Institutional effects in students' health conscious behaviour

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Authors' contribution
A) Conception and design of the study
B) Acquisition of data
C) Analysis and interpretation of data
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Abstract

The aim of present study is to measure the institutional effects of higher education on students' sport activity. Sport is an important element of health behaviour; its positive impact can be perceived in individual, national and global level as well. However, the frequency of doing sport shows a decreased likelihood with age (Sallis, 1993). Social factors play an important role in sustaining health behaviour thus environment is an extrinsic motivating factor as well (Browning et al., 2015). That is why sporting habits can be influenced by higher educational institutes (Kovács, 2013; 2015). Doing sport and hiking with friends, participation in sport clubs and in a fan club as societal factors can affect students' sport activity. Analyses were made by using a database of an international survey among students of higher education institutions in the cross-border area of Hungary, Romania, Ukraine and Serbia (IESA-TESSCEE II. 2014, N=1972). We investigate the effects of competitive sport and healthcare nature attitudes towards sport, institutional integration and disintegration, the sporty campus milieu together with demographical factors for the purpose of gaining sport advantage. According to our research results the disadvantaged students and students surrounded by non-sporty faculty milieu have a higher chance to gain sport advantage.

Keywords: institutional effect, health awareness, sport advantage

Introduction[1]

Health behaviour can be defined as the sum of behaviours and attitudes which play role in the individual's health protection, damage or rollback regardless of these behavioural elements tend consciously on health (Buda, 1991; Tényi & Sümegi, 1997). Health is a balanced condition which is varying in time and can have different degree of transition into endangerment and illness. The subjective sensation of individual (sensation and awareness of health and disease) influence the different kind of pursuit of lifestyle as a motivational base. A lot of aspects can be mentioned on case of health like well-being, fitness, physical activeness, effectiveness etc. Ottawa Charter for Health Promotion of 1986 regards health not only a passive state which needs to be retained but a developable value and supposes ingredients (achievement, knowledge, fitness) which can be increased. The essence of health consciousness is active willingness (van Bree et al, 2015; Taliaferro, 2010).

The health behavioural elements and forms are influences by several factors. One factor is the age: motion forms an integral part of a life in childhood (Keresztes et al., 2003) but it shows a decrease over time (Sallis, 1993). Physical activity significantly reduces in early adulthood as huge changes are happening at this period (employment, family formation, beginning of self-contained life) (Goldscheider et al, 1993). The role of our environment (family, friends, peers, neighbours) is big on our sport habits (Browning et al, 2015). Nowadays, media (programs and commercials) tackles this issue and the effect of internet is getting more significant (Valente, 2012).

Social status is an influential factor as well; inequality can be shown in health-conscious behaviour between the different social, e.g. the prevalence of being member of groups in which people live an unhealthy lifestyle is higher among youth with low socioeconomic background and the prevalence of obesity is higher too (Daw et al., 2015).

The results of investigations on youth health behaviour are getting more worrisome: the substance use and regular sexuality begins at an earlier age and it has a broader scope (Ehrenstein, 2007; Currie et al, 2004; Barabás & Nagy, 2012), and additionally, the rate of psychosomatic symptoms is extremely high among young people (Lovell et al, 2015).

Health development is getting more attendance in higher education in our country as well. Regarding the long-term well-being of the society, the responsibility of higher educational institutions is limited not only on education of intellectuals but it plays an important role in development of health and quality of life as well. Universities and colleges mean the health-constructing area for their students and employees which is a determinant part of everyday life as well as these stages helps to reach the best possible health condition and the learn and fix the necessary patterns (Häggman-Laitila & Rekola, 2014; Steptoe et al, 2002). On this basis, the main question of our study was how the institutional effect – involving other factors- appear what kind of influence they have on students' health behaviour. In our research, we are undertaking to pick one element of health conscious behaviour namely sport as a positive behaviour and non-academic achievement index

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(Pusztai, 2004) among higher educational students from four countries. Because of reasons of space and the complexity of the theme we cannot investigate all factors in connection of healthy lifestyle. Earlier, we investigated which societal, social and environmental factors have effects on the prevalence of sport and sport habits of Hungarian and Romanian students (Kovács, 2013; 2015a) however institutional effects only peripherally took part in these researches. In this study we try to explore this question: we want to know what can do a university/college to become a student more health conscious. Health consciousness is regarded as an achievement index as the student actively makes something to protect its health with pursuing sport, reducing the risk of physical and psychological diseases like cardiovascular illnesses, diabetes, obesity, depression etc. Present study gives a plus over defining sport as achievement and health behaviour as we investigate not the factors influencing the prevalence but the factors influencing student's to pursue sport more or less (getting a surplus or lack) according to it can be expected by the socioeconomic status. Another novelty of the exploration is the involvement of societal effects inside and outside the institution beside the traditional socio-demographical factors, putting a big emphasis on the role and effects of university or college.

Our study is unique regarding the investigated geographic region. The investigation was made in a multi-ethnic and multicultural geographic region including more countries among majority and cross-broader Hungarian university students. The field of our research was the catchment area of the University of Debrecen in and outside of Hungary. The investigated area includes the Northern Great Plain region in Hungary, Partium, Central Transylvania and the Székely Area in Romania, Vojvodina in Serbia and Subcarpathia in Ukraine (Pusztai & Ceglédi 2015).

Figure 1. Countires and cities of researched institutions in the Hungarian-Ukrainian-Romanian-Serbian cross-border area

Source: Pusztai & Ceglédi (2015, pp. 9)

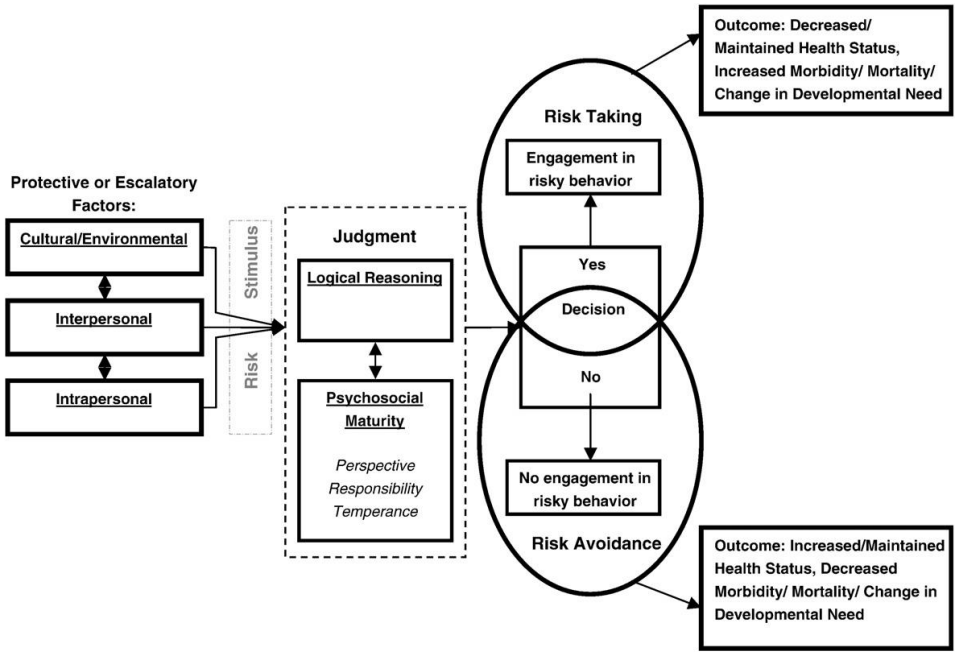
Institutional effects on health behaviour

The role of higher educational health-development is important: not only the improvement of students' and educators' heath status must be mentioned but universities also have a positive effect on the health status of the wider population with the knowledge, attitudes and skills which are acquired at this place and with the research activities of the institutions. The positive sample of the individual's institutional integration was confirmed in international higher education. The institute can support its students to the integrity difficulties to the new environment and learning burdens not to cause health-damage and to evolve a community spirit which can be supportive in later life of the student as well (Barabás, 2013; Burris et al, 2009). Beside the knowledge, as the effect of the higher educational institute can be mentioned the infrastructure of the institute, the educators and peers as the other students of the institute.

Health development was getting a tradition in the international higher education. Regarding international researches, the effect of higher education institutions on health promotion was measured for several times as in more countries (e. g. the USA) the health education has deep-rooted tradition in the level of higher education as well. Stoner et al. (2014) claimed four levels influencing health behaviour: the individual level (effects on health individually), the community level (costs and the effect of changes of individuals on the student's family and environment), the national level (economic burdens like the costs of production, transportation and human capital) and the global level (the consequences of climatic change and the following changes in biodiversity). According to this theory, the most important element of global health is the active citizenship which leads to global awareness, social responsibility and commitment. In present study the community and national level is the most important as at these fields can appear the effect of higher educational institute.

Risky behaviour is influenced by several factors. Keeler és Kaiser (2010) made an integrative model on the progress of risk-taking which can be seen in *Figure 1*. An important factor is the culture, the environment and the interpersonal relationships which come mostly from the higher educational institute as these are the components of institutional influence as well. Sport can be interpreted as a result of a decision, it is influenced by several factors thus by the institution as well while the lack of physical activity is a risk factor. On this basis, we interpret the sport prevalence and the sport advantage, the surplus as the result of decision progresses, more precisely as risk aversion. The used survey allows us to investigate the effect of the culture, environment (country, type of settlement, cultural and economic capital, otherwise interpersonal (membership of sport clubs, fa clubs inside and outside of the university, sport with friends, going on trip) and intrapersonal effects (the importance of sport, attitudes toward sport, motivational factors).

Figure 2: The integrative model of health risk behaviour



Source: Keeler & Kaiser (2010, pp. 127).

In our earlier study on sporting habits of Hungarian and Romanian students, we tried to measure the effect of some institutional factor. Visiting sport programs of the university and sport infrastructure didn't have a significant influence on sport prevalence (Kovács, 2013). In another analysis, peers' and educators' sport activity played a significant role on students' casual sport participation. It was also highlighted that the physical activity of peers reduces casual sport participation whereas knowing a university educator gives a two times bigger odd to take part in sport activity at least occasionally (Kovács, 2015b).

Methodology

Participants

In our investigation, we focused on the agglomeration of the University of Debrecen, concerning the Hungarian and cross-border institutions as students living in this area move between the different institutions of the area during their higher educational studies. These areas were the North-Great Plain in Hungary; Partium, Central Transylvania and the Székely Area in Romania; Subcarpathia in Ukraine and Vojvodina in Serbia. Our research centre[2] have been analysing the higher educational institutions in these areas for one and a half decade. Firstly, we focused on the higher educational institutions providing education in Hungarian language, however, we extended the investigation for those institutions in Transylvania, Partium and Subcarpathia which educate not in Hungarian but the prevalence of students with Hungarian mother tongue is higher (Pusztai et al 2016).

The researched institutions were the University of Debrecen (n=1062), the Debrecen Reformed Theological University (n=23), the College of Nyíregyháza (n=136) (Hungary, n=1223), the State University of Munkács (n=54), the Ferenc Rákóczi II. Transcarpathian Hungarian Institute (n=75), the University of Uzshorod (n=75) (Ukraine, n=212), the Sapientia Hungarian University of Transylvania (n=124), the University of Oradea (n=15), the Babeş-Bolyai University (n=138), Partium Christian University (n=4) (Romania, n=284) and the University of Novi Sad (Serbia, n=63).

To the analysis we used a database of a questionnaire with higher educational students from four countries (Hungary, Romania, Ukraine, Serbia) (IESA-TESSCEE II. 2014, N=1792).[2] We strived during the creation of the sampling to compare the students entering in higher education with those who will exit. Thus the population was collected among full-time, publicly funded and full-cost recovery students from these institutes.

The number of participants was created proportionately to the students' number of the institutes and faculties: on the 2nd year of BA and 2nd year of executive education 20%, on the 1st year of MA and the 4th year of executive education 50% of the sample was planned. A stratified, collective sampling procedure was used; the selected student groups got randomly into the sample thus it is representative (Pusztai et al., 2015)

A proportional sample was selected according to the different kind of institutions thus the Hungarian sample was evidently bigger compared to the cross-border samples. The planned sample growth was 2000 member but 1792 students fulfilled the tests.

Measures

We should emphasize that we used an existing database from our last survey, which aims to identify the institutional effect in several ways. So we cannot investigate all the potential fact, what can influence students' sport activity. The previously introduced models shows the several micro, macro, societal and individuals factors influence the different dimensions of health behaviour thus sport as well. In our investigation we wanted to know what kind of factors influence on the student to pursue sport more or less as it can be expected according to its social background namely why have some students sport advantage or disadvantage. We regard this as individual advantage or disadvantage of the effectiveness. We chose this kind of dependent variable because with this it can become visible that several factors have an influence beside the social background and our aim is to meet which could be these factors, furthermore what kind of role has the institute if it has.

To make the dependent variable, first we saw the parents' educational level, subjective and objective financial background and type of settlement and on the basis of these factors we made 3 clusters with cluster analysis (low [39,8% n=677], emerging students with good financial background but with having under graduated parents from rural areas [34,4% n=586] and high [25,8%, n=439] status group). At this basis we made a dependent variable called

[2] Teacher Education Students Survey in Central and Eastern Europe (TESSCEE) was carried out within the SZAKTÁRNET project (TÁMOP- 4.1.2.B.2-13/1-2013-0009) coordinated by CHERD-Hungary (Centre for Higher Education Research and Development) at the University of Debrecen.

sport advantage and disadvantage. We saw the sport prevalence of the clusters made according to the social factors (parents' educational level, subjective and objective financial background etc.) which gave us the average sport prevalence of the clusters. The most frequent sport participation was 3 or more times a week which meant 100 point, the smallest frequency was never which meant 0 point. After it we subtracted this average cluster value from the own sport prevalence (according to in which cluster the person took part) and this number gave us the dependent variable. If it was positive, it was called sport advantage, if it was negative, it was called sport disadvantage.

Macroeconomic indexes have influence on students' sport participation or on the lack of this but we cannot investigate this aspect in this study. Societal and individual factors are more important which influence the individual's behaviour and decisions in the life of campuses. These societal effects can be friends with which the student takes part in different kind of physical activity or sport clubs and fan clubs in which they are members. We suppose that because these factors the individual will pursue sport more compared with their peers from the same social status. One key question is the effect of institutional factors and others outside the institute on sport advantage. Societal effect in relation of the institute was called institutional embeddedness (pursuing sport and going on trip with university friends, sport club and fan club membership) as these effects mean stronger bonding, embeddedness, stronger relationship and trigger with higher educational institutes. On the other hand, effects out of the institute was called disintegration (pursuing sport and going on trip not with university friends, sport club and fan club membership) as these factors are thrust (Pusztai, 2011). Both variable was made with the aggregation of societal variables.

A contextual variable was made at the institutional level in linkage of forms of sport to detect the effect of the faculties as well. A principal component was made on the basis of the involvement of the sport and leisure time physical activity prevalence and variables of institutional embeddedness. The values of the principal component were transformed to a scale from 0 to 100 then we measured the differences of the faculties. The means were assigned to students from the same faculties which gave us a contextual variable at the institutional level. Faculties with more than at least 10 students were involved to the analysis thus 22 faculties or institutes were integrated (there aren't any faculties at the College of Nyíregyháza and Ferenc Rákóczi II. Transcarpathian Hungarian Institute). Determining factors of health protection in higher education are providing resources (infrastructure, sport programs, trainings, courses etc.), commitment (declaration of responsibility, leader politics, decisions) similar values of the students, educators and co-workers of the institute) in relation of health awareness but there aren't any data in the used database.

Similar to Keeler's and Kaiser's health-risk model, the positive decision namely the higher sport prevalence than it is expected according to social status could be influence by motivation as well. The participants were asked in the questionnaire why pursuing sport is important for them and according to the answers two factors were drafted: health preventive

and competitive attitude.[3] We supposed that the more important these motives are for the individual, the more likely it has sport advantage.

To investigate the effects of these factors we controlled the societal variables as social and individual explanatory variables are not independent form the social background. Relative sport advantage and disadvantage was recoded into binary variable where the surplus means one while the lack means zero. The appendix contains the factors integrated into the explanatory model, the questions and the dependent variable. The effect of explanatory variables was measured with Chi-square probe firstly then be involved them into a logistic regression model.

Results

The Transcarpathian students pursue sport the most frequently (57 points on a scale from 0 to 100) and sporty leisure time activity is the most typical for them while students from the Partium and Transylvania pursue sport the less (47,3 points). Although significant differences can be detected in the frequency of sport, these cannot be regarded as important differences: on the whole, a relatively low movement trend is typical in Hungary and in cross-border areas too namely rarer than once a week which is far from the amount which is needed to protect health effectively. The rate of athletes who pursue sport at least three times a week is the highest in Hungary (20,3%)[4] and in Transcarpathia (16,8%) and the lowest is among students from Partium and Transylvania (11,5%) and Vojvodina (11,1%).

53% of the students have relative sport advantage while 47% of them have sport disadvantage[5]. Regarding social groups, the distribution is 50,2% and 49,2% in the low layer, 51,4% and 48,6% in the middle layer and 59,1% and 40,9% in the high layer.

The mean point of the principal component of institutional and individual sporty lifestyle (aggregated frequency of the membership of university sport club and fan club, pursuing sport and going on trip with university friends, doing sport and leisure time physical activity) was 39,2 in the whole sample (0 means that it is not typical for the student, 100 means that it is fully typical). 12 faculties has a sporty milieu significantly under the mean, 10 have over the mean according to the answers of the students.

Faculty of Roman Catholic Theology of Babeş-Bolyai University (31,3 points), Faculty of Health of University of Debrecen (33,2 points) (this fairly low point is worth a special mention; after all, we are dealing with the health consciousness of students), Ferenc Kölcsey Teacher Training Institute of Debrecen Reformed Theological University (34,7 points) got the lowest points while Ferenc Rákóczi II. Transcarpathian Hungarian Institute

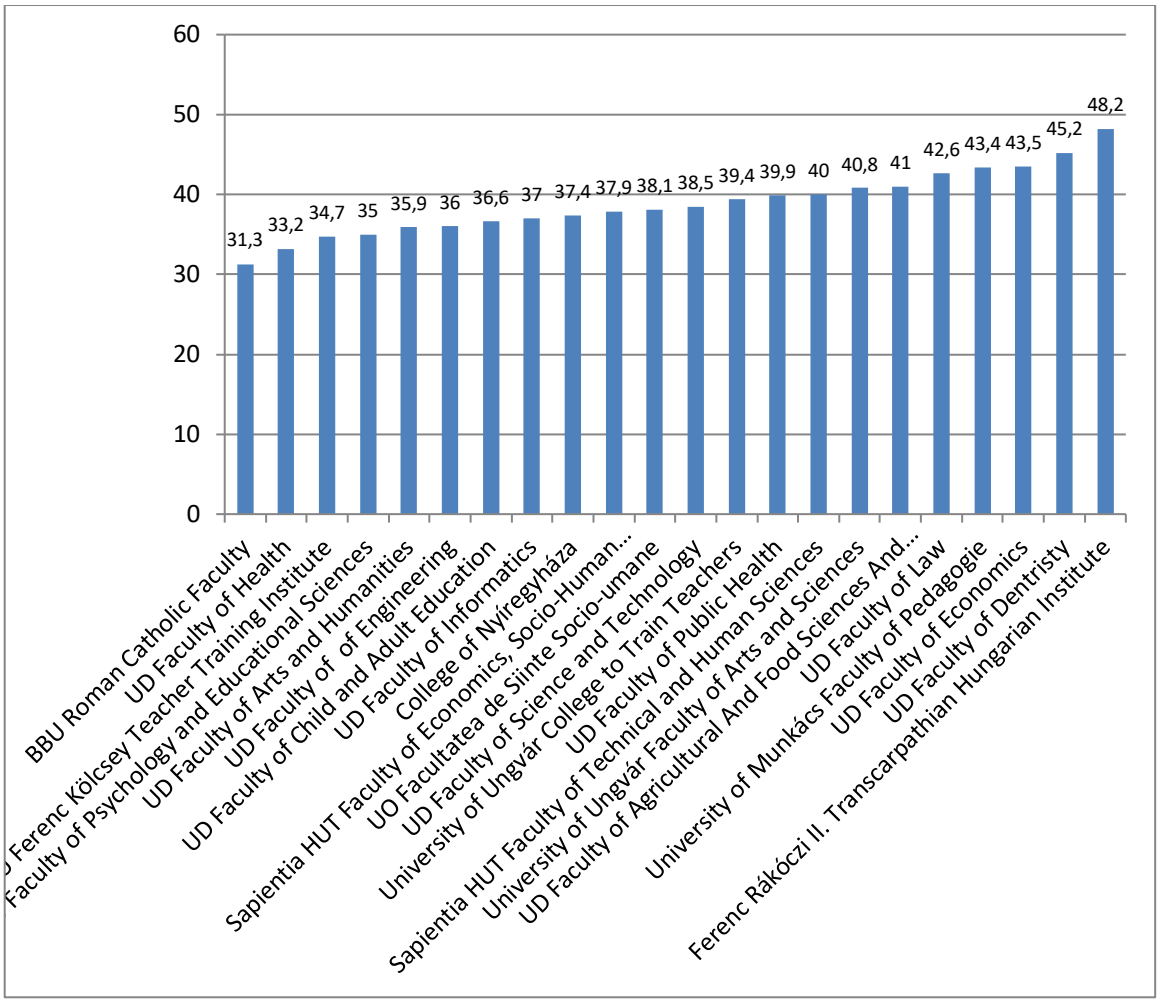
[3] Variables of health preventing attitude: because of being fit and healthy, having a good outlook, stress reduction, it causes happiness, because of the sport mates or community. Variables of competitive sport attitude: because of taking part in competitions, because of winning.

[4] The contradiction in case of Hungarian students between the frequency of sport and the rate of members pursuing sport at least once a week is that although the rate of students pursuing sport three times a week is the highest among them but the rate if inactive students is bigger too compared to the students from other institutes. Thus regarding the sport frequency of every Hungarian student, a rarer sport frequency can be detected.

[5] As the means were determined with hundredth-punctually, nobody got into the average category.

(48,2 points), Faculty of Dentistry of University of Debrecen (45,2 points) and Faculty of Agriculture of University of Debrecen (43,5 points) got the highest points.

Figure 3: The differences between faculties regarding the principal components of activities in connection with institutional and individual of sport (points on a scale from 0 to 100)



Source: TESCEE II. 2015 (N=1657)

Regarding the factors of institutional embeddedness only sport club membership has significant effect: we can see that only one third of sport club members (29%, n=20) have sport advantage which means a negative connection. No meaningful conclusion could be drawn from this result as the rate of the members of university sport clubs is really low. Similarly, in case of the factors of low institutional integrity of students can be seen that the rate of those who have sport advantage is lower among members of sport clubs (20,2%, n=34) or fan clubs (34,2%, n=27) out of the university and among those who go on sport events with friends out of the university (38,5%, n=131). There are more students having sporty relations

out of the institute who pursue sport less than it can be expected according to the social background.

Regarding heath preventive behaviour, it can be seen that in the relative sport advantage group are more students having this attitude below the mean (68,8%, n=364).

Sporty activities (running, swimming, walking, bicycling, sports games) are individual variables but they were involved into multi-variant analyses as the part of contextual variables of the faculties. In accordance of previous results it can be seen that only one third (31,7%, n= 231) of those students whose sport preferences are over the average have sport advantage. Results show that students who pursue sport in individual or societal context are more likely to have sport disadvantage.

Regarding gender and countries, significant differences can be detected: there are more women (50,5%, n= 582) among those who have sport advantage and the rate is higher in case of Romanian students (55,6%, n=148) in this group. The explanation of the connexion is that pursuing sport is a more preferred activity for men thus women doing regular physical activity have higher odds to get into the group of students with relative sport advantage. The Romanian students have more likely sport advantage while the Hungarian have more likely sport disadvantage (54,5%, n= 88) (Table 1). The effect of the other traditional socioeconomic societal variables was not measured as these were taken into account in the dependent variable.

Table 1: Students' rate in sport advantage and sport disadvantage groups according to institutional integrity, disintegration and demographical factors (row percent)

		Relative sport disadvantage	**Relative sport advantage**	**N**
University sport club membership	**Not a member**	52,10%	47,9%*	1609
	Member	71%*	29%	
University fan club membership	**Not a member**	52,90%	47,10%	1609
	Member	56,10%	43,90%	
Go to sport events with friends from university	**No**	53,50%	46,50%	1609
	Yes	49,30%	50,70%	
Go on trip with friends from university	**No**	53,10%	46,90%	1609
	Yes	51,90%	48,10%	
Sport club membership out of university	**Not a member**	49,80%	50,2%*	1609
	Member	79,8%*	20,20%	
Fan club membership out of university	**Not a member**	52,30%	47,7%*	1609
	Member	65,8%*	34,20%	
Go on sport events not with university friends	**No**	50,70%	49,30%*	1609
	Yes	61,50%*	38,50%	
Go on trip not with university friends	**No**	54,20%	48,50%	1609
	Yes	50,10%	49,90%	

Leisure time sport participation	**Below the mean**	39,40%	60,60%*	1579
	Over the mean	68,30%*	31,70%	
Health preventive sport attitude	**Below the mean**	31,20%	68,80%*	1609
	Over the mean	63,60%*	36,40%	
Competitive sport attitude	**Below the mean**	73,70%*	26,30%	1609
	Over the mean	48,30%	51,70%*	
Gender	**Woman**	49,50%	50,50%*	1569
	Man	61,10%*	38,90%	
Country	**Hungary**	54,60%*	48,40%	1603
	Romania	44,40%	55,60%*	
	Ukraine	55,60%	44,40%	
	Serbia	49,20%	50,80%	

*Source: IESA-TESSCEE II. 2014. Remark: *p≤0,05. Underlined values means higher number of person in those cells of the table than it could have been expected.*

Logistic regression analysis were made for cumulative assessment of the single connections to measure which institutional, outside the institute and demographical factors make having sport advantage more likely. The method is appropriate not only to test to measure the social factors' effect on a controlled way but to meet the direction of the effect as well. The results of the analysis show that factors of meso-level (institutional embeddedness and disintegration) have not a significant effect.

However, the aggregates in connection of sport in linkage of faculties had significant influence in the first (ExpB= ,949, p≤0,001) and second (ExpB= ,956, p≤0,01) model: the more likely is the sporty atmosphere for the faculty (sport with friends, going on trip, membership of university sport clubs, fan clubs, regular physical activity of the peers in competitive style or as a leisure time activity), the lower odd to surpass the average physical activity. The two individual factors have the biggest effect but these show a different direction then previously could be detected. Firstly it can be said that the less important is the health protective attitude for the student, the more likely is to have relative sport advantage (ExpB= ,255, p≤0,001). On the other hand, students who have competitive sport attitude over the mean have two times bigger chance to have sport advantage (ExpB=2,050, p≤0,01). Students with better subjectively measured financial status and coming from towns or cities have lover chance to get sport advantage (ExpB= ,701 and ,758, p≤0,05).

The regression coefficients can be seen in Table 2.

Table 2: Institutional, social, demographical and societal factors influencing relative sport advantage (coefficients of logistical regression)

	1. model (ExpB)	2. model (ExpB)	3. model (ExpB)
Institutional embeddedness	1,127	1,130	1,141
Institutional disintegration	,841	,906	,926
Aggregates in connection of sport in linkage of faculties	,949***	,956**	,984
Health preventive attitude		,272***	,255***
Competitive sport attitude		2,227***	2,050**
Gender			,675
Country (HU)			,790
Country (RO)			1,246
Country(UA)			,545
Father's educational level			1,007
Mother's educational level			,985
Objective financial situation			,863
Subjective financial situation			,701*
Type of settlement at the age of 14			,758*
Constant	7,758***	6,933**	5,311
-2LL % reduction	0,76%	9,21%	3,06%

*Source: IESA-TESSCEE II. 2014. Remark: *p≤0,05, **p≤0,01, ***p≤0,001. Integrated factors into the model: Institutional embeddedness, disintegration, health preventive attitude, competitive sport attitude (over the mean 1, under the mean 0), Aggregates in connection of sport in linkage of faculties (scale), gender (male 1, female 0), countries (coded separately HU, UA, RO 1, others 0, reference group is Serbia), father's and mother's educational level in classes, type of settlement (1 city/town, 0 country), objective and subjective financial situation (1 over the mean, 0 under the mean).*

Discussion

We can see that effects out of the institute reduce the sport prevalence firstly; peers effects are such a trigger that the student pursues sport more rarely than its peers with similar social status. The reason can be that students meet people with norms, social background and values different form their own or the university milieu more likely in a non-university

context and this difference can be seen in the attitudes and prevalence of sport as well. Pusztai (2011) got the result that the student orientated to the milieu where it lives day by day thus if this societal area mediates not appropriate norms (e. g. it is more accepter with cheating, ambushing etc.), it behaves similarly as well. It can be seen in relation of this topic that if rarer exercising is typical in the student's societal area, its sporting habits orients to this too.

Although students know the indispensable role of sport in health protection well, this is not enough to do physical activity regularly and to surpass the prevalence of peers with similar social status from the universities and colleges (Kovács, 2013b). However, competitive sport attitude certainly has a positive effect: pursuing sport because of the importance of competitions and winning is typical firstly for competitive athletes as this can be important only if they can measure themselves in achievement situations. Preparing for competitions need hard, regular and persistent work which requires more exercise and more frequent sport from the person as it can be expected regarding its social status.

In the background of logistic regression results can stand the fact that in those faculties where sport participation and programs in connection of this is relevant part of community life (like doing sport with peers, sport clubs etc.) is more difficult to emerge from the peers with doing sport over the average (Kovács, 2015b; Haase et al, 2004). Regarding the connexion inversely, it can be seen that students from faculties which are not so sporty have higher odd to get into the students with sport advantage; when they pursue sport or take part in sporty activities or programs more regularly compared with their peers on the same faculty, it helps them in getting into those who surpass the mean. But it also can be seen that these effects are not independent from social background as involving traditional variables the influence of contextual variable of faculty disappears. This indicated that the connection exists only in case of faculties with homogeneous social background: in some faculties there are mostly students with high social status while in others the prevalence of disadvantaged students is higher. This determines what kind of sporty atmosphere evolves in the faculty. When the faculty has students with heterogeneous social background, the contextual effect in relation of sport cannot prevail.

In case of health protective attitude, in the background can stand that the health protective effect of sport is well-known as different types of media, preventive programs of schools, universities and others contribute to widely meet the positive effects of sport (Haase et al, 2004). Those students, who this is not so important for, but pursue regularly sport get sport advantage in comparison with students for who the health protective function of sport of well-known and important. Regarding competitive sport attitude the same can be seen as in two-variable analyses: taking part in competitions and achieving the best needs serious and regular work, exercise which correlates with higher sport frequency and overtypes the amount of physical activity which can be supposed according to the social background.

Regarding demographical factors, gender has significant effect as men have lower chance to get into the group with sport advantage. They already pursue sport more than women (Haase et al, 2004, Steptoe et al, 2002 etc.) thus if a woman does some kind of regular physical activity, her odds to get effectiveness advantage increases. Therefore it can be seen

that institutional and societal factors don't have a significant effect with the control of traditional socioeconomic variables whereas students with relatively more disadvantageous background have bigger chance to do sport more frequent – except the competitive sport attitude - in comparison with their peers from similar social status namely women, rural students, students with health protecting motivation and subjective financial status below the mean. In converse, it also can be seen that students with better social background have higher chance to have sport disadvantage which is a serious warning for the institutions. Students in higher social status are at increased risk of health-risk behaviour; therefore, they have bigger chance to pursue sport less or to be inactive.

Conclusions

In present study we measured the influence of inter- and intrapersonal, institutional, social and cultural factors on pursuing sport more or less than it is expected according to the social background. Particular attention was paid to effects of the institute and out of the institute. We supposed that universities/colleges play an important role in health awareness as their importance in health development is incontestable. Institutional effect was measured by doing sport and going on trip with university friends and membership of sport club and fun club.

Two-variable analyses show that pursuing sport with university friends and societal effects out of the university decrease the sporty activities more frequent than it's expected. When a student get into an institutional societal community or more likely into a community out of the university which has a different value, leisure-time preferences, outlook on life and health behaviour than it is general in its social class (e. g. it prefers fewer sporty activity), it will orientate to this trend and will do physical activity fewer.

However, the effect of interpersonal variables disappeared during the logistic regression analysis but attitudes in connection with sport as intrapersonal, individual factors have serious influence: the more important the competition is and the less important the health protection is the higher likelihood of having sport advantage. Before involving the social factors, the individual factors had significant influence on aggregates in connection of sport in linkage of faculties as students from sporty milieu have lower chance to pursue sport over the mean. An important novelty is in contrast of previous results, students who perceive their financial status worse, those from the country and those in less sporty milieu have higher chance to have sport advantage than it can be expected whereas it is more difficult to boost the advantage as a student with higher social status and in more sporty institutional milieu while it seems that they get easier into the disadvantageous group. In the background can stand the fact that it is hard to surpass the mean as students from higher social status and from sportier milieu pursue sport more frequent whereas it is easier for the underperforming students to get sport advantage. This also can be explained by the fact that students with higher social status study on such faculties where they have to meet high and hard requirements day by day and because of this they don't pursue so much sport which could be predicted according to their status. This is risky because the stress caused by pressure of achievement could be reduced by sport. The analysis points out that those students who aware

the importance of health protection are not able to turn this knowledge on activity. These results are recommended for the sport management of the institutions which is advocated in the organisation of different sport events and preventive programs.

A limit of our research is that we could not meet the institutional effects in more dimensions thus in further researches it is necessary to investigate the usage of institutional sport infrastructure, the participation in sport and preventive programs and the effects of these. Anyhow, bigger emphasis needs to be put on the effect of compulsory physical education and on the investigation of courses which contribute to the health development of the students. Beside the students, the effect of other people's (e. g. lecturers) physical activity needs to be involved. The differences of the sport habits between students from higher and secondary education establishment separately must be investigated to grab the change between the two level[5]

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