

# Is Sports Recreation Important to University Students?

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## ABSTRACT

*The aim of this research is to examine university students' attitudes on recreational exercise. The sample included 473 students from the University of Zagreb. We analyzed the data by analysis of frequency and a statistical method called »Relation model of action«. The results indicated that there were two general courses in students' attitudes on recreation activities. The first course represents general values and the second course reflects the attitudes on specific sports and recreational activities. It can be concluded that university recognize the importance of exercise but they do not understand its real meaning and they do not exercise regularly. Therefore, it is important to foster positive attitudes towards exercise early in youth, which would allow young people to preserve the healthy habit of exercise throughout their whole life. There is a need for quality system of education, which would start early in childhood.*

**Key words:** physical activity, recreational exercise, university students, attitudes, education

## Introduction

Students' choice of free-time activities can have a considerable effect on their personality development and quality of life in the adult years. Free-time is a wide concept which encompasses numerous activities that take place beyond working hours (in this case studying). This is a more common term than the term »leisure time,« which implies only amusement and culture activities<sup>1</sup>.

Because rest, relaxation, and personality development are the basic functions of free time, it is of great significance to investigate free-time activities and their importance and role in university students' life. In their research about the relationship between work and leisure, Child and Macmillan concluded that social behaviour was affected by different value systems<sup>2</sup>. It has been shown that free-time activities have an influence on the quality of work. In accordance with this, we believe that it is possible to apply the same model on the quality of study.

In Croatia, there are no standards and criteria for inclusion of students in different sports recreation programmes<sup>3</sup>. It is a matter of students' free choice whether they will take part in a physical activity in their free time or not.

Only a small part of the Croatian population is included in recreational activities. The number of regis-

tered members of the *Croatian Association of Sport for All* amounts to only 7% of the entire population<sup>4</sup>. On the other hand, Croatia, as a relatively small country, has a large number of top-notch professional athletes. The Croatian Olympic Committee supports talented athletes in 36 sports disciplines and 24 associations of non-Olympic sports. High inactivity can be associated with the fact that Croatia is a country in transition.

The overall physical activity level of university students in the USA is similar to the level in the general population (40% adults participating in no physical activity in free time)<sup>5</sup>. Several other studies have shown a somewhat higher percentage (40–50%) of students who were not physically active<sup>6,7,8</sup>. It has also been shown that prevalence of physical inactivity depends on cultural and economic developmental factors, averaging 23% in North-Western Europe and United States, 30% in Central and Eastern Europe, 39% in Mediterranean countries, 42% in Pacific Asian countries, and 44% in developing countries<sup>9</sup>. Even though regular recreation activity contributes to prevention of some diseases, health improvement, and improvement of quality of life, it has still not become an integral part of strategies targeted at student population. This is especially worrisome if we take into consideration that »promoting physical exercise in

college and university students may counter the decrease in physical activity after graduation because health behaviour in young adulthood determines the quality of life in later years<sup>10</sup>. Although the benefits of physical activity in youth are not well documented<sup>11</sup>, it has been shown that<sup>12</sup> human health is susceptible to deterioration if there is no regular participation in physical exercise and sports activities.

Therefore, the main goal of this research is to examine the attitudes of university students on sports activities in their free time.

## Materials and Methods

### Sample

This study included 473 third-year students from the Faculty of Kinesiology and second-year students from the Graduate School of Economics and Business, University of Zagreb, Croatia (229 female and 244 male). The students' average age was 22.5 years. Distribution of students according to age is presented in Tables 2 and 3. The research took place in the academic year 2005/2006.

### Data collection and measurements

The questionnaire AZS06 was developed by a research group on the Faculty of Kinesiology in 2006. The questionnaire consists of 14 questions, divided into three groups. The first group comprises questions on gender, age, profession (for college students), the name of the Faculty, and the semester that students were enrolled to. In the second part of the questionnaire, the students describe the quantity and quality of their free-time activities. The following is an example of a question from this part: »How much time per day do you usually spend in learning?«. The available answers are the following: less than one hour, two hours, three hours, four hours, and five hours and more. Another example is »How much

time per day do you spend doing sports activities?«, with the same given answers as in the previous question. In the last part of the questionnaire, students answer open-ended questions about their interest in sports recreational activities and the importance of such activities for their health. This part consists of questions such as: »What sports activities are you interested in?«. Another example of a question is the following: »Do you consider physical activity important for your health?« and answers are given on a five-point scale ranging from: »Yes, it is very important for my health« to »No, I do not consider it important for my health«.

### Statistical analysis

The students' answers were coded and transformed into 32 variables. We performed the *analysis of frequency* and a statistical method called »*Relation model of action*«<sup>13</sup>. The method is based on the thesis that every entity can establish a relation with another entity in such a way that the intensity of their relation can be defined by a discrete characteristic (1,0,N...). After the coefficients of association were calculated, by spectral decomposition of the matrix R, main components method, we produced a structure that is characterised by a superior class mechanism, which is mainly responsible for the grouping of entities. From this system, according to the Guttman-Keiser criterion, a minor number of a spectre portions was retained. These portions are the aggregations of entities grouped around the mutual part of the initial relations. We call these aggregations »*actions*«, because they give us information on mutual relations of the entities based on their characteristics. For the data analysis, we used the STATISTICA software (StatSoft, Inc., version 7.1.) and the Borland Delphi 2006 tools.

## Results

Our results showed that both female and male students were well aware of the importance of physical activity for their health.

The majority of students believed that physical activity was important for their health (73.76%) and claimed that it should be practiced *every day*, while 23.26% of them claimed that it should be practiced *from time to time*. A small number of them (3.98%) thought that physical activity was not related to their health. However, a more detailed analysis showed that a positive attitude towards physical exercise in general becomes less positive when students were asked about specific activities.

Because of social and psychological differences in the perception of physical activity between men and women<sup>14</sup>, the attitudes of men and women are discussed separately.

### Analysis of male students' answers

There are two general courses of male students' attitudes toward recreation activities (Table 3). The first general course reflects general attitudes on recreation

TABLE 1  
AGE DISTRIBUTION ACCORDING TO FACULTY

	Faculty of Kinesiology	Graduate School of Economics and Business
Age – mean	20.1	25.2
Age – min	18	18
Age – max	25	46
Standard deviation	0.90	6.01

TABLE 2  
AGE DISTRIBUTION ACCORDING TO AGE

	Male	Female
Age – mean	24.2	20.7
Age – min	18	18
Age – max	46	42
Standard deviation	5.99	2.49

**TABLE 3**  
LATENT DIMENSIONS OF THE MALE SAMPLE

Latent Dimension 1	Latent Dimension 2	Latent Dimension 3	Latent Dimension 4	Question
0.99*	0.00	0.00	0.00	The value of exercising
0.98*	-0.02	0.00	-0.02	Recreation in Croatia
0.98*	-0.02	0.01	0.02	The way of spending holidays
0.97*	0.00	0.00	0.00	The influence on the participation in physical activities
0.97*	0.02	-0.01	-0.02	What would you do if you had the time
0.96*	0.06	0.01	-0.06	Leisure – leisure type
0.96*	-0.02	0.01	0.03	Age
0.95*	0.01	0.04	-0.02	Time of planning leisure time
0.95*	0.04	0.00	-0.02	Daily free time
0.93*	-0.08	-0.06	0.00	Time spent for TV and coffee bar per day
0.89*	0.08	-0.04	0.00	Daily time for learning and reading
0.88*	0.09	0.03	-0.01	Weekly activity
0.60	-0.03	0.02	0.01	Weekly in the Cinema
0.28*	-0.12	-0.08	0.25	Weekly in the Theatre
0.76*	-0.04	0.03	0.17	Willingness to have some leader of your activities (ex. trainer)
-0.18	0.76**	0.14	0.15	Interest dancing
-0.08	0.77**	-0.08	0.03	Interest – judo
-0.02	0.72**	0.01	-0.07	Interest – gymnastic
0.18	0.61**	-0.19	-0.13	Interest – team handball
0.00	0.65**	0.14	-0.05	Interest – badminton
0.39	0.41**	-0.05	-0.19	Interest – tennis
0.17	0.54**	-0.04	0.05	Interest – table tennis
0.13	0.45**	-0.03	0.22	Interest – volley ball
0.23	0.32**	0.20	0.10	Interest – swimming
0.21	0.34**	-0.01	0.11	Interest – combat sports
-0.01	0.02	0.78***	-0.11	Interest – cycling
-0.10	0.08	0.69***	0.08	Interest – roll
0.28	-0.15	0.56***	-0.04	Interest – skiing
0.05	0.03	0.44***	-0.05	Interest – rowing
-0.06	0.10	-0.01	0.89****	Learning something new – skating
0.21	-0.02	-0.09	0.69****	Learning something new – tennis
0.28	-0.01	0.03	0.55****	Learning something new – yachting

\*Latent Dimension 1, \*\*Latent Dimension 2, \*\*\*Latent Dimension 3, \*\*\*\*Latent Dimension 4

and within its one latent dimension integrates all general attitudes on recreation (*the first dimension of action*). The second general course shows that students are less interested in the common system of value than in the choice of the activity itself. Within the framework of the second general course, there are three latent dimensions. The second latent dimension (*the second dimension of action*) mainly depends on the offer of some activities and conditions where they can be practiced (dancing, judo, gymnastic, team handball, badminton, tennis, table tennis, volleyball, swimming and combat sport are the selected activities), and it covers the sports activities that are usually offered as sports recreation contents. The

third latent dimension (*the third dimension of action*) consists of individual activities (cycling, roll, skiing, rowing) that take place in nature and emphasise individuality and speed. The forth action (*the forth latent dimension*) is characterized by learning new activities.

#### *Analysis of female students answers*

The female attitude towards recreational activities can also be observed through two general courses (Table 4). The first general course represents general values and integrates all general states in one latent dimension (*the first dimension of action*). The second general course tells us that the participants are less interested in the

**TABLE 4**  
LATENT DIMENSIONS OF THE FEMALE SAMPLE

Latent Dimension 1	Latent Dimension 2	Latent Dimension 3	Latent Dimension 4	Question
0.99*	0.01	0.01	0.00	The value of exercising
0.97*	0.00	0.01	0.00	Recreation in Croatia
0.97*	-0.01	-0.02	0.01	The way of spending holidays
0.97*	-0.04	0.01	-0.06	The influence on the participation in physical activities
0.97*	0.02	-0.02	0.03	What would you do if you had the time
0.94*	0.02	0.03	0.02	Leisure – leisure type
0.97*	0.01	0.02	0.03	Age
0.97*	-0.04	-0.02	0.01	Daily free time
0.95*	-0.03	-0.01	-0.14	Time spent for TV and coffee bar per day
0.95*	-0.02	0.03	0.01	Time of planning leisure time
0.95*	-0.02	-0.07	-0.02	Daily time for learning and reading
0.73*	0.16	0.13	0.07	Weekly activity
0.56*	0.06	0.03	0.20	Weekly in the Cinema
0.88*	0.00	0.00	-0.02	Willingness to have some leader of your activities (ex. trainer)
-0.16	0.86**	-0.06	0.14	Interest – judo
-0.16	0.81**	0.02	0.08	Interest – gymnastic
0.01	0.71**	0.08	-0.11	Interest – soccer
-0.04	0.69**	-0.01	0.11	Interest – table tennis
0.13	0.62**	-0.16	-0.05	Interest – combat sport
0.23	0.50**	-0.10	-0.10	Interest – badminton
0.25	0.44**	0.08	-0.03	Interest – tennis
0.21	0.43**	0.16	-0.20	Interest – basketball
0.18	0.43**	0.21	-0.25	Interest – team handball
-0.08	0.00	0.94***	0.03	Learning something new – skating
0.23	-0.03	0.63***	-0.02	Learning something new – roll
0.20	-0.06	0.53***	0.35	Learning something new – yachting
0.38	0.03	0.45***	-0.15	Learning something new – tennis
0.12	-0.12	0.01	0.60****	Interest – skiing
0.29	0.23	-0.04	0.42****	Interest – swimming
0.28	-0.15	-0.06	0.36****	Interest – cycling
0.14	0.27	0.02	0.34****	Interest – dancing
0.29	-0.07	0.10	0.32****	Interest – other
0.14	0.00	0.08	-0.24****	Interest – rowing

\*Latent Dimension 1, \*\*Latent Dimension 2, \*\*\*Latent Dimension 3, \*\*\*\*Latent Dimension 4

common system of value than in the choice of the activity itself. Within the framework of the second general course in women, there were also three latent dimensions. The second latent dimension (*the second dimension of action*) mainly depends on the offer of activities and conditions where they can be practiced (judo, gymnastic, soccer, table tennis, combat sport, badminton, tennis, basketball and team handball are the chosen activities), whereas collective activities that have a social dimension and are motorically and energetically more demanding. The third latent dimension (*the third dimension of action*) is characterized by the action of learning new activities.

There is an evident similarity between male and female participants' answers, because three latent dimensions were present in both samples, with very similar definitions.

However, the forth latent dimension (*forth action*) in women was not related to individual activities that take place in nature like in the male population, but it involved activities that entail freedom of expression through movement (skiing, swimming, cycling, dancing). This latent dimension is also described by time spent in theatre, which is not an accidental indicator as well as the nega-

tive projection of the interest for rowing. The four existing latent dimensions (Table 3) describe how people understand the concept of exercise and recreation: a) the general system of value, b) the organization in the society within the meaning of the actual offer of sports recreational contents, c) the concern for learning new activities, and d) the interest for activities with the emphasis on the aesthetic component. The relations between those dimensions are positive, but their range goes from 0.12 to 0.47 (Table 5 and 6), which denotes that there is a mechanism which describes the attitudes of participants.

**TABLE 5**  
CORRELATIONS OF THE ACTIONS (4 LATENT DIMENSIONS)  
MALES (N = 244)

Latent Dimension 1	Latent Dimension 2	Latent Dimension 3	Latent Dimension 4
1.00	0.34*	0.26*	0.35*
	1.00	0.23*	0.29*
		1.00	0.20*
			1.00

\*p<0.01

**TABLE 6**  
CORRELATIONS OF THE ACTIONS (4 LATENT DIMENSIONS)  
FEMALES (N = 229)

Latent Dimension 1	Latent Dimension 2	Latent Dimension 3	Latent Dimension 4
1.00	0.33*	0.47*	0.31*
	1.00	0.19**	0.12
		1.00	0.15**
			1.00

\*p<0.01, \*\*p<0.05

## Discussion and Conclusion

Our study showed that students were well aware of the importance of physical activity for their health but had low interest in recreation activities. This is worrisome, since exercise has been proven to have a positive effect on health.

There is no clear distinction in the planning of their free time and leisure time as well as in the planning of their friendships or the way of spending holidays. It is also impossible to discern whether students were influenced by their family members in the choice of recreational activities and the influence of which family member was stronger, so we can say that such influence might be poor and accidental.

Our results showed that the participants were mostly not conscious of the true values, benefits and scope of practicing physical activities and that their interest in some activities was mostly based on social models. These

social models do not have to be acceptable from kinological point of view and in most cases are fashionable, short-termed, and commercialized. Young adults today are primarily interested in fulfilling the needs from the intimate sphere (friendship, acquaintance, amusement, sex, love, and travelling) and in the activities associated with these needs (going to coffee bars, disc clubs, parties, and concerts). Therefore, they are mostly oriented to amusement and relaxation, while activities related to personal development are frequently lacking.

Despite similarities between male and female students, there is a clear distinction between these two groups. Although three latent dimensions are almost alike in male and female students, there are obvious differences in the fourth dimension. Male participants enjoy the activities that mostly take place in nature and allow freedom of motion. On the other hand, female participants show a tendency toward activities that place more emphasis on the aesthetic component of motion. It seems that these are the reflections of the real differences between men and women, therefore they should be contemplated in this sense. Of course, this does not mean that men should be deprived from activities with an aesthetic component and that women should be deprived from activities in nature. However, one should take these findings into account while creating sports recreational programmes.

In Croatia, young people's free time is not a well organized sector and is insufficiently influenced by the Government<sup>3</sup>. Furthermore, participation of young people in creation of their free-time activities is insufficient and negligible. In Croatia, there is an obvious preference for professional over recreational and amateur sport. Students are not included in the regular sports recreational activities at their Faculties. Therefore, it is necessary to better utilize environmental (locations, facilities) and organizational capacities of the Faculties to foster students' inclusion in different forms of exercise and sports. In Croatia there are 898,734 people around 15–29 age, which represents 20.25% of the whole population<sup>15</sup>.

University students are especially important target population for exercise programmes since they, as future academic citizens, could be a positive role model for other young people when sports participation is concerned.

The main conclusion of this study is that we need quality system of education, which would start early in childhood. Also, schools need to expand their role in providing and promoting physical activity for young people<sup>17</sup>. Educational system should create a positive and supportive environment, which would evoke children's interest in recreational activities. It is obvious that a type of education that satisfies only intellectual needs is not sufficient. Students recognize the importance of exercise but they do not understand its real meaning and they do not exercise regularly. Therefore, it is important to foster positive attitudes towards exercise early in youth, which would allow young people to preserve the healthy habit of exercise throughout their whole life.



## REFERENCES

1. ILIŠIN V, Interesi i slobodno vrijeme. In: FANUKO M, ILIŠIN V, MARINOVIĆ M, OLIVEIRA-ROCA M, OBRADOVIĆ V, RADIN F, ŠTIMAC H, VRCAN S (Eds) Fragmenti omladine (Znanstveno istraživački odjel RZ RH SSOH, Zagreb, 1988). — 2. HARALAMBOS M, HEALD R, Uvod u sociologiju (Globus, Zagreb, 1989). — 3. GOVERNMENT OF REPUBLIC OF CROATIA, Nacrt prijedloga Nacionalnog programa za mlade, accessed 12.06.2006. Available from: URL: <http://www.volontiram.info/use/mat/Nacionalni%20program%20djelovanja%20za%20mlade.HTM>. — 4. BARTOLUCI M, ANDRIJAŠEVIĆ M, ANDRIJAŠEVIĆ S, et.al., Management in Sport and Tourism (Faculty of Kinesiology and Graduate school of Economics and Business, Zagreb, 2004). — 5. US DEPARTMENT OF HEALTH AND HUMAN SERVICES, Healthy People 2010: Understanding and improving health (Government Printing Office, Washington DC, 2000). — 6. LESLIE E, FOTERINGHAM M, VEITCH J, OVEN N, Health Prom J Austr, 10 (2000) 51. — 7. PINTO BM, MARCUS BH, J Am Coll Health, 44 (1995) 27. — 8. STONE G, STRIKWERDA-BROWN J, GREGG C, Phys Educ Recreation Healthy Lifestyles J, 49 (2002) 39. — 9. HAASE A, STEPTOE A, SALLIS JF, WARDLE J, Prev Med, 39 (2004) 182. — 10. BUCKWORTH J, Quest, 53 (2001) 335. — 11. RIDDOCH C, Relationship between physical activity and health in young people. In: Proceedings (Young and active? Young Activity and Health-Enhancing Activity: Evidence and Implications, Health Education Authority, London, 1998). — 12. MULLINEAUX DR, BARNES CA, BARNES EF, J Sport Sci, 19 (2001) 279. — 13. BONACIN D, Uvod u kvantitativne metode (Dobromir Bonacin, Split, 2000). — 14. HAINES EL, KRAY, LJ, Eur J Soc Psychol, 5 (2005) 643. — 15. ILIŠIN V, RADIN F, Mladi uoči trećeg milenija (Institut za društvena istraživanja i Državni zavod za zaštitu obitelji materinstva i mladeži, Zagreb, 2002). — 16. PATE RR, CHAIR DM, ROBINSON TN, STONE EJ, MCKENZIE, TL, YOUNG, JC, Circulation, 114 (2006) 1214.

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## DA LI JE SPORTSKA REKREACIJA VAŽNA STUDENTIMA?

### SAŽETAK

Slobodno vrijeme studentske populacije predstavlja slobodan izbor aktivnosti s čitavim nizom efekata na ukupni život tih mladih osoba. U Hrvatskoj se nedovoljno brine o standardima i uvjetima potrebnim za uključivanje studenata u različite programe sportske rekreacije. Cilj ovog istraživanja je utvrditi strukturu stavova studenata prema rekreacijskom vježbanju (Sveučilište u Zagrebu, Hrvatska). Uzorak čine 473 ispitanika (studenti i studentice Sveučilišta u Zagrebu). Rezultati su obrađeni *analizom frekvencija* i metodom pod nazivom »*Relacijski model djelovanja*«. Na temelju odgovora studenata stavovi prema rekreacijskim aktivnostima mogu se, načelno, promatrati kroz dva generalna pravca. Prvi pravac koji predstavlja opće vrijednosti i drugi koji pokazuje da studente manje zanima opći sustav vrijednosti te su više okrenuti samom izboru aktivnosti. Može se zaključiti da studenti većinom nisu svjesni pravih vrijednosti, dobrobiti i svrhe rekreativnih aktivnosti, te im se interesi za pojedine aktivnosti u najvećoj mjeri formiraju pod socijalnim modelima. Postoji potreba za uvođenje kvalitetnog sustava edukacije koji počinje u ranoj fazi edukacije djeteta.