PARTICIPATION IN LEISURE ACTIVITIES AND SELF-PERCEPTION OF HEALTH IN THE STUDENTS OF THE UNIVERSITY OF SPLIT

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Abstract:

The research was performed to find out the way in which students at the University of Split spend their leisure time and what was the portion of sporting activities in it in relation to self-appraisal of their health status. A sample of 449 subjects (mean age 21 years; 380 female and 69 male students) was surveyed by questionnaire. The results of the *t*-test showed statistically significant gender differences in criterion variables. The students with longer sport experience felt far less health-related discomforts than the others. The female students with more leisure time self-evaluated their health as better. The sport experience of men was longer than the experience of the women, and they preferred sport games and resistance training in gyms. The self-perceived health evaluation of men was generally higher than the self-perception of health in women, except for anger, which was lower in female students. The female students listed numerous health-related discomforts and medical conditions, among which particularly conspicuous was the general feeling of being tired connected with a sequence of psychosomatic discomforts (tension, feeling restless, back pain and leg pain). The discomforts and medical conditions reported by the young female students are comparable to those already reported by the general population of older people. They were caused primarily by hypokinesis and stress, or vice versa, the majority of discomforts and medical conditions were induced by insufficient physical activity, that is, by a sedentary lifestyle, which draws attention to the necessity for intervention in the leisure time of the young, especially college or university students.

Key words*: sedentary lifestyle, recreation programmes, sport participation, health-related discomforts, medical conditions, hypokinesis, stress, young adults*

TEILNAHME AN DER GESTALTUNG AKTIVER FREIZEIT UND DIE SELBSTEINSCHÄTZUNG DER GESUNDHEIT BEI DEN STUDENTEN DER UNIVERSITÄT SPLIT

Zusammenfassung:

Das Forschungsziel dieser Arbeit war, die Art und Weise der Freizeitgestaltung der Studenten der Universität Split festzustellen, sowie den Zusammenhang zwischen der sportlichen Betätigung und der subjektiver Wahrnehmung deren Gesundheitsstatus zu bestimmen. 449 Studenten füllten den Fragebogen aus (das Durchschnittsalter 21 Jahre; 380 Studentinnen und 69 Studenten). Die T-Test Ergebnisse zeigten statistisch signifikante Geschlechtsunterschiede in Kriteriumsvariablen. Die Studenten, die länger sportlich aktiv waren, hatten weit weniger gesundheitlicher Störungen als die anderen. Die Studentinnen mit mehr Freizeit schätzten deren Gesundheit höher ein. Die Männer machten eine längere Erfahrung in der sportlichen Betätigung als die Frauen, und sie ziehen Ballspiele und Krafttraining in Fitness-Studios vor. Die Selbstbeurteilung eigener Gesundheit bei Männern war allgemein höher als bei Frauen, außer dem Zorn, der bei Studentinnen niedriger lag. Die Studentinnen nannten zahlreiche (gesundheitsverbudene) Beschwerden und gesundheitliche Probleme, wobei ein allgemeines Gefühl der Müdigkeit besonders bemerkenswert war, die mit einer Reihe psychosomatischer Beschwerden zusammenhängt (die Anspannung, die Unruhe, Rücken- und Beinschmerzen). Die von den jungen Studentinnen angeführten Beschwerden und Krankheiten sind mit den schon ermittelten Daten bei der Grundgesamtheit der älteren Menschen vergleichbar. Der Grund dafür liegt im Bewegungsmangel und Stress, oder umgekehrt. Die meisten Beschwerden und Gesundheitsprobleme sind in erster Linie die Folge ungenügender körperlichen Aktivität, d.h. eines bewegungsarmen Lebensstils. Daraus ergibt sich die Notwendigkeit einer Intervention in die Gestaltung von Freizeit junger Menschen, besonders der jungen Akademiker.

Schlüsselwörter: *bewegungsarmer Lebensstil, Freizeitprogramme, Teilnahme an sportlichen Aktivitäten, die mit der Gesundheit verbundenen Beschwerden, Krankheiten, Bewegungsarmut, Stress, junge Erwachsene*

Introduction

Appropriate physical activity is widely accepted as being beneficial for health, because it promotes health, by reducing the risk for development or recurrence of disease, and overall fitness by enhancing physical fitness. The reduced risks result in improved health and feelings of wellbeing, a better quality of life, lower costs for individuals, government and industry, and a lower incidence of disease. Physical activity patterns showed activity to vary greatly between the sexes, across age groups and from one socio-economic group to another (Mullineaux, Barnes, C., & Barnes, E., 2001). The general likelihood to lead a sedentary lifestyle or to be physically inactive grows with age although an increased participation by adults reduces the risk of coronary heart disease, stroke, hypertension, non--insulin-dependent diabetes mellitus, osteoporotic fractures, depression and some cancers. A physically active lifestyle is adopted in childhood and young age, and it is only maintained during later periods in life. Promoting physical exercise in college and university students may counter the decrease in physical activity after graduation because health behaviours in young adulthood determine the quality of life in later years (Buckworth, 2001). It is important to investigate higher-education students because there is the potential for an impact from college and university health and physical education classes, as well as from the ways in which students spend their leisure time, which can have sustained effects. Further, many graduates will achieve leadership roles in business and government. If they are committed to maintaining an active lifestyle when they graduate, opportunities for positive role modelling and influences on the determinants of physical activity on a meta-level are possible, such as support of workplace fitness programmes and legislation that will fund community recreation facilities and staffing. What students do in their free and leisure time is also important. Namely, free and leisure time activities are freely chosen and they represent person's preferences. Although free time is a vast concept encompassing all the possible activities outside the obligations of work, in everyday communication it is usually used to denote those activities that persons choose for their pleasure and for satisfying their personal needs for fun, culture and rest (Ilišin, 2002). Rest, relaxation and the development of personality are basic functions of free time; therefore, it is interesting to investigate the activities in which young people are involved in their free and leisure time, as well as the interaction of these activities with the self-perception of health status of the young. Child and Macmillan (according to Haralambos & Heald, 1989) concluded in their investigations on the relationship between work and leisure that the way of living is strongly influenced by a variety of social value systems which are reference points for social behaviour. The well-known fact is that a choice of leisure activities has an influence on the psychosomatic condition of an individual, consequently on the quality of human work. The same model is analogously applicable to the quality of academic progression and performance of higher-education students. The choice of leisure activities influences their overall development, that is, the development of their abilities, capacities, knowledge and personality. However, it cannot only be a personal wish; these chosen activities should satisfy certain objective needs of young people. It is also a well-known fact supported by a variety of similar standpoints and opinions of various world organisations concerning quality leisure time, among which are TAFISA (Trim & Fitness International Sport for All Association), WHO (World Health Organisation), HEPA (Health Enhancing Physical Activity) and physical activity movements like fitness or wellness (Stemper, 2004). Also, it is a well known fact that physical activity is one of the most important factors of health, especially in the young. It is the general opinion of the authors that too little attention is paid in Croatia to standards and conditions of engagement of higher-education students in various programmes of physical recreation. Students are on their own when they have to decide whether to do or not to do any physical activity in their leisure time. The latent peril is that the consequences of insufficient physical activity or hypokinesis are not yet visible, that is, certain hypokinesis-induced health issues are seldom registered in that age, therefore health preservation and enhancement by means of physical activity programmes is too often neglected (Štuka, 1985). It is a well-argued fact that (Mullineaux, Barnes, C., & Barnes, E., 2001) human health is susceptible to deterioration if there is no habit of chronic participation in physical exercise and sporting activities. At such an early age, that is, in the early twenties, the signs of deterioration may not be clearly obvious or even manifested yet, but decreases in work capacities and occurrence of various chronic health issues are inevitable. In Croatia, only 5 - 10% of persons participate either habitually or occasionally in any physical recreation activity, whereas in the developed countries of Scandinavia and in Switzerland the percentage of physically active part of population is higher than 50% (Bartoluci, 2002). In the USA, as well as in other developed countries, the rate of mortality, caused by a variety of cardiovascular diseases was until recently very high, despite the advanced diagnostic procedures, high technology and sophisticated medical treatment. Fortunately, a lot of health enhancing campaigns and movements, which promote healthy and active life styles, that is, life long exercise and sport participation, have

contributed a great deal to a decrease in the trend. The Republic of Croatia still does not have the national strategy that will encourage and enable the application of physical activity programmes for the wider population. An additional issue is that any recreational engagement in sports and organised physical exercise programmes implies a personal need and, consequently, self-financing, which is an especially sensitive topic within the population of college and university students. Participation in sport and exercise programmes is no longer perceived as a fashionable trend or a spontaneous reflection of needs. Nowadays it is perceived more like an obligation of an individual and the wider community, even the whole state, to form consciously and to assume positive health-enhancing habits (Mueller & Kaufmann, 2004; Greenberg & Dintiman, 1997; Benson & Stuart, 1992). Leisure time and/or free time is defined differently by different authors, but they all agree that leisure should be filled with various activities of a cultural, artistic, sporting, educational, sociable and entertaining nature (Olszewska & Pronovos, 1982).

The college and university student population represents an important target group for research into adherence to exercise and physical activity, but there are a limited number of intentional studies of exercise behaviour in this population. Therefore, the authors decided to investigate the Croatian higher-education student population. The aim of the present study was to determine, by means of a questionnaire survey, the ways in which the students of the University of Split spend their leisure time. The authors were also interested in finding out what the students' preferences were for leisure time activities and what the contribution of sport and physical recreation programmes was in it. A further goal was to find out how the students perceived their health and what their self-perception was and to which extend it related to their participation in sport and recreation.

Methods

The sample of subjects consisted of 449 students, average age 21.39 years (a subsample of 380 female students, average age 21.35 years, and a subsample of 69 male students, average age 21.65 years). They studied at the University of Split at the following faculties: Maritime Faculty, Faculty of Economics, Faculty of Arts – Foreign Language Department, Teacher Education Academy, Faculty of Medicine, and Academy of Pedagogy – Preschool Education Department (Table 1).

The sample of variables. The sample of predictor variables consisted of the answers to five questions asked in a multiple-choice questionnaire. All the questions regarded the way in which the subjects spend their leisure time (How do you spend your leisure time?) and the amount of leisure time and degree of physical (sporting) activity of students: How much time of the day do you spend in learning? (LEART); How many hours of leisure time do you have per day? (LEISURE); Do you do any sport now? (SPORT); For how long have you been doing your sporting activity? (ACTYRS); How many times per week do you do your sporting activity? (HRSPW). The students were asked to choose one of the offered answers.

The criterion variables. The first criterion variable, *health-related discomforts,* consisted of the answers to the question: *Do you feel any subjective health-related discomforts?* The students were allowed to choose several answers from the eight offered. All the optional answers regarded the students' self-perception of their health condition that can be related to their psychological stability. Students were asked if they were aware of the presence of: feelings of tension, feelings of restlessness, anxiety, feelings of being tired, shortage of time, sleeping badly, feelings of anger, and whether they used medications. In fact, eight variables were obtained – the uncircled answer got zero (0), whereas the chosen answer got one (1). The total variable for a subject was obtained by the addition of the circled answers. Therefore, zero (0) represents a person with no health-related discomforts, whereas eight (8) represents a person who chose all the answers offered.

The second criterion variable, *medical conditions*, was derived from the answers to the question: *Do you suffer from any medical condition*? The question addressed the presence of bodily pain or medical condition that the subjects perceived as health issues. The following was offered: upper back pain, middle back pain, low back pain, leg pain, foot pain, low or high blood pressure, high level of blood sugar, being overweight, coronary disease, and allergies. The subjects were allowed to choose several answers, so 9 variables were obtained – a zero for the answer not circled and 1 for a circled answer. The total variable for a subject was obtained by the addition of the circled answers - a zero (0) represented a person with no health-related disorder, whereas nine (9) represented a person who had chosen all the answers offered.

Data processing methods. The following statistical methods were used: descriptive analysis (M - mean, SD – standard deviation), analysis of frequency (F) and percentages (%), *t*-test for independent samples (t – scores of the *t*-test, df – degrees of freedom, p – threshold of significance). Regression analysis was used for further data processing – the predictor variables were the answers obtained to the questions concerning the amount of leisure time and sporting activities, whereas the criterion variables were two groups of answers concerning psycho- and somatic disorders self-perceived by the subjects. The PC software package Statistica 6 (StatSoft) was used.

Results

Table 1. The structure of the sample of subjects

FACULTIES	F_{all}	$\%_{all}$	F_m	$\%_m$	F_f	$\%_f$
Maritime Faculty	38	8.35	28	40.58	10	2.60
Faculty of Economics	65	14.29	24	34.78	41	10.65
Faculty of Arts	110	24.18	1	1.45	109	28.31
Teacher Education Academy	98	21.54	0	0	98	25.45
Faculty of Medicine.	60	13.19	15	21.74	44	11.43
Academy of Pedagogy	84	18.46	1	1.45	83	21.56
Total	449	100	69	13.4	380	84.6

(F- frequency, % - percentage)

Table 2. T-test analysis of gender differences in the criterion variables

Variables	n_f	M_f	SD_f	n_m	M_m	SD_m	t	df	p
LEART	369	2.45	1.29	68	1.94	1.13	3.0	435	0.00
LEISURE	383	2.72	0.99	69	3.65	1.29	-6.9	450	0.00
SPORT	381	2.37	0.91	68	2.97	0.81	-5.1	447	0.00
ACTYRS	194	2.99	1.72	56	4.23	1.51	-4.9	248	0.00
HRSPW	294	1.95	1.11	58	2.71	1.36	-4.6	350	0.00

(n_f – number of female subjects; n_m number of male subjects; M – arithmetic mean; SD - standard deviation; t – values of t-test; df – degrees of freedom; p – value of the significance threshold)

Table 3. Regression analysis of the influence the predictor variables have on the reported health discomforts and medical conditions in the male students

Variables	r	Part-r	B	t(50)	p		
LEART	0.18	0.12	0.09	0.89	0.38	R^2	0.21
LEISURE	-0.15	-0.03	-0.02	-0.25	0.81	F(5.50)	2.68
SPORT	-0.27	-0.04	-0.09	-0.30	0.76	p	0.03
ACTYRS	-0.42	-0.32	-0.27	-2.38	0.02		
HRSPW	-0.10	0.13	0.12	0.96	0.34		

(r – coefficient of correlation, part-r – coefficient of partial correlation, B – partial standardised coefficient of regression, t(df) – t-value of the significance test of the regression coefficient (df – degrees of freedom), p – the significance threshold of *t*-test, R – coefficient of multiple correlation, R^2 – coefficient of determination (% of explained square deviation), F(df1,df2) – F value of the significance test of multiple correlation coefficient, p – value of the significance threshold of F-test)

Table 4. Regression analysis of the influence the predictor variables have on the reported health discomforts and medical conditions in the female students

Variables	r	Part-r	B	t(172)	p-level		Value
LEART	0.01	0.01	0.01	0.13	0.90	R^2	0.08
LEISURE	-0.26	-0.27	-0.37	-3.68	0.00	F(5.173)	2.85
SPORT	-0.05	-0.06	-0.17	-0.83	0.41	p	0.02
ACTYRS	-0.01	-0.02	-0.02	-0.27	0.78		
HRSPW	-0.05	-0.04	-0.05	-0.51	0.61		

(r – coefficient of correlation, part-r – coefficient of partial correlation, B – partial standardised coefficient of regression, t(df) – t-value of the significance test of the regression coefficient (df – depress of freedom), p – the significance threshold of *t*-test, R – coefficient of multiple correlation, R^2 – coefficient of determination (% of explained square deviation), F(df1,df2) – F value of the significance test of multiple correlation coefficient, p – value of the significance threshold of F-test)

Table 5. Frequencies and percentages in the total sample and across the genders of answers to the question: Do you feel any subjective health-related discomforts?

Answers	F_{all}	$\%_{all}$	$\%_m$	$\%_f$
Frequently I feel tense	174	38.2	30.4	39.7
Frequently I feel restless	109	23.9	21.7	24.2
Frequently I feel anxiety	36	7.9	5.8	8.3
I am frequently tired	214	47.0	14.5	52.7
I do not have enough time	180	39.6	14.5	43.9
I sleep badly	96	21.1	4.4	23.9
I use medications	21	4.6	8.7	3.9
Frequently I feel angry	90	19.8	31.9	17.4

Table 6. Frequencies and percentages in the total sample and across the genders of answers to the question: Do you suffer from any medical condition?

Answers	F_{all}	$\%_{all}$	$\%_m$	$\%_f$
I feel pain in the neck	109	23.9	4.4	27.5
I feel pain in the middle back	21	4.6	2.9	4.9
I feel pain in the low back	103	22.6	14.5	24.2
I feel pain in the legs	73	16.0	8.7	17.4
My feet frequently hurt me	51	11.2	14.5	10.7
I have high blood pressure	14	3.1	5.8	2.6
I have low blood pressure	114	25.1	8.7	28.1
I have a high level of blood sugar	2	0.4	0.0	0.5
I am overweight	75	16.5	17.4	16.4
I have headaches (migraines)	23	5.1		6
I have cardiovascular problems			2.9	
I have an allergy			4.2	

Table 7. Frequencies and percentages in the total sample and across the genders of answers to the question: How do you spend your leisure time?

Answers	F_{all}	$\%_{all}$	$\%_m$	$\%_f$
I read books and magazines	211	46.6	30.4	49.4
I watch TV	312	68.8	65.2	69.1
In coffee shops with my friends	301	66.2	65.2	66.2
I do sport for recreation	129	28.4	53.6	23.4
I do sport in a sport club	25	5.5	20.3	2.9

Table 8. Frequencies and percentages in the total sample and across the genders of answers to the question: Do you do any sport now?

Answers	F_{all}	$\%_{all}$	$\%_m$	$\%_f$
I do not do and never have done any sport	82	18	2.9	20.8
I do not do now, but I used to do it in the past	129	28.4	24.6	29.1
I do it from time to time	188	41.3	43.5	40.8
I do it regularly	51	11.2	27.5	8.3

Table 9. Frequencies and percentages in the total sample and across the genders of answers to the question: For how long have you been doing your sporting activity?

Answers	F_{all}	$\%_{all}$	$\%_m$	$\%_f$
For the last six months	70	15.4	13	15.8
For one year	33	7.3	1.4	8.3
For two years	19	4.2	1.4	4.7
For three years	15	3.3	2.9	3.4
For four years and more	114	25.1	62.3	18.2

Table 10. Frequencies and percentages in the total sample and across the genders of answers to the question: How many times per week do you do your sporting activity?

Answers	F_{all}	$\%_{all}$	$\%_m$	$\%_f$
Once per week	154	33.8	23.2	35.8
Twice per week	81	17.8	13	18.7
Three times per week	76	16.7	23.2	15.6
Four times per week	20	4.4	14.5	2.6
Five times and more per week	22	4.8	10.1	3.6

Table 11. Frequencies and percentages in the total sample and across the genders of answers to the question: In which of the listed sporting activities do you participate?

Answers	F_{all}	$\%_{all}$	$\%_m$	$\%_f$
Swimming, jogging, bicycle riding	197	43.3	5.2	41.8
Aerobic programmes (step, tae-bo, aqua,…)	60	13.2	0.0	15.6
Fitness training (resistance training in gyms)	40	8.8	26.1	5.7
Corrective gymnastics, pilates, etc.	15	3.3	0.0	3.9
Tennis, badminton, squash	16	3.5	8.7	2.6
Dance	52	11.4	1.45	13.3
Sports games (football, basketball, volleyball, etc.)	85	18.7	47.8	13.3

Discussion and conclusions

The sample of subjects (Table 1) consisted mostly of the students of the Faculty of Arts, the Department of Foreign Languages (110) and of the Teachers' Education Academy (98), whereas the fewest were the students of the Maritime Faculty (38). Although the sample was predominantly female (ratio between the female and the male students was 3:1), *t*-test results showed significant gender differences in the variables (Table 2). According to arithmetic means it can be said that the female students spent more time in learning than their male counterparts, - M=2.45. That can be transformed in time units of between one and two hours for women, whereas men spent less than one hour in learning on average; M=1.94.

In all the other variables the gender differences were in favour of the male students. Men had more leisure time on average (4 to 5 hours per day) than their female counterparts (2 to 3 hours), and they did some sporting activity from time to time (answer 3), whereas women did not do sport, but they had participated in it in the past (answer 2). The answers to the question on experience in participating in a chosen sporting activity revealed that the male students have been doing their sport for the last three or four years on average, whereas the female students have been doing it for the last two years. The gender differences were also obvious in the answers to the question concerning the weekly frequency of sport practice – the male students participated in their sporting activity three of four times per week on average, whereas the female students participated only up to twice a week.

Since the subsamples were statistically fairly different, the regression analysis of correlation of certain indicators of sport and recreation participation (questions from the survey) with the self-perceived psycho- and somatic discomforts was performed for each gender subsample separately.

The results of the regression analysis (Table 3) showed statistically significant influence of the predictor variables onto health discomforts and medical conditions reported by the observed sample of the male students ($p = 0.03$). The selected predictor variables described 21% of square deviation in the criterion variables. The greatest correlation of predictors with the health-related issues was obtained for the predictor variable, i.e. the question: *For how long have you been doing your sporting activity?* (ACTYRS). The calculated regression coefficient for the said variable was statistically significant ($p = 0.02$). This correlation indicated that the longer the subjects' activity in sporting programmes, the fewer their health-related discomforts (negative correlation).

In the second regression equation (Table 4) the statistically significant influence of the predictor variables on the health condition in the subsample of the female students was determined ($p = 0.02$). The selected predictor variables described 8% of square deviation in the criterion variables. The greatest correlation between the predictor variables and health discomforts was established for the question: *How many hours of leisure do you have per day?* (LEISURE). The calculated negative regression coefficient for the said variable was statistically significant ($p = 0.00$). The correlation indicated that the female subjects who daily had more free time than the others reported less health-related discomforts. In this case it would be interesting to investigate how they spend that greater amount of leisure time , that is, the correlation of the variable *LEISURE* with the ways the leisure time is spent should be established.

Frequencies of occurrence of subjective discomforts of the whole sample, connected with neurotic discomforts and manifestations, are displayed in Table 5. In the female subsample the answers *being chronically tired* (52%) and *general shortage of time* (43.9%) were the most frequent answers. Additionally, a considerable percentage of the female students felt they were frequently tense (39.7%), and then 23.9% of them slept badly and felt restless (24.2%). The feeling of being angry was also a rather frequent discomfort in the female students (17.4%), which can be attributed and related to the previously mentioned discomforts. These discomforts limit their psychophysical capacities, thus making them less able to achieve their goals, academic or everyday alike.

Anger (31.9%) and the feeling of tension (30%) were the most often mentioned discomforts in male students. An unusual phenomenon was a rather high percentage of male students who used various medications (8.7%), whereas the usage of medications was lower in the female students (3.9%). Although the number of female students exceeded the number of their male counterparts in the sample, it may be said that a great number of students of both genders suffered from subjective health discomforts caused by the variety and magnitude of students' obligations, but also by bad living habits, particularly a sedentary lifestyle. The question remains whether the students were actually under such a high general strain that they could not help to change the circumstance, or is it a question of awareness and self-discipline to change their life habits and decrease, or even cure their health-related discomforts by a physically active lifestyle, especially in their leisure time.

Table 6 demonstrates the frequencies of answers related to the health discomforts manifested as the occurrence of pain – in the female students neck and low back pain were the most frequently circled answers. It is interesting that most of the female students had low blood pressure (28.1%), which can be connected with the feeling of being

tired. A great number of the total of the surveyed students considered they had low blood pressure (25.1%). More female students reported leg pain (17.4%) than the male students who complained more about feet pain. Both gender groups perceived themselves (the male students even more - 17.4%) as being overweight. Fortunately, only a smaller number of students had certain cardiovascular disorders and allergies. It can be concluded that in the observed sample of Croatian college and university students most health-related issues had their origin in the condition and function of the musculo-skeletal system. The most frequently reported discomforts, that is, back pain, being overweight, leg pain, low blood pressure, might be related to it.

Table 7 presents the frequencies of answers to the question regarding the way the surveyed students spend their leisure time. The female students spent most of the time watching TV (69.1%). An equal number of both the male and female students spent their leisure time in coffee shops with their friends, whereas more female students read books and magazines and/or journals (49%). Every second male student participated in some physical recreation activity (53.6%), whereas only every fourth female student was active in some sporting or recreational activity or programme. The male students were fairly active in sports clubs (20.3%), whereas only 2.9% of the female students were active participants of sporting activities organised in sport clubs. The obtained concerning results are similar to those obtained in several studies on physical activity of American middle school students. During adolescence, girls reduce their physical activity levels by 7.4% per year, whereas the reduction in boys amounts 2.7% per year. A vast majority of adolescents were physically active at moderate levels for 30 minutes per day and only 50% of adolescent boys and 25% of adolescent girls meet the standards for more vigorous exercise (McKenzie, 2001). The Slovenian authors (Štihec & Strel, 1998) reported also the alarming decline in physical activity participation rates in elementary and secondary students during their summer holidays.

Only 11% (Table 8) of all the surveyed students were habitually active in any sporting activity, either recreational or competitive (in a sport club) (27.5% of the male students and only 8.3% of the female students). Some female students (40.8%) were occasionally active in some physical recreation activity, but such an approach to physical activity had no permanent favourable influence on their organisms. The finding indicated that the female students had not developed the habit of doing physical exercise or being active regularly, which was consequently manifested as the reported health discomforts. The increased risk of inactivity in females compared to males is well documented in USA, too (Buckworth, 2001). A devastating and alarming finding is that more than a half of the surveyed young female students, 21-year olds, do not participate, not even from time to time, in any physical or sporting activity.

In Table 9 the data regarding experience in sport or physical recreation programmes is presented. A considerable amount of experience is obvious in the subsample of males (four years and more - 62.3%). The finding suggests that men had formed their habits of participating in sport back in the days of their secondary schooling, and that the habits have been positively transferred to their more mature years. The portion of female students in the population of experienced athletes was considerably small (18.2%), especially if we take into account that only 8.3% of them reported chronic participation in any sporting activity. In the total sample of the observed students who participated in sport, 25% had been doing it for four years and more. A general trend of enhanced sport participation of male students in the last six months is obvious. Therefore, the authors may assume that the male students will participate more in sport activities in their leisure time in the future.

The participation of male students in any of the sporting activities was as follows: 23% of them did it three times a week, 23% once a week, whereas 14.5% and 10.1% did it four times or more a week, respectively (Table 10). Most of the female students participated in some sporting activities once a week (35%), whereas only a small number of them, 2.6% and 3.6%, did the sport four times or more, respectively. And being physically active once a week is an insufficient stimulus to maintain the psychosomatic status at the desirable – optimal, level. Data from the 1995 US National College Health Risk Behaviour Survey indicated that 36% of students did not engage in adequate amounts of physical activity. Nevertheless, 37.6% participated in vigorous physical activity and 19.5% reported participation in moderate physical activity over the previous seven days (Douglas, Collins, Warren, Kann, Gold, Clayton, Ross, & Kolbe, 1997).

The male students in this study participated mostly in team sports (47.8%) and exercised in gyms (26.1%) (Table 11). The female students were more often involved in individual sporting activities (41.8%), whereas a smaller number of them were engaged in various programmes of aerobics (15.6%) and dance (13.3%). The results supported the traditional attitude of male students towards certain types of sporting activities, such as football, basketball, volleyball, and others, whereas in the female subsample only a smaller number of students participated in the group programmes. A greater number of the female students preferred individual types of activities. Although the authors expected the female students to prefer organised types of activities, this was not the case in this study – the

female subjects preferred individual activities connected to being outside, in the nature. The findings suggest that further investigations are needed into the various aspects of conditions in which sporting and recreational activities are organised and conducted – working, environmental, professional, economical, and other conditions.

The research study on the way in which students at the University of Split spent their leisure time indicated a few crucial findings. The sample of 449 subjects (mean age of 21 years), out of which 380 female and 69 male students, were surveyed by questionnaire. The results of the *t*-test displayed statistically significant gender differences in criterion variables. In male students regression analysis revealed that the biggest correlation between the predictor and criterion variables (psycho- and somatic disorders) was obtained for the predictor variable *For how long have you been doing your sporting activity?* The students with a longer sport experience felt far fewer health-related discomforts than the others. In women the regression analysis of the influence the predictor variables have on the health-related discomforts or medical conditions showed the biggest correlation for the question: *How many hours of leisure do you have per day*? The female students with more free time self-evaluated their health as better. The various answers related to leisure time sport participation revealed that the male students were more active than the female students. The sport experience of the men was longer than the experience of the women, and they preferred sport games and resistance training in gyms. The self-perceived health evaluation of the men was generally higher than the self-perception of health in the women, except for anger, which was lower in the female students. The female students listed numerous health-related discomforts and medical conditions, among which particularly conspicuous was the general feeling of being tired connected with a sequence of psycho-somatic discomforts (tension, shortage of time, feeling restless, back pain and leg pain) and similar. The discomforts and medical conditions reported by the young female students are comparable to the ones already reported by the general population of people of all, predominantly older, ages and caused primarily by hypokinesis and stress. Due to the age of the subjects (21 years), the obtained results are somewhat unexpected because the reported self-evaluation of students' health is more appropriate for older persons. Nevertheless, the majority of discomforts and medical conditions were induced by insufficient physical activity, that is, by a sedentary lifestyle. The results draw attention to the necessity for the strategy of leisure time of the young, especially college or university students, to be thoroughly investigated. They also indicate the necessity to intervene in that field and that many administration and non-government organisations should take part in enhancing the quality of students' life. Adequate habitual physical recreation programmes and activities must become a regular part of the daily schedule of the young. Special attention should be paid to young women who have not developed habits of active participation in sporting and other physical recreation activities. The physical activity programmes should be designed in such a way as to meet not only their preferences, but also their objective needs as well.

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SUDJELOVANJE U RAZNIM AKTIVNOSTIMA U SLOBODNOM VREMENU I SUBJEKTIVNI DOŽIVLJAJ ZDRAVLJA STUDENATA SPLITSKOG SVEUČILIŠTA

Sažetak

Uvod

U ovom je radu istražena povezanost načina na koji studenti Sveučilišta u Splitu provode slobodno vrijeme i subjektivne ocjene njihova zdravlja. Studentska populacija budući su nositelji društvenog ustroja i socijalno-ekonomske nadgradnje te su budući rukovoditelji u svakom razvijenom društvu. Ovim istraživanjem željeli su se utvrditi načini i trendovi provođenja slobodnog vremena studentske populacije, koji su osobni izbor pojedinca s čitavim nizom učinaka. Slobodno vrijeme utječe na učinkovitost rada, a to se pravilo može primijeniti i na kvalitetu studiranja, čija će uspješnost zavisiti, između ostaloga, i od psihofizičkog stanja svakog pojedinca. Autori su željeli ustanoviti koliko je sportska aktivnost zastupljena u slobodnom vremenu ispitanika te koliki je, prema subjektivnoj procjeni studenata, njihov stupanj zdravlja i kakve zdravstvene smetnje osjećaju. Isto se tako istražilo u kojoj je mjeri bavljenje sportom studenata/ica povezano s manifestacijom različitih psihičkih i somatskih smetnji.

Metode

Uzorak je obuhvatio 449 ispitanika iz populacije studenata sa šest splitskih fakulteta, 380 studentica i 69 studenata. Prosječna dob anketiranih studenata iznosila je 21,39 godina. Istraživanje je provedeno anketnim upitnikom radi utvrđivanja načina na koji studenti provode slobodno vrijeme. U radu je istražena zastupljenost i vrsta sportskih aktivnosti kojima se studenti bave te zdravstvene smetnje prema subjektivnoj procjeni studenata. Isto se tako željela istražiti povezanost bavljenja sportom studenata/ica s manifestacijom različitih psihičkih i somatskih smetnji. U radu su korištene sljedeće statističke metode: deskriptivna analiza, analiza frekvencija (F) i postotaka (%), T-test nezavisnih uzoraka (t - vrijednost *t*-testa, df – stupnjevi slobode, p - prag značajnosti) te regresijska analiza u kojoj su prediktorske varijable bile pitanja iz ankete: *LEART - Koliko vremena dnevno provodit*e u učenju?; *LEISURE - Koliko sati dnevno imate slobodnog vremena?; SPORT - Bavite li se sada sportom?; ACTYRS - Koliko se dugo bavite sportom?; HRSPW - Koliko se puta tjedno bavite sportskim aktivnostima?.* Kriterijska varijabla, *Poteškoće sa zdravljem,* vezana je uz odgovor na pitanje iz ankete: Kakve poteškoće imate sa zdravljem? Druga kriterijska varijabla, *Zdravstvene smetnje,* vezana je uz odgovore na pitanje iz ankete: *Zaokružite zdravstvene smetnje koje imate*.

Rezultati i rasprava

Iako su uzorak činile pretežito studentice (omjer u odnosu na muškarce gotovo 3:1), *t*-test analize razlika pokazala je u kriterijskim varijablama značajne razlike između spolova (tablica 2). Regresijska analiza (tablica 3), pokazala je statistički značajan utjecaj prediktorskih varijabli na smetnje sa zdravljem u uzorku studenata (p=0,03). Od svih prediktorskih varijabli najveću korelaciju sa zdravstvenim smetnjama imalo je pitanje *Koliko se dugo bavite sportom?* Izračunati koeficijent regresije te varijable statistički je značajan (p=0,02), a očito je da ispitanici koji se duže vremena bave sportom imaju manje poteškoća sa zdravljem (negativna povezanost). Druga regresijska analiza (tablica 4) ukazala je na statistički značajan utjecaj prediktorskih varijabli na smetnje vezane uz stanje zdravlja u uzorku studentica (p=0,02). Najveću korelaciju sa zdravstvenim smetnjama ima pitanje *Koliko imate sati slobodnog vremena?* Izračunati koeficijent regresije te varijable statistički je značajan (p=0,00). Ispitanice koje dnevno imaju više slobodnog vremena, imaju i manje poteškoća sa zdravljem. U tablici 5, prikazane su frekvencije subjektivnih smetnji kod studentica i studenata koje se manifestiraju kao psihosomatske smetnje. Kod studentica se posebice ističe prisutnost učestalog umora (52%) i generalni nedostatak vremena (43,9%). Uz to znatan postotak (39,7%) studentica učestalo osjeća napetost, a velik dio njih (23,9%) lošije spava i osjeća nemir (24,2%). Može se reći da je i prisutnost ljutnje zastupljena kod studentica u znatnom postotku (17,4%), što možemo pripisati prethodnim manifestacijama i nemogućnosti da ostvare zadane ciljeve tijekom studiranja. Smetnje koje su studentice navele, ograničavajući su faktor psihofizičke sposobnosti koja je neophodna u realizaciji različitih ciljeva. Kod studenata je najprisutnija ljutnja (31,9%) i osjećaj napetosti (30%). Neobična je pojava kod studenata da koriste različite lijekove (8,7%). Iako udio studenata i studentica u uzorku nije proporcionalan, može se reći da veliki broj studenata ima subjektivne poteškoće proizašle iz različitih studentskih obveza i opterećenja, ali vjerojatno i iz životnih navika. Pitanje je jesu li studenti općenito preopterećeni studentskim obvezama, ali i u kojoj su mjeri svjesni smetnji koje bi mogli smanjiti ili otkloniti u slobodnom vremenu. Tablica 6 pokazuje frekvenciju odgovora studenata i studentica na zdravstvene smetnje koje se manifestiraju kao bol. Kod studentica je učestala bol u vratnoj i lumbalnoj kralješnici. Zanimljivo je da većina studentica

ima nizak krvni tlak (28,1%), što se može povezati s osjećajem umora. Studentice češće osjećaju bolove u nogama (17,4%), dok se studenti više žale na pojavu boli u stopalima. I jedni i drugi smatraju (čak je to više izraženo kod studenata 17,4%) da imaju višak tjelesne težine. Može se reći da većina smetnji i tegoba proizlazi iz stanja i funkcije sustava za kretanje, pa bi s time mogli povezati učestalost bolova u kralješnici, pretilosti, bolova u nogama i niskoga krvnog tlaka. U tablici 7, prikazane su frekvencije odgovora na pitanja vezane uz način provođenja slobodnog vremena studentica i studenata. Studentice najviše vremena posvećuju gledanju televizijskog programa (69,1%). Studenti i studentice gotovo podjednako koriste slobodno vrijeme boraveći s prijateljima u kafićima, dok studentice u većem postotku (49%) čitaju knjige i časopise. Sportsko-rekreacijskom aktivnošću se bavi svaki drugi student (53,6%), dok je tek svaka četvrta studentica tjelesno aktivna. Sportom se u sportskim klubovima bavi 20,3% studenata, dok je svega 2,9% studentica prisutno u sportu. Studentice se samo povremeno bave nekom tjelesnom aktivnošću (40,8%), no takav pristup tjelesnoj aktivnosti ne utječe trajnije povoljno na organizam, što ujedno dokazuje da studentice ne posjeduju naviku da redovito vježbaju, što se očito manifestira i poteškoćama sa zdravljem. Porazno je da se više od polovine studentica, a radi se o dvadeset jednogodišnjakinjama, ne bavi nikakvom tjelesnom aktivnošću, čak ni povremeno. Studenti 62,3%, još iz srednjoškolskog razdoblja imaju naviku da se bave sportom, što se pozitivno reflektira na navike i u zrelijoj dobi. Udio studentica u višegodišnjem bavljenju sportom relativno je mali (18,2%). Studentice participiraju u nekoj od sportskih aktivnosti uglavnom jedanput tjedno (35%), što je nedovoljno za održavanje psihofizičkog statusa na poželjnoj, optimalnoj razini. Aktivnosti kojima se studenti najčešće bave jesu kolektivni sportovi (47,8%) te vježbanje u teretani (26,1%) (tablica 11). Studentice se, međutim, više i češće bave individualnim sportskim aktivnostima (41,8%), a manji broj njih bavi se različitim vrstama aerobike (15,6%) i plesom (13,3%). Rezultati istraživanja potvrđuju tradicionalni pristup studenata prema nekim oblicima aktivnosti kao što su nogomet, košarka, odbojka i sl., dok su studentice pokazale veći interes za individualni tip aktivnosti. Iako se iz brojnih primjera činilo da ženska populacija preferira organizirane oblike aktivnosti, u ovom slučaju se pokazalo da mlade studentice najčešće koriste aktivnosti vezane uz prirodu. To nas upućuje na potrebu daljnjih istraživanja vezanih uz uvjete provođenja sportsko-rekreacijskih sadržaja s različitih aspekata: prostornih, stručnih, ekonomskih, programskih i drugih.

Zaključak

Rezultati istraživanja ukazuju na značajan doprinos načina provođenja slobodnog vremena na subjektivan doživljaj zdravlja. Studenti/ce koje imaju više slobodnog vremena ocjenjuju svoj zdravstveni status boljim i višim. Studenti su znatno aktivniji od studentica, a njihov sportski staž je u odnosu na studentice duži te više preferiraju sportske igre i vježbe s opterećenjem. Subjektivna ocjena zdravstvenog stanja kod studenata je generalno viša nego kod studentica. Studentice su nabrojale brojne zdravstvene smetnje od kojih se osobito ističe opće stanje umora koje je povezano s nizom psihosomatskih smetnji (napetost, nedostatak vremena, osjećaj nemira te bolovi u kralješnici, nogama) i sl. Smetnje kod studentica možemo usporediti sa smetnjama modernog čovjeka koje su uvjetovane hipokinezijom i stresom. S obzirom na dob ispitanika - 21 godina, u prosjeku, dobiveni rezultati su vrlo zabrinjavajući budući da većina smetnji proizlazi iz nedovoljnog kretanja te da je takva subjektivna ocjena zdravstvenog stanja primjerenija starijim osobama. Strategija načina korištenja slobodnog vremena mladih trebala bi biti predmetom istraživanja i interesa različitih društvenih struktura koje bi morale potaknuti društvo na akciju za poboljšanje kvalitete života studenata. Redovita, primjerena sportsko-rekreacijska aktivnost treba ući u svakodnevni raspored mladih. Osobitu pažnju treba posvetiti programima za studentice koje očito nemaju razvijenu naviku da se bave sportom te bi se budući programi aktivnosti trebali kreirati prema njihovim objektivnim potrebama, ali i željama.