

Health-Related Behaviours, Physical Activity and Perceived Life Satisfaction in the Academic Youth of Pedagogical Subjects in Cracow

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Summary

The aim of the study was to analyse the correlation between the level of satisfaction with life, health-related behaviours and physical activity in the group of academic youth studying pedagogical subjects at chosen universities in Cracow. The following variables were used and characterized: levels of satisfaction with life, health-related behaviours and physical activity. The study verifies the hypothesis that the academic youth characterized by higher levels of satisfaction with life will be show a wider scale of pro-health behaviours and higher levels of physical activity. The study was conducted in a random group of 486 participants – 416 women (85.60%) and 70 men (14.40%) in the age 22–28 years (average: 23 years). The group consisted of undergraduates (3rd year of bachelor studies) at pedagogical studies from three universities in Cracow: Pedagogical University of Cracow (66.26%), the Jagiellonian University (25.31%) and Andrzej Frycz Modrzewski Krakow University (8.43%).

The standardised Satisfaction With Life Scale (SWLS) by Diener et al. in the Polish adaptation by Z. Juczyński (2009) was used for the purpose of measuring the satisfaction with life. The Inventory of Health-Related Behaviours (IHRB) by Juczyński (2009) was used for the assessment of 4 categories of health-related behaviours: proper nutrition habits (PNH), prophylaxis (P), pro-health practices (PHP) and positive attitude (PA). The intensity of pro-health behaviours was assessed with the use of the proper sten scores (Juczyński 2009). The International Physical Activity Questionnaire (IPAQ) – Short Form was used to assess the levels of physical activity.

The above presented authors' own research show that the majority of Cracow students of pedagogical subjects was characterized by an average satisfaction with life, and low levels of pro-health behaviours, as well as an adequate level of physical activity. Statistically significant diversity in some pro-health behaviours and physical activities were discovered. They were found to be related to such factors as sex, intensity of certain pro-health behaviours, and satisfaction with life among academic youth.

Keywords: health-related behaviours, satisfaction with life, physical activity, academic youth

Introduction

Lifestyle is a key determinant of health defined in a holistic model as a dynamic process of striving towards psychophysiological balance. In maintaining and perfecting a health capability pro-health behaviours are favourable, especially those related to a rational diet, recreational physical activity, effective ways of coping with psychological stress, avoiding psychoactive substances, avoiding risky sexual behaviours, and undergoing preventive medical examinations [Karski 2011, Heszen & Sęk 2012, Wojtyniak et al. 2012].

A propitious factor in retaining and improving health is a diverse and balanced diet rich in nutritious

products like wholemeal cereal, vegetables, fruits, dairy products with low content of fats, fish, vegetable oils and nuts. Such a diet should also limit the amount of consumed animal fats, red meat, finely milled cereal products as well as sweet and savoury snacks ([Kłosiwicz-Latoszek 2009]. Recreational physical activity, especially health-related training, conduces to health, prevents chronic diseases, improves emotional well-being, and delays involution [Kuński 2002, Jegier et al. 2013, Daniels 2014, Wernhart et al. 2015]. Moreover, physical activity helps in effective coping with stress by the means of positive and direct usage of maleficent elements of stressful reaction, a post-exertional relaxation, increasing cardiorespiratory endurance, stimulating se-

cretion of endogenous opioids and decreasing the level of reactivity [Kuński 2002, Heszen & Sęk 2012]. Rational diet combined with recreational physical activity were included as the key factors of healthy lifestyle in the new Polish pyramid of The National Food and Nutrition Institute in Warsaw [www.izz.waw.pl]. Avoiding the use of psychoactive substances (including cigarettes) is the a favourable factor in the prophylaxis of chronic illnesses, including cancer and cardiovascular diseases (Karski 2011). Undergoing preventive medical examinations increases the chances of early diagnose of various risks for health and is a part of prophylaxis of chronic diseases [Karski 2011].

Studies show that anti-health behaviours in lifestyle are widespread among various populations, including the academic youth [Łysak et al. 2009, Lisicki & Kosińska 2010, Mędreła-Kuder 2011, Romanowska-Tolloczko 2011, Podstawski et al. 2012, Ślusarska et al. 2012, Pasit 2014, Monhollen et al. 2016] and teachers [Prażmowska et al. 2011, Duda-Zalewska 2012, Woynarowska-Soldan & Tabak 2013, Laudańska-Krzemińska 2014]. The problem of a limited scope of pro-health lifestyle among the teachers and students of pedagogical subjects is particularly important. This is because, according to the new curricular guidelines of general education form the year 2009 [Rozporządzenie Ministra Edukacji Narodowej a dnia 23 grudnia 2008 r. w sprawie podstawy programowej wychowania przedszkolnego oraz kształcenia ogólnego w poszczególnych typach szkół. Dz. U. Z 2009 r., nr 4, poz. 17], these groups have or will have an influence on health education of school children on all levels of education.

Health-related behaviours are determined by a wide range of socioeconomic, cultural and personality factors [Remick 2009, Juczyński 2009]. Individual differences which contribute to one's health culture include the location of control over health, a sense of general self-efficacy, optimism and satisfaction with life. Previous studies indicated the correlation between psychological traits (including a sense of efficacy, optimism and satisfaction with life) and nutritional habits of various populations including menopausal women [Gacek 2013a, 2013b], young women recreationally practicing fitness [Gacek et al. 2015] and teachers [Kosiba 2006, Laudańska-Krzemińska et al. 2015]. In this context, the present study has been conducted in order to establish the predictive role of perceived satisfaction with life with a reference to health-related behaviours and physical activity of a group of students of pedagogical subjects at chosen universities in Cracow.

The satisfaction with life (as a subjective measure of a sense of well-being) has been defined as a general individual cognitive assessment of life's quality [Juczyński 2009]. It is perceived as a subjective point of view because of its relatedness to the individual evaluation of own resources and limitations which is manifested through a positive attitude to one's life situation. The perceived satisfaction with life as a measure of life's quality is one of the individual's health resources in the dimension of psychosocial health [Byra 2011, Trzebiatowski 2011].

The present study assumes that the pro-health behaviours (including physical activity) are the key factors determining health, and that personal traits play a crucial role in modelling these behaviours. It is also assumed that the students of pedagogical subjects will undertake the work in their profession in the future and that they will be engaged in the health education of school children.

The aim of the study was to analyse the correlation between the level of satisfaction with life, health-related behaviours and physical activity in the group of academic youth studying pedagogical subjects at chosen universities in Cracow. The following variables were used and characterized: levels of satisfaction with life, health-related behaviours and physical activity. The study verifies the hypothesis that the academic youth characterized by higher levels of satisfaction with life will show a wider scale of pro-health behaviours and higher levels of physical activity.

Material and methods

The study was conducted in a random group of 486 participants – 416 women (85.60%) and 70 men (14.40%) in the age 22–28 years (average: 23 years). The group consisted of undergraduates (3rd year of bachelor studies) at pedagogical studies from three universities in Cracow: Pedagogical University of Cracow (66.26%), the Jagiellonian University (25.31%) and Andrzej Frycz Modrzewski Krakow University (8.43%). The difference in numbers between the sexes is a result of the fact that pedagogical subjects are rarely preferred by men.

The standardised Satisfaction With Life Scale (SWLS) by Diener et al. in the Polish adaptation by Z. Juczyński [2009] was used for the purpose of measuring the satisfaction with life. The classification of the participants upon the criteria of satisfaction with life was based on proper sten scores [Juczyński 2009]. According to this the high (10–7 sten), average (6–5 sten) and low (4–1 sten) levels of satisfaction with life were distinguished.

The Inventory of Health-Related Behaviours (IHRB) by Juczyński [2009] was used for the assessment of 4 categories of health-related behaviours: proper nutrition habits (PNH), prophylaxis (P), pro-health practices (PHP) and positive attitude (PA). The intensity of pro-health behaviours was assessed with the use of the proper sten scores [Juczyński 2009].

The International Physical Activity Questionnaire (IPAQ) – Short Form was used to assess the levels of physical activity. The categories of sitting, walking, moderate and vigorous physical activities were evaluated. The Metabolic Equivalent of Task (MET) was used for the purposes of assigning participants to the groups of different levels of physical activity: high (over 1500 or 3000 MET-minutes per week), average (600–1500 or 600–3000 MET-minutes per week) and low (under 600 MET-minutes per week) [Biernat et al. 2007].

The statistical analysis was conducted using the chi-squared test with multiple comparisons (z test for the

proportion with Bonferroni correction, marked in the tables below with the letters a and b), Paerson's correlation and repeated measures ANOVA. The level of significance was set at $p < 0.05$, while $p < 0.01$ and $p < 0.001$ were deemed as highly significant.

Results

Based on the sten scores of the SWLS it has been stated that the majority of academic youth presents the average (41.56%) level of satisfaction with life. Smaller fractions were characterized by high (33.13%) and low (25.31%) levels. The statistical analysis has not indicated the significant differentiation in the level of satisfaction with life in accordance to sex ($p = 0.160$) (Tab. 1).

Based on the sten scores of the IHRB it has been observed that the academic youth mostly (47.94%) presented low levels of pro-health behaviours. Smaller percentage showed average (38.89%) or high (13.17%) levels. The statistical analysis has not indicated the signif-

icant difference in the level of pro-health behaviours in accordance to sex ($p = 0.577$) (Tab.2).

From the 4 categories included in the IHRB the academic youth presented the highest average index within the pro-health practices (19.48) and positive attitude (19.47). The lower index was presented with in the proper nutrition habits (18.95) and prophylaxis (17.99). The statistical analysis has indicated significant differences in the intensity of health-related behaviours between men and women in the: positive attitude ($F(1,480) = 7.04$; $p = 0.008$), proper nutrition habits ($F(1,480) = 23.95$; $p < 0.001$) and prophylaxis ($F(1,480) = 15.17$; $p < 0.001$). The scale of undertaking everyday pro-health practices has not shown differences in accordance to sex ($F(1,480) = 1.97$; $p = 0.161$) (Tab. 3).

The analysis of variance indicated statistically significant differences in the intensity of almost all categories of pro-health behaviours. There was no statistically significant difference between the intensity of pro-health practices and positive attitude in the academic youth (Tab. 4).

Tab. 1. The level of satisfaction with life in academic youth in accordance to sex (percentage of the participants)

SWLS scores	All		Women		Men	
	N	%	N	%	N	%
High	161	33.13	142a	34.10	19a	27.10
Average	202	41.56	175a	42.10	27a	38.60
Low	123	25.31	99a	23.80	24a	34.30
All	486	100.00	416	100.00	70	100.00

$\chi^2(2) = 3.66$; $p = 0.160$

Tab. 2. The level of health-related behaviours in academic youth in accordance to sex (percentage of the participants)

IHRB scores	All		Women		Men	
	N	%	N	%	N	%
High	64	13.17	57a	13.70	7a	10.00
Average	189	38.89	163a	39.18	26a	37.14
Low	233	47.94	196a	47.12	37a	52.86
All	486	100.00	416	100.00	70	100.00

$\chi^2(2) = 1.100$; $p = 0.577$

Tab. 3. The particular categories of health-related behaviours amongst the academic youth in accordance to sex (M±SD)

Pro-health behaviours	All (N=486)		Women (N=416)		Men (N=70)	
	M	SD	M	SD	M	SD
Positive attitude (PA)	19.47	4.16	19.71	4.13	18.03	4.07
Prophylaxis (P)	17.99	4.64	18.31	4.63	16.07	4.22
Proper nutrition habits (PNH)	18.95	4.92	19.41	4.75	16.17	5.01
Pro-health practices (PHP)	19.48	4.10	19.57	4.00	18.91	4.69
Health-related behaviours (HRB)	75.88	12.83	77.00	12.43	69.19	13.17

The data presented in Tab. 5. indicate that the academic youth presented mostly satisfactory (62.10%), seldom high (26.5%) and low (11.30%) levels of physical activity. The statistical analysis indicated the significant differences in the level of physical activity of men and women ($\chi^2(2)=6.521; p=0.038$), where men more frequently presented high, and women satisfactory level of physical activity.

From the presented in IPAQ categories of physical activity the highest level was observed within walking and vigorous physical activity and lower within mod-

erate physical activity and sitting. Men scored higher in walking, moderate, and vigorous physical activities, while women scored higher in sitting (Tab. 6).

The statistical analysis indicated the significant differences in almost all categories of physical activities in the academic youth. There were no statistically significant differences only in accordance to the moderate and vigorous physical activities (Tab. 7).

Tab. 8 presents the correlations between the levels of satisfaction with life and the intensity of pro-health behaviours. Low levels of pro-health behaviours were

Tab. 4. The differences between the intensity of particular categories of health-related behaviours in the academic youth

	<i>F</i> (1,486)			<i>p</i>		
	PA	P	PNH	PA	P	PNH
P	48.30			< 0.001		
PNH	4.67	17.82		0.030	< 0.001	
PHP	0.002	39.37	4.27	0.968	< 0.001	0.039

Tab. 5. The level of physical activity in the academic youth in accordance to sex (percentage of the participants)

Level of physical activity	All		Women		Men	
	N	%	N	%	N	%
High	129	26.50	103b	24.80	26a	37.10
Average	302	62.10	268b	64.40	34a	48.60
Low	55	11.30	45a	10.80	10a	14.30
All	485	100.00	416	100.00	70	100.00

$\chi^2(2)=6.521; p=0.038$

Tab. 6. The particular categories of physical activity in the academic youth in accordance to sex (MET-minutes per week)

IPAQ categories	All			Women			Men		
	N	M	SD	N	M	SD	N	M	SD
IPAQ vigorous	468	1194.27	2042.66	400	1120.40	1750.19	68	1628.82	3258.33
IPAQ moderate	461	719.91	1366.19	393	650.43	1126.42	68	1121.47	2280.14
IPAQ walking	445	2859.21	2861.35	385	2816.19	2842.92	60	3135.27	2986.81
IPAQ sitting	393	399.24	169.42	340	402.79	170.03	53	376.42	165.22
IPAQ all	418	4819.85	4497.27	362	4595.66	4053.36	56	6269.06	6560.31

Tab. 7. Differences between the intensity of particular categories of physical activities in the academic youth

	<i>F</i> (1,358)			<i>p</i>		
	IPAQ vigorous	IPAQ moderate	IPAQ walking	IPAQ vigorous	IPAQ moderate	IPAQ walking
IPAQ moderate	26.51			< 0.001		
IPAQ walking	69.60	179.76		< 0.001	< 0.001	
IPAQ sitting	60.66	24.56	252.15	< 0.001	< 0.001	< 0.001

declared by participants with low (61.0%), average (49.0%) and high (36.6%) satisfaction with life. The high levels of pro-health behaviours were declared by participants with low (8.01%), average (12.9%) and high (17.4%) satisfaction with life. The significance of the differences between separate categories was confirmed by the statistical analysis ($p=0.022$).

The statistical analysis has not showed statistical significance in the differences between the levels of physical activity and the levels of satisfaction with life in the academic youth (Tab. 9).

The analysis of correlations indicated a positive correlation between the perceived satisfaction with life and particular categories of pro-health behaviours ($p<0.01$).

Tab. 8. The intensity of health-related behaviours in the academic youth in accordance to the level of satisfaction with life (percentage of the participants)

IHRB scores	All		SWLS scores					
			Low		Average		High	
	N	%	N	%	N	%	N	%
Low	233	47.90	75a	61.00	99a, b	49.00	59b	36.60
Average	189	38.90	38a	30.90	77a, b	38.10	74b	46.00
High	64	13.20	10a	8.01	26a	12.90	28a	17.40
All	486	100.00	123	100.00	202	100.00	161	100.00

$\chi^2(2)=17.380; p=0.022$

Tab. 9. The level of physical activity in the academic youth in accordance to the level of satisfaction with life (percentage of the participants)

IPAQ scores	All		SWLS					
			Low		Average		High	
	N	%	N	%	N	%	N	%
Low	55	11.30	12a	9.80	26a	12.90	17a	10.60
Average	302	62.10	67a	54.50	133a	65.80	102a	63.40
High	129	26.50	44a	35.80	43b	21.30	42a, b	26.10
All	486	100.00	123	100.00	202	100.00	161	100.00

$\chi^2(2)=8.487; p=0.075$

Tab. 10. Correlations between particular categories of health-related behaviours (IHRB), physical activity (IPAQ) and the level of satisfaction with life in the academic youth

Categories of health-related behaviours (IHRB)	Perceived satisfaction with life
	Pearson's r
Positive attitude (PA)	0.39**
Pro-health practices (PHP)	0.20**
Proper nutrition habits (PNH)	0.15**
Prophylaxis (P)	0.20**
Physical activity categories (IPAQ)	
IPAQ walking (N=445)	0.02
IPAQ vigorous (N=468)	-0.07
IPAQ moderate (N=461)	0.01
IPAQ sitting (N=393)	-0.04

** $p<0.01$

From the analysed categories the strongest correlation with the satisfaction with life was connected to the positive attitude ($r=0.39$) and the weakest to the proper nutrition habits ($r=0.15$). There were no statistically significant correlations between the levels of satisfaction with life and the level of physical activity in the academic youth (Tab. 10).

Discussion

Positive attitude to health and undertaking activities that work in health's favour in students that are to become teachers may help in creating appropriate models and healthy lifestyle of youth and school-children.

The above presented authors' own research show that the majority of Cracow students of pedagogical subjects was characterized by an average satisfaction with life, and low levels of pro-health behaviours, as well as an adequate level of physical activity. Statistically significant diversity in some pro-health behaviours and physical activities were discovered. They were found to be related to such factors as sex, intensity of certain pro-health behaviours, and satisfaction with life among academic youth.

The average levels of satisfaction with life (41.56%), which was described as dominant in academic youth, was consistent with tendencies found in other research, including the Iranian female teachers [Mirkhan et al. 2014] and the Greater Poland female teachers [Laudańska-Krzemińska et al. 2015]. Being satisfied with life was declared by 58,5% of another Cracow group of students [Makowska 2010]. This factor constitutes an important indicator of life quality and also a crucial health resource in the dimension of psycho-social health [Byra 2011, Trzebiatowski 2011].

The presented research shows that the majority of Cracow students of pedagogical subjects declared a low (47.94%) or average (38.89%) level of health-related behaviours, with behaviours in some areas being more intense in women than in men. Similar results were obtained in other groups of students [Lewko et al. 2005, Rasińska 2012], and in athletes [Boguszewski et al. 2014]. In the latter group, no diversification was found in relation to sex [Boguszewski et al. 2014].

The low and average levels of pro-health behaviour, which were described as dominant in academic youth, confirm rather limited scale of healthy lifestyle – a key factor for good health in the holistic model. The tendencies corresponded to limited scope of pro-health behaviours in various populations, including academic youth [Łysak et al. 2009, Romanowska-Tolłoczko 2011, Lisicki & Kosińska 2010] and teachers [Sharma et al. 2013, Laudańska-Krzemińska et al. 2015]. The erroneousness in lifestyles of various groups of students that may be found in a body literature concerned mainly the following: ineffective rest [Romanowska-Tolłoczko 2011], preference for passive forms of recreation (Lisicki & Kosińska 2010), abusing alcoholic beverages [Łysak et al. 2009, Romanowska-Tolłoczko 2011], smoking [Łysak et al.

2009, Romanowska-Tolłoczko 2011], and malnutrition [Mędreła-Kuder 2011, Myszkowska-Ryciak et al. 2011, Rasińska 2012, Seń et al. 2012, Ślusarska et al. 2012].

The authors' own research show the diversification of intensity of health-related behaviours falling into certain categories; the positive mental attitude (positive thinking, having appropriate relations with others, avoiding strong emotions and stresses) and behaviours related to daily health routine (having enough sleep, limited use of substances, etc.) being the most intense, and proper nutrition habits and prophylaxis being the less intense. Similar tendencies were observed in the Poznan group of academic youth which showed the highest intensity of behaviours related to positive mental attitude, and the lowest intensity of prophylaxis [Rasińska 2012].

The highest level of pro-health behaviours related to positive attitude (i.e. in the field of psychological health factors) may suggest that the students were aware of the importance of effective preventive strategies. Similar tendencies were discovered in other groups of academic youth [Binkowska-Bury et al. 2010, Sygit-Kowalkowska 2014]. The significance of active and effective coping with stress is also underlined in the literature concerning professional burnout syndrome in teachers; with the crucial factors being interpersonal competences, including: resilience, initiative, optimism, self-confidence, high self-esteem, ability to adapt to demanding situations, and effective coping with stress [Tucholska 2003, Sęk 2004].

The relatively high levels of daily health routine (sleep, recreation, avoiding substances, etc.) in academic youth, which was discovered in the research, may confirm the observed improvement in healthy lifestyle in adults. During the past few years a positive change in recreational habits of young people may have been observed (e.g. growing popularity of jogging, cycling, fitness, swimming, as well as the use of recreational centres). It seems that, contrary to the popular view stressing the persistence of passive leisure, the appeal of active recreation models, and the general growth of ecological and health consciousness of the society cause the remaining obstacles to recreation (especially physical) to consequently diminish.

On the other hand, the results showing lower intensity of behaviours related to proper nutrition go in line with the results of other research confirming the ubiquity of erroneous nutritional habits in academic youth. The typical malnutrition practices in students and teachers were mostly related to: insufficient consumption of vegetables, fruits, wholegrain and dairy products, and to excess consumption of sweets (including pastries), animal fats and salt [Romanowska-Tolłoczko 2011, Rasińska 2012, Sharma et al. 2013, Laudańska-Krzemińska et al. 2015].

The lowest levels of pro-health behaviours was related to prophylaxis, including compliance to health professionals' recommendations, regular medical examinations, and broadening one's knowledge of requirements of good health and threats to it. The results were

on a par with what was found by Nitecka-Walerych [2005] in students of early school education. Also, the studies conducted in students of medical faculties confirm the inconsistency between behaviour and knowledge of prophylaxis [Kleszczewska et al. 2014]. Therefore, it is acceptable to state that academic youth tends to dismiss the potential threats to their health in the distant future.

Moreover, the presented authors' own research showed that the majority of Cracow students of pedagogical subjects declared sufficient levels of physical activity (62.10%), with sex being the differentiating factor (men being more active than women). Its average levels, in most cases, meant that more than a half of the group did moderately intense exercise or walk no less than 5 times a week for 30 minutes, or intense exercise no less than 3 times a week for 20 minutes, or a combination of activities done at least 5 times a week and exceeding 600 MET-min per week. Other research showed diverse levels of physical activity in academic youth [Winiarska-Mieczan & Dymek 2009, Baj-Korpak et al. 2010, Suguksu 2011, Sochacka & Wojtylko 2013, Pedisic et al. 2014a, Bergier et al. 2016]. The tendencies found in authors' own study corresponded to the results obtained from the students of Pope John II State School of Higher Education in Biała Podlaska [Bergier et al. 2014]. The highest fraction (about 60%) of the participants was characterized by moderate physical activity. As in the case of Cracow youth, the Biała Podlaska students preferred walking (959.2 MET-min per week) and intensive workout (901.5 MET-min per week). Men were more active than women ($p < 0.05$). Similar levels of physical activity, higher in men than women, was found in Greek [Tirodimos et al. 2009] and American [Buckworth & Nigg 2004] academic youth. Conversely, teachers were characterized by low physical activity [Zysnarska & Bernad 2007, Prazmowska et al. 2011, Biernat et al. 2012, Woynarowska-Soldan & Więziak-Białowska 2012, Woynarowska-Soldan & Tabak 2013], except for the research where a significant part of the participants comprised physical education teachers [Laudańska-Krzemińska 2014, Laudańska-Krzemińska et al. 2015].

In the authors' own research statistically significant relationships between the levels of satisfaction with life and health-related behaviours were discovered. The relationships were also confirmed by comparison of levels of health-related behaviours and satisfaction with life, as well as by correlation between the analysed variables. Higher level of satisfaction with life was related to higher level of pro-health behaviours. The results, suggesting more rational behaviours in youth characterized by greater satisfaction with life, are well-grounded in the characteristics of this personality dimension. They also correspond to the results from other research. The relationships of satisfaction with life with certain behavioural determinants of health were also confirmed by Chile studies [Schnettler et al. 2014, Schnettler et al. 2015a, Schnettler et al. 2015b]. The research conduct-

ed in female teachers from Greater Poland showed that the higher levels of satisfaction with life were related to lower BMI and better nutritional standards [Laudańska-Krzemińska et al. 2015]. What is more, better nutritional choices were also found in perimenopause women [Gacek 2013, Gacek 2014].

The authors' own research did not provide statistically significant relationships between the levels of satisfaction with life and the levels of physical activity as measured by IPAQ. This is true for both: the comparison of physical activity levels and the satisfaction with life, and for the correlation between the analyzed variables. Other studies in academic youth suggest that physical activity positively influences the quality of life, improving *inter alia* well-being and interpersonal relations [Miązek 2005, Fiolna 2010]. Positive correlations between taking up physical activity and levels of satisfaction with life were also found in the American [Valois et al. 2004, Maher et al. 2014, Maher et al. 2015], Croatian [Pedisic et al. 2014b], and Australian [Eime et al. 2014] studies.

Summarizing, it may be concluded that the data obtained allow of partially positive verification of the research hypothesis, that the academic youth characterized by higher levels of satisfaction with life is also characterized by more health-oriented lifestyle. Furthermore, the positive verification is also valid for pro-health behaviours (as measured by Juczyński's IHRB), and is not valid for physical activity (by IPAQ).

It needs also be stressed that high satisfaction with life is an important human health resource, which works well with actively caring for health. At the same time, the limited scope of pro-health behaviours, as it was shown in the author's own research and other studies, substantiate the need for health education. It also seems necessary to monitor students' lifestyle and – taking into consideration their psychological characteristics – make it more rational. It is advised that further research in this field be conducted in order to explore the relationships between satisfaction with life, the intensity of pro-health behaviours, and participation of different age-groups in physical activities.

Conclusions

1. The group of Cracow students of educational faculties is mostly characterized by average levels of satisfaction with life, low levels of pro-health behaviours, and adequate levels of physical activity; with pro-health lifestyle being realized to a rather limited extent.
2. Some aspects of the academic youth's lifestyle were dependent on sex, with men being more physically active than women.
3. The obtained significant positive correlations between satisfaction with life and intensity of pro-health behaviours meant that with the increase of satisfaction with life there was an increase in positive attitude, daily health routine, good nutritional habits, and preventive behaviours in Cracow students.

The statistically significant relationship between the level of satisfaction with life and the intensity of physical activity (a key aspect of healthy lifestyle) was not found.

Application of conclusions

1. Health education for pedagogical faculty students should not only work in favour of modelling pro-health attitudes, but it also ought to take into account the problem of rational nutrition and preventive behaviours; the areas where – as the results show – there still is plenty of room for improvement.
2. The students need be reminded that irrespective of their specialization, the task of health education of school-children is and will be theirs to perform; as it outlined by the regulations concerning their future profession.

References

- Baj-Korpak J., Soroka A., Korpak F. [2010] Aktywność fizyczna wybranych grup społeczno-zawodowych (w szkolenictwie). *Człowiek & Zdrowie*, 4(1), pp. 152-161.
- Bergier B., Stepień E., Niżnikowska E., Bergier J. [2014] Aktywność fizyczna kobiet i mężczyzn studiujących w Państwowej Szkole Wyższej w Białej Podlaskiej. *Medycyna Ogólna i Nauki o Zdrowiu*, 20 (2), pp. 166-170.
- Bergier J., Bergier B., Tsos A. [2016] Variations in physical activity of male and female students from different countries. *Iran Journal Public Health*, 45(5), pp. 705-707.
- Biernat E., Poznańska A., Gajewski A.K. [2012] Determinants of health oriented physical activity among Warsaw teachers. *Przegląd Epidemiologiczny*, 66(1), pp. 119-126.
- Biernat E., Stupnicki R., Gajewski A.K. [2007] Międzynarodowy Kwestionariusz Aktywności Fizycznej (IPAQ) – wersja polska. *Wychowanie Fizyczne i Sport*, 51(1), pp. 47-54.
- Binkowska-Bury M., Marć M., Januszewicz P. [2010] Wiedza o zdrowiu a zachowania ryzykowne w środowisku młodzieży akademickiej. *Medycyna Ogólna i Nauki o Zdrowiu*, 45(1), pp. 100-112.
- Boguszewski D., Andersz N., Janicka M., Mrozek N., Nowakowski P., Adamczyk J., Białoszewski D. [2014] Ocena zachowań zdrowotnych kobiet i mężczyzn uprawiających koszykówkę. *Journal of Health Sciences*, 04(05), pp. 41-46.
- Buckworth J., Nigg C. [2004] Physical activity, exercise and sedentary behaviors in college students. *Journal American College Health*, 53(1), 28-34.
- Byra S. [2011] Satysfakcja z życia osób z uszkodzeniem rdzenia kręgowego w pierwszym okresie nabycia niepełnosprawności - funkcje wsparcia oczekiwanego i otrzymywanego. *Medycyna Ogólna i Nauki o Zdrowiu*, 17(2), pp. 64-70.
- Daniels S.R. [2014] Reply: Prevention and control of arteriosclerosis: why are exercise and physical activity not getting the respect they deserve. *Journal American College Cardiology*, 64(16), pp. 1761-1762.
- Duda-Zalewska A. [2012] Zachowania zdrowotne nauczycieli a staż pracy w zawodzie. *Hygeia Public Health*, 47(2), pp. 183-187.
- Fiołna E. [2010] Wpływ aktywności fizycznej na poczucie jakości życia studentów. Analiza porównawcza. *Zdrowie dobrem społecznym*, Murawow I., Nowak A. (red.), Radom: WSNŚiT, pp. 124-132.
- Eime R., Harvey J., Payne W. [2014] Dose-response of women's health-related quality of life (HRQoL) and life satisfaction to physical activity. *Journal of Physical Activity Health*, 11(2), pp. 330-338, doi: 10.1123/jpah.2012-0073.
- Gacek M. [2013a] Selected individual differences as predictors of milk product consumption in a group of perimenopausal women in the light of health hazards. *Przegląd Menopauzalny*, 17(4), pp. 300-306.
- Gacek M. [2013b] Selected individual differences as determining factors of cereal product, fruit and vegetable consumption among perimenopausal women, in light of health hazards. *Przegląd Menopauzalny*, 17(5), pp. 385-391.
- Gacek M., Frączek B., Morawska M. [2015] Self-efficacy as a predictor of dietary choices in a group of young women practicing fitness on a recreational basis. *Medycyna Sportowa*, 31(2), pp. 61-68.
- Heszen I., Sęk H. [2012] *Psychologia zdrowia*, Warszawa: PWN.
- Jegier A., Nazar K., Dziak A. *Medycyna sportowa*, Warszawa: PZWL.
- Juczyński Z. [2009] Narzędzia pomiaru w promocji i psychologii zdrowia. Warszawa: Pracownia Testów Psychologicznych.
- Karski J.B. [2011] *Praktyka i teoria promocji zdrowia*, Warszawa: CeDeWu.
- Kleszczewska E., Kleszczewski T., Łogwiniuk K., Szpakow A., Boyko O. [2014] Stosunek do badań profilaktycznych studentów z wybranych uczelni Suwałk, Grodna i Lwowa. *Hygeia Public Health*, 49(3), pp. 466-471.
- Kłosiwicz-Latoszek L. [2009] Zalecenia żywieniowe w prewencji chorób przewlekłych. *Problemy Higieny i Epidemiologii*, 90(4), pp. 447-450.
- Kosiba G. [2006] Leisure motor activities practiced by teachers. *A Quarterly Journal of Physical Education and Physical Activity Sciences*, 50(3), pp. 157-161.
- Kuński H. [2002] *Trening zdrowotny osób dorosłych*, Warszawa: Medsportpress.
- Laudańska-Krzemińska I. [2014] Health behaviours and their determinants among physical education and pedagogy students as well as school teachers – a comparison study. *Acta Universitatis Carolinae Kinanthropologica*, 50(2), pp. 69-78.
- Laudańska-Krzemińska I., Wierzejska E., Józwiak P., Klimas N. [2015] Zachowania zdrowotne nauczycieli w Wielkopolsce – poszukiwanie mocnych i słabych stron. *Aktywność fizyczna i żywienie w trosce o zdrowie i jakość życia*, Stemplewski R., Szeklicki R., Maciaszek J. (red.), Poznań: Bogucki Wyd. Naukowe, pp. 243-252.
- Lewko J., Polityńska-Lewko B., Sierakowska M., Krajewska-Kulak E. [2005] Zachowania zdrowotne wśród studentów pielęgniarstwa. *Annales UMCS*, 60(16), pp. 260-264.
- Lisicki T., Kosińska E. [2010] Krytycznie o badaniach czasu wolnego młodzieży akademickiej. *Zdrowie – Kultura zdrowotna – Edukacja*, Gdańsk: AWFIS, 5, pp. 49-57.

- Lysak A, Walentukiewicz A, Wilk B. [2009] Wybrane zachowania zdrowotne młodzieży akademickiej o wysokim poziomie aktywności fizycznej – doniesienia wstępne. *Roczniki Naukowe*, Gdańsk: AWFis, 19, pp. 113-127.
- Maher J.P., Pincus A.L., Ram N., Conroy D.E. [2015] Daily physical activity and life satisfaction across adulthood. *Developmental Psychology*, 51(10), pp. 1407-1419. doi: 10.1037/dev0000037.
- Maher J.P., Doerksen S.E., Elavsky S., Conroy D.E. [2014] Daily satisfaction with life is regulated by both physical activity and sedentary behavior. *Journal of Sport & Exercise Psychology*, 36(2), pp. 166-178. doi: 10.1123/jsep.2013-0185.
- Makowska B. [2010]. Wybrane elementy oceny jakości życia studentów studiów niestacjonarnych. *Zdrowie – Kultura Zdrowotna – Edukacja*, Gdańsk: AWFis, 5, pp. 25-31.
- Mędreła-Kuder E. [2011] Ocena stylu życia studentów fizjoterapii i edukacji techniczno-informatycznej na podstawie żywienia i aktywności fizycznej. *Roczniki Państwowego Zakładu Higieny*, 62(3), pp. 315-318.
- Miązek U., Chrzanowska M., Miązek Z. [2005] Aktywność fizyczna w stylu życia studentek w świetle zaleceń ekspertów promocji zdrowia. *Annales UMCS, Lublin, LX, suppl. XVI*, 316, pp. 158-162.
- Mirkhan I., Shakerinia I., Kafi M., Khalilzade N. [2014] Prediction of life satisfaction based and emotional intelligence, happiness and religious attitude among female teachers of Urmia City, North West of Iran. *International Journal of School Health*, 1(3), pp. e25144.
- Monhollen C., Summers L., Sabin M., Rutherford J. [2016] Sedentary behaviors and physical activity in relation to class standing in university students. *Medicine & Science in Sports & Exercise*, 48 (5 Suppl 1), pp. 1063. doi: 10.1249/01.mss.0000488198.25704.eb.
- Myszkowska-Ryciak J., Kraśniewska A., Harton A., Gajewska D. [2011] Porównanie wybranych zachowań żywieniowych studentek Akademii Wychowania Fizycznego i Szkoły Głównej Gospodarstwa Wiejskiego. *Problemy Higieny i Epidemiologii*, 92(4), pp. 931-934.
- Nitecka-Walerych A. [2005] Zachowania prozdrowotne studentów pedagogiki wczesnoszkolnej. *Prozdrowotny styl życia*, Lisicki T., Wilk B., Walentukiewicz A. (red.), Gdańsk: AWFis, pp. 291-298.
- Pasiut U. [2014]. Związki stylu życia z poziomem otyłości oraz dystrybucją tkanki tłuszczowej u młodych kobiet i mężczyzn studiujących w Krakowie. *Medycyna Ogólna i Nauki o Zdrowiu* 20(2), pp. 216-221.
- Pedišić Z., Rakovac M., Bennie J., Jurakić D., Bauman A.E. [2014a] Levels and correlates of domain-specific physical activity in university students: cross-sectional findings from Croatia. *Kinesiology*, 46(1), pp. 12-22.
- Pedišić Z., Rakovac M., Titze S., Jurakić D., Oja P. [2014b] Domain-specific physical activity and health-related quality of life in university students. *European Journal of Sports Science*, 14(5), pp. 492-499. doi: 10.1080/17461391.2013.84486.1
- Podstawski R, Górnik K, Romańczuk A. Styl życia przyszłych nauczycielek wczesnej edukacji kształcących się na Uniwersytecie Warmińsko-Mazurskim w Olsztynie. *Hygeia Public Health*, 47(1), pp. 95-99.
- Prażmowska B., Dziubak M., Morawska S., Stach J. [2011] Wybrane zachowania zdrowotne nauczycieli szkół średnich. *Problemy Pielęgniarstwa*, 19(2), pp. 210-218.
- Romanowska-Tolłoczko A. [2011] Styl życia studentów oceniany w kontekście zachowań zdrowotnych. *Hygeia Public Health*, 46(1), pp. 89-93.
- Rasińska R. [2012] Nawyki żywieniowe studentów w zależności od płci. *Nowiny Lekarskie* 81(4), pp. 354-359.
- Remick A.K., Polivy J., Pliner P. [2009] Internal and external moderators of the effect of variety on food intake. *Psychological Bulletin*, 135(3), pp. 434-451.
- Rozporządzenie Ministra Edukacji Narodowej a dnia 23 grudnia 2008 r. w sprawie podstawy programowej wychowania przedszkolnego oraz kształcenia ogólnego w poszczególnych typach szkół. Dz. U. Z 2009 r., nr 4, poz. 17.
- Seń M., Zacharczuk A., Lintowska A. [2012] Zachowania żywieniowe studentów wybranych uczelni wrocławskich a wiedza na temat skutków zdrowotnych nieprawidłowego żywienia. *Pielęgniarstwo i Zdrowie Publiczne*, 2(2), pp. 113-123.
- Sęk H. [2004] Wypalenie zawodowe u nauczycieli. Uwarunkowania i możliwości zapobiegania. *Wypalenie zawodowe. Przyczyny i zapobieganie*, Sęk H. (red.), PWN, Warszawa: PWN, pp. 149-167.
- Schnettler B., Lobos G., Orellana L., Grunert K., Sepúlveda J., Mora M., Denegri M., Miranda H. [2015a] Analyzing Food-Related Life Satisfaction and other Predictors of Life Satisfaction in Central Chile. *Spanish Journal of Psychology*, 18, pp. 38. doi: 10.1017/sjp.2015.32.
- Schnettler B., Miranda H., Lobos G., Orellana L., Sepúlveda J., Denegri M., Etchebarne S., Mora M., Grunert K.G. [2015b] Eating habits and subjective well-being. A typology of students in Chilean state universities. *Appetite*, 89, pp. 203-214. doi: 10.1016/j.appet.2015.02.008
- Schnettler Morales B., Denegri Coria M., Miranda Vargas H., Sepúlveda Maldonado J., Mora González M., Lobos Andrade G. [2014] Satisfaction with life and with food-related life in central Chile. *Psicothema*, 26(2), pp. 200-206. doi: 10.7334/psicothema2013.13.
- Sharma S., Dortch K.S., Byrd-Williams C., Truxillio J.B., Rahman G.A., Bonsu P., Hoelscher D. [2013] Nutrition-related knowledge, attitudes, and dietary behaviors among head start teachers in Texas: a cross-sectional study. *Journal of the Academy of Nutrition and Dietetics*, 113(4), pp. 558-563.
- Sochocka L., Wojtyłko A. [2013] Aktywność fizyczna studentów studiów stacjonarnych kierunków medycznych i niemedycznych. *Medycyna Środowiskowa*, 16(2), pp. 53-58.
- Suguksu K. [2011] Physical activity level between Polish and Turkish university students (IPAQ). *Physical activity in health and disease*. Bergier B (ed.), Biała Podlaska: Pope John Paul II State School of Higher Education in Biała Podlaska, pp. 19-27.
- Sygit-Kowalkowska E. [2014] Radzenie sobie ze stresem jako zachowanie zdrowotne człowieka – perspektywa psychologiczna. *Hygeia Public Health*, 49(2), pp. 202-208.
- Ślusarska B., Kulik T., Piasecka H., Pacian A. [2012] Wiedza i zachowania zdrowotne studentów medycyny w zakresie czynników ryzyka sercowo-naczyniowego. *Medycyna Ogólna i Nauki o Zdrowiu*, 18(1), pp. 19-26

- Tiroidimos I., Georgouvia I., Savvala T-N., Karanika E., Noukari D. [2009] Healthy lifestyle habits among Greek university students: differences by sex and faculty of study. *La Revue de Sante de la Mediterranee Orientale*, 15(3), pp. 722-728.
- Trzebiatowski J. [2011] Jakość życia w perspektywie nauk społecznych i medycznych – systematyzacja ujęć definicyjnych. *Hygeia Public Health*, 46(1), pp. 25-31.
- Tucholska S. [2003] *Wypalenie zawodowe nauczycieli. Psychologiczna analiza zjawiska i jego osobowościowych uwarunkowań*, Lublin: Wydawnictwo KUL.
- Wernhart S., Dinic M., Pressler A., Halle M. [2015] Prevention of cardiovascular diseases through sport and physical activity: A question of intensity? *Herz*, 40(3), pp. 361-368.
- Winiarska-Mieczan A., Dymek T. [2009] Ocena aktywności fizycznej wśród młodzieży akademickiej lubelskich uczelni. *Medycyna Sportowa*, 25(2), pp. 125-131.
- Wojtyniak B., Goryński P., Moskalewicz B. [2012] *Sytuacja zdrowotna ludności Polski i jej uwarunkowania*. Warszawa: Narodowy Instytut Zdrowia Publicznego - Państwowy Zakład Higieny.
- Woynarowska-Soldan M., Tabak I. [2013] Zachowania prozdrowotne nauczycieli i innych pracowników szkoły. *Medycyna Pracy*, 64(5), pp. 659-670.
- Woynarowska-Soldan M., Więziak-Białowolska D. [2012] Samoocena zdrowia i dbałość o zdrowie u nauczycieli. *Problemy Higieny i Epidemiologii*, 93(4), pp. 739-745.
- Valois R.F., Zullig K.J., Huebner E.S., Drane J.W. [2004] Physical activity behaviors and perceived life satisfaction among public high adolescents. *Journal of School Health*, 74(2), pp. 59-65.
- Zysnarska M., Bernad D. [2007] Zachowania prozdrowotne nauczycieli w województwie wielopolskim. *Problemy Higieny i Epidemiologii*, 88(2), pp. 183-187.