

Active Lifestyle as a Determinant of Life Satisfaction among University Students*

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KEYWORDS Health. Physical Activity. Well-being. Young Adults

ABSTRACT The purpose of this study is to examine the current level of life satisfaction and its components between two groups of Czech University students with the first group having an active lifestyle and the second group having a non-active lifestyle. The study included a total of 523 students. Life Satisfaction Questionnaire was used to determine the level of life satisfaction. The active lifestyle was represented by the level of regular physical activity that was determined using the General Physical Activity Questionnaire. Students with active lifestyle showed a significantly higher level of overall life satisfaction when compared to students with a non-active lifestyle. Similar results were found in the area of satisfaction with own health, work, sexuality, and the individual's person. The results of the study indicate that active lifestyle may positively influence the overall level of life satisfaction, subjective level of health and further components of satisfaction among University students.

INTRODUCTION

University students represent a specific population group. From a developmental point of view, the period of University study is characterized as attaining maturity in the somatic, mental, emotional and social areas (Sigmund et al. 2013a). Recently, there has been a growing interest in the professional community regarding the issue of lifestyle and psychosocial determinants of health among University students (Brodání et al. 2012; Hamaideh 2011; Pedišić et al. 2015; Sigmund et al. 2013b; Stallman 2008).

Lifestyle is a relatively complicated phenomenon that can be explored from various perspectives. It can be defined as a dynamic process determined by an individual's genetic predisposition, ethnic and socio-cultural factors, as well as, from a professional perspective and generational differences. An active lifestyle is often viewed as synonymous with a healthy lifestyle, for which regular physical activity is integral. Valjent (2008) defined active lifestyle as a system of important activities, relationships and practices which focuses on achieving a well-rounded and harmonic state of both the body and the mind of an individual. He also differentiates between two categories of active lifestyle components: biological – physical activity, sport, healthy diet, and psychosocial – mental balance,

social environment, education, and so on. The components of active lifestyle should be a part of health education. Hrivnova (2014, 2015) points out that in improving health literacy, health education should be incorporated into the curriculum at the elementary school.

An active lifestyle is often associated with health-related quality of life. The quality of life is a very complex phenomenon influenced mainly by the state of health of an individual, natural and social environmental factors, as well as by socio-psychological factors, with emphasis on an individual's psychological concept of life experience and lifestyle. All these factors play a vital role in the overall life satisfaction of a person. The World Health Organization (WHO) defines quality of life as an individual's perception of their position in life in the context of culture and in relation to their goals, expectations, lifestyle and interests (Kovac 2004). In some publications quality of life tends to be perceived as a synonymous with life satisfaction.

In this paper, life satisfaction is considered as multidimensional construct. Satisfaction derived from individual areas of life and an overall life satisfaction, are both influenced by common and specific factors. Life satisfaction among University students has proven to be as one of the predictors of good health and healthy lifestyle. Significant factors influencing the level of

life satisfaction in individuals within the period of young adulthood include subjective health assessment, the level of self-evaluation and sexual behavior as a significant psychosocial health determinants (Hrachovinová et al. 2005; Kebza and Solcova 2005; Paulík 2012).

A physical activity represents a significant determinant influencing the health of an individual, quality of life and life satisfaction (Valjent and Flemer 2010). Kalinková (2015) added that, with respect to the psychosocial aspects of life, physical activity has a positive long and short term effect on psychological well-being. The literature suggests the relationship between the physical activity and an increased individual's ability to cope with psychological stress, and the decreased level of mental health problems (Hamer et al. 2012; Valois et al. 2004).

It positively affects self-esteem, anxiety, depression, tension and perception of stress, mainly. The population between twenty and thirty years of age represents a group with the lowest morbidity and mortality rate. Nevertheless, it is important to mention that the results of research studies show that the prevalence of mental distress is higher among University students, compared to working non-student population of the same age (Bogaert et al. 2014).

This research highlights the significance of concentrating on the life of University students, one of the reasons being that University students reported a relatively high affinity for stressors. It is believed that a high-stress level does not only affect students' health, but also affect their academic performance (Kvintová and Sigmund 2012). University students reported a significantly higher degree of harmful stress compared to the common population (Stallman 2008; Walsh et al. 2010). Many research studies are conducted to find out the impact of physical activity on people suffering from some kind of disease, so-called clinical population (Rejeski 2001) or elderly people (Acree et al. 2006), but few studies primarily focus on the healthy population, especially among University students (Pedišic et al. 2015).

Objectives

The main objective of the present study is to identify and compare the level of overall life satisfaction, selected components of health, and individual categories of life satisfaction among University students with respect to their active or non-active lifestyle.

The presented paper seeks to answer the following questions:

1. What is the overall life satisfaction of students with an active and non-active lifestyle?
2. Is there a significant difference, particularly, between the components of life satisfaction in students with an active and non-active lifestyle?

METHODOLOGY

Sample

The study included a total of 523 students from five faculties of the Palacký University in Olomouc. Specifically, the students were from the Faculty of Education, Philosophical Faculty, Faculty of Physical Culture, Faculty of Science and Faculty of Medicine (Table 1). Within the context of our research, a University student was any individual properly enrolled as a regular student, whose age was adequate and meet up with respective University grade. Therefore, in terms of age, the study was conducted on young adults, aged from 19 to 26. The highest number of students were represented within the categories of 20, 21 and 22 years of age.

The study was conducted in compliance with ethical aspects. Gathered data were processed anonymously, and participants were fully informed about the scientific purpose of this research.

In regards to this categorization, 119 students were placed into the "active lifestyle" category (average age 20.92 ± 1.38 yrs.). The "non-active lifestyle" category is comprised of 404 University students (average age 21.23 ± 1.25 yrs.) (Table 1).

Table 1: Characteristics of study participants

<i>University students</i>	<i>Number of participants(n)</i>	<i>Men (n)</i>	<i>Women (n)</i>	<i>Men (%)</i>	<i>Women (%)</i>
Active lifestyle	119	51	68	43	57
Non-active lifestyle	404	180	224	45	55
Total	523	231	292	44	56

Assessment

This research was conducted using descriptive and correlational survey methods to assess the current level of life satisfaction and physical activity. To determine the level of life satisfaction, the standardized Life Satisfaction Questionnaire (LSQ) was used (Rodná and Rodný 2001). It is designed for the standardized description of inter-individual and intra-individual life satisfaction variability. Besides the assessment of an overall life satisfaction, it reveals the data about satisfaction among individual components: health, work and employment, finance, leisure time, partnership, relationship with one's children, oneself, sexuality, friends and acquaintances, standard of living.

Each of the specified items contains seven statements. For each statement, the participant expresses his satisfaction by selecting the appropriate option on a seven-grade scale, from 1 = very dissatisfied to 7 = very satisfied. The overall value of life satisfaction is represented by the sum of gross score values in the seven defined items; except work and employment, partnership and relationship with one's children are not taken into account. The health item was elaborated and analyzed in details.

The second used method was the questionnaire, called the Global Physical Activity Questionnaire (GPAQ), developed under the auspices of the World Health Organization (WHO) in the year 2002. It comprises of 19 questions which is grouped to capture the physical activities undertaken in different behavioral domains, such as work, transport and discretionary activity (leisure time). Questions assess the frequency and duration of active behavior defined by the energy requirement or intensity (Bull et al. 2009).

Within the confines of this research, all participants were divided into two categories: the "active lifestyle" category and the "non-active lifestyle" category. The categories vary primarily in terms of the frequency, intensity and the duration of regular physical activity. An individ-

ual in the "active lifestyle" category is someone, who regularly does the high-intensity physical activity, for at least, three times a week for 20 minutes, or someone, who combines walking with a medium-intensity physical activity within of 30 minutes duration, for at least, five times a week. The total sum of physical activity should be a minimum of 600 MET-minutes per week (World Health Organization 2012).

Statistical Analysis

Statistical result processing was conducted using the Statgraphics programme v. 10.0. For each variable, basic statistical quantities were calculated and the distribution normality verified. Result processing was made using parametric as well as non-parametric statistical methods. Normality was assessed using the Shapiro-Wilk normality test. To assess the differences and the rate of significance between independent sets, the Mann-Whitney U test was used. Multiple value comparison was made using the Kruskal-Wallis test and correlation dependencies were assessed by Spearman's correlation. The level of statistical significance was tested at $p \leq 0.05$; $p \leq 0.01$. The statistical significance is expressed in common p values as well as in d values, where d is the Cohen's coefficient for effect size, defined as the difference between two means, divided by the standard deviation of the data. The most frequent assessment of effect size, d, is 0.2 – small effect, 0.5 – moderate and 0.8 – large effect (Cortina and Nouri 2000; Thomas et al. 2011).

RESULTS

The main results of a comparative study among University students, with respect to an active or non-active lifestyle can be found in Tables 2, 3 and 4. Values of overall life satisfaction are significantly higher among students with an active lifestyle ($p < 0.001$; $d = 0.39$) (Table 2).

Table 2: Overall index of life satisfaction and particular components among current University students with an active lifestyle and a non-active lifestyle

Life satisfaction	University students with "Active lifestyle"		University students "Non-active lifestyle"		Δ	P	d
	M \pm SD	Range	M \pm SD	Range			
Total LS	260.2 \pm 31.95	188–354	245.1 \pm 29.66	155–316	15.1	0.001	0.39

Legend: M–mean; SD–standard deviation; Δ –differences; p–statistical significance; d–effect of size (Cohen)

If we compare the subjective assessment of health, then health is valued significantly higher by students with an active lifestyle. Moreover, most of the selected health components are also rated higher by students with an active lifestyle, much more than students with a non-active lifestyle (Table 3).

Current students with an active lifestyle have a significantly higher score in most of the other components of life satisfaction (work and employment, finance, leisure time, oneself and sexuality) than students with a non-active lifestyle. The highest level of correspondence between the two categories was observed in items such as partnership, friends and housing, areas where there was no significant difference between students with an active and non-active lifestyle (Table 4).

DISCUSSION

The theoretical concepts mentioned the issue of life satisfaction as one of the conditions required for the effective psychological functioning of a human being (Ryan and Deci 2000). These theories are particularly based on humanistic thoughts of positive psychology, where satisfaction with one's life lies in the development of potential, self-realization and fulfilment of needs. Our study explores the issue of life satisfaction, as a part of the quality of life, among current students of Czech University.

Stress reduction, positive self-concept, enhanced mood, and higher quality of life are the psychological benefits associated with planned and structured physical activity, which are a part of an active lifestyle (McPhie and Rawana 2015;

Table 3: Comparison between life satisfaction in the area of subjective assessment of health among University students with an active lifestyle and a non-active lifestyle

Health + components	University students with "Active lifestyle"		University students "Non-active lifestyle"		Δ	<i>P</i>	<i>d</i>
	<i>M</i> ± <i>SD</i>	Range	<i>M</i> ± <i>SD</i>	Range			
Somatic health condition	5.6 ± 1.19	1–7	5.0 ± 1.37	1–7	0.6	0.001	0.38
Mental condition	5.4 ± 1.20	1–7	4.9 ± 1.32	1–7	0.5	0.003	0.26
Physical condition	5.4 ± 1.13	2–7	4.3 ± 1.50	1–7	1.1	0.001	0.65
Mental performance	5.3 ± 1.19	1–7	5.0 ± 1.19	1–7	0.3	0.004	0.25
Immunity	5.4 ± 1.53	1–7	5.2 ± 1.55	1–7	0.2	0.130	0.13
Pain frequency	4.8 ± 1.83	1–7	4.4 ± 1.65	1–7	0.4	0.026	0.20
Disease frequency	4.9 ± 1.80	1–7	4.9 ± 1.67	1–7	-	0.683	0.04
Health Total	36.8 ± .17	19–49	33.7 ± .51	11–49	3.1	0.001	0.39

Legend: *M*–mean; *SD*–standard deviation; Δ –differences; *p*–statistical significance; *d*–effect of size (Cohen)

Table 4: Comparison between life satisfaction with the other areas of life satisfaction among University students with an active life style and a non-active lifestyle

Life satisfaction	University students with "Active lifestyle"		University students "Non-active lifestyle"		Δ	<i>P</i>	<i>d</i>
	<i>M</i> ± <i>SD</i>	Range	<i>M</i> ± <i>SD</i>	Range			
Work and employment	36.8 ± 5.92	19–49	34.3 ± 5.72	17–49	2.5	0.001	0.36
Finance	33.1 ± 6.67	11–49	30.9 ± 6.65	7–46	2.2	0.007	0.24
Leisure time	38.1 ± 8.05	15–49	35.7 ± 7.95	7–49	2.4	0.001	0.28
Partnership	40.7 ± 7.81	15–49	39.6 ± 10.18	7–49	1.1	0.811	0.03
Oneself	37.9 ± 6.14	15–48	34.9 ± 6.04	7–49	3.0	0.001	0.45
Sexuality	38.3 ± 7.08	16–49	35.9 ± 7.38	12–49	2.4	0.032	0.19
Friends and acquaintances	37.9 ± 4.72	19–49	37.2 ± 5.24	17–49	0.7	0.240	0.10
Housing	37.1 ± 7.26	17–49	36.8 ± 6.66	7–49	0.3	0.576	0.05

Legend: *M*–mean; *SD*–standard deviation; Δ –differences; *p*–statistical significance; *d*–effect of size (Cohen)

Růžicka et al. 2013). In the researchers' previous research, they compared the level of life satisfaction and its components among current University students with respect to their specialization of study. Subjective assessment of health by the students of sports sciences in various components, indicates the highest level of satisfaction with their somatic health condition, a mental and physical condition, in comparison with other students with different areas of specialization (Sigmund et al. 2014). In this paper, the researchers evaluate the current level of life satisfaction and its components between two groups of University students, one group having an active lifestyle and the other with a non-active lifestyle, regardless of their specialization of study.

This study revealed that students with an active lifestyle show, not only a significantly higher level of overall life satisfaction, but also a significantly higher level of satisfaction in most of the other components of life satisfaction (work and employment, finance, leisure time, oneself and sexuality) than students with a non-active lifestyle, no significant differences were found in the item such as partnership, friends, and housing.

Similar findings were described by Bailey and Miller (1998) and Dinzeo et al. (2014) whose research demonstrated that college students with high life satisfaction had more active, and demanding lifestyles than students with low life satisfaction. Other studies showed that life satisfaction may be positively related to participation in several types of physical activity (Rangul et al. 2012; Eime et al. 2010; Kalinková 2015). Brodání et al. (2015) found the positive correlations between physical activity and several different areas of well-being, such as physical, psychosocial, spiritual, material, and leisure, among primary school teachers. This result is supported by Maher et al. (2013), whose findings extend evidence that physical activity is a health behavior that may enhance subjective well-being. Pedišić et al. (2015) indicated in his large study, only a weak positive relationship between vigorous-intensity physical activity and life satisfaction among University students. Similarly Maher et al. (2015) did not find the association between physical activity and life satisfaction in young adulthood, nevertheless the study found the positive relationship in middle and older adulthood.

There are many studies examining the relationship between the quality of life among college students and different factors, such as personality, health, and environment (Sigmund et al. 2013a; Ng 2005). Vaez et al. (2004) found a positive relationship between the perceived quality of life and the self-rated health of college students and overall lower perceived quality of life among college students in comparison with their working counterparts of the same age.

Regarding limitations of the study, we considered the total number of participants as fairly large. Nevertheless, we also realized the disproportion between the numbers of subjects in each compared category. However, the imbalance is the result of the participant's answers about the activity, or non-activity, of their lifestyle. Given the transversal design of the study within one University, cohort effect should also be considered as a possibility. All these facts are considered in the context of the present findings.

CONCLUSION

Considering the present results about the current University students we conclude that:

- ♦ significantly higher values of overall life satisfaction were observed among University students with an active lifestyle, in comparison to students with a non-active lifestyle,
- ♦ significantly higher values were observed for self-assessment on health among present University students with an active lifestyle, in comparison to students with a non-active lifestyle,
- ♦ significantly higher values of selected components of health (somatic health condition, mental condition, physical condition, mental performance and pain frequency) were observed among present University students with an active lifestyle, in comparison to students with a non-active lifestyle,
- ♦ significantly higher values of satisfaction with work and employment, finance, leisure time, oneself and sexuality, were observed in present University students with an active lifestyle, in comparison to students with a non-active lifestyle,
- ♦ no significant differences were found between students with an active lifestyle and non-active lifestyle in terms of items, such as partnership, friends and housing.

Considering the presented results about current Czech University students, the conclusion is that there is an assumption of a positive correlation between the level of overall life satisfaction and its selected components in students with an active lifestyle. The present results also expand the level of knowledge about University students. Specifically, the study results can be used in everyday practice with students, as well as within the University's psychological counselling centre.

RECOMMENDATIONS.

There is a great potential in forming other working hypotheses with the present results and their subsequent verification, primarily, as regarding the quality of life and health among University students. Gender differences can also be taken into consideration.

ACKNOWLEDGEMENTS

The study is dedicated to the following projects: IGA_PdF_2015_022. The phenomena of relationships between education and thinking in constructivist education and Internal grant of PDF UP: From subjective implicit theories of education to teaching knowledge. The process of constitution of a cognitive framework sciences education in both the national and international context.

NOTE

*This article was presented at the 1st International Conference on Lifelong Education and Leadership, in Olomouc, Czech on October 29-31, 2015.

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