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# Sport habits in North-Eastern Hungary

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#### Abstract

A healthy lifestyle is important for the success of the upcoming generations and should, therefore, define the approach the society shall take towards sports. A regular physical activity, which is determined by both the health awareness and the available infrastructural facilities, should be part of a healthy lifestyle. In the past few years the development and promotion of sports became a national interest and task in Hungary.

The study was conducted using questioners. All together 273 individuals, with an average age of  $28.4 \pm 11.3$  years, were involved, and their sport habits, possibilities, and demands were recorded. The aim was to have the daily needs of the society in connection with sports expressed and revealed.

More than 70% of those who took part in the survey regularly, at least weekly, do some physical activity. It is important to note, however, that almost 80% of them were younger than 30 years. While the most important reason, 40.5%, for neglecting sport was the lack of time, many, 9%, complained that there aren't enough sport facilities. On the other hand, 70% would be willing to pay for using these facilities had they been available. When selecting the actual sport to be pursued, financial aspects, health promotion and body building play the most important roles. As expected, the most frequently visited sport events included soccer, other team sports, and swimming.

If compared to national surveys ours paints a more positive picture. This is most likely due to the presence and devoted policy of the University and the town of Debrecen for allocating funds to build and develop sport facilities.

#### Introduction

The XXth par of the Constitution of Hungary declares that „everyone has the right to physical and mental health”. The Sport Law of 2004 states that the sport is a basic national

value, and thus we are to recognize results in sport as national values. The goal of Hungary is, therefore, to become a nation that engages in sports because this strengthens both the individual and the community.

The Hungarian House of Representatives has created a National Sport Strategy (2007) for the years 2007-2020, which states that sport is an unalienable part of our life and it offers global solutions for the negative influences of the modern society.

The Sport Strategy also points out the socio-economic role of sports, since the sport related industry generates a yearly income of 350 billion HUF (approximately 1.2 billion EUR) and gives full-time employment for more than 25,000 people in Hungary. On the other hand, the supports and preferences to propel sports are too few.

The development of many diseases that are associated with modern civilization can be traced back to the sedentary life style. The World Health Organization has pointed out in 2003 that every dollar that we spend on sports will result in saving 3.2 dollars in the health care system. Despite this clear correlation, Hungarian sport is single sided. Our nation is very successful in competition sports, while three fourth of the population follows a sedentary life style.

It is a generally accepted fact that the role of sports is outstanding in the maintenance of physical and mental health, the establishment of health conscious actions, a tool in the useful and cultured way of spending the free time, spending the leisure time in a natural environment, and it contributes to the strengthening of social and family ties.

If one looks at the different areas of sports in Hungary one finds a contradicting, and a sometimes not-too-bright picture. In case of students' sport and physical education in schools it has been found that the only regular exercise that most (75%) of the 1.5 million students do is the PhysEd in schools (National Sport Strategy, 2007). To improve the activity culture, everyday PhysEd has been introduced in an ascending mode in schools starting in 2012. This would, however, require new gymnasiums. Swimming education for all children would also be important, which again necessitates the improvement of the infrastructural conditions. The advancement of the competence of qualified educators and the financial incentive of PhysEd teachers is also a must. Moreover, the education to conduct a healthy life style should continue in colleges and universities, too. The latter not only implies the need for organizing intra- and inter-institutional sport life, but also the establishment of the necessary professional and infrastructural background.

Analyzing how free time is spent one can find that only 9% of the adult population in Hungary does sports, and most of them conducts this exercise not in an organized manner (National Sport Strategy, 2007). It would be important to mobilize the people, for which not only changes in the approach of the individuals, but also in that of the local governments, civil organizations, local communities, and state subsidies are needed. The involvement of the unions and the employers, through facilitating sports at the work place, could also improve the situation.

In the fields of competition sports and youth training Hungary is Olympics centered. Advancement in this field would require the establishment of a uniform youth training system and the launching of a harmonic yet versatile development of the area.

Similarly, the improvement of sports medicine that insures a broad preventive and diagnostic medical background for both competition and leisure time sports would also be essential.

While the situation in Hungary is not too promising, a number of studies have pointed out that the relative proportion of those who regularly exercise in their leisure time is increasing in Europe (Hartmann-Tews, 2006; Scheerder et al., 2005). Characteristically, in northern countries – as Sweden, Finland, and Denmark – the proportion of those who regularly exercise is higher, while in southern countries – as Greece, Portugal, and Italy – the proportion within the population is lower (Martinez-Gonzalez et al., 2001; Sjöström et al., 2006). Furthermore, these studies reported a progressive tendency in this field. Although similar positive changes could be documented lately in Central-European countries as well, Hungary, unfortunately, remains one of the file-closers in this respect. Albeit assessments have been carried out to establish what might be behind this, a systematic analysis whether or not the data for a region that is committed to sports – where both the townships, the local governments, and the leading higher educational institution of the region do their best to improve competition as well as leisure time sports – is any better than the national average.

### **Aim of the study**

For the successful life of the upcoming generation the healthy life style is essential, which would also determine the approach of the Hungarian society towards sports. Regular sport activity must be part of a healthy life style, which is influenced partly by the health culture of the population and partly by the available infrastructural conditions. The topicality of the present work lies in the fact that in the past few years improving sports has become a national interest and task in Hungary. The most important aim of the study was to pinpoint and display the day-to-day needs expressed by the society in the field of sports.

Already in 2005 the University of Debrecen has established its sport strategy, and it runs a self-owned sport club, the DEAC Kft. (University of Debrecen Athletic Club, Inc.). The university pays a close attention to the sport related tenor of the city and initiated training sport-associated sciences (sport organizer).

As part of, and financed by the project TÁMOP-4.1.2.E-13/1/KONV-2013-0010, entitled “Training and system development for a sporty society in North-Eastern Hungary”, the University of Debrecen will start new trainings in sport sciences – sport engineer, sport economist, and sport rehabilitation professional –, will establish a Sport laboratory which will offer ergospirometric measurements for the sport clubs and the sportspersons of the region, and will establish a sport office. The latter will not only inform the students of sport related events and possibilities, but will itself organize sport competitions within the institution and between universities.

Based on the above, the direct aim of our study was to investigate whether or not the commitment of the university towards sports influences the sport habits, the way leisure time is spent, the active culture of the inhabitants of the city and the region, and, moreover, to compare these data with the national averages.

As an additional aim, we wished to explore how sport habits change for the different age groups and to see if there are any gender based differences in the answers and in the explanations.

## **Material and methods**

The assessment was carried out in the city of Debrecen, during the summer of 2014. It involved 273 persons, with an average age of  $28.4 \pm 11.3$  years. The questionnaires were filled in with the help of pollsters. The evaluation was carried out using the EvaSys program (VSL Inc., Hungary; <http://www.vsl.hu>).

When assembling our questionnaire internationally accepted and tested questionnaires (International Physical Activity Questionnaire; <http://www.ipaq.ki.se>) were taken into account (Craig et al., 2003).

Questions were grouped into categories. From the socio-demographic data the age, the gender, the highest qualification, the income per capita per month in the family, and the place of residence were asked and recorded.

The second part of the questionnaire focused on the sport habits of the individuals. We recorded the frequency with which the individuals exercise, the reason for exercising, and the factors that influenced their choice of sport. We were interested in their opinion on what type of sport facilities would be good to have in their town of residence, and whether or not they would be willing to pay for their use. Finally, in the last part of the questionnaire we asked about the sport events that they usually visit.

To assess the possible existing differences between the age groups, the  $\chi^2$  and the Fisher's exact tests were used. When analyzing which sport events are visited, correlation was looked for using Spearman's correlation. We also evaluated possible differences between the genders. To this end cross reference contingency tables were generated and again the  $\chi^2$  and the Fisher's exact tests were used. We considered a difference significant when  $p < 0.05$  was found. In certain cases a strong tendency was assumed when  $0.5 < p < 0.1$ .

## **Result**

First the socio-economic background of the interviewees was assessed. 51.8% of them had an age between 20-30 years (Fig. 1). An additional 18.6% were between 31-40 years while an 18.2% was from the age group of below 20 years.

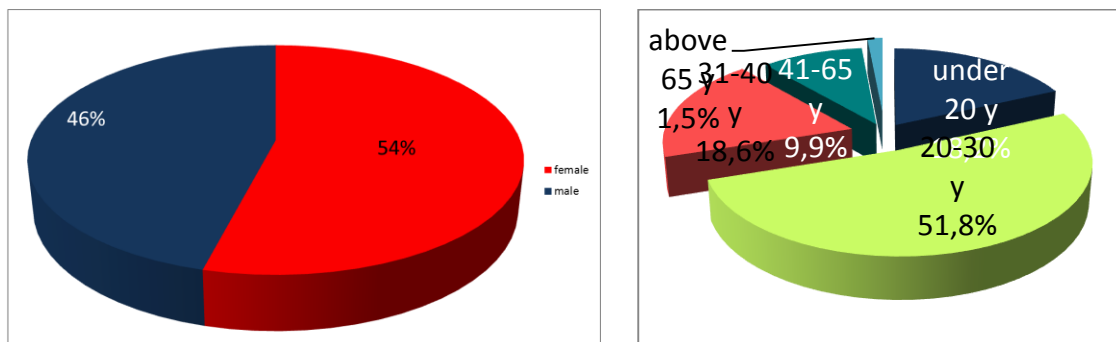


Figure 1. The gender and age distribution of the interviewees.

Considering the gender of the interviewees, 46% were females and 54% were males (Fig. 1). 34% had, as their highest scholarly qualification, a high school maturation exam, while 45.8% possessed a college or university degree. 11.5% only had an elementary school certificate (Table 1).

Table 1. The highest scholarly qualification of the interviewees.

Scholarly qualification	Percent
elementary school	11.5%
vocational school	8.8%
high school maturation exam	34.0%
college	21.0%
university	24.8%

When examining the income of the household per capita per month, we found that approximately half of the responders (52.3%) fell into the range of 100,000-200,000 HUF (approximately 325-650 EUR). Furthermore, for almost 30% (28.2%) this value is below 100,000 HUF, and only less than 20% said that their income exceeds 200,000 HUF per capita per month. Analyzing the distribution of the place of residence revealed that 55.4% of the interviewees lives in Debrecen, an additional 25.8% lives in towns or other county seats, 11.6% in villages, and 3% in farms.

In the next step we investigated the sport habits. First the frequency of sport activity in the months prior to filling in the questionnaire was established (Fig. 2). 45.5% of the responders said that they exercise at least once a week, and 20.7% answered that they exercise daily. Some (15.8%) just exercise once a month and only 18% said that they do not exercise at all.

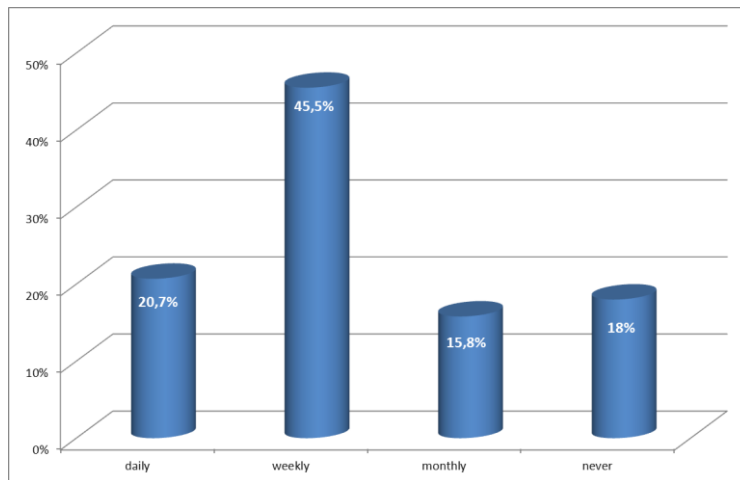


Figure 2. Frequency of sport activities.

Based on the above we conclude that our data draw a more positive picture than the national average. It is especially noteworthy that the percentage of those exercising regularly at least once a week or daily is high, and it approximates that of the EU average. We can thus say that the efforts of the region in respect to sports have, at least in part, their positive results.

On the other hand, we were interested in finding out what are the inner motivations and/or external conditions that make some, almost one fifth of the interviewees in our survey, not to exercise at all. This information is important if one would like to motivate them to change their life style.

When answering the question, if you do not exercise at all, what is the reason, 40.5% of the respondents mentioned the lack of time (Fig. 3). The other two large groups were either mentioning the lack of motivation and or being tired. 9% were blaming the lack of sport facilities and another 9% their health condition for not being able to exercise.

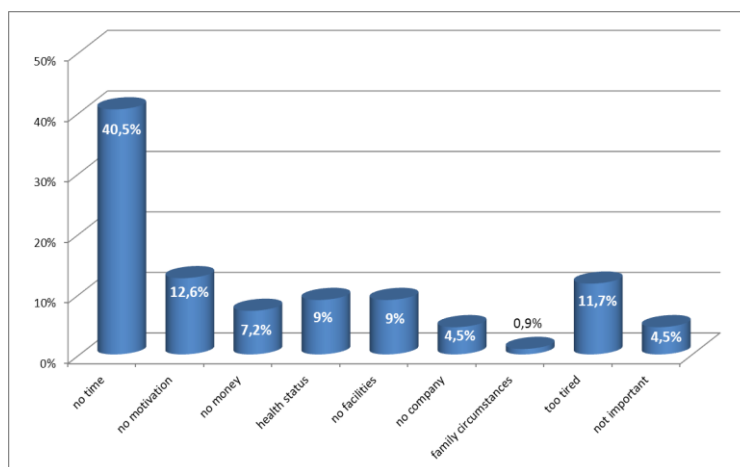


Figure 3. Reason for not exercising at all.

From the problems mentioned above the easiest to tackle on the local level which likely brings the fastest improvement is the expansion of the sport facilities. Asking their opinion which facility they would like to see in their own town, most suggested a swimming pool, a fitness room or an out-door fitness park, and an in-door running track. As a reason 51.6% said it would be good for the town while 25.8% only thought of their personal needs.

To convince to majority of the population to follow a healthy life style, one needs appropriate communication and marketing strategies. For this it is imperative to know, amongst others, what motivates those who regularly exercise.

When answering the question why sports are important for you, 44.3% of the interviewees said that it is important to maintain my health status (Fig. 4). 24.8% consider sport as a tool for shaping their body, while 17.4% need the physical activity to forget their problems and to escape difficulties.

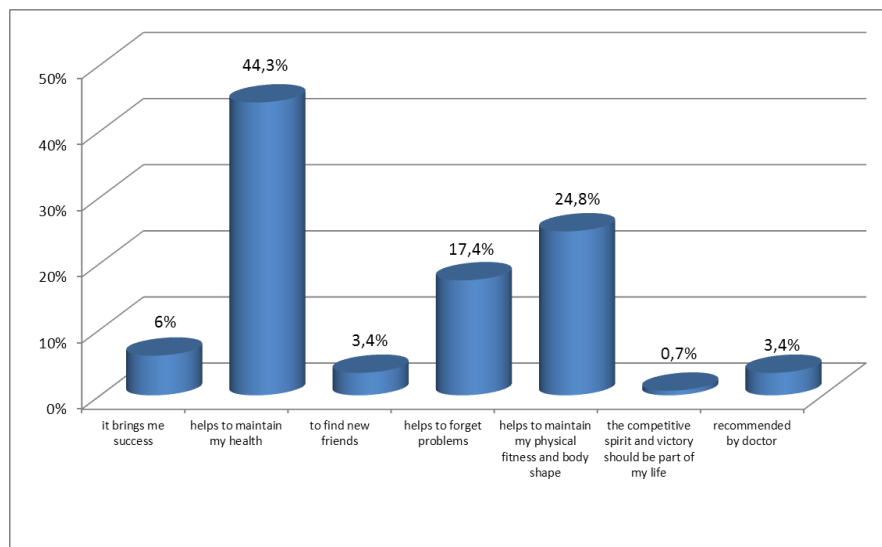


Figure 4. Why physical activity is important for the interviewees.

To present the possibility for someone to engage in sports we have to know which sports are appealing for them. This will, naturally, determine which sport facilities should be maintained and further improved in a given region.

When selecting a specific sport 33% of the respondents based their choice to improve their physical fitness, 30% choose based on personal interest, 29% on burning fat, shaping the body, 23% on financial aspect, 22.1% on which would help to maintain their health condition, 18% on the fact that no special preparation is needed, 17% follow their friends, 16.7% for being successful, and 15.9% based on the fact that the sport facility is close to their place of residence.

Regularly visiting sport events is also part of how we can improve sport culture. We, therefore, considered it important to assess which sport events the interviewees visit

regularly (see Fig. 7 below at gender differences). In this case more than one answer was allowed. 46.0% of the respondents mentioned soccer, 21.7% swimming, 20.3% hand ball, 19.2% water polo, 14.5% basketball, 12.3% cycling, and 12.0% volley ball. Other sports did not reach 10% among the responses, with the least visited being wrestling (2.5%), table tennis (2.9%), and rowing (3.6%).

### Gender differences

An important aspect of the present study was to assess whether or not any gender based differences existed in the responses.

No difference was found between the males and females in respect to how often do they exercise ( $\chi^2 = 3.065$ ,  $df = 3$ ,  $p = 0.382$ ; Fisher's exact test  $p = 0.388$ ; Fig. 5) or in the reasons why do they not exercise ( $\chi^2 = 8.481$ ,  $df = 8$ ,  $p = 0.398$ ; Fisher's exact test  $p = 0.388$ ). Similarly, no significant difference was seen in the willingness to pay for the usage of sport facilities ( $\chi^2 = 0.037$ ,  $df = 1$ ,  $p = 0.886$ ; Fisher's exact test  $p = 0.886$ ) or in the individual opinion on why sport is important ( $\chi^2 = 6.152$ ,  $df = 5$ ,  $p = 0.300$ ; Fisher's exact test  $p = 0.304$ ).

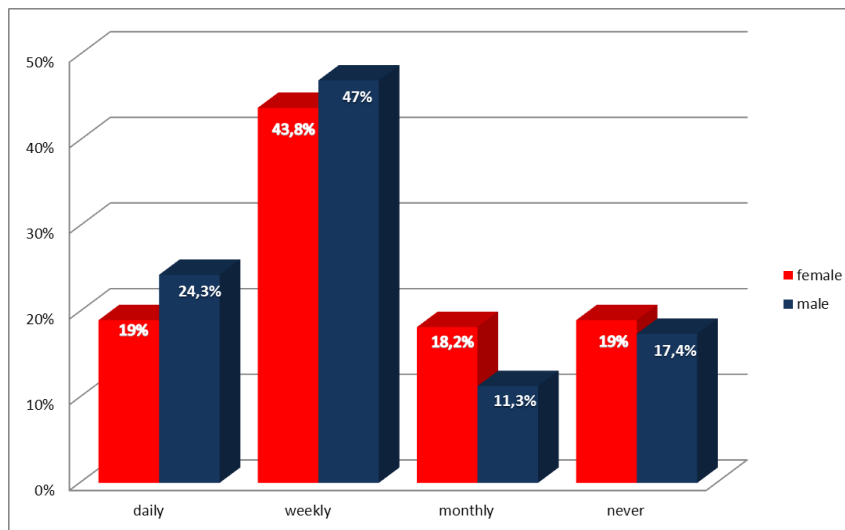


Figure 5. Lack of gender differences in the frequency of sport activity.

Moreover, there was no significant difference between the genders in the reasons for engaging in a specific sport in respect to the opportunity to compete, for success, to improve physical fitness, for health promotion, to follow the preferences of the parents or those of the siblings, to consider the Hungarian success sports, the distance between the place of residence and the place of exercising, the financial burden, the possibility to exercise outdoors, personal interest, equipment, and the necessity for preparation.

On the other hand, a significant difference was seen (Fig. 6) on how females and males relate to their friends habit ( $\chi^2 = 11.492$ ,  $df = 1$ ,  $p = 0.001$ ). While for 25.5% of the males



(for every fourth person) it is important to follow the friends, in case of females this is only 9.9% (every 10<sup>th</sup>). A difference was also found whether the trainer should be sympathetic or not ( $\chi^2 = 5,125$ ,  $df = 1$ ,  $p = 0,024$ ). In case of women sympathy with the trainer is more important (10.6%) than in case of men (3.3%).

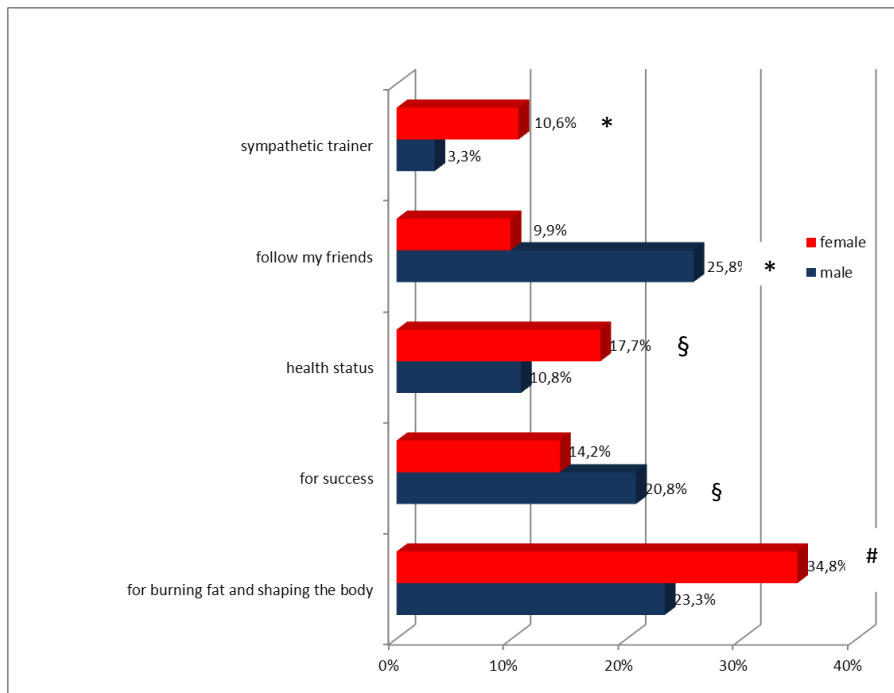


Figure 6. Gender differences in the aspects of selecting the type of physical activity. \* marks significant difference ( $p < 0.05$ ); # marks strong tendency ( $p = 0.056$ ); § marks weak tendency ( $p = 0.115$  and  $0.156$ , for health status and success, respectively).

We should consider the shaping of the body and the burning of fat to have a strong correlation with gender. Statistical probes only suggest, but do not prove that the difference between females (34.8%) and males (23.3%) would be statistically significant ( $\chi^2 = 4,064$ ,  $df = 1$ ,  $p = 0,056$ , Fisher's exact test  $p = 0.056$ ).

When examining which sports interest them we obtained the expected results (Fig. 7). There was no significant difference between the preferences of females and males in respect to table tennis, athletics, wrestling, gymnastics, swimming, rowing, kayaking, bicycling, handball, basketball, tennis, gymnastics, and water polo. On the other hand, females prefer volley ball, figure skating, and speed skating, while males prefer soccer, ice hockey, and boxing.

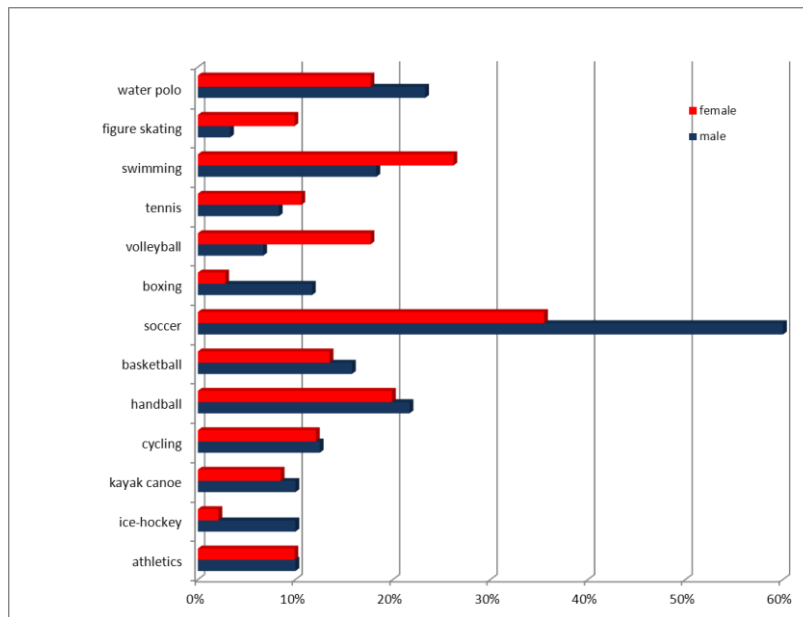


Figure 7. Gender differences in visiting sport events.

### Age group-based differences

Understanding the differences between the different age groups is important to tailor the approach in how sport facilities are developed or communication is done. It is important to stress that there was no difference in the place of residence between the age groups.

In regards to the income per capita clear differences were seen between the age groups ( $\chi^2 = 26.944$ ,  $df = 12$ ,  $p = 0.008$ ). For the youngest (those younger than 20 years) the most characteristic income is less than 100,000 HUF. With increasing age the most likely income category becomes the 100,000 – 200,000 HUF. While a similar tendency was found for the 200,000 – 300,000 HUF income range, no such trend was observed in the highest (above 400,000 HUF) income category.

The frequency with which the persons of the different age groups exercise is statistically different ( $\chi^2 = 42.215$ ,  $df = 12$ ,  $p < 0.001$ ; Fig. 8). Those of the younger ages usually exercise weekly (65.0%; 45.9%; 44.9% for the age groups, respectively). On the other hand, those above 40 years most likely do not engage in exercise at all (51.9% and 50.0%, respectively). It should also be noted, that the group of those who weekly exercise within the 41-65 years-olds (26.9%) seems to split when people get even older. Some stop doing exercise completely or only do sports monthly, while for others exercise becomes a daily routine.

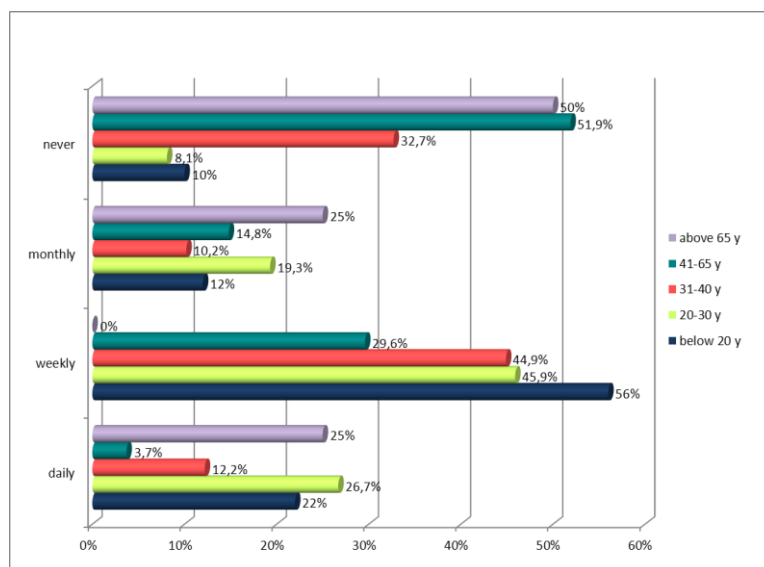


Figure 8. Frequency of sport activities in the different age groups.

There is no difference between the age groups when answering the question why they do not engage in sports at all (Table 2). The most common reason is the lack of time. For those in their middle ages and for the elderly the tiredness is also a strong reason. While the reference to the health condition becomes more, the financial aspect becomes less important with increasing age.

Table 2. Age group-based differences in the reasons for not exercising.

Reason	Age group (years)				
	below 20	20-30	31-40	41-65	above 65
no time	40.9%	39.1%	42.9%	50.0%	0.0%
no motivation	18.2%	10.9%	4.8%	11.1%	50.0%
no money	0.0%	13.0%	4.8%	5.6%	0.0%
health status	0.0%	6.5%	14.3%	16.7%	25.0%
no facilities	9.1%	10.9%	9.5%	5.6%	0.0%
no company	13.6%	4.3%	0.0%	0.0%	0.0%
family circumstances	0.0%	2.2%	0.0%	0.0%	0.0%
too tired	13.6%	6.5%	23.8%	5.6%	25.0%
not interested	4.5%	6.5%	0.0%	5.6%	0.0%

If they do sports, there is no significant difference between the age groups in their opinion on having to pay for the facilities. Similarly, no significant difference was found in why they would suggest a facility to be used, or why engaging in sports is important.

On the other hand, a clear increasing tendency was found for the health, while a clear decreasing tendency was observed for the financial aspect with increasing age (Table 3).

Table 3. Age group-based differences in the aspects of selecting the type of physical activity.

Reason	Age group (years)				
	below 20	20-30	31-40	41-65	above 65
for burning fat and shaping the body	34%	31.7%	23.5%	18.5%	0%
to be able to compete	18%	7.7%	5.9%	3.7%	0%
for success	24%	17.6%	13.7%	3.7%	0%
to improve my physical fitness	28%	38.7%	27.5%	33.3%	0%
health promotion	16%	22.5%	23.5%	29.6%	25%
because of health status	4%	16.9%	13.7%	25.9%	0%
follow my friends	14%	19.7%	15.7%	14.8%	0%
family tradition	0%	5.6%	3.9%	0%	0%
sympathetic trainer	8%	6.3%	11.8%	0%	0%
successful sport in Hungary	8%	6.3%	0%	3.7%	0%
closest to my home	18%	14.8%	21.6%	7.4%	25%
affordable	28%	26.1%	23.5%	3.7%	0%
possibility for outdoor exercise	12%	14.1%	2%	7.4%	0%
personal interest	40%	33.1%	23.5%	22.2%	0%
no special equipment or preparation is needed	12%	16.9%	25.5%	22.2%	25%

## Discussion

We conducted a wide survey in which the sport habit of the population in North-Eastern Hungary was assessed. The socio-demographic data of the interviewees, including their monthly income per capita, corresponded to the Hungarian average.

Many of those in the age group below 20 years reported a monthly income less than 100,000 HUF, which most likely reflects the financial support from the parents. This amount, on the other hand, is most probably spent on covering the expenses of education, housing, and food, and little is used to pay for sport facilities. This, and the demands of the school probably contribute to the finding that even among the youngest there is a considerable number of those who do not exercise (Christensen and Sorrensen, 2009).

Most of those who do not exercise at all complained about the lack of time which, in case of the 30- and 40-year-olds, reflects the need to fulfill the commitments at work, in the sideline, and, of course, with the family and the children. Another important aspect was the lack of motivation behind which the social- and familial background and the lack of activity culture are the most likely reasons.

The results of the survey support the ambition of the government to build new in-door swimming pools. Indeed, swimming pools were the first in the list of what respondents would like to have in their home town as new sport infrastructure. It was followed by the fitness room and the in-door running track. These answers, in our opinion, reflect that special need of the population that they would like to have places which are available for exercising before or after the working hours.

In respect to their sport habits the age group above 40 years seemed to split to two subpopulations when compared to younger respondents. In one of the group people exercise more, while in the other they exercise less than the younger population. This likely reflects the decline in health status which would increase both groups, since some will follow a more health conscious life style to prevent the decline in their health (Melk et al., 2014), while for others it is too late, that is, their condition does not allow them to actively participate in sports (Szabó, 2013). An additional reason that could bring some to the former group would be the fact that in the elderly years the children are already out from the family, so these people have more time for themselves. On the other hand, the latter group is strengthened by those for whom the duties as grandparents decrease the time they can spend on sports.

Overall, we can conclude that the efforts of the region in the area of sport culture have brought the expected initial results, but their maintenance requires further investments. Furthermore, we have pinpointed certain areas where small interventions could bring positive results in the health and sport awareness of the people of North-Eastern Hungary.

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