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# CHARACTERISTICS OF PHYSICAL ACTIVITY AT THE UNIVERSITY OF DEBRECEN

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**Abstract:** The assessment of physical activity is a much-researched field. Physical inactivity has negative consequences. In the development of diseases, a key risk factor is insufficient exercise. Emphasizing the relation between physical activity and health is a constantly discussed matter. UD-FCSNE students will play a key role in educating children for a healthy lifestyle. They will become teachers and specialists. Mapping students' motives concerning physical activity, we can see the order of motive factors and the factors influencing the different age groups. The majority of students exercise less than 30 minutes per day. Most of them do leisure sporting. To increase physical activity we must provide leisure sporting facilities, based on the population's needs. Maintaining and increasing fitness are chief motivational factors, unlike expectations and competition. The order of motives is significantly different. These differences occurred in five categories. There is a difference in physical activity between full and part-time students.

**Keywords:** *healthy way of life, leisure sporting, physical activity, university students*  
 (JEL Classification: Z2)

## INTRODUCTION

PHYSICAL inactivity is a serious problem in many countries of the world, including Hungary. According to various statements, approximately 20% of the population exercises regularly. According to the studies of ÁCS et al. (ÁCS, 2011), 53% of the population do not exercise at all, and 24% of them carry out physical activity 1-3 times a month, so 77% is defined not to exercise enough. The work mentioned above (ÁCS, 2011) states, based on data from the National Health Insurance Fund (now OEP, i.e. National Health Insurance Fund Manager), that the diseases and complications due to physical inactivity cause annually an average of 9.1 billion HUF additional cost to OEP (ÁCS, 2010) through the practitioners. These results were also supported by recent research. In my research with students from the Faculty of Child and Special Needs Education at the University of Debrecen (UD-FCSNE), I wanted to examine the components and motivational background of regular exercise. With my theoretical and practical work, I would like to facilitate the widespread distribution of the elements of healthy lifestyle that are related to physical activity at both local and national level.

The change (increase/decrease) in physical activity is combined with economic effects. In addition, these effects show a different character for different age groups. Research into physical activity has gained a new impetus over the past decade. The number of research papers in the matter has grown in the fields of social and natural science alike. Table 1 gives a possible system for scientific

papers. In terms of my research, I consider the economic, medical as well as the sports and health sociological approaches to be important.

**Table 1**  
 Scientific works dealing with the effects of physical activity

Physical activity		
Economic approach	Health approach	Sports/Health-sociologic approach
Grossmann, 1972	Pál et al, 2005	Ewles – Simnett, 1999
Katzmarzyk, 2000	Ádány, 2012	Pikó, 2002
Gratton – Taylor, 2002	Soós et al, 2009	Bodnár, 2010
Chenoweth, 2005	Szmodis et al, 2014	Gál et al, 2012
Downward et al, 2009	Kopkáné et al, 2015	Földesiné, 2010
Ács et al, 2012	Apor, 2011	Kovács, 2013
Paár, 2013	Lampek – Kivés, 2014	Harcza, 2014
Ács et al, 2015	Szöts et al 2004	Lampek – Kivés, 2014
Laczkó – Rétsági, 2015	Petrika, 2012	Laczkó – Rétsági, 2015
Ding et al, 2017	Apor, 2009	
Gabnai et al, 2019	Rurik, 2015	

Source: own work

The complex mechanism of physical activity can be observed in Figure 1 below, in which we can identify multiple transfer effects. In the illustration, an ideal process is displayed: the increase in physical activity. In this case we can see a positive transfer, that is the expansion of positive effects caused by the increase in physical activity. In this context, the research of Downward et al is a guideline. A positive change causes the individual's health and general well-being to improve. It also preserves their physical/mental health in the long term.

Figure 1 The complex mechanism of physical activity



Source: own works, based on Ács et al. (2015)

## THE CONCEPT OF HEALTH

Many interpretations of the concept of health have been seen. Back in the middle of the 20th century, health was stated not only to be a lack of disease. It was also a state of physical-psychological-social well-being. In addition to the physical dimension, mental-social-spiritual dimensions also play a role. Functional approaches to health have emerged, which were developed into a system by Füzesi et al. The key to a functional approach is the ability of an individual to carry out various activities in the context of their social involvement. The topic of health also includes the so-called coherence theory, which was discussed by co-authors Kopp-Bugán, among others. The feeling of coherence is a state of equilibrium in which the individual is fully consistent with themselves and their environment. Physical activity can contribute to the establishment of this state.

A common denominator of the numerous interpretations is that exercising contributes to preserving health. István Bábosik deals with the economic dimension, stating: "Regular exercising is the primary and yet the cheapest safeguard of health" (BÁBOSIK, 2004).

## THE ROLE OF PHYSICAL ACTIVITY

In the wake of co-authors Lampek-Kivés, I can say that physical activity has a health-restoration/rehabilitation and health-preservation/ preventive role. Another benefit is the restoration/establishment/retention of long-term work ability, which can be linked to health capital theories. Grossmann's theory is that the individual takes an active part in the

development and consumption of their health capital. The individual invests and wastes. These investments may be recoverable, for example in terms of work, income and quality leisure time. Long-term decisions must be made, the effect of which is extended in time and the outcome is uncertain. The point of these decisions is: how much health improvement does the individual want to obtain from the proportion of material resources available to them.

My finding regarding work ability is already related to the corporate level, as the company's dominant resource is human capital. The health of those people is essential in terms of productivity and the number of sick leave days. Bleyer-Saliterer has systemized the positive effects of physical activity from the perspective of employers and employees. Some negative factors, such as the number of days on sick leave/the likelihood of developing chronic diseases/the tendency to have infarction/fear-depression/ probability of locomotor system diseases decrease. Performance/mood/concentration/stress resistance/self-assessment/well-being improve. In addition to physical development, personality development (co-operation, fair play, the ability to deal with failure and success, problem solving, decision making, perseverance) is also of paramount importance. These capabilities also play a decisive role in maintaining and strengthening work positions.

The improving health indicators have an impact on the national economy as a whole and can contribute to a reduction in health expenditure. Quoting Ács et al, I can state that the expenses of the National Health Insurance fund management could be reduced by more than 9 billion forints per year, by a 10% increase in physical activity.

Recently, COI (cost of illness) research has been promoted to quantify the burden of inactivity. Katzmarzyk et al established a consistent relative risk ratio, based on the link between risk of diseases and increase in inactivity. The advantages and disadvantages of research in this direction have been summarised by Gabnai et al. The works quoted are examining the costs of inactivity from a similar perspective. Such representations are that of the viewpoints of households, the corporate sector, the health system and the whole of society.

Increasing activity is not only a domestic goal. It is often read/heard that the global alarm should be sounded/heard more strongly because the negative consequences of inactivity occur globally. We face global civilisation challenges (SOÓS et al.: Homo sedens type of man/lifestyle, unhealthy diets, use of smart appliances). Physical activity can be one of the greatest weapons in our hands in this struggle.

Of course, before the development and introduction of measures to increase physical activity, the mapping of the motives of the different age groups related to sports activities should be carried out. To do so, the appropriate instrument according to Frederick and Ryan, it is possible to use Pelletier's questionnaire on physical activity and leisure time. This work divides the individual's motivational background into eight segments. We have a continuously expanding literature on secondary research. We also have international and domestic reports that provide a good basis for comparison. Ainsworth

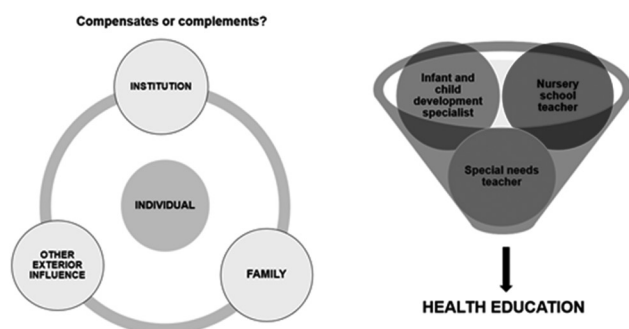
draws attention to an important methodological question. The results of subjective methods (questionnaire, activity log, observations) that can be used more easily and on a larger sample, may not always be supplemented by the quantifiable results of objective methods (accelerometer, Holter test, laboratory tests).

According to Eurobarometer data, Hungarians are not prominent in the field of sports and physical activity. In accordance with the EU trend, in Hungary the proportion of those exercising daily has declined and that of those who never exercise has grown. The answers reveal what factors form the main obstacle for Hungarian people.

The development of an individual's attitude towards healthy lifestyle takes place in a multi-factor field of force. We talk about a dynamically changing system in which family, educational institutions and other external factors influence the motivational base for exercising. Ideally, the institution should take a complementary role rather than a compensating one.

In Figure 2. below, we can recognise external effects influencing our lives, highlighting the possible role of the Faculty of Child and Special Needs Education in shaping the individual's lifestyle.

Figure 2 Factors that influence the individual's lifestyle



Source: own work

The subjects of my study will work in areas (nursery school teachers, infant and child development specialists or special needs teachers), where the education of children for healthy lifestyle develops and strengthens key competences. In my opinion, it is strategically important to change the attitude to physical activity among the practitioners in this field in the positive direction. This way both the individual and the whole of society will benefit. That influences the changes in quality and quantity features of human resources directly and indirectly as well. By doing this research I aim to make the implementation of the sports strategy and projects that stimulate physical activity in the UD-FCSNE more effective. This will directly result in an improvement in the physical and mental health of the students. Obviously, before the development and introduction of measures to increase physical activity, it is necessary to conduct a mapping of the motives of the different age groups relating to sports activities. We must also examine the components of physical activity.

With my research, I wanted to answer the following questions. What characteristics can be attributed to the components of the physical activity of the students studying in the different forms of training. And what are their motives to exercise?

Based on the questions above, I formulated the following hypotheses:

Hypothesis 1: The motivational background on physical activity shows significantly different features between the groups of full-time and part-time students.

Hypothesis 2: We found a significant difference in terms of the components of physical activity between the groups of full-time and part-time students.

## MATERIAL AND METHOD

When collecting the data, I used a questionnaire method, posing the questions of internationally validated questionnaires (PALMS, IPAQ). Online questionnaires sent via the university mailing system were randomly answered by 357 students. Number of full-time students: 187, Part-time: 170; 97% of the respondents are female.

In addition to the socio-demographic data, my 28-item questionnaire gathered information about the characteristics of the physical activity of the individual, their health status, attitudes to sporting/leisure sporting. In addition to the descriptive statistics, I performed crosstab analysis, variance analysis, and non-parametric tests during the processing.

In my study, I explored the physical activity of full-time and part-time students, as well as its components. I also analysed the motivational background of exercising (health preservation, improvement of health, change of physical appearance, building/strengthening of social relationships, performance enhancement, recreation).

## RESULTS

In terms of time spent on sporting, it is a sad result that 62.5 percent of students spend less than 30 minutes per day doing sports activities. As for the form of exercising, most respondents ticked leisure sporting (68.9 percent). The high proportion of those choosing leisure sporting contradicts the data showing similar proportion of respondents who exercise less than half an hour. This means that two-thirds of the respondents either don't exercise at all or exercise insufficiently. This research also supports the hypothesis that one of the most successful ways to increase physical activity is the expansion of leisure sporting. We must achieve that considering the population's income and their motives for exercising.

I investigated the students' satisfaction with sporting facilities regarding their own residence, i.e. Hajdúböszörmény, physical education classes, and the university's extracurricular programmes. The respondents are most satisfied with PE lessons and the facilities at their own residence. They considered the facilities provided by the faculty's hometown the least insufficient. This is confirmed by my own experiences.



In the case of motivation factors for sporting, we can observe that the preservation and improvement of physical fitness shows the highest value (72.5 percent), but more than half of the respondents considered four other categories (mental state, individual development, enjoyment, physical appearance) very important motivational factors. We can also find similarities (with a different sign) regarding the expectations of others and the competition category. Those were strongly rejected by the majority of the respondents.

A question arises. Is there a significant difference in the importance of motivational factors between the students in the two forms of training? I performed a non-parameter test to answer it. According to the results of the Mann-Whitney test, there is a statistically significant difference between the two groups in three categories. These are physical appearance, individual development and mental state. Full-time students prefer the first two motives, while part-time students the third one.

In Table 2 below, I will summarize the similarities and differences between the two groups, in the context of motivation for exercising.

**Table 2 Full-time and part-time students' motivation for exercise**

Difference	Similarity
full-time: appearance/mastery	others' expectations - /competition --
part-time: psychological condition	physical condition +

Source: own work

In examining the components of physical activity, the statistically detected difference between the groups representing the two forms of training was shown in five categories. In four of these, the activity of the full-time students and, in one case, that of the part-time students is higher. The latter is primarily associated with leading a family life.

As for the two categories of sitting, the amount of sitting per weekday is explained by the routine of full-time training and the amount of sitting per weekend is most likely to have lifestyle causes.

What showed a complete match in the results of both groups, was a high level of activity related to light household chores.

It would be educating to carry out this research at faculties with different gender ratios (with either a more heterogenous or a male dominated sample).

## DISCUSSION

The existence of differences in physical activity between full-time and part-time students is verified. Furthermore, the characteristics and causes of the differences can be explored.

The Faculty must develop Physical Education and leisure sporting facilities, based on the knowledge we have gained. With respect to the experience-oriented approach, emphasis should be placed on the creation of a spiritual/mental balance, while developing locomotor skills.

In the full-time section facilities should include forms of body shaping exercise (weight control, muscle hypertrophy), introducing new methods/tools. In the part-time section the same goes for the spiritual/mental balance (relaxation techniques, yoga-based exercise, walking, hiking).

I consider it important to expand the scope of sporting facilities for part-time students, as their level of activity is lower.

I trust that after the accomplishment of a well-developed long-term strategy that takes the students' peculiarities into consideration, I can give an account of improving trends in a few years' time.

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