

Part II. Physical activity of social and professional groups
Dział II. Aktywność fizyczna grup społecznych i zawodowych

DIVERSITY OF PHYSICAL ACTIVITY AMONG THE SCHOOL YOUTH
DEPENDING ON THE TYPE OF PLACE OF RESIDENCE

ZRÓŻNICOWANIE AKTYWNOŚCI FIZYCZNEJ MŁODZIEŻY SZKOLNEJ
W ZALEŻNOŚCI OD RODZAJU MIEJSCA ZAMIESZKANIA

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- A. Study design/planning
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- B. Data collection/entry
zebranie danych
- C. Data analysis/statistics
dane – analiza i statystyki
- D. Data interpretation
interpretacja danych
- E. Preparation of manuscript
przygotowanie artykułu
- F. Literature analysis/search
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- G. Funds collection
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Summary

Background. The objective of the study was to reveal diversity of physical activity among the school youth depending on the type of place of residence (single-family house, block of flats).

Material and methods. The research conducted in 2015 covered 646 students from junior high schools and post-gymnasium schools in Biała Podlaska with an average age of $18,8 \pm 0,84$ years. The method of research which was applied was the International Physical Activity Questionnaire (IPAQ) within its full form.

Conclusions. It was indicated that the school youth, including in particular boys residing in family houses show higher level of physical activity than their peers living in blocks of flats.

Keywords: school youth, physical activity, IPAQ, place of residence

Streszczenie

Wprowadzenie. Celem pracy było ukazanie zróżnicowania aktywności fizycznej młodzieży szkolnej w zależności od rodzaju miejsca zamieszkania (dom rodzinny, blok).

Materiał i metody. Badaniem, które przeprowadzono w 2015 r. objęto 646 uczniów szkół gimnazjalnych i ponadgimnazjalnych w Białej Podlaskiej o średniej wieku $18,8 \pm 0,84$ lat. Jako metodę badań wykorzystano Międzynarodowy Kwestionariusz Aktywności Fizycznej (IPAQ) w wersji długiej.

Wnioski. Wykazano, że młodzież szkolną w tym szczególnie chłopców zamieszkałych w domach rodzinnych cechuje wyższy poziom aktywności fizycznej niż ich rówieśników mieszkających w blokach.

Słowa kluczowe: młodzież szkolna, aktywność fizyczna, IPAQ, miejsce zamieszkania

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Background

Nowadays we may observe that sedentary lifestyle characterized the behaviors of the youth in a large degree. Within the research conducted by HBSC [1] it was noted that almost 1/4 of the school youth conducts moderate physical activity for a minimum of 60 minutes less often than 3 times a week. The research results confirm the significant differences dependent on gender and age. Girls and the older youth are definitely less active.

Based on the results of research published by Polish authors [2, 3, 4, 5, 6] it was also observed that the Polish youth is characterized by small physical activity. These results are convergent with the world trends observed [7, 8, 9, 10, 11, 12].

Witana and Szpak [13] noted that a passive way of spending pastime is preferred by both the junior school pupils and the high school pupils and the most popular forms of spending pastime by them include watching TV, playing computer games and surfing the Internet.

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Sedentary lifestyle dominates among the youth of most developed countries, including in particular the American youth, where this phenomenon was observed earliest [14]. Within these tests a low level of physical activity was observed which is the basic problem of public health. Particular significance is obtained by the results concerning the youth which undertakes physical activity at a moderate level of less than 3 times a week and which spends at average 5 hours a day in front of a TV. These researches are convergent with the results obtained by Piątkowska [15] who discovered that a group which spends the largest volume of time sitting are Poles below 19 years of age. The youth spends while sitting down almost 7 hours a day during a week day. According to Wojtyła et al. [16] among the boys motivation behind a significant physical effort is more often related to a wish to increase of muscles, whilst girls more often increase their physical activity during a diet. World Health Organization [17] recommends for persons at a young age at least 60 minutes of physical activity of moderate intensity for the majority of days a week. The majority of days signifies a systematic effort of moderate intensity not exceeding 130 heartbeats per minute for 4-5 days a week.

Appropriate level of physical activity at the young age positively impact motoric development, psychological and social development of a young person and reveals a need of continuing the physical activity for the entire life. Puberty period is a critical moment in which physical activity and participation in various types of its forms is very important.

The purpose of research was the assessment of physical activity of the youth as well as defining whether the type of place of residence (single family house or flat in block of flats).

Material and methods

The research covered 646 pupils from the 3rd class of junior high school and 1st and 2nd class of high schools in Biała Podlaska. The specificity of demographic features with consideration of gender, age and place of residence has been presented in table 1. Within the framework of diagnostic survey method the tool which was applied was an International Physical Activity Questionnaire (IPAQ) in its long form.

Table 1. Demographic features of the research participants

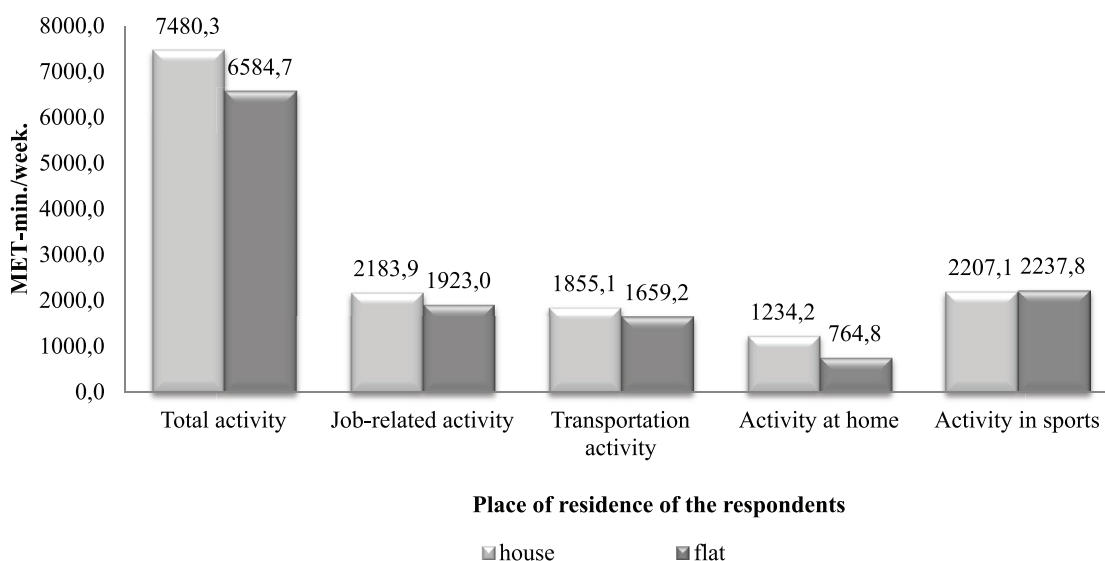
Gender		
girls	boys	
322 (49,85%)	324 (50,15%)	
Place of residence		
single family house	flat in block of flats	
423 (65,48%)	223 (34,52%)	
Class		
3rd class in junior high school	1st class in high school	2nd class in high school
215 (33,28%)	219 (33,90%)	212 (32,82%)

Results

The level of physical activity of overall number of pupils with consideration of place of residence

The tested school youth living in single family houses is characterized by higher total physical activity – 7480,3 MET-min./week than youth living in blocks of flats - 6584,7 MET-min./week, however, the difference is not statistically significant.

A statistically significant dependence occurred among the respondents residing in single family houses within the area of physical activity related to commuting and at work inside and around the house (fig. 1, table 2).



*- significant diversity at p<0,05

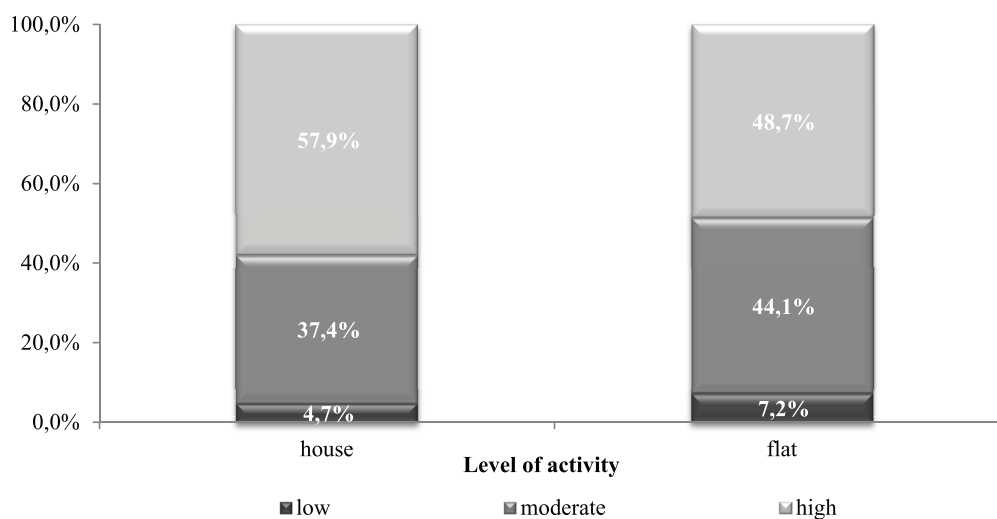
Figure 1. Areas of physical activity of pupils considering place of residence of the respondents

Table 2. Diversity of areas of physical activity of pupils considering the place of residence of respondents

U Mann-Whitney'S test				
Area of activity	Sum of ranks		Z	p
	single family house	flat in block of flats		
Total activity	139324	69012	1,20	0,2308
Activity at work	137824	70512	0,53	0,5951
Activity while commuting	141139	67197	2,01	0,0449*
Activity at home	148131	60204	5,12	0,0000*
Activity in sport	134760	73576	-0,83	0,4057

*- significant diversity at p<0,05

These results confirm the significant differences concerning three levels of physical activity: low, moderate, high (fig. 2).



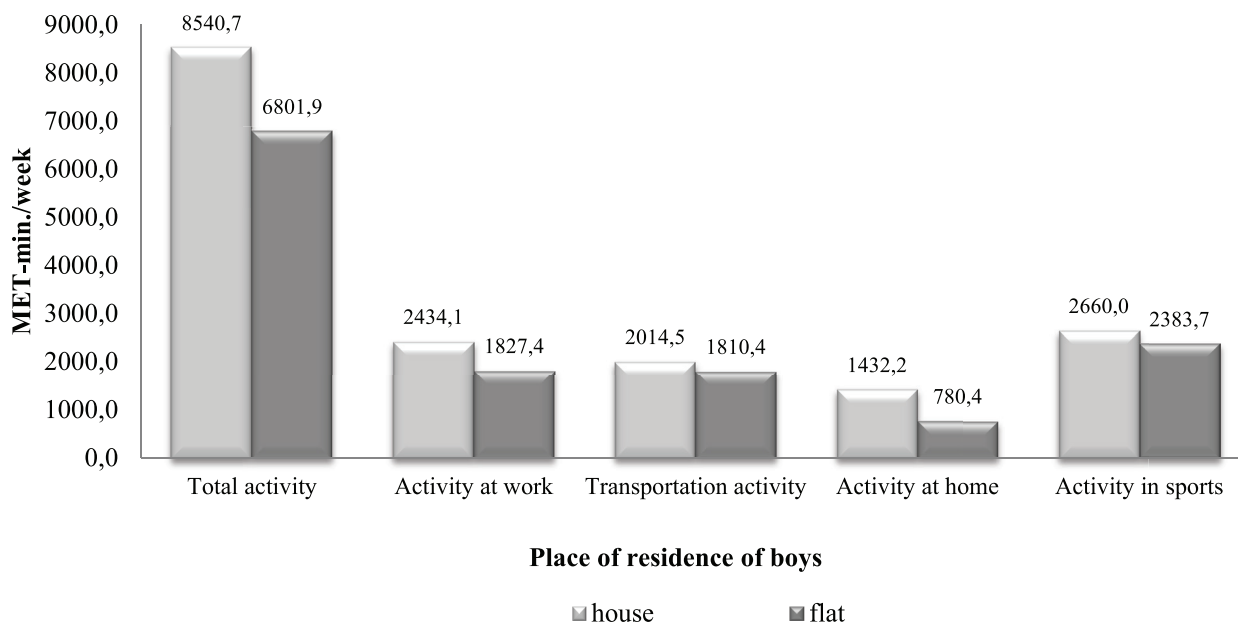
Value of Chi test Pearson's square: $\chi^2=5,58$; $p=0,0614$

*- significant diversity at p<0,05

Figure 2. Level of physical activity of pupils considering place of residence

Level of physical activity of boys with consideration of place of residence

The analysis of physical activity in relation to boys indicates significantly greater values among those residing at home - 8540,7 MET-min./week than those living in blocks of flats - 6801,9 MET-min./week, and activity during housework, respectively 1432,2 MET-min./week and 780,4 MET-min./week (fig. 3, table 3).



*- significant diversity at p<0,05

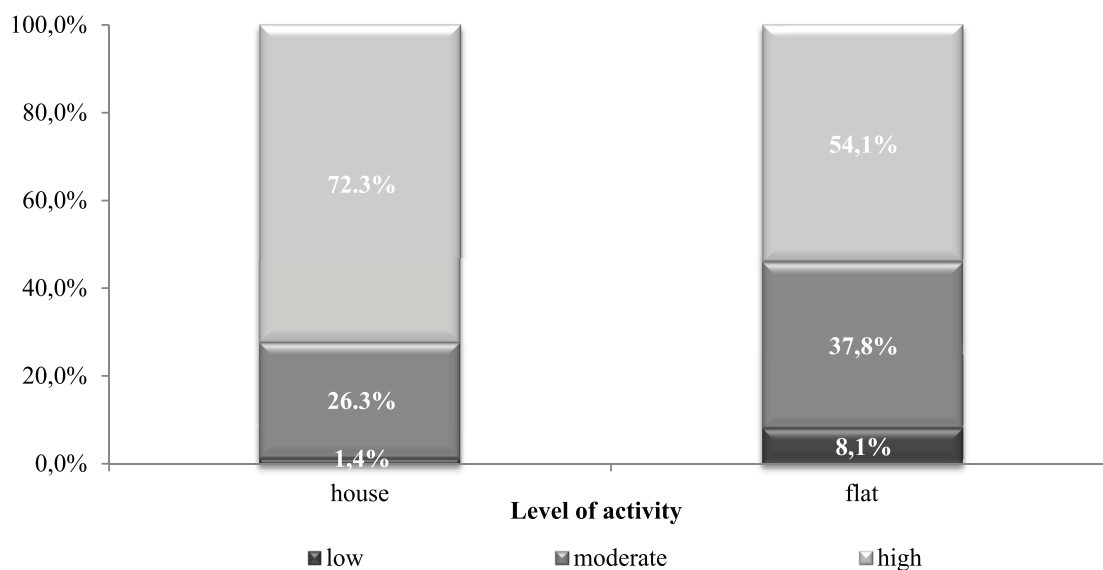
Figure 3. Areas of physical activity of boys considering place of residence of the respondents

Table 3. Diversity of areas of physical activity considering place of residence of the respondents

U Mann-Whitney'S test				
Area of activity	Sum of ranks		Z	p
	single family house	flat in block of flats		
Total activity	36251	16399	2,05	0,0407*
Activity at work	35480	17171	1,08	0,2787
Activity while commuting	36166	16484	1,94	0,0523
Activity at home	38324	14327	4,64	0,0000*
Activity in sport	35225	17426	0,76	0,4446

*- significant diversity at p<0,05

Results of significant differences in favor of boys residing in houses are confirmed by the collation including the level of physical activity of pupils (fig. 4).



Value of Chi test Pearson's square $\chi^2=15,74$; $p=0,0004^*$

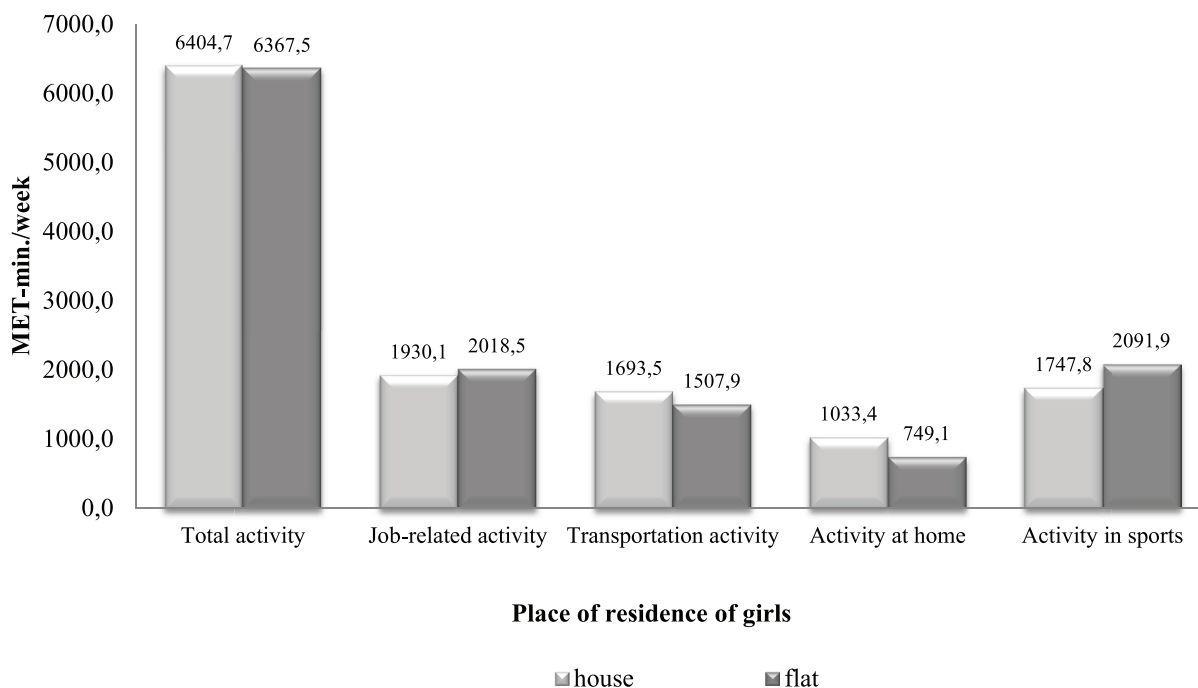
*- significant diversity at $p<0,05$

Figure 4. Level of physical activity of boys considering place of residence

Level of physical activity of girls considering place of residence

Analysis of physical activity of girls with consideration of place of residence indicated almost identical level of total physical activity. Statistically significant differences occurred in individual areas.

Girls residing in single family houses were characterized by larger activity in housework and a significantly lower one in sports activity (fig. 5, table 4).



*- significant diversity at $p<0,05$

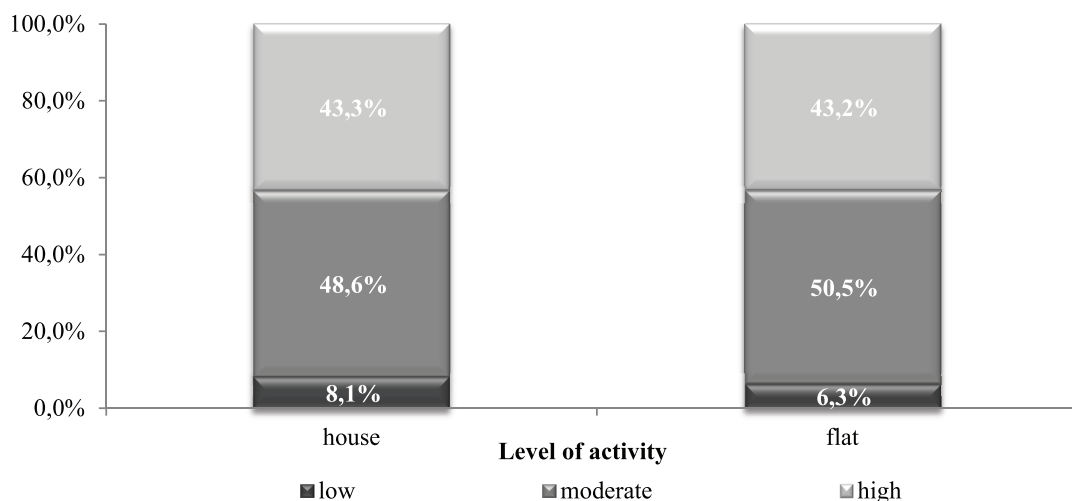
Figure 5. Areas of physical activity of girls considering place of residence of respondents

Table 4. Diversity of areas of physical activity of girls considering place of residence of the respondents

U Mann-Whitney'S test				
Area of activity	Sum of ranks		Z	p
	single family house	flat in block of flats		
Total activity	33466	18216	-0,43	0,6636
Activity at work	33683	17998	-0,16	0,8728
Activity while commuting	34466	17216	0,83	0,4075
Activity at home	35773	15909	2,48	0,0131*
Activity in sport	32112	19569	-2,15	0,0318*

*- significant diversity at $p < 0,05$

No significant differences between analyzed groups in the levels of physical activity (fig. 6).



Value of Chi test Pearson's square: $\chi^2=0,36$; $p=0,8340$

*- significant diversity at $p < 0,05$

Figure 6. Level of physical activity of girls considering place of residence

Discussion

In Poland in recent times the problem of assessment of physical activity is conducted more and more often by means of International Physical Activity Questionnaire [6, 18, 19, 20, 21]. It enables obtaining a comprehensive picture of physical activity among the respondents and not just the information on participation in sports and recreation activities. Despite multiple researches concerning physical activity factors which determine its level are still searched for.

Among the factors which determine the level of physical activity of the school youth the most frequently used test is diversity in terms of gender [19, 22, 23]. Search much less frequently concerns diversity of the level of physical activity of the school youth depending on its origins-countryside, city [3, 24]. Within the country literature there is however no place for scientific elaborations concerning diversity of physical activity in terms of place of everyday residence (single family house or block of flats).

The hereby research among the youth did not reveal any significant differences in the level of overall physical activity depending on the type of place of residence. Such differences occurred in favor of those who live in their own homes within the area of commuting and house works. It was indicated also that there is a diversity of physical activity among boys and girls depending on the type of place of their residence. It is the boys who live in houses who are characterized by greater total physical activity in the area of house works than their peers living in blocks of flats.

Other diversities occurred due to type of place of residence among girls. No significant diversities were noted in the scope of their total physical activity. Such differences were noted however within two areas of physical activity. Girls living in houses are characterized by significantly higher activity within the area of house works and a significantly lower sports activity.

To sum up, one must note that place of residence in single family house is a factor which determines higher physical activity within certain areas of physical activity, which occurs in case of boys to a larger degree.

Conclusions

Search for links between place of residence (in single family house or block of flats) in terms of physical activity of the school youth enabled the formation of the following conclusions:

1. Total number of pupils living in a single family house is characterized by significantly higher physical activity in the area of commuting and house works.
2. Boys who live in single family houses are characterized by significantly higher total physical activity and activity in house work.
3. Girls living in single family houses are characterized by significantly higher physical activity in the area of house work and lower one in recreation and sport.

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