

YOUTH PHYSICAL ACTIVITY AS AN OUT-OF-CLASS OCCUPATION

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Abstract

Introduction. Every year, the lack of physical activity causes the death of 600,000 people in Europe; lack of exercise also leads to overweight and obesity in more than one million people [1]. The study of the Latvian Public Health Agency (PHA) concerning students' health habits shows that the proportion of students whose general physical activity level could be considered as sufficient is only 46.3% [2]. In several countries, different programmes are designed to facilitate school students' physical activity, and beneficial out-of-class occupation is emphasised, recommending physical activities on the way to school and coming back home. **Material and methods.** Sixty-five students (grade 10 of secondary school located in a town) aged 15 to 18 participated in the survey. **Results.** Only 5% of the students questioned used a bicycle as a means of going to and from school during the previous four months. In the inquiry, students mentioned that if they were given the possibility to choose the mode of travel between school and home, then 36% would choose a bicycle, 13% would go on foot, and 48% would go by car. **Conclusions.** In Latvia, riding a bike has a seasonal character, and during the school year, it is possible to cycle from home to school in spring and autumn. Having analysed the students' answers, we concluded that most often, the students from the region in question preferred to ride a bike in spring. There was a large difference between the number of students who would like to use a bicycle and the number of students who actually used it.

Key words: physical activity, mode of travel, cycling, habit

Introduction

A child begins to become an adherent of a sedentary lifestyle from an early age, when it learns to play computer games before it knows how to read or count. The sedentary lifestyle is maintained at home and at school. Thus, a serious life-long threat to the child's health is developed [3]. People should exercise regularly, and exercise should be a part of one's everyday life (getting dressed, climbing stairs, or walking). In addition to the above so-called simple actions, people also engage in intentional activities, which are planned and carried out in one's leisure time [4].

The effect of different sports and physical activities on the body is varied. Physical activities or exercises have a general toning effect as well as an activating effect on the metabolism of tissues. Physical activity has a beneficial impact on all body systems, normalising their functioning. The contraction ability of the heart muscle and the heart minute volume increase, the blood circulation in the whole body becomes better, and the tone and elasticity of the blood vessels increase. There are beneficial changes in blood composition. Physical activity stabilises the nervous system. Rapid exhaustion, sleeplessness, and irritation gradually decrease. Movement coordination, balance, and reaction time improve. Physical and mental work capacity gradually increases [5]. The above emphasises the fact that physical activity has a primary role in maintaining and improving one's health.

Physical activity is an essential precondition for keeping good health at any age, especially in childhood and the teenage years. The leading role of exercise in human development and keeping a healthy lifestyle was proven already long ago. It is seen both in a child's growth and development in different age

periods and in an adult's life [5]. According to the data from the study about the health facilitating habits of Latvia's inhabitants, in 2006, only 27.2% of teenagers and youth aged 15-24 years exercised at least for half an hour, two or three times a week. The development of modern technologies has created new ways of spending one's leisure time, which do not facilitate the choice of a healthy lifestyle. For example, on average 1/3 of schoolchildren watch TV for four or more hours a day, but on weekends, this number rises to almost 1/2 [2].

The lack of physical activity in society is a problem not only in Latvia but also all over the world. Each year there are about 1.9 million deaths due to insufficient physical activity. The physical activity of more than 60% of the world's inhabitants does not correspond with WHO recommendations for the physical activity needed to maintain one's health. In the USA, one in ten people die due to insufficient physical activity that leads to different diseases, such as coronary heart disease; type 2 diabetes; and breast, colon, or rectal cancer [6].

Both the Ministry of Health and the Ministry of Education and Science in Latvia implement programmes aimed at promoting sports activities for children and youth. However, more purposeful coordination among the institutions is necessary in order to realise more rationally and effectively the available means of popularising and implementing physical activity. This conclusion was reached in a meeting, which, following the invitation of the Public Health Agency (PHA), was attended by the representatives of the Ministry of Health and the Ministry of Education and Science, as well as the representatives of the Sports Medicine State Agency. In Latvia, several studies have been carried out in the fields of physical activity and school children's habits. A school student health habit study by the PHA showed that the proportion of students whose level of general

physical activity could be considered sufficient (at least 5 days a week and at least 60 min a day) is only 46.3%. PHA experts have noted that this study is a signal that we should work more effectively. In future, there should be cooperation with the Ministry of Children and Family Affairs, the Ministry of the Environment, associations of local municipalities, and representatives of other organisations related to physical activity promotion. Knowledge and experience should be combined to ensure that children and youth grow and become healthy, physically and mentally well developed persons. Among the main areas of cooperation, the meeting participants recognised extensive extra-curricular physical activity and a broad range of popular and family sports activities. The aim of the common activities is to involve in physical activities children who so far have been passive; these activities are meant to be part of education programmes based on engaging in physical activity for pleasure rather than competing in sports. The participants pointed out the necessity to renew and strengthen a health facilitating school system in Latvia [7].

Getting around by bike is a physical activity that binds people of all ages, particularly teenagers. With each year, biking is becoming more and more popular. This is also shown by the data from sociological inquiries: in Riga, about 8% of the inhabitants move around by bike on work days, but 15.3% go by bike at least once in a week [8]. To promote physical activity, Riga is becoming friendlier for cyclists with every year. Several bikeways have been constructed to allow people to get from the city centre to the most beautiful places in outlying areas. To promote wider use of a bicycle as a safe and comfortable means of transport in Latvia, as well as to popularise the idea of a bicycle as a daily means of transport, different projects and contests are being organised. Local municipalities are also working on cycling infrastructure, constructing bikeways, installing bike stands, and trying to create better conditions for cyclists. These data clearly show that cyclists have an increasing role in road traffic and in society in general.

What should be done so that students use bikes more on the way to their education institution? Can cycling improve society health in general and thus decrease the expenses of medical service in Latvia? These are only some questions we should find answers to, because the attention of school students, parents, teachers, institutional education authorities, and the responsible functionaries of local governments must be drawn to them.

American researchers say that schools have the main role in promoting students' physical activity, because students are involved in physical activities at school during breaks between classes, and they may also be encouraged to go home on foot or by bicycle [9].

Material and methods

Sixty-five students aged 15-18 years (31 girls and 34 boys, grade 10) were involved in the research. The investigation took place in a secondary school located in a town.

Results

To find out the behavioural habits of school students when choosing the means of going from home to school, at the beginning of the study, students were asked to state how far they lived from school. As is seen in Figure 1, more than half (60%) of the respondents lived 0-3 kilometres from school. The greatest proportion of all polled students (43%) lived 1-3 km from school.

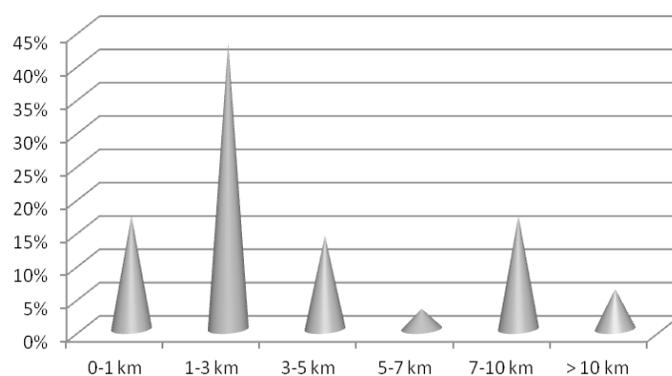


Figure 1. Distance from home to school

Fourteen percent of students lived 3-5 km, 3% of students lived 5-7 km, 17% lived 7-10 km, and only 6% of students lived more than 10 km from school.

Figure 2 presents a diagram of students' modes of travel from home to school. Regardless of the fact that most of the students lived 0-3 km from school, 29% of students used a car to go from home to school during the previous three months.

The most popular means of transport to school was going on foot. As many as 51% of students went from home to school on foot, and 15% of students went by school bus or public transport. Only 5% of the polled students used a bicycle to go from home to school.

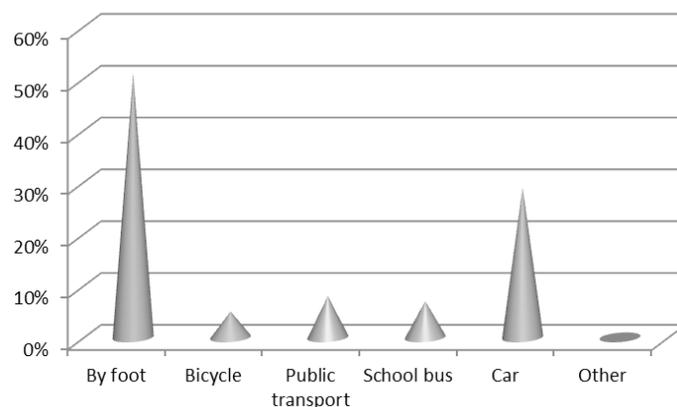


Figure 2. Students' actual mode of travel from home to school

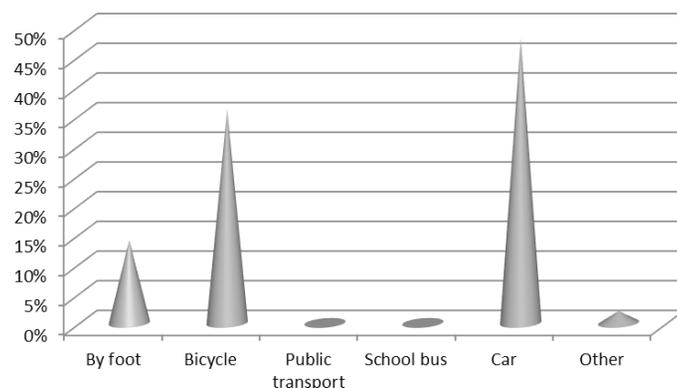


Figure 3. Students' preferred mode of travel from home to school

To find out whether students' means of transport during the previous three months was their own choice, they were asked what means of transport they would prefer if they could choose.

Figure 3 shows that 48% of the polled students would prefer a car, and 36% of them would choose a bicycle. This indicates that seven times as many students would prefer to go to school by bicycle as used a bike at the time of the study. For some reason, however, they did not, and there may be various reasons for this.

Figure 4 compares the means of transport the students used and the means of transport they preferred.

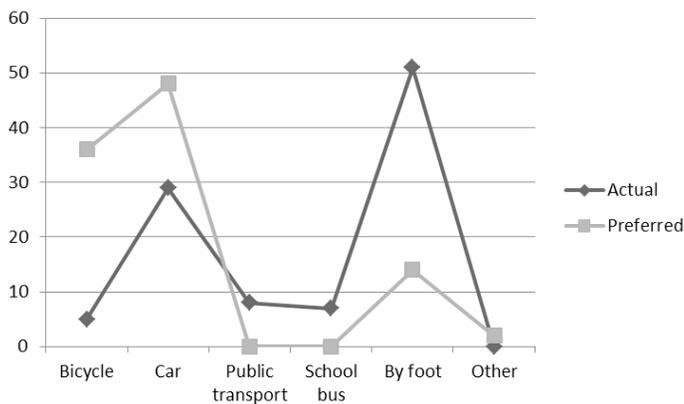


Figure 4. Comparison of actual and preferred mode of travel from home to school

Students' choices of transport when not in school as a function of the season are shown in Figure 5. The graph reveals that bicycles were used regularly in the autumn and spring seasons.

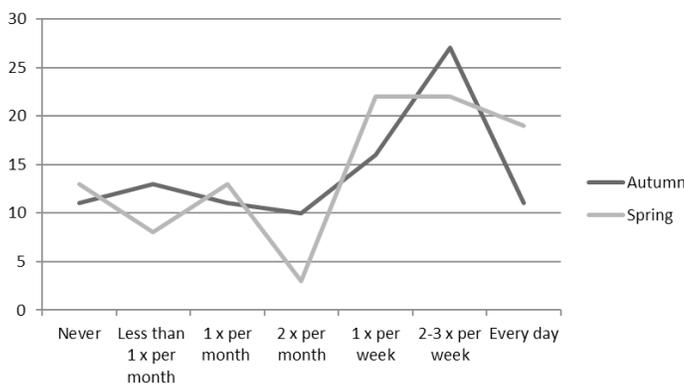


Figure 5. Frequency of cycling in free time

As we see in Figure 5, 11% of the students polled in autumn and 19% of the students surveyed in spring rode a bike every day. Twenty-seven percent of the students surveyed in autumn and 22% of those polled in spring rode a bike 2-3 times a week. The number of students who never rode a bike was similar in the seasons compared: it was 11% in autumn and 13% in spring.

The research included an analysis of the correlations between the distance from home to school and the actual and preferred mode of transport (Tab. 1), as well as correlations with student age and gender, though the latter are not included in the current article.

Table 1. Correlations between distance from home to school and actual and preferred mode of transport

		Distance from home to school	Actual mode of travel	Preferred mode of travel
Distance from home to school	Pearson correlation	1	-0.641**	-0.062
	Sig. (2-tailed)		0	0.624
	N	65	65	65
Actual mode of travel	Pearson correlation	-0.641**	1	0.182
	Sig. (2-tailed)	0		0.147
	N	65	65	65
Preferred mode of travel	Pearson correlation	-0.062	0.182	1
	Sig. (2-tailed)	0.624	0.147	
	N	65	65	65

** Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 1, there is a medium negative correlation between the data sets (the distance from home to school and means of transport used to get from home to school), as indicated by $r = -0.641$ and $\text{sig. (2-tailed)} = 0.01$. It is statistically significant. Taking into account that the factorial value has a negative sign, we can say that there is a negative correlation between the distance from home to school and means of transport used. Those students who lived closer to school preferred going by car to school, but the students who live further from school most often chose to walk from home to school.

Discussion and conclusions

From the data obtained in the research, it can be concluded that school children want to be physically more active and use a bicycle as a means of moving from home to school. Thirty-six percent of all students who participated in the research expressed this wish, although only 5% of students used a bicycle at the time when the study was carried out. The lack of bikeways in this region as well as road quality and security are the most likely reasons why so few students used a bicycle as a mode of transport; however, further study and analysis is necessary. In Latvia, riding a bike has a seasonal character, and during the school year, it is possible to go from home to school by bike only in spring and autumn. Having analysed the students' answers, we concluded that most often, the students from the researched region preferred to ride a bike in spring.

Several studies have been carried out in Europe as well as worldwide regarding pupils' habits related to cycling on a daily basis. For example, Garrard, who compared the physical activity of children in Australia and Europe states (in particular the Netherlands, Switzerland, and Germany), found that only 2.6% of young Australian people cycled on a daily basis, while 33.5% of Dutch, 14.4% of Swiss, and 13.8% of German respondents preferred to walk or cycle to school [10].

Schools can encourage students to be more physically active. Currently, cycling is becoming more and more popular, and the opportunity to go to school by bike could be one of the activities promoting students' interest in physical activity in general.

To do so, schools should be guarded or otherwise provide an area inaccessible to outsiders where students and teachers could place their bicycles. This could encourage students and teachers to go to school by bike, thus providing some physical activity. Moreover, students' interest in physical activity should be actively promoted. European Union Guidelines state that a school should do everything possible to promote students' interest in physical activities throughout their lives, and the teacher's example is one of the key factors in inspiring children and youth to exercise [11]. By going to school by bicycle, teachers could serve as an example for students.

During a bicycle ride, cyclists can get to know their surroundings more. A study carried out in the north of Poland concluded that study participants were able to become familiar with recreational and tourist facilities as well as natural and cultural resources [12].

The present situation in Latvia is not the most favourable for using a bicycle as a means of transport from home to school. In the study carried out by the Health Economics Centre in 2008, which involved 4,490 students from 190 schools in Latvia, it was concluded that in only 17% of schools could students go to and from school by bicycle without endangering their lives. In another 30% of schools, part of the students could safely go to and from school by bicycle [8]. This study showed that many students would choose to go to and from school by bicycle but, for various reasons, do not do so. It would be necessary to study the reasons for not using bicycles more deeply and to seek opportunities to solve the problems related to this situation.

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