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## **GEOGRAPHICAL ASPECTS OF SPORTS PARTICIPATION: A HUNGARIAN CASE STUDY**

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**Abstract:** Healthy lifestyle is given ever increasing attention these days around the world, in the framework of which special attention is devoted to increasing the length of time spent with sports and physical exercise. In the light of the above, it is not surprising that various documents accepted by the European Union (e.g. the White Paper of Sport - 2008) also emphasize the outstanding significance of such activities. The topic has also caught the attention of researchers, and in the past few years several surveys have been carried out analysing the different characteristics of sports and physical activities.

A common feature of these studies, however, was that little attention was given to exploring the geographical differences that can be observed in the customs of the population concerning sports. In the spirit of the above, the purpose of the present study is to analyse the population of Hajdú-Bihar county located in the Eastern part of Hungary, from this point of view. In the course of the research project, emphasis was put on examining the frequency and the location of engaging in sports, the reasons behind, as well as the factors posing obstacles to regular sporting activity, and on the evaluation of the local characteristics and the activities of the local authorities. Special attention is devoted in the analysis to identifying differences between settlements of different size.

Key words: sport participation, settlements of different size, Hajdú-Bihar county

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### **INTRODUCTION**

Today, there is more and more emphasis placed worldwide on healthy lifestyle, in the framework of which special attention is paid to increasing the amount of time spent with sport and physical activities. In the framework of the above, it is not surprising that the various documents of the European Union (e.g. the White Paper on Sport, 2007) also emphasized the importance of the above, and the various concepts/strategies adopted by national governments adopted a similar position as well. This issue has also raised the interest of researchers in the field of sports science, and in recent years, several studies have been conducted that analysed the various characteristics of participating in sports and other physical activities. At the same time, in a substantial proportion of the analyses so far, the tendency could be observed that the differences were primarily examined from the perspective of the different socio-economic factors and less attention was devoted to exploring the characteristics associated with regions and settlements.

In accordance with the results (Aibar et al., 2013; Downward et al., 2014a; Gál, 2008; Gáldi, 2002; Perényi, 2010; Slater – Tiggemann, 2011; van Tuyckom – Scheerder, 2010), significant differences can be observed according to gender and age groups: men in general show a much higher inclination for sports participation than women, while the frequency of

occasions decreases with age (however, to a lesser extent in case of women – Downward et al., 2014a), with a slight increase again after retirement.

The third important variable is education, in terms of which there is a higher propensity associated with higher educational attainment. According to researchers, this is primarily due to the fact that the layers of society concerned are more aware of the advantages of sports and its importance in a healthy lifestyle. In recent decades, increasing attention has been devoted to analyses (e.g. Dawson et al., 2005; Higgins – Dale, 2013) that examine the inclination for sports participation and ethnic background, and a lower level of inclination among certain ethnic groups was identified (e.g. in England, those of South East Asian and Black African origin, while in Sweden, immigrants from South-Eastern Europe and other countries), also highlighting the role of the difference between genders.

A prioritized area of research is the examination of youth, in the course of which partly the abovementioned findings were confirmed, for example, in terms of the influence of gender and age (Aibar et al., 2013; Perényi, 2010; Slater – Tiggemann, 2011), and partly some new variables were also identified. Firstly, studies carried out among university students (Keresztes – Pikó, 2008; Keresztes et al., 2014) have shown a correlation between the frequency of physical activity and social network of students (e.g. more frequent and regular sporting activity correlated with a higher number of male friends, the proportion of those making friends easily was the highest among persons participating in sports more frequently), and it was also shown that the dietary habits of persons more frequently participate in sports is healthier and they also pay conscious attention to nutrition.

Secondly, the studies have revealed that sports being pursued by parents in their youth has a positive influence on such activities of their children, and this effect is particularly strong between fathers and their male children (Downward et al., 2014b). Thirdly, in the course of the analysis of social values, it was found that the most positive influence on participating in sports was preference for “open values” (e.g. changing life, creativity, friendship), while preference for materialistic values (e.g. power, wealth, beauty) has a negative correlation with sporting activities (Perényi, 2010).

The results of studies also involving spatial analysis (e.g. Gál, 2008; Hoekman, 2013; Kozma et al., 2015; Perényi, 2010) have revealed that the inclination of the people living on larger settlements is higher, and that differences can also be observed between the settlements in terms of the reasons for participating in and refraining from sports. In case of these analyses, however, the question could be asked how far these differences can be regarded as an effect of the geographical location or, by contrast, to what extent they can be attributed to the socio-economic characteristics of the various types of settlements (e.g. a higher proportion of younger, more educated and more affluent people having a higher inclination to sports living in larger settlements).

In the light of the above, the most important objective of this paper is to eliminate the effects of the social and economic factors from the study as far as possible and to attempt to examine to a decisive extent the results as the influence of the geographical location.

## **MATERIALS AND METHODS**

The basis of the research was a questionnaire-based survey conducted among the population of Hajdú-Bihar county, located in Eastern Hungary (Figure 1), aged 15 and older, in the course of which we asked 250 persons concerning their opinions on sporting activities. In the course of the survey, the settlements of the county were divided into three groups (the county seat Debrecen, other cities, and villages), and we strove to establish a similar composition of

respondents in all three categories in terms of genders (Table 1), age groups (Table 2) and education (Table 3).



**Figure 1** Location of Hajdú-Bihar county

**Table 1** The distribution of the respondents according to gender by type of settlements (%)

	Debrecen	other cities	villages	Hajdú-Bihar county
male	47.0	46.5	49.0	47.2
female	53.0	53.5	51.0	52.8
total	100.0	100.0	100.0	100.0

Source: own research

**Table 2** The distribution of the respondents according to age by type of settlements (%)

	Debrecen	other cities	villages	Hajdú-Bihar county
15-24	22.0	20.2	15.7	20.0
25-39	36.0	37.4	39.2	37.2
40-54	32.0	32.3	35.3	32.8
55-	10.0	10.1	9.8	10.0
total	100.0	100.0	100.0	100.0

Source: own research

**Table 3** The distribution of the respondents according to educational attainment by type of settlements (%)

	Debrecen	other cities	villages	Hajdú-Bihar county
elementary school or less	6.1	3.4	11.1	6.1
vocational school	17.1	19.5	24.4	19.6
high school	37.8	36.8	31.1	36.0
higher education	39.0	40.2	33.3	38.3
total	100.0	100.0	100.0	100.0

Source: own research

The questionnaire employed in the Eurobarometer survey in 2013 was used in the survey. The data received was analysed with the use of the SPSS 18 statistical software, in the course of which we prepared cross-tables to show correlations and also calculated the Pearson correlation coefficients.

## THE RESULTS

The analysis of the inclination for sports participation (Table 4) shows major differences between the types of settlements: the frequency of participating in sports among people living in larger settlements significantly exceeds the proportion found in case of smaller towns and villages.

**Table 4** The frequency of sports participation in Hajdú-Bihar County by type of settlements (n=250, %)

	Debrecen	other cities	villages	Hajdú-Bihar county
3 time a week or more	36.0	32.3	23.5	32.0
1 to 2 time a week	17.0	16.2	9.8	15.2
1 to 3 time a month	8.0	6.1	3.9	6.4
less often	17.0	19.2	29.4	20.4
never	22.0	26.2	33.4	26.0
total	100.0	100.0	100.0	100.0

Source: own research

In terms of the location of the sporting activity (Table 5), similarly to the European trends (Kozma et al., 2015), the most important role is played by spaces that were not specifically created for the purposes of sports: three of the first four types of location (in the park and outdoors, at home, at school/university) belong in this category.

Examining the three groups of settlements with respect to each of the location types, however, significant differences can be observed: in case of the responses “at health and fitness centre”, “at swimming pool” and “at school/university”, it is Debrecen, while in case of the responses “on the way between home and school or work” it is the group of villages that has much higher values. In the first case, it is the outstanding role of Debrecen in terms of the geographical location of such facilities that determines the result (these facilities are concentrated on the county seat), while in case of the second location type, the role of Debrecen as an educational centre (and specifically, the presence of the university) is the main factor. Besides it has to be mentioned that respondents using health or fitness centre and swimming pool and belonging to other cities category live especially in settlements in which these facilities are available (eg. Hajdúszoboszló, Hajdúnánás) or in the case of villages in settlements situated close to county seat (e.g. Bocskai kert).

**Table 5** The venues of sports activity in Hajdú-Bihar county by type of settlements (multiple answer-options, n= 250, %)

	A	B	C	D
at a health or fitness centre	22.2	15.5	8.2	16.7
at a sports club	8.1	6.2	6.1	6.9
at a swimming pool	25.3	14.4	6.1	17.1
at a sports centre	5.1	5.2	0.0	4.1
at school/university	20.2	10.3	2.0	12.1
at work	2.0	2.1	4.1	2.4
at home	25.3	20.6	18.4	22.0
on the way between home and school or work	5.1	4.1	14.3	6.5
in a park, outdoors	24.2	26.8	22.4	24.9
elsewhere (spontaneous)	9.1	3.1	4.1	5.7

A – Debrecen, B – other cities, C – villages, D – Hajdú-Bihar county

Source: own research

Among the chief reasons for sport activity, similar results were found on all three types of settlements of the county (Table 6): the most frequent responses were improving health, improving physical appearance, relaxation and having fun. With respect to the individual factors, a similar sequence was found in most cases, with Debrecen occupying the first, other cities the second place, and villages having the lowest values. As a result of comparing the results of the settlements to the county average, there is also an opportunity to underline the special importance of individual factors: in case of Debrecen these were mainly counteracting the effects of ageing and having fun; in case of other cities, it was improving physical appearance, while in case of villages improving fitness and controlling weight were the factors that could be primarily mentioned.

**Table 6** The reason for sport activity in Hajdú-Bihar county by type of settlements (multiple answer-options, n=250, %)

	A	B	C	D
to improve health	44.2	38.9	28.8	38.8
to improve physical appearance	37.9	40.0	16.0	34.2
to counteract the effects of ageing	11.6	7.4	2.0	7.9
to have fun	25.3	17.9	10.0	19.2
to relax	31.6	26.3	16.0	26.3
to be with friends	13.7	12.6	4.0	11.3
to make new acquaintances	1.1	2.1	2.0	1.7
to meet people from other culture	1.1	2.1	0.0	1.3
to improve physical performance	18.9	15.8	10.0	15.8
to improve fitness	30.5	24.2	20.0	15.8
to control weight	18.9	13.7	12.0	15.4
to improve self-esteem	6.3	5.3	2.0	5.0
to develop new skills	3.2	1.1	0.0	1.7
for the spirit of competition	4.2	2.1	2.0	2.9
to better integrate into society	1.1	1.1	0.0	0.8
other	14.7	12.6	16.0	14.2

A – Debrecen, B – other cities, C – villages, D – Hajdú-Bihar county

Source: own research

As far as the factors that are obstacles of more frequent sports participation are concerned, in line with the international results, lack of time played the most important role in case of all three settlement types (Table 7). In addition, in case of villages, important obstructing factors also included the lack of suitable infrastructure and the lack of motivation.

**Table 7** Obstacles of more frequent sports participation in Hajdú-Bihar county by type of settlements\* (multiple answer-options, n=250, %)

	A	B	C	D
I do not have the time	42.4	41.5	41.0	41.8
it is too expensive	10.6	10.8	10.3	10.6
I have a disability or illness	13.6	10.8	15.4	12.9
there is no suitable or accessible sport infrastructure close to where I live	0.0	6.2	15.4	5.9
I lack motivation or I am not interested	12.1	7.7	17.9	11.8
I am afraid of the risk of injuries	6.1	3.1	7.7	5.3
others	7.6	16.9	12.8	12.4

\*Only those factors are mentioned in the table that were mentioned in case of a settlement type by at least 5% of the respondents.

A – Debrecen, B – other cities, C – villages, D – Hajdú-Bihar county

Source: own research

According to the findings of international research, membership in organisations concerning sports activities has a positive influence on sports participation, and the results of the survey conducted in Hajdú-Bihar County also showed this (Table 8): those who are members of such organizations engaged in sports-related activities much more frequently, while among those who are not members, the proportion of persons not participating in sports was above average.

**Table 8** The relationship between membership in sports-related organisations and the inclination to participate in sports in Hajdú-Bihar county (n=250, %)

	member	non-member	total
3 time a week or more	69.5	18.5	32.0
1 to 2 time a week	22.0	11.8	15.2
1 to 3 time a month	6.8	5.7	6.4
less often	1.7	23.7	20.4
never	0.0	40.3	26.4
total	100.0	100.0	100.0

Source: own research

At the same time, such membership is not very frequent: less than 25% of all respondents indicated that they were members of an organisation concerning sports activities (Table 9). In terms of the types of the organisations and their frequency at the various types of settlements, an important conclusion that can be drawn is that the most important role is played by health or fitness centres and sports clubs, while the role of socio-cultural clubs also concerning sports activities can be regarded as negligible. The distribution of such organisations shows that membership in health or fitness centres and socio-cultural clubs is overrepresented at the county seat, while it is hardly observable in case of villages, while sports clubs show a slightly more even distribution.

**Table 9** Membership in organisations concerning sports activities in Hajdú-Bihar county (multiple answer-options, n=250, %)

	A	B	C	D
health or fitness centre	16.0	9.2	0.0	10.0
sport club	12.0	8.2	3.9	8.8
socio-cultural club that includes sports in its activity	7.0	1.0	0.0	3.2
other	2.0	2.0	3.9	2.4
not a member of any club	63.0	80.6	92.2	75.9

A – Debrecen, B – other cities, C – villages, D – Hajdú-Bihar county

Source: own research

According to the results of international research, the inclination of the population to participate in sports is significantly influenced by the level of development of the local sports infrastructure (Hallmann et al., 2012; O'Reilly, 2015; Wicker et al., 2013), as well as the activity of the local authority related to sports. In the framework of the present survey it was not possible to carry out an objective analysis of these two variables, and we were only able to explore the opinions of the respondents on these issues. According to the data in Table 10 and Table 11, local sporting opportunities and the sport-related work of local authorities both influence the population's inclination to participate in sports: among the more satisfied, the proportion of those frequently participating in sports is higher (the value of the Pearson correlation coefficient is 0.354 in the first case and 0.242 in the second case, and the correlation is significant at a level of 0.01).

**Table 10** The relationship between opinion of respondents about local sporting opportunities and the frequency of their sports participation in Hajdú-Bihar county ("The settlements where I live offers me many opportunities for sports", n=250, %)

	A	B	C	D	E	F
totally agree	40.0	18.4	6.3	25.5	4.6	22.4
tend to agree	36.3	50.0	68.7	27.4	26.1	36.0
tend to disagree	13.7	23.7	25.0	35.3	46.2	28.8
totally disagree	10.0	7.9	0.0	11.8	23.1	12.8
total	100.0	100.0	100.0	100.0	100.0	100.0

A – 3 time a week or more, B – 1 to 2 time a week, C – 1 to 3 time a month, D – less often, E – never, F – Hajdú-Bihar county

Source: own research

**Table 11** The relationship between opinion of respondents about the sport-related work of local authorities and the frequency of their sports participation in Hajdú-Bihar county ("My local authority does enough for its citizens in relation to sports", n=250, %)

	A	B	C	D	E	F
totally agree	30.0	15.8	6.7	25.5	6.2	19.3
tend to agree	25.0	50.0	66.6	31.4	27.7	33.3
tend to disagree	30.0	21.1	20.0	29.4	44.6	31.7
totally disagree	15.0	13.1	6.7	13.7	21.5	15.7
total	100.0	100.0	100.0	100.0	100.0	100.0

A – 3 time a week or more, B – 1 to 2 time a week, C – 1 to 3 time a month, D – less often, E – never, F – Hajdú-Bihar county

Source: own research

In terms of satisfaction with local sporting opportunities, major differences can be observed between the various types of settlements (Table 12): residents of Debrecen were the most satisfied and those living in villages voiced most criticism. Behind these opinions, in all likelihood, is the fact that Debrecen, being the county seat, can offer much more to its residents both in terms of the absolute number and the diversity of opportunities than villages can.

**Table 12** The opinion of respondents about the local sporting opportunities by type of settlements in Hajdú-Bihar county (“The settlements where I live offers me many opportunities for sports”, n=250, %)

	Debrecen	other cities	villages	Hajdú-Bihar county
totally agree	30.0	18.2	15.7	22.4
tend to agree	35.0	41.4	27.5	36.0
tend to disagree	25.0	28.3	37.3	28.8
totally disagree	10.0	12.1	19.6	12.8
total	100.0	100.0	100.0	100.0

Source: own research

If we examine the sport-related work of local authorities (Table 13), we can see a much more balanced picture: in case of all three types of settlements, approximately 50-56% of the respondents had positive opinions. As far as the more extreme answers are concerned, however, some differences can be observed: such activities of local authorities in villages actually received a somewhat lower evaluation. In my opinion, this may primarily be traced back to the fact that local authorities of smaller settlements do not have enough financial resources or do not have human resources to do good work in this field.

**Table 13** Opinion of respondents about the sport-related work of local authorities by type of settlements in Hajdú-Bihar county (“My local authority does enough for its citizens in relation to sports”, n=250, %)

	Debrecen	other cities	villages	Hajdú-Bihar county
totally agree	22.3	19.2	17.6	20.1
tend to agree	34.3	34.3	33.3	34.1
tend to disagree	30.3	34.3	31.4	32.1
totally disagree	13.1	12.2	17.6	13.7
total	100.0	100.0	100.0	100.0

Source: own research

## CONCLUSIONS

The most important findings of the study could be summarised as follows:

- Significant differences can be observed between settlements in terms of the inclination of their population to participate in sports: this inclination is much higher among residents of larger settlements, while those living in villages engage in sporting activities less frequently.
- The motivations and the obstacles of sports participation are the same in case of all three types of settlements, but there are important differences in terms of the relative importance of these factors.
- Membership in organisations concerning sports activities has positive influence on sports participation, especially in case of residents of the county seat.

- The respondents' opinion on local sporting opportunities and the sport-related work of local authorities show a correlation with the inclination to participate in sports, but the influence of the first factor can be considered to be bigger. The residents of Debrecen are generally satisfied with the local sporting opportunities, but the same is less characteristic among residents of villages. Considering the work of local authorities, little difference can be observed between the various settlement types, but the opinion of residents of villages is slightly more negative.

The results of the research, however, have also shown that the differences between the settlement types can be traced back not only to the socio-economic structure of the population living there, but the geographical location and the local characteristics also have a significant influence.

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