

A study on the amount of time students from the University of Bucharest allocate for sporting activities

Studiu privind bugetul de timp al studenților Universității din București alocat activităților motrice de timp liber

Remus Dumitrescu, Daniela Aducovschi

Department of Physical Education and Sport, The University of Bucharest

Abstract

Background. The advancement of technology has determined a drastic change in the lifestyle of humans. The public have become more alert to the effect of an incorrect and disorganized alimentation. A sedentary lifestyle has been determined generally by an inappropriate education and by the temptations of modern technology (access to internet at home, different gadgets etc.). Knowing that the study program of the students is usually very full, we presumed that their free time is fairly limited arbitrarily by social circumstances and by the standard of living.

Aims. The study aimed to determine the amount of free time that the students of the University of Bucharest have, their principal activities and the importance of physical and sporting activities among them.

Methods. The method of the questionnaire. The questionnaire was answered by 2 groups of students: 110 from the Faculty of Physics, and 110 from the other 17 faculties of the University of Bucharest. The tasks of the study were as follows: the development of the questionnaire, the application of the questionnaire, the processing of data, and the wording of the work.

Results. The reasons of those who do not do sports in their free time is mostly because of the lack of time, the convenience of the facilities and social circumstances.

Conclusions. From the processed data, it is clear that the students who completed the questionnaire and who do sporting activities in their free time prefer to relax on their own or in a group. This suggests a lack of viable and attractive facilities with an organized infrastructure at an institutional or local administration level, or not being encouraged by their academic staff.

Keywords: students, budget of time, independent physical activity.

Rezumat

Premize. Avansul tehnologiei a dus la schimbarea dramatică a stilului de viață al oamenilor. Ritmul din ce în ce mai alert al activităților cotidiene are drept efect o alimentație incorectă și dezorganizată. La polul opus se află sedentarismul, determinat în general de o educație necorespunzătoare și de tentațiile tehnologiei moderne (accesul la internet acasă/camin, diferite gadgeturi etc.). Știind că programul de studiu al studenților este destul de aglomerat, am presupus că aceștia au totuși timp liber, dar destul de limitat în mod arbitrar de conjunctura socială și nivelul de trai.

Obiective. Studiul de față și-a propus să determine bugetul de timp liber al studenților Universității din București, a principalelor activități recreative preferate și ce pondere au activitățile fizice și sportive în rândul acestora, ținând cont de locația facultăților.

Metode. Metoda anchetei pe bază de chestionar. Experimentul s-a realizat pe două loturi reprezentative de studenți: 110 din Facultatea de Fizică și 110 din celelalte 17 facultăți ale Universității din București. Sarcinile cercetării au presupus: elaborarea chestionarului, aplicarea chestionarului, prelucrarea datelor, redactarea lucrării.

Rezultate. Motivația celor care nu fac sport în timpul liber se leagă în mare măsură de lipsa timpului, de comoditate, dar și de conjunctura socială.

Concluzii. Din datele prelucrate reiese că subiecții chestionați care practică activități sportive în timpul liber preferă să se relaxeze pe cont propriu, singuri sau în grup. Aceasta sugerează lipsa unor oferte viabile și atractive într-un cadru organizat la nivel instituțional, al administrațiilor locale sau încurajării inițiativelor cadrelor didactice.

Cuvinte cheie: studenți, bugetul de timp, activitate fizică independentă.

Received: 2014, June 30; *Accepted for publication:* 2014, August 5;

Address for correspondence: University of Bucharest, Department of Physical Education and Sport. M. Kogălniceanu Av. No. 36-46, Sector 5, Bucharest

E-mail: remusdumitrescu@yahoo.com

Introduction

Nowadays society can be characterized by high work rhythms, which induce pressure that is sometimes difficult to counter by individuals who are incapable of adapting to these. The pressure imposed by time leads to the notion of time budget. Just like any other budget, this involves in principle a limited resource, which must be stingily managed (Bota, 2006).

“Compared to other leisure activities, sports leisure supposes an intense and sustained physical effort, even though it is not to be confounded with high performance sport activity. This represents an intermediate stage between a relaxed walk and sport in the traditional meaning...” (Stoicoviciu et al., 2012).

The aptitudes, knowledge and know-how necessary for independent sport activities are learnt during methodology and practice lessons. Then, the former are honed and developed through subjects approached in physical education classes and during leisure activities. Thus, the level, quantity and quality of the leisure activity stem from the quantity and quality of the educational-instructive matter amassed during physical education classes (Ganciu et al., 2010).

It is significant and specific that the necessity of social intervention in the individual evolution is something that society is aware of, and its achievement is organized, controlled in specific ways, depending on the degree and characteristics of each society's emancipation (Dumitrescu, 2013).

Many factors influence lifestyle considerably: motivation, ability and prior knowledge, home environment, teachers' expectations, media, personality and professional characteristics of teachers (Mirzajani et al., 2014).

Motivation for physical activity is not observed directly, but it can be inferred from one's behavior (Badri, 2002). However, according to social psychology, in addition to its individual layout, academic motivation has a broad social dimension, such as the environment, surroundings, parents, teachers, certain individuals and groups with which students can communicate in inducing the development and strengthening of academic motivation (Mirkazemi, 2003).

Yukseloglu & Karaguvan (2013) studied academic motivation, aiming to identify the factors of efficiency in a group of students. The results showed that the group with common demographic characteristics and common majors had a higher efficiency on academic motivation. In turn, Haron et al. (2012) studied the effect on motivation and understanding and intellectual performance among students.

Onete et al. (2012) examined the relationship between academic motivation in the first year of training and the efficiency of education. Di Serio et al. (2013) identified four motivational aspects: trust, satisfaction, attention, and relevance.

Filsecker & Hickey (2014) investigated motivation among students, studies indicating a negative significance of reward methods that could be addressed in this new era of educational environments. According to Williams & Williams (2011), the five key factors that influence student motivation are content, environment, student, process / method and teacher.

Students spend a lot of time at home and their behavior and actions are greatly influenced by parents. The education level of the parents plays an important role in the successful education of young people. The results found by Krug (1989) and Forsyth & McMillan (1991) showed that academic factors are equally effective in motivating the students' academic orientation.

Hypothesis

Our students have a busy academic schedule, so we supposed that the spare time they have is mostly limited by education, social circumstances and the standard of living, but their interests include physical activities and sports.

Material and methods

We mention that according to the Helsinki Declaration, Amsterdam Protocol and Directive 86/609/EEC, the approval of the Ethics Commission of the Department of Physical Education and Sport of the University of Bucharest regarding research on human subjects was obtained and also, the subjects' consent for their personal participation in the research.

Research protocol

a) *Period and place of the research*

The experiment was carried out during the academic year 2012-2013, and included two representative groups of students of the University of Bucharest.

b) *Subjects and groups*

- a group of 110 students in the 1st and 2nd year at the Physics University of Măgurele city, carrying out lessons of physical education and sport in the Măgurele sports facility – a multifunctional gym, a fitness gym, a soccer field – for 210 students.

- a group of 110 students in the 1st and 2nd year at the other 17 universities of UB, carrying out lessons of physical education in sport facilities in Bucharest – 4 gymnasiums, 3 tennis fields, 2 soccer fields, a multifunctional field – for 2189 students.

c) *Tests applied*

A questionnaire on the time students of the University of Bucharest spent with leisure activities. A questionnaire-based survey. The questionnaire was designed by the authors, with a total of 10 items, responses were closed, single or multiple.

d) *Statistical processing*

Statistical and mathematical method. Data were processed with Excel 2003, SPSS.v17, MINITAB.v16.

The study was motivated by the observation that in the University of Bucharest, students may not have a very great desire to practice physical activities in physical education classes. The range of disciplines is very wide, but they are increasingly less present in many sports activities. The curriculum requires a lot of work throughout the week and the students' answer was systematically the same “no time”.

Two groups were investigated in totally different conditions:

- the group from Bucharest with multiple possibilities of spending the spare time and diverse options for sports;
- the group from Măgurele, isolated (10 km away from Bucharest), with limited options in general and concerning

sports.

By investigating the two groups with different situations, we wanted to discover the reasons of each group and to see if they coincided. By finding out each group's problems, we tried to identify solutions that we could use in order to determine more and more students to come to physical education classes and to practice sports in their spare time.

Table I
Questionnaire on the budget of time students of the University of Bucharest spent with leisure activities.

| No. | Items |
|-----|---------------------------------------------------------------------------------------------------------------------------------------|
| 1 | How much available time do you have? |
| 2 | What type of activities do you prefer? |
| 3 | Do you practice sports activities in your free time? |
| 4 | How many times a week do you workout in your free time? |
| 5 | What type of sports do you prefer? |
| 6 | In which setting do you prefer to practice sports? |
| 7 | If you do not workout in your free time, motivate why? |
| 8 | Do you have in the vicinity of the current activities location, spaces specially designed to carry out free time sporting activities? |
| 9 | Which are the reasons that determine you to practice sports activities? |
| 10 | Which are the reasons that determine you not to practice sports activities? |

Results

1) How much time do you have available?

| Chi-Square Tests | Value |
|---------------------------|-------|
| Pearson Chi-Square | 0.221 |
| df | 3 |
| P (Asymp. Sig. (2-sided)) | 0.974 |
| Phi Cramer's V | 0.04 |

Between the two groups, there are no significant differences concerning the answers to question I1, significance threshold P (Asymp. Sig. (2-sided)) = 0.974 > 0.05, for a Chi-Square value = 0.221 and df (degrees of freedom) = 3. The size of the effect calculated with the phi Cramer coefficient = 0.04, according to Cohen, suggests a very weak association between the two groups when it comes to the answers to question I1.

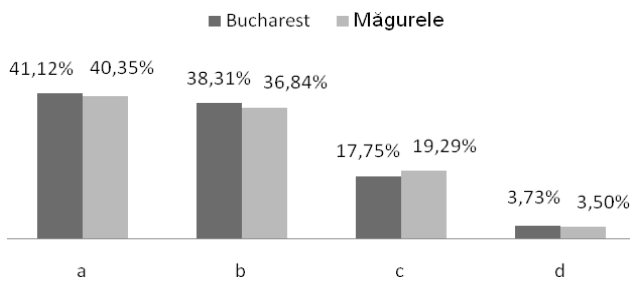


Fig. 1 – Free time.

2) What type of activities do you prefer?

| Chi-Square Tests | Value |
|---------------------------|-------|
| Pearson Chi-Square | 4.603 |
| df | 6 |
| P (Asymp. Sig. (2-sided)) | 0.596 |
| Phi Cramer's V | 0.11 |

Between the two groups of students, there are no significant differences concerning the answers to question

I2, significance threshold $P = 0.596 > 0.05$, for a Chi-Square value = 4.603 and df (degrees of freedom) = 6. The size of the effect calculated with the phi Cramer coefficient = 0.11, according to Cohen, suggests a weak association between the two groups when it comes to the answers to question I2.

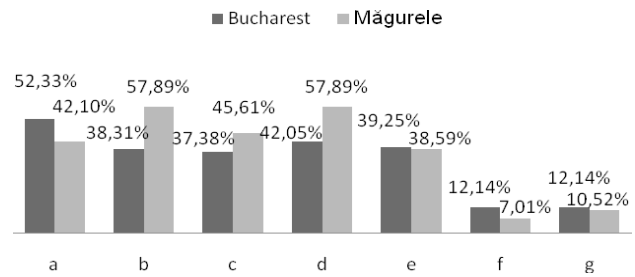


Fig. 2 – Preferences.

3) Do you practice sports activities in your free time?

| Chi-Square Tests | Value |
|---------------------------|-------|
| Pearson Chi-Square | 0.094 |
| df | 1 |
| P (Asymp. Sig. (2-sided)) | 0.759 |
| Phi Cramer's V | 0.02 |

Between the two groups, there are no significant differences concerning the answers to question I3, significance threshold $P = 0.759 > 0.05$, for a Chi-Square value = 0.094 and df (degrees of freedom) = 1. The size of the effect calculated with the phi Cramer coefficient = 0.02, according to Cohen, suggests a very weak association between the two groups when it comes to the answers to question I3.

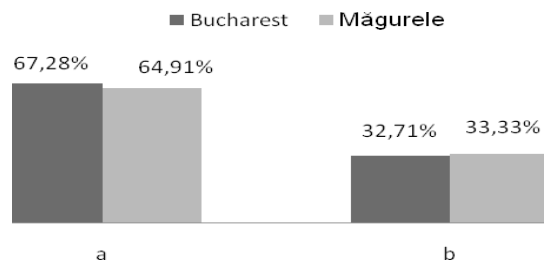


Fig. 3 – Free time sports.

4) How many times a week do you workout in your free time?

| Chi-Square Tests | Value |
|---------------------------|-------|
| Pearson Chi-Square | Value |
| df | 3.548 |
| P (Asymp. Sig. (2-sided)) | 4 |
| Phi Cramer's V | 0.471 |

Between the two groups, there are no significant differences concerning the answers to question I4, significance threshold $P = 0.471 > 0.05$, for a Chi-Square value = 3.548 and df (degrees of freedom) = 4. The size of the effect calculated with the phi Cramer coefficient = 0.15, according to Cohen, suggests a weak or medium association between the two groups when it comes to the answers to question I4.

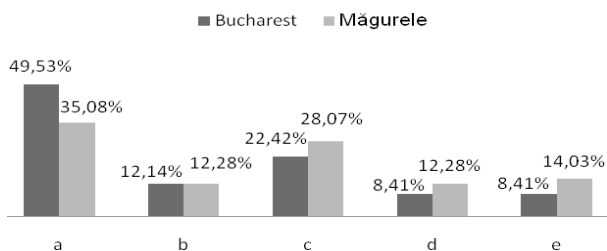


Fig. 4 – Frequency.

5) What type of sports do you prefer?

| Chi-Square Tests | Value |
|---------------------------|--------|
| Pearson Chi-Square | 11.877 |
| df | 7 |
| P (Asymp. Sig. (2-sided)) | 0.105 |
| Phi Cramer's V | 0.19 |

Between the two groups, there are no significant differences concerning the answers to question I5, significance threshold $P = 0.105 > 0.05$, for a Chi-Square value = 11.877 and df (degrees of freedom) = 7. The size of the effect calculated with the phi Cramer coefficient = 0.19, according to Cohen, suggests a weak or medium association between the two groups when it comes to the answers to question I5.

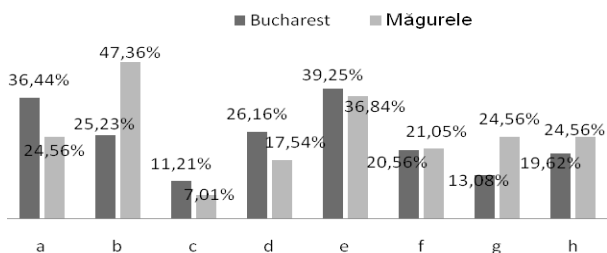


Fig. 5 – Sports.

6) In wich setting do you prefer to practice sports?

| Chi-Square Tests | Value |
|---------------------------|-------|
| Pearson Chi-Square | 2.056 |
| df | 2 |
| P (Asymp. Sig. (2-sided)) | 0.358 |
| Phi Cramer's V | 0.10 |

Between the two groups, there are no significant differences concerning the answers to question I6, significance threshold $P = 0.358 > 0.05$, for a Chi-Square value = 2.056 and df (degrees of freedom) = 2. The size of the effect calculated with the phi Cramer coefficient = 0.10, according to Cohen, suggests a weak association between the two groups when it comes to the answers to question I6.

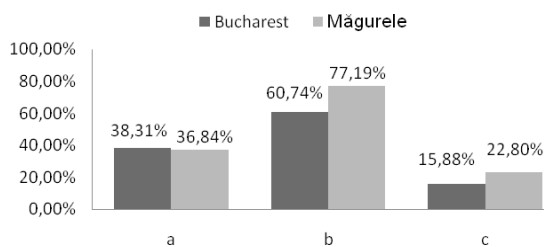


Fig. 6 – Where/with whom?

7) If you do not workout in your free time, motivate why?

| Chi-Square Tests | Value |
|---------------------------|-------|
| Pearson Chi-Square | 5.240 |
| df | 4 |
| P (Asymp. Sig. (2-sided)) | 0.264 |
| Phi Cramer's V | 0.21 |

Between the two groups, there are no significant differences concerning the answers to question I7, significance threshold $P = 0.264 > 0.05$, for a Chi-Square value = 5.240 and df (degrees of freedom) = 4. The size of the effect calculated with the phi Cramer coefficient = 0.21, according to Cohen, suggests a weak association between the two groups when it comes to the answers to question I7.

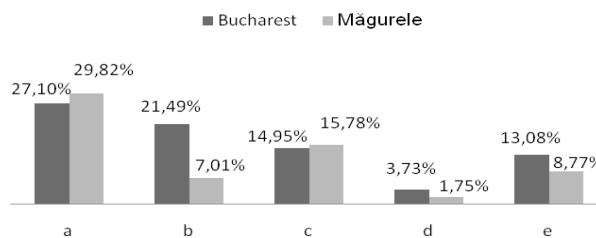


Fig. 7 – Why not?

8) Do you have in the vicinity of the current activities location, spaces specially designed to carry out free time sporting activities ?

| Chi-Square Tests | Value |
|---------------------------|-------|
| Pearson Chi-Square | 2.472 |
| df | 1 |
| P (Asymp. Sig. (2-sided)) | 0.116 |
| Phi Cramer's V | 0.12 |

Between the two groups, there are no significant differences concerning the answers to question I8, significance threshold $P = 0.116 > 0.05$, for a Chi-Square value = 2.472 and df (degrees of freedom) = 1. The size of the effect calculated with the phi Cramer coefficient = 0.12, according to Cohen, suggests a weak association between the two groups when it comes to the answers to question I8.

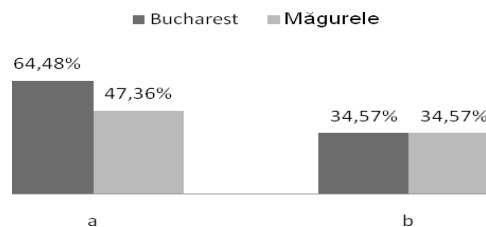


Fig. 8 – Opportunities.

9) Which are the reasons that determine you to practice sports activities?

| Chi-Square Tests | Value |
|---------------------------|-------|
| Pearson Chi-Square | 3.192 |
| df | 4 |
| P (Asymp. Sig. (2-sided)) | 0.526 |
| Phi Cramer's V | 0.14 |

Between the two groups, there are no significant differences concerning the answers to question I9, significance threshold $P = 0.526 > 0.05$, for a Chi-Square value = 3.192 and df (degrees of freedom) = 4. The size of the effect calculated with the phi Cramer coefficient = 0.14, according to Cohen, suggests a weak association between the two groups when it comes to the answers to question I9.

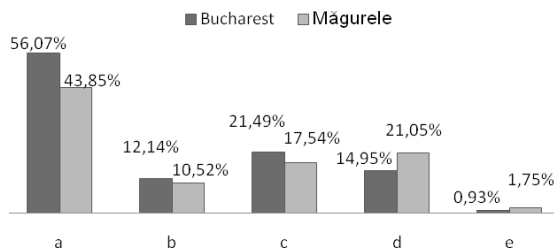


Fig. 9 – "Pro" sport reasons.

10) Which are the reasons that determine you not to practice sports activities?

| Chi-Square Tests | Value |
|---------------------------|-------|
| Pearson Chi-Square | 8.963 |
| df | 4 |
| P (Asymp. Sig. (2-sided)) | 0.062 |
| Phi Cramer's V | 0.26 |

Between the two groups, there are no significant differences concerning the answers to question I10, significance threshold $P = 0.062 > 0.05$, for a Chi-Square value = 8.963 and df (degrees of freedom) = 4. The size of the effect calculated with the phi Cramer coefficient = 0.26, according to Cohen, suggests a medium association between the two groups when it comes to the answers to question I10.

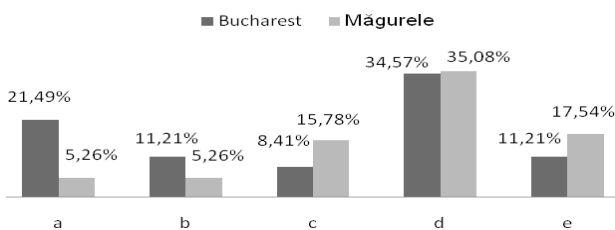


Fig. 10 – Inconveniences.

Comparative statistical analysis between the two experimental groups

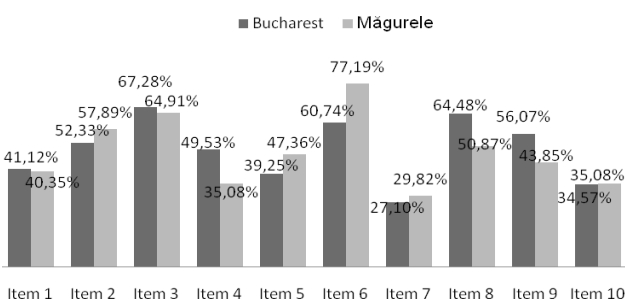


Fig. 11 – Dominant option in the two experimental groups for each item.

Discussions

All the items reveal no significant differences between the two groups, significance threshold $P = 0.000 > 0.05$.

Free time. The question "How much time do you have available?", was most frequently answered by the students from Bucharest "between 3-4 hours per day", 41.12%, followed by the answer "between 1-2 hours per day", 38.31%. A percentage of 17.75% answered that they had "more than 4 hours per day" of spare time. Also, we identified a very small percentage of 3.73% who declared that they had no spare time.

At the Faculty of Physics from Măgurele (Magurele Campus), the answers highlighted that 40.35% of the students had "between 3-4 hours per day" free time, 36.84% "between 1-2 hours per day", 19.29% "more than 4 hours per day" and 3.50% had "no spare time".

Summed up, the two answers (a and b) from each sample cover 77% of the responses, which allows us to observe that most of the participants had spare time between 1 and 4 hours per day.

Preference. Regarding the question "What type of leisure activities do you prefer?", there were more answers than cases due to the possibility of multiple answers (up to 6).

According to the percentage distribution: 52.33% preferred spending time in front of the TV/computer, 42.05% opted for nature recreation, 39.25% preferred reading, 38.31% preferred physical activities, 37.38% chose to go to movies/plays/concerts, 12.14% opted for going to clubs or other. The top preference confirms a sedentary trend.

Regarding the Măgurele Campus, 57.89% of the students preferred physical activities, close to those choosing nature recreation. These were followed by those going to movies/plays/concerts, 45.61%, while the proportion of TV/computer users was 42.10%, and of those who preferred reading was 38.59%. Only 7.01% opted for going to clubs! 10.52% were represented by other options, showing an interest in other activities.

Free time sports. The question "Do you practice sports activities in your free time?" was answered by 67.28% of the students from Bucharest with "yes" and by 32.71% with "no". This suggests that in spite of the low time budget, most of the students were aware of the necessity of physical exercise for a healthy lifestyle. 64.91% of the students from Măgurele answered "yes" and 33.33% admitted that they did not exercise.

Frequency. The most common answer to the question "How many times a week do you workout in your free time?" when it came to the students from Bucharest was "occasionally", 49.53% of them choosing this answer, while 22.42% chose "twice a week" and 12.14% "once a week". The last two options, "three times" and "more than three times" were chosen by 8.41% of the participants.

At Măgurele, 35.08% of the participants answered "occasionally", 28.07% "twice a week", 14.03% "more than three times a week", 12.28% "once a week" and 12.28% "three times a week".

Sports. The question "What sports do you prefer?" was most frequently answered by the students in Bucharest

with “jogging”, 32.25%, followed by “aerobics/fitness/bodybuilding”, 36.44%; 26.16% preferred skateboard/skating/cycling, 25.23% preferred team sports, 20.56% enjoyed swimming, 19.62% chose “other”, 13.08% liked tennis and 11.21% chose ice-skating/snowboard/skiing, which indicates a large variety of the students’ options.

In Măgurele, the first preference was team sports chosen by 47.36%, followed by jogging, 36.84%, aerobics/fitness/bodybuilding, tennis and “other” chosen by 24.56%, skateboard/skating/cycling, 17.54%, and winter sports ice-skating/snowboard/ski chosen by just 7.01%. The students’ opinions were diversified but, unfortunately, their financial situation did not allow them to really act on their preferences.

Where/with whom? For the question “In which setting do you prefer to practice sports?” we noticed that the participants from Bucharest mostly chose the option “in social groups”, 60.74%, followed by “independent”, 38.31%, and “in an organized way at a gym or a sports club”, chosen by 15.88%.

In Măgurele, 77.19% of the students preferred to practice sports “in social groups”, 36.84% chose “independent” and 22.80% liked to practice sports “in an organized way at a gym or a sports club”.

Why not? The most frequent answer to the question “Why don’t you workout in your free time?” when it came to the students from Bucharest was “I don’t have enough time” chosen by 27.10% of them, followed by “convenience”, 21.49%, “I don’t have where/with whom” by 14.95%, “other” by 13.08% and “I’m not interested” chosen by 3.73%.

The students from Măgurele answered with “I don’t have enough time”, 29.82%, “I don’t have where/with whom”, 15.78%, “other”, 8.77%, followed by “convenience”, 7.01% and “I’m not interested”, 1.75%.

Opportunities. The answers to this question were full of eloquence regarding the lack of concern of local authorities to create specially designated places for leisure activities.

Of the Măgurele campus respondents, 50.87% reported they had a nearby location to which they could go for physical leisure activities, while 47.36% said they did not. In the Bucharest campus, 64.48% answered they had such a space close by, while 34.57% said they did not.

„Pro” sport reasons. The answers for the Bucharest campus were as follows: a significant percent of 56.07 students were motivated by education received in the family, 21.49% believed that variety was stimulating, 14.95% had the advantage of a close location to a sport facility, 12.14% considered the sport facility to be satisfactory. Only 0.93% believed that local authorities had done their job sufficiently in promoting physical activities.

The Măgurele campus was represented by 43.85% of students who were motivated by education received in the family, 21.05% had the advantage of a close location to a sport facility, 17.54% found variety stimulating, 10.52% believed the sport facility was satisfactory, while only 1.75% believed that local authorities had done their job sufficiently in promoting physical activities.

Inconveniences. Those who do not want to practice leisure physical activities give different reasons in the two

situations: In the Bucharest campus, 34.57% blame the distance and the lack of time to cover it, 21.49% feel the lack of a mentor is the reason, while 11.21% blame the sport facility for not catering to their needs, and others claim that the standards and efforts of local authorities are not enough to motivate them to partake in physical activities. A proportion of 8.41% is represented by those who claim they do not have sufficient variety in their choices.

In the Măgurele campus, 35.08% blame the distance and the lack of time to cover it, 17.54% accuse local authorities, 15.78% say they lack sufficient choices. 5.26% say they need a mentor and the same percent accuse the lack of a proper sport facility.

Discussions with the students revealed a lack of attractive offers and sustainable university, local government or private support initiatives.

The proportion of subjects reporting to have free time between 1 and 4 hours was 90% in both samples. Those who answered that they had very little free time were represented by less than 3%, and at the other extreme, those having more than 4 hours free time did not exceed 7%. The most popular activities of free time were TV/internet/internet movies and sports activities.

In the preferences of the students’ free time, physical activities and sports ranked second, after „TV shows/movies on the internet/activities on the Internet”, being preferred before „shows/movies/concerts” and „other kinds of recreation”.

Based on the two samples from different campuses, it was found that each area had its problems and therefore students had different disadvantageous situations in both cases. The Bucharest campus has several offers but it takes time to reach those spaces, which is often a reason to quit. In the Măgurele campus, at the Faculty of Physics, things are different in the sense that there is a sport facility nearby but poorly equipped, and the local government does not provide any free time activities for this social segment.

Conclusions

1. Both groups have spare time.
2. Both groups prefer spending their spare time mainly by doing sports, recreational outdoor activities and watching tv/movies/using the internet.
3. Practicing sports is occasional for most of the students.

Proposals

1. For both campuses, the development of sports, by investing in the construction of modern sports halls and courts is required.
2. Local governments must develop projects in order to accommodate the needs for free time spending.
3. Physical education teachers should be encouraged and supported in organizing special events designed to further stimulate the students’ willingness to practice free time activities becoming a lifestyle.

Conflicts of interests

There are no conflicts of interest.

References

- Badri M. Application of Psychology in the School. Tehran Soroush Publications, Congress Code: 2002, 2K7M/ 1051 LB.
- Bota A. Physical exercises for a working life-Driving activities for leisure time. Publisher University Book, Bucharest, 2006,11-13.
- Di Serio Á, Ibáñez MB, Kloos CD. Impact of an augmented reality system on students' motivation for a visual art course. *Computers & Education*, 2013;68:586-596.
- Dumitrescu R. Activități sportive montane și nautice. Ed. Univ. din București, 2013,69.
- Filsecker M, Hickey DT. A multilevel analysis of the effects of external rewards on elementary students' motivation, engagement and learning in an educational game. *Computers & Education*, 2014;75:136-148.
- Forsyth DR, McMillan JH. Practical proposals for motivating students. *New directions for teaching and learning*, 1991; 45:53-65.
- Ganciu M (coord), Aducovschi D, Gozu B, Stoica A et al. Activitatea fizică independentă și valorificarea prin mișcare a timpului liber. Vol. I, Ed. Univ. din București, 2010,39-40.
- Haron HNH, Shaharoun AM, Puteh M, Harun H. Does Motivation Affect Students' Understanding and Performance in Engineering Statics ? *Procedia-Social and Behavioral Sciences*, 2012;56:191-203.
- Mirzajani H, Rahimisadegh Z, Alami R, Farnia M, Bayekolaei MD. The Effective Factors on the Guidance School Students' Academic Motive. *Res. J. Recent Sci.* 2014;3(6),77-82.
- Krug SE. Leadership and learning: A measurement-based approach for analyzing school effectiveness and developing effective school leaders. In: Maehr ML, Ames C. *Advances in motivation and achievement: Motivation enhancing environments*. Greenwich: JAI Press Inc. 1989;6:248-274.
- Mirkazemi N. Community's reaction field theory. Effective practices in student motivation. J. Educ. Ministry Ed., 2003.
- Onete OU, Edet PB, Udey FU, Ogbor BP. Academic Performance: A Function of Achievement Motivation among Education Students of Cross River University of Technology, Calabar. *Review of Higher Education in Africa*, 2012;4:63-83.
- Stoicoviciu A (coord.), Dumitrescu R, Leștaru M, Sakizlian R et al. Activitatea fizică independentă și valorificarea prin mișcare a timpului liber. Vol. II, Ed. Univ. din București, 2012, 10.
- Williams KC, Williams CC. Five key ingredients for improving student motivation. *Res. Hig. Ed. J*, 2011;12:1-23.
- Yukseloglu SM, Karagüven MH. Academic Motivation Levels of Technical High School Students. *Procedia-Social and Behavioral Sciences*, 2013;106:282-288.