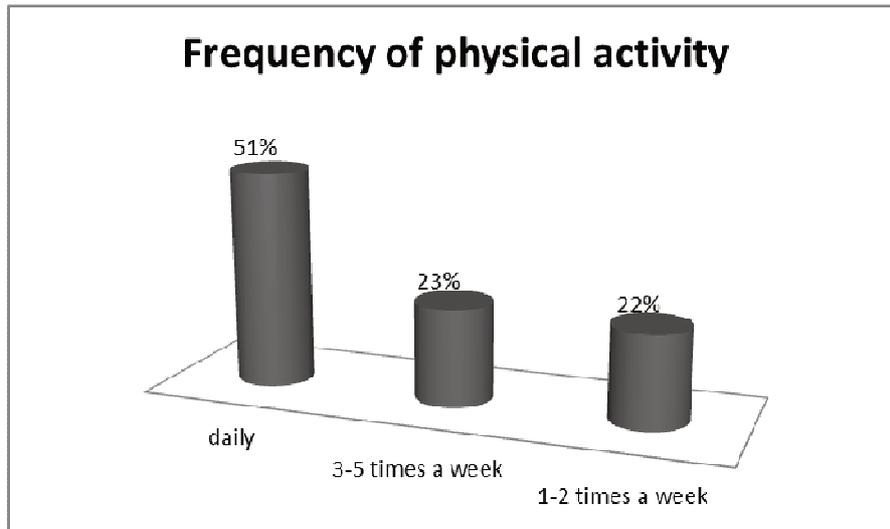
Most of the respondents replied that they liked physical activity (99% positive responses). Forms of physical activity preferred by children are presented in Graph 1.



**Graph 1.** Forms of physical activity preferred by children

Most children indicated cycling (56%) as their favourite form of physical activity, almost half of them (46%) mentioned swimming as a preferred form of activity as well. Other forms of activity readily undertaken by children are: walking (34%), roller skating (22%), football (22%) and martial arts (15%). The least frequently mentioned sports activities are: jogging (3%), horse riding and dancing (1% each).

In reply to the question about frequency of physical activity (excluding sports classes at school), most children (51%) answered that they undertook physical activity every day, and a similar shares of the respondents (22% and 23%) indicated that they engaged in physical activity 1-2 and 3-5 times a week respectively. The results are presented in Graph 2.



**Graph 2.** Frequency of physical activity

With respect to division into age groups, children aged 10-12 are the most physically active group among the respondents, while children aged 6-8 are on average are less

physically active. The frequency of physical activity in various age groups is presented in Table 1 and Table 2.

**Table 1.** Frequency of physical activity in various age groups

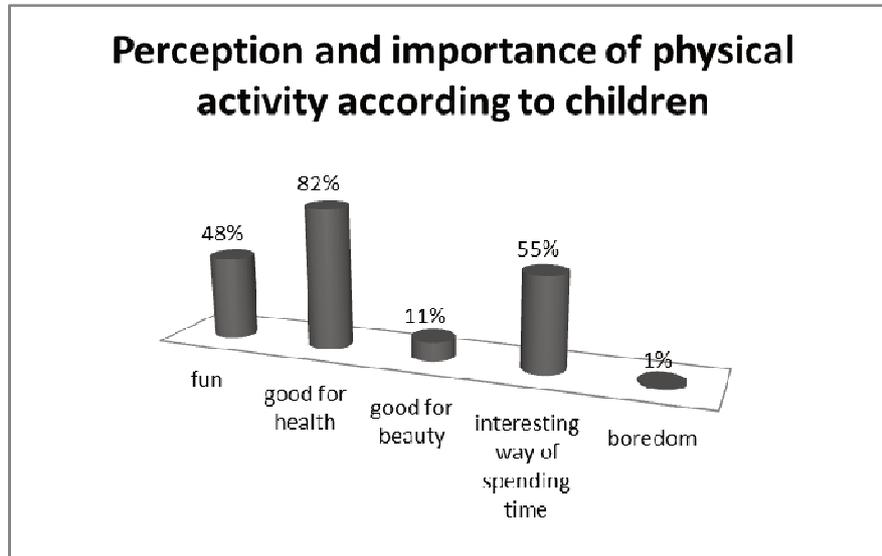
Age	Daily	3-5 times a week	1-2 times a week
6-year old	50,0%	0,0%	50,0%
7-year old	42,5%	17,5%	40,0%
8-year old	38,9%	11,1%	50,0%
9-year old	26,5%	42,0%	31,5%
10-year old	60,0%	35,0%	5,0%
11-year old	62,0%	18,8%	18,8%
12-year old	50,0%	25,0%	25,0%

**Table 2.** The average and the most frequent values presenting frequency of physical activity among children

Age	Average	Median	Standard deviation
6-year old	4,6	4	2,29
7-year old	4,47	4	2,4
8-year old	4,3	4	2,39
9-year old	4,68	4	2,24
10-year old	5,14	7	2,23
11-year old	5,11	7	2,26
12-year old	5,11	7	2,41

The respondents aged 6-9 undertake physical activity 4 times a week on average. Children aged 10-12 undertake physical activity 5 times a week on average, while the most frequently given answer in this group is 7 times a week.

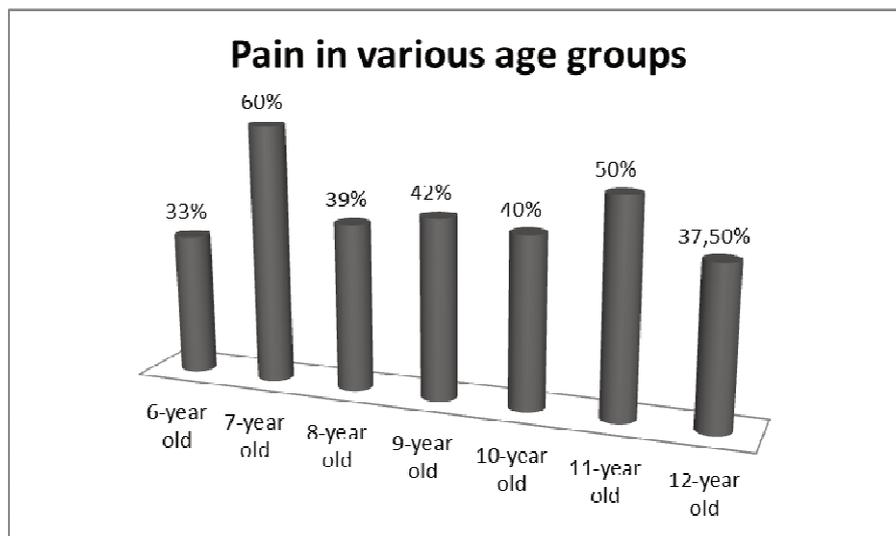
An important aspect of undertaking physical activity is motivation and perception of physical activity by children. Graph 3 presents the main reasons for engagement in physical activity and the perception of its role in the surveyed group.



**Graph 3.** Perception and importance of physical activity according to children

The largest group of respondents (82%) reply that physical activity is good for health; over half of them (55%) claim that physical activity is an interesting way of spending time and almost a half (48%) think it is good fun.

Attitudes towards physical activity and its frequency indicated by the children are quite high. However, the children also answered questions concerning pain within the locomotor system (not directly connected with an injury). The results are presented in the graph below.



**Graph 4.** Pain in various age groups

In general, pain is reported by 47% of the children in the surveyed group. In terms of age analysis, it is noteworthy that such complaints are reported by 60% of 7-year-olds, while in other age groups by ca. 40% of the respondents. Occurrence of pain was preliminarily assessed in this study but this aspect appears to be very worrying and requires in-depth research.

## Discussion

Despite the research results indicating that the least physically active children undertake physical activity once or twice a week and this group constitutes 22%, a study conducted among schoolchildren in 400 small towns reveals other tendencies. The research carried out within the Polish Project 400 Towns demonstrates that 24% of the respondents aged 6–9 and 10–13 preferred to spend their free time in front of TV, while only 16% opted for physical activity outdoors.[9] The research conducted by HBSC (Health Behaviour in School-Aged Children) reveals that everyday physical activity (at least 60 minutes) is undertaken by 27.3% of schoolchildren aged 11–12 [11]. Such problems as excess weight and obesity, as well as decreased physical fitness, are described as new health concerns, so improvement of quality and effectiveness of health education are the priority [10].

With respect to pain in children, the main issue discussed in literature is back pain. Until recently, back pain was regarded as a problem of adults and it was indicated that such ailments begin around the age of 30. However, it turns out that a considerable share of the younger population also suffer from back pain of various etiology. According to literature, around 10% of schoolchildren suffer from pain of the lumbosacral spine.[7] Back pain is experienced by about 10% of children periodically and by

13% chronically [5]. It is emphasized in literature that both lack of physical activity or physical activity which is too intense are significant risk factors in back pain [1]. A study carried out in Biała Podlaska district among children aged 10–13 demonstrates that 39.4% children are affected by back pain, especially of the lumbar spine [4].

Literature increasingly refers to a coexisting condition which is faulty posture. This is a significant problem not only in the population of young people, but also among children. A study carried out in Radom in a group of 264 children aged 6–12 revealed postural defects in 93.2% of the participants. [3] It is emphasized in literature that there are no strictly specified criteria for a correct posture at various stages of a child's life, which contributes to greater incidence [10].

It should be emphasized that the issue of faulty posture must be considered in a broader perspective, due to the fact that there is a strong correlation between faulty posture and hearing. Moreover, eyesight disorders have a negative impact on body posture. [8] The research on pain carried out in 2013 demonstrated that joint hypermobility was not a factor predisposing children aged 9–13 to back pain [6].

## Conclusion

Even though the question concerning pain had a general character in the discussed study, a considerable share (47%) of positive answers is worrying and requires further research into this problem. Pain discussed here is a very broad notion, so it is necessary to specify what is a share of growth-related pain, which pain has a short-term or a chronic character. It is also essential to extend the research to include mental factors which can contribute to incidences of pain, to examine parents' awareness of these ailments and possible measures undertaken.

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