

THE DIVERSITY OF THE PLACE OF RESIDENCE OF STUDENTS AND THEIR LEVEL OF PHYSICAL ACTIVITY

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Abstract. The aim of the research was to study the diversity of the level of physical activity among the students according to their place of residence: a house (a detached house) or a flat (a residential block). The research was carried out in 2015 among 730 students (373 women and 357 men) of John Paul II State School of Higher Education in Białą Podlaska (PSW). The method used in the research was the International Physical Activity Questionnaire (IPAQ) in its long version. The results have shown that there were no significant differences in the overall level of physical activity of both men and women according to their place of residence.

However, significant differences have been noticed among female and male students as regards the physical activity connected to housework in favour of people living in houses. The same correlation was observed in favour of women living in flats (residential blocks).

Key words: physical activity, IPAQ, students, place of residence

Introduction

The research concerning physical activity of Polish students by means of the International Physical Activity Questionnaire (IPAQ) becomes more and more popular (Bergier, Kapka-Skrzypczak, Biliński, Paprzycki, Wojtyła, 2012; Biernat 2011; Mynarski, Rozpara, Czaplą, Garbaciak, 2009). Collecting research data using the same tool (IPAQ) in many different countries is of a particular significance (Ainsworth et al. 2006; Bergier, Kapka-Skrzypczak, Biliński, Paprzycki, Wojtyła 2012; Crinière et al. 2009; Ekelund et al. 2006; Gomez, Duperly, Lucumí, Gamez, Venegas, 2005; Sebastiano et al. 2012; Soguksu 2011; Tsos, Bergier, Bergier 2014). The researches on physical activity of students that concern searching for the factors determining this activity such as eating habits (Bergier,

Kubińska, Bergier, 2011; Bergier, Bergier, Tsos., 2015; Pengpid, Peltzer, 2013; Szczodrowska, Krysiak, 2013), sex (Bergier, Stępień, Niznikowska, Bergier, 2014; Frömel. Górna,2001; Mynarski, Rozpara, Czapla, Garbaciak, 2009; Suchomel, Sigmundova, Frömel, 2008; Sygit 2009) and local infrastructure (Bauman et al. 2012; Cerin, Vandelanotte, Leslie, Merom, 2008; McCormack, Shiell, 2011) are also of a particular value. The factor connected to the place of residence during studies, on the campus or a family house, is analyzed relatively rarely (Baar, Romppel, Igel, Brahler, Grande, 2014; Brevard, Ricketts, 1996; Peachey, Baller, 2015).

Research methodology

The aim of the research was to study the diversity of the level of physical activity among the students according to their place of residence: a house (a detached house) or a flat (a residential block).

It must be presupposed that living in a house creates more occasions for physical activity, for example as far as housework, gardening or taking care of family members are concerned. There is no doubt that the differentiation of the students' physical activity can occur in case of living on the university campus. Taking into consideration the fact that only 4,8% of the respondents live on the university campus, this place of residence was not taken into consideration in the analysis of research results.

Material and Methods

730 students of John Paul II State School of Higher Education in Biela Podlaska (PSW), representing 10 different areas of study, participated in the research carried out in 2015. The demographic characteristic including sex, place of residence and area of study is presented in Table 1. The method used in the research was the International Physical Activity Questionnaire (IPAQ) in its long version

Table 1. Demographic characteristics of respondents

Sex		
women	men	
373 (51.10%)	357 (48.90%)	
Place of residence		
house	flat	campus
447 (61.20%)	248 (34.00%)	35 (4.80%)
Area of study		
humanistic	medical	technical
261 (35.75%)	228 (31.23%)	241 (33.01%)

Results

Students' level of physical activity

The value of overall physical fitness of students was 6363.5 MET-min/week. In certain areas of activity the following values were noted: work/study – 2068.8 MET-min/week, sports – 1.621.6 MET-min/week, locomotion – 1402.2 MET-min/week, house and surroundings – 1270.9 MET-min/week (Figure 1).

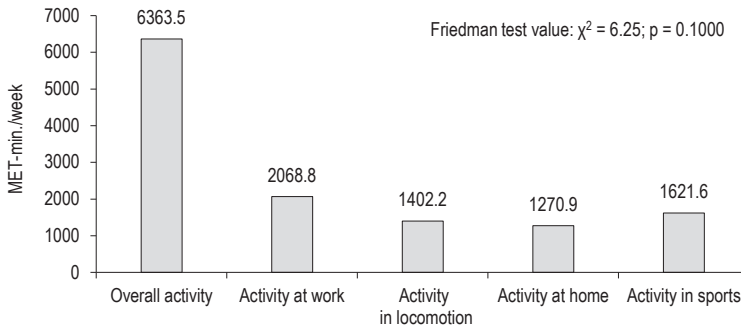


Figure 1. Areas of physical activity of students

Students' level of physical activity according to their place of residence

Taking into consideration the fact that only 4.8% of examined students lived on the campus, only the students living in flats and houses were included in the research. Students who live in houses are characterized by higher overall physical activity (6609.2 MET-min/week) than those who live in flats (5680.2 MET-min/week), however the difference is not statistically significant. Students who live in houses are characterized by significantly higher physical activity in the area of housework (Figure 2, Table 2). The data from the three levels of students' physical activity, high, moderate and low, did not show any statistically significant differences between the compared groups (Figure 3).

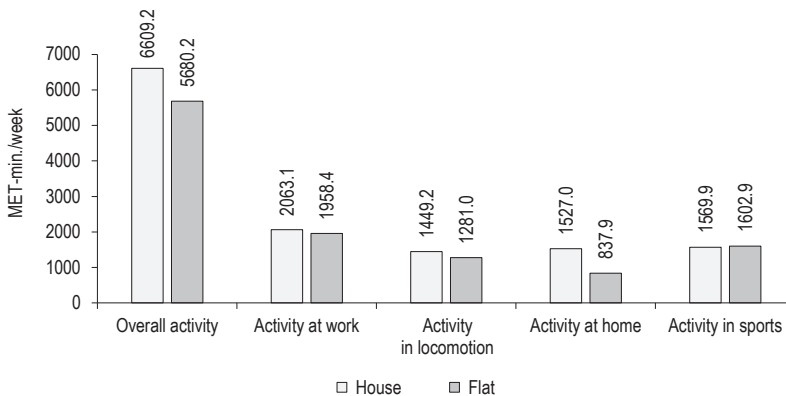


Figure 2. Areas of physical activity of students according to their place of residence

Table 2. Differentiation of the areas of student' physical activity according to their place of residence

area of activity	Mann-Whitney U test		Z	p
	rank-sum			
	house	flat		
Overall activity	82,395	159,466	-1.54	0.1232
Activity at work	84,952	156,908	-0.54	0.5913
Activity in locomotion	84,588	157,273	-0.68	0.4984
Activity at home	71,919	169,942	-5.67	0.0000*
Activity in sports	88,184	153,677	0.74	0.4575

* Significant differentiation at $p < 0.05$.

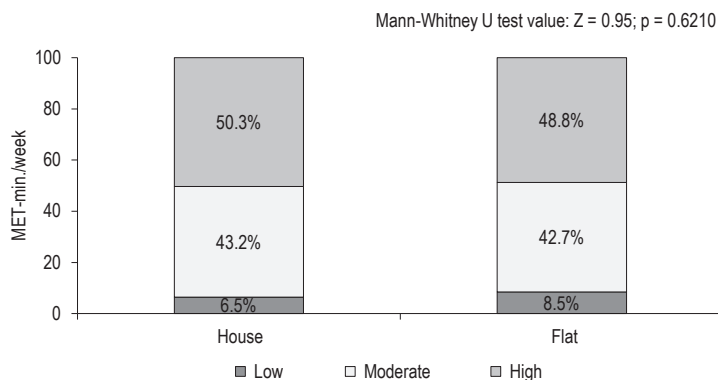


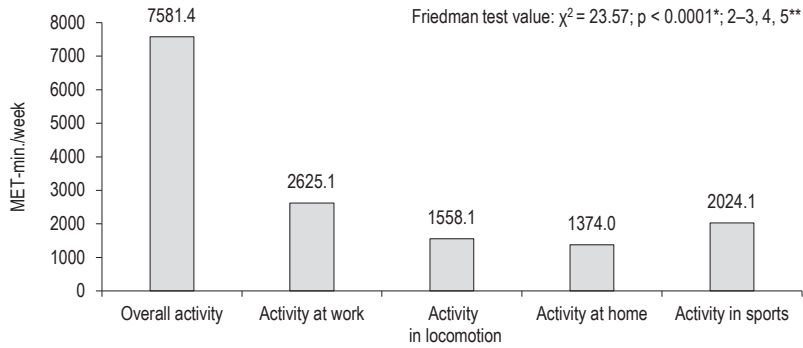
Figure 3. The level of students' physical activity according to their place of residence

The level of physical activity of male students

The studying men are characterized by high level of physical activity – 7581.4 MET-min/week with the highest values connected to the activity at work/study – 2625.1 MET-min/week and in sports – 2024.1 MET-min/week, and the lowest values concerning the activity in locomotion – 1558.1 MET-min/week and housework. Substantially the highest physical activity was observed in activity at work/study (Figure 4).

Students living in houses are characterized by higher overall physical activity – 8020.8 MET-min/week than their peers who live in flats – 6597.5 MET-min/week, however, the differences are not statistically significant.

The only statistically significant difference in favour of higher physical activity of men living in houses was observed in the area of housework (Figure 5, Table 3). The comparison of both analyzed groups according to their place of residence did not reveal any significance of differences in their physical activity levels (Figure 6).



* Significant differentiation at $p < 0.05$.
 ** Areas among which statistically significant differences occur $p < 0.05$.

Figure 4. Areas of physical activity of men

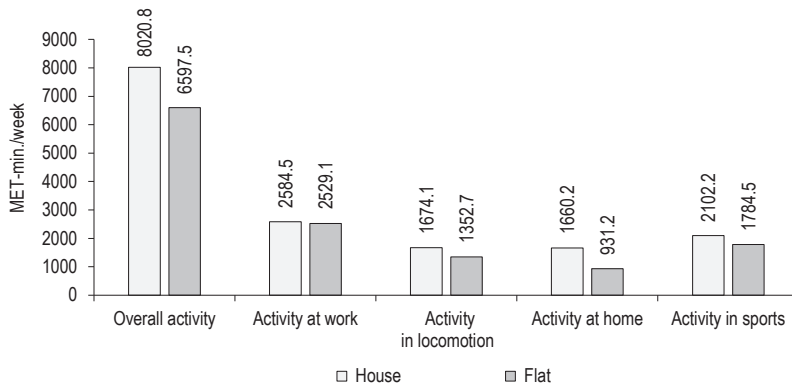


Figure 5. Areas of physical activity of male students according to their place of residence

Table 3. Differentiation of the areas of physical activity of male students according to their place of residence

area of activity	Mann-Whitney U test		Z	p
	house	flat		
Overall activity	20,273	37,697	-1.57	0.1155
Activity at work	21,631	36,340	-0.03	0.9794
Activity in locomotion	20,844	37,126	-0.92	0.3559
Activity at home	17,579	40,391	-4.65	0.0000*
Activity in sports	20,780	37,190	-1.00	0.3183

* Significant differentiation at $p < 0.05$.

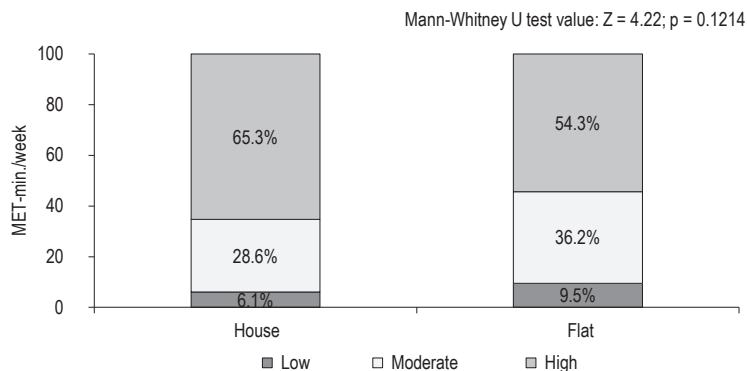


Figure 6. Level of physical activity of male students according to their place of residence

The level of physical activity of female students

The rate of overall physical activity of studying women was 5197.9 MET -min/week. However, no significance of differences between different areas of activity was revealed (Figure 7).

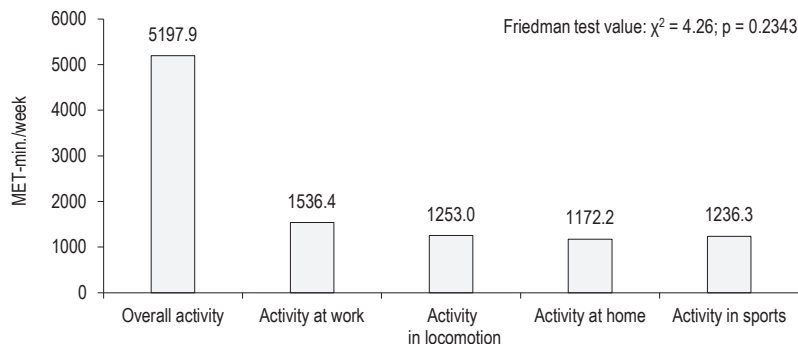


Figure 7. Areas of physical activity of female students

Women living in flats, as well as in houses, were characterized by similar overall physical activity, respectively 5324.2 MET-min/week and 4717.4 MET-min/week (no significant differences).

Statistically significant differences were observed in two areas, that is housework (in favour of women living in houses) and sports (in favour of women living in flats) (Figure 8, Table 4).

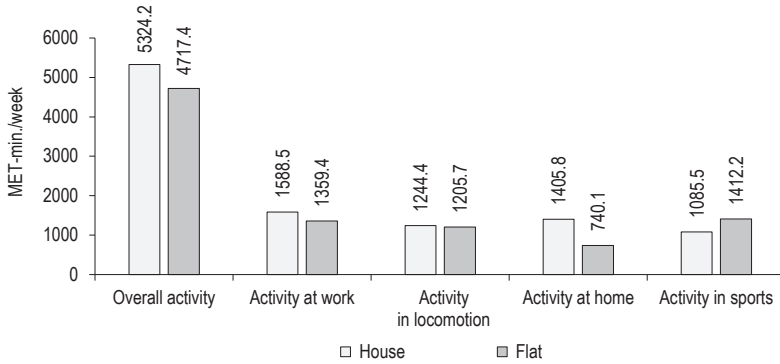


Figure 8. Areas of physical activity of female students according to their place of residence

Table 4. Differentiation of the areas of physical activity of female students according to their place of residence

area of activity	Mann-Whitney U test		Z	p
	rank-sum			
	house	flat		
Overall activity	20,770	42,421	-0.84	0.4021
Activity at work	20,686	42,505	-0.94	0.3476
Activity in locomotion	21,405	41,786	-0.15	0.8846
Activity at home	18,522	44,668	-3.29	0.0010*
Activity in sports	23,377	39,813	2.01	0.0442*

* Significant differentiation at $p < 0.05$.

In three areas of physical activity no significant differences according to the place of residence were observed (Figure 9.)

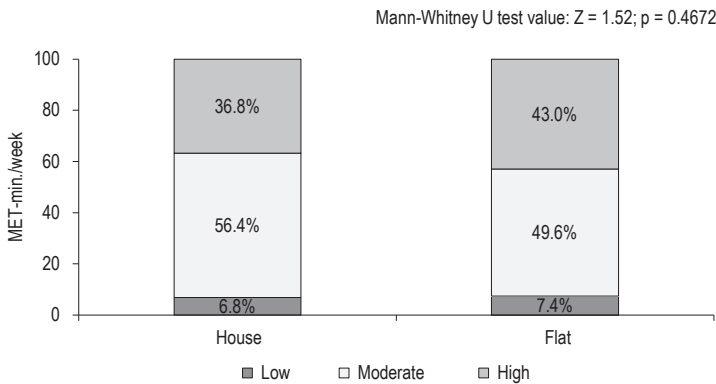


Figure 9. Level of physical activity of female students according to their place of residence

Discussion

The students who took part in the research are characterized by high level of overall physical activity compared to other researches (Bergier et al., 2012; Biernat, 2011; Mynarski et al., 2009; Tsos et al., 2014). The research did not reveal significant differences in the level of overall physical activity according to the place of residence in both male and female students. It may result from the fact the available offer of physical activities does not differ according to the place of residence. Such a relation of higher physical activity was revealed in case of students from the USA living on the campus (Peachey, Baller, 2015). Multidirectional analysis of the relation of the living environment with the physical activity among German students did not show any significant dependencies (Baar et al., 2014).

However, it should be noticed that the analysis carried out revealed important relations between the fact of living in a house and higher physical activity as far as housework is concerned, what is more, this characteristic was present in both, male and female students. Therefore, it can be concluded that housework by virtue of place of residence is an important factor determining physical activity of students.

Also significantly higher activity in the area of sports and recreation among female students living in flats is worth mentioning, as no similar relation was found in male students which can be the reason of less healthy attitudes among male students as far as participation in physical activity is concerned.

Conclusions

The comparative analysis of the place of residence of students and their physical activity helped to formulate the following conclusions:

1. Students, according to their place of residence, are characterized by the lack of significance of differences in the level of their overall physical activity. This difference occurred however in the area of activity associated with the housework in favor of the group living in their family houses.
2. In male students the dominant area of physical activity is work / study and it is significantly higher than other areas.
3. There were no significant differences in overall physical activity of men according to the place of residence. Such a difference has been shown in the area of activity concerning household duties in favor of subjects living in family houses.
4. Additionally, as far as female students are concerned, no significant differences in the level of their total physical activity according to the place of residence were observed. Such differences have occurred in two areas of physical activity. Significantly higher values in terms of household duties were observed in subjects living in houses, while subjects living in flats (residential blocks) were more active in the area of sports.

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