Journal of Physical Education and Sport ® (JPES), Vol 20 (Supplement issue 1), Art 70 pp 477 – 483, 2020
online ISSN: 2247 - 806X; p-ISSN: 2247 – 8051; ISSN - L = 2247 - 8051 © JPES

Original Article

Self-reported evaluation of adaptation to psychophysical strain in the context of subjective health behaviour of physical education students

DOROTA ORTENBURGER[1], JACEK WĄSIK[2], TOMASZ GÓRA[3], DARIUSZ MOSLER[4], OLHA BORYSOVA[5]
[1,2,3,4,]Jan Dlugosz University of Czestochowa, POLAND
[5]National University of Ukraine of Physical Education and Sport, Kyiv, UKRAINE
Published online: February 29, 2020
(Accepted for publication: January 20, 2020)
DOI:10.7752/jpes.2020.s1070

Abstract
Purpose: We know that the realization of the training aims is not only associated with a systematic effort, multiple skills, specific predispositions, yet also everyday health behaviour, namely various forms of behaviour of individuals that have an impact on the state of health. This influences its retention and strengthening. The aim of the research conducted was to increase knowledge relating to the ties between health behaviour of students in terms of physical education and their subjective evaluation of the progress in the sphere of their individual possibilities of adapting to psychophysical strain. **Material:** The research encompassed 65 students of physical education at M.A. level (average 21±1.56 years; range 19 – 25 years). The measurement was conducted by applying the "Inventory of Health Behaviour Questionnaire", namely a standardized tool consisting of 4 subscales referring to various aspects of health behaviour that emerge in everyday life. **Results:** There is significant difference between age of both genders of participants. However, variance analysis did not reveal any significant differences between self-estimation and health behaviour aspects of participants. Only moderate correlation between self-estimation and health behaviour indices were statistically significant, which higher values in a group of females. **Conclusions:** A subjective evaluation of the progress made and the positive mental approach indicate the relation with the health behaviour of students of the physical education course. The results indicate that in the case of the analysed students in the sphere of the health behaviour shown, there is still great potential in terms of the possibilities to be availed of. The results acquired by us may lead to paying greater attention to the problematic issue of the awareness of the role of positive nutritional behaviour in the area of the course content conducted in the academic environment.
Keywords: physical education, health habits, nutritional habits, challenges, adaptation.

Introduction

The process of preparing for sporting rivalry consists of multiple elements, among others, those of a biological and psychological nature. We know that the realization of training aims is not only associated with systematic effort, multiple skills, specific predisposition, but also impeccable health (Krane & Williams, 2015). Care for health is closely connected with behaviour, in which personal choices and decisions emerge. Hence, health behaviour does not constitute a uniform notion structure, but rather constitutes one of the most significant categories of human behaviour which form part of the individual composition, which is most frequently a long-term preferred lifestyle (Aarts, Paulussen, & Schaalma, 1997; Harrington et al., 2010).

Thus, in the herein paper the broad definition of " human behaviour" has been adopted, which not only takes account of the activities, but also certain expectations, thought patterns and emotions. Such a perceived definition of human behaviour remains in harmony with the dynamically developing paradigm of health psychology which encompasses both the biological and psychological spheres (Spring, Moller, & Coons, 2012). In this perception of human behaviour, it contains such elements as among others, correct nutritional habits, sleep hygiene, while also various types of attitudes or prophylactic activities and a positive mental approach.

Therefore, definition of healthy behaviours, adapted in this paper could be included in the wider definition of subjective dimension of health. Subjective dimension of health is realized through active actions towards people's own health purposes (Gohman, 1997). This phenomena cannot be reduced to one physiological variable. That is why subjective dimension of health should be considered as multidimensional phenomena such as biological, social, psychological and spiritual. In this model, there is important role of systematic physical activity forms, preferred by certain individuals or social group, as a solution, helpful in handling difficult life situations (Juczyński, 2009). In rapidly developing paradigm of health psychology, which put special emphasis towards subjective dimension of health, there is assumption that regularly repeating health behaviours could be crucial factor in long term health enhancements and realization of individual goals, which greatly affect quality of life (Conry et al., 2011).

Corresponding Author: OLHA BORYSOVA, E-mail: borisova-nupesu@ukr.net

Key role of health behaviours is emphasized by many researchers. Analysis of this problem became a subject for many theoretical and empirical studies in a field of medicine and social sciences (Heszen & Sęk, 2008). Higher value of health behaviours is associated with a concept of salutogenesis, which is based on preserving health, rather that treatment of illness after its occurrence (Strümpfer, 1990). Therefore, its main task is focused on health promotion and health prophylaxis. Studies could be focused on individual human being and bring applications addressed towards each individual separately (Aaby, Friis, Christensen, Rowlands, & Maindal, 2017) , but also social branch of science could study and form recommendation towards health related policies for societies (Galea, Hall, & Kaplan, 2009). Then, this phenomena is connected with a conception of implementation science (Cabassa, 2016). Health behaviour studies are also focused of differentiation of those behaviours (types and categories) and frequency of its occurrence (lifestyle) (Fleary, Joseph, & Pappagianopoulos, 2018; Buková, A, Zusková, Szerdiová, & Küchelová, 2017).

Health behaviours is a wide term. As an multidimensional phenomena it needs to be analyzied on multi-layered model of human behaviours. Starting from eating habits and cooking style (like amount of pre-process food consumption), amount of physical activity and psychoactive substance abuse to proper mental health, such as proper amount of sleep and recreational activity (Juczyński, 2009). Preventive behaviours includes also submitting ourselves to health recommendations and increasing awareness of health-related topics in local communities. In health psychology, the approach that enjoys acknowledgement and widespread use is one that assumes that factors such as the awareness of the role of nutrition and an appropriate diet, maintaining a positive mental approach in situations of challenges, systematic care for health, adherence to sleep hygiene all favour the level of efficiency in terms of fulfilling the aims (Tomljenovic & Bubic, 2019; Free et al., 2013).

This may relate to a multitude of study courses, including physical education, tourism and recreation, physiotherapy and others (of course, this also refers to sporting rivalry). This is certified to in scientific publications in which the aspect of mental preparation is broadly discussed from various viewpoints (Leite, 2014; Šmela, Pacesova, & Kracek, 2019). In the literature available on the subject of sports psychology, it is noticeable that health behaviour is becoming an increasingly more frequent subject of research with regard to the way of life and activity in conditions of strong pressure situations , which are experienced by competitors in conditions of sporting rivalry. This behaviour is primarily revealed over long periods of time. Likewise, it constitutes a significant part of the everyday functioning of individual, in terms of a biological dimension, as well as a psychological and social dimension. Theoretically, this should have an impact on the approaches of competitors and students towards the physical education course in terms of the role played by health behaviour. However, as illustrated by the research – this is shaped in different ways, namely, theory and practice in many cases do not coincide (Łuczyńska, 2014). The basic determinant of health behaviour among other human behavioural traits is the fact that they evoke a documented impact on health, while also being available for observation and scientific estimation (Gohman, 1997).

In self-reported questionnaires there is always a question about reliability of subjective self-assessment of individuals with more objective indices. Because there could be dispersion between one general answer toward self-estimation of health behaviours, test batteries are developed. It address more complex and detailed questions, which may help verify if a general statement have valid support in terms of specific behaviours in many dimensions.With relation to this, the following research question was formulated: Is there a dependency between the subjective evaluation of the progress of individual possibilities of adapting to the psychophysical strain and the particular health behavioural traits such as**:** proper heating habits, preventive behaviour, healthy practices and positive mental attitude.

Material and Method

Subject

The research encompassed 65 students of the course of physical education at M.A. level (age: 21±1.56 years; range 19 – 25 years). The measurement was conducted with the aid of a tool that is acknowledged and applied in health psychology and health prophylactics in the form of the Inventory of Health Behaviour Questionnaire (IHBQ) in polish version. A high value for Cronbach's alpha 0.85 indicates good consistency of the items in the Inventory of Health Behaviour Questionnaire (Juczyński, 2009). This tool consists of 4 subscales relating to the various categories of health behaviour such as: proper eating habits, preventive behaviour, positive mental attitude, healthy practices.

The research was conducted after prior consent had been received from participants. All the research participants were informed of the test procedures and participated voluntarily in the accumulation of data. The research was conducted in accordance with the principles of ethics on the basis of the Helsinki Declaration.

Protocol

The measurement was conducted with the aid of the sheet entitled the “Inventory of Health Behaviours Questionnaire” (Juczyński, 2009), which consists of subscales relating to various aspects of health behaviour (with a range of scores from 24 to 120), while also questions of a closed and semi-open nature. Answers to each questions were given in 5 point scale, reflecting of frequency of each behaviour, when 1 point was “almost never” and 5 was ”almost every time”. The additional complementary question were addressed: “How do you evaluate your progress in the sphere of adaptation to psychophysical strain over past two years ?” . The purpose

of this question was to analyse the subjective satisfaction with the progress made over two years in the sphere of the individual possibilities of adapting to psychophysical strain. Answer was given in the scale from 1 to 10 points, when 1 was the lowest and 10 the highest possible score.

Statistical analysis

The scores were statistically analyzed. In the research conducted for all the registered indicators, an average was designated (SR), as well as the variance (SS) and standard deviation (SD). The correlations between the chosen indicators were designated using Spearman R test. To verify statistical difference between age of both gender groups, Kolomagnorov-Smirnov test was conducted. Analysis of the variance ANOVA was carried out. The statistical significance was accepted at the level of $p<0.05$. All calculations were conducted with the aid of Statistica version 12.

Results

Tested subjects reveal different dispersion of results of health behaviour indices in terms of their self-estimation of progress towards adaptation to psychophysical load in terms of gender groups. For males, the lowest self-estimation value of participant was 4 points, alongside lowest value of positive mental attitude with 8 point. Moreover this variable also have greatest range of obtained values, up to 30 point. For males, the most stable indicator was preventive behaviour with a range from 12 to 24 points, but like in all indices, it was associated with self-esteem indicator from 4 to 10 points (Figure 1).

For a group of females, results of self-esteem evaluation revealed scores ranged from 2 to 10 points, showing wider range than in a group of males. Also, health behaviour indices are wider spread in comparison to male results, with similarity of highest differences of positive mental attitude, ranged from 8 to 30 points. The common spread is revealed in health practices indicator with a range of 14 point as in a group of males (Figure 2). Kolomagnorov-Smirnov test reveals that there is significant differences between age of both gender groups with $p < 0.01$. Despite the statistical differences in an age of both genders, there are no statistical differences between general indicator of the level of intensity of health behaviour, presented in table 1.Both minimal and maximal overall results was shown in a group of females, but alongside they revealed higher mean value of overall index (78.2 in comparison to 74.89 revealed by males). The variance values of female results are also higher than those presented by men.

Despite differences in an age of both gender groups, comparison of obtained results by participants with an ANOVA analysis, none of them have statistically significant differences. Comparison of specific health behaviour indices did not show statistical differences with $p =0.564$. (Figure 3).Also, participants did not reveal statistical differences in their results of self-esteem indicator of progress towards adaptation to psychophysical load with $p=0.640$ (Figure 4).

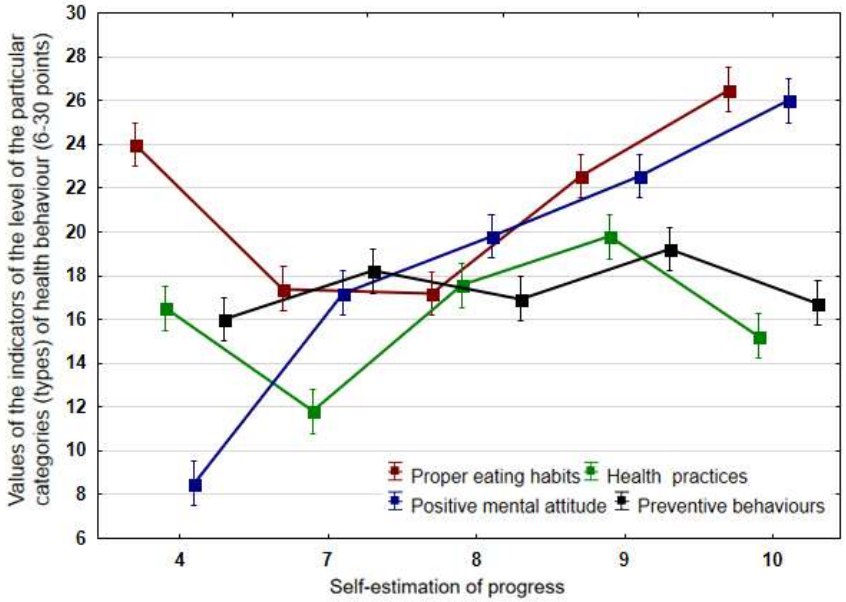

Figure 1. A diagram illustrating the differentiating impact of the subjective evaluation of the progress made within two years of studies in the context of the occurrence of values of the indicators of the level of the particular categories (types) of health behaviour for group of males.

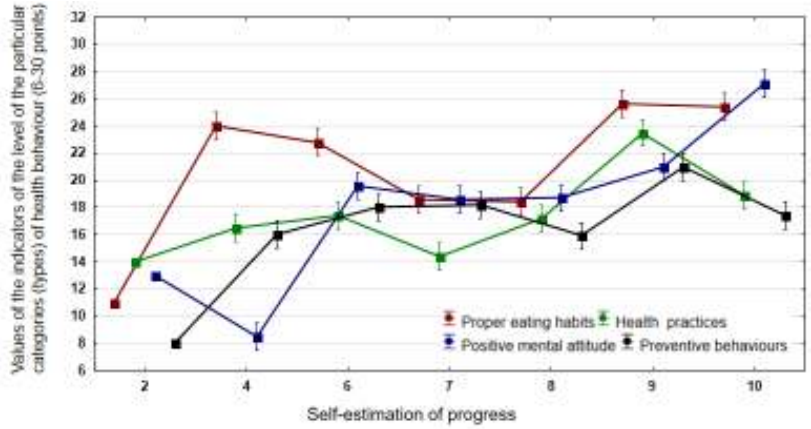

Figure 2. A diagram illustrating the differentiating impact of the subjective evaluation of the progress made within two years of studies in the context of the occurrence of values of the indicators of the level of the particular categories (types) of health behaviour for group of females.

Table 1. General indicator of the level of intensity of health behaviour N=65.

Gender	Mean	Min	Max	Lower Quartile	Upper Quartile	Variance	SD
Males (N=36)	74.89	52	99	64.5	86	160.67	12.66
Females (N= 29)	78.20	46	101	69	91	198.53	14.09
Health habits	76.03	46	101	65.50	87.50	172.60	13.14

SD – Standard deviation

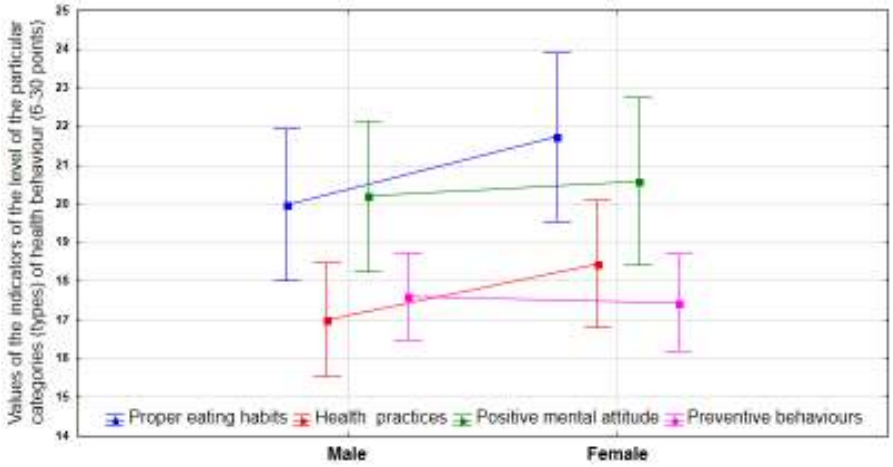

Figure 3. Results of ANOVA analysis of values of the indicators of the level of the particular categories (types) of health behaviour by gender. Wilks lambda=0.952, F(4, 60)= 0.745, p=0.564.

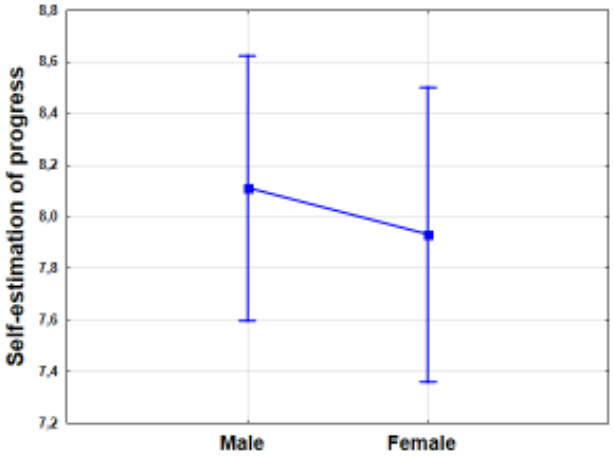

Figure 4. Results of ANOVA analysis of value of self-estimation of progress indicator by gender. Current effect: F(1, 63)=0.219, p=0.640.

In Table 2, a list of values of indicators has been illustrated with the level of the particular categories of health behaviour. As expected, minimum value of every item is 1 point, which state for "Almost never", but there are

items with maximal value of 4, instead of 5 points, which state for "Almost always". Those values are referring to rregularly reporting for medical examinations and controlling your own weight. Minimal mean value is exposed in Striving to obtain medical information and understand the causes of health and illness and maximal in Searching for information on how others avoid illness.

Table 2.Values of the indicators of the level of the particular categories (types) of health behaviour ($p<0.05$).

Types of health behaviour	The particular categories of health behaviour	Mean	Min	Max	SD
Proper eating habits	Eating lots of vegetables and fruits	3.62	1.00	5.00	0.96
	Limiting the consumption of products such as animal fats and sugar	3.26	1.00	5.00	1.46
	Caring for proper nutrition	3.51	1.00	5.00	1.19
	Avoiding eating food with preservatives	3.08	1.00	5.00	1.41
	Avoiding salt and highly salted food.	3.68	1.00	5.00	1.24
	Eating whole wheat bread	3.62	2.00	5.00	0.95
Preventive behaviours	Avoiding colds	2.73	2.00	5.00	0.81
	Recorded emergency telephone numbers	3.05	1.00	5.00	1.27
	Compliance with medical recommendations resulting from tests	3.27	1.00	5.00	1.35
	Regularly reporting for medical examinations	2.69	1.00	4.00	0.81
	Searching for information on how others avoid illness.	3.97	1.00	5.00	1.33
	Striving to obtain medical information and understand the causes of health and illness	2.34	1.00	5.00	0.87
Positive mental attitude	A positive approach to tips from people concerned about health	3.34	1.00	5.00	1.33
	Avoiding feelings such as anger, anxiety and depression.	3.48	1.00	5.00	1.11
	Avoiding too strong emotions, stress and tension	3.51	1.00	5.00	1.20
	Having friends and a regulated family life	3.63	1.00	5.00	1.30
	Avoiding feelings such as anger, anxiety and depression	3.21	1.00	5.00	1.33
	Positive thinking	3.64	1.00	5.00	1.30
Health practices	Adequate, sufficient rest	3.18	1.00	5.00	1.21
	Avoiding overwork	2.57	1.00	5.00	1.50
	Controlling your own weight	3.03	2.00	4.00	0.88
	Enough sleep	2.71	1.00	5.00	0.91
	Limiting smoking	3.02	1.00	5.00	1.13
	Avoiding excessive physical exertion	3.36	1.00	5.00	1.03

SD – Standard deviation

Analysis of correlation between self-estimation of progress value obtained from participants results to health behaviour aspects reveals different correlation levels among pair in both genders and all together. In all cases, self-estimation of progress is significantly correlated with proper eating habits, but correlation is moderate (r value from 0.403 to 0.449). Health practices and preventive are does not correlate significantly in a group of males, but health practices indicator have significant correlation in a group of females. Preventive behaviour did not correlate significantly in analysis of separate genders, but it is have slight, significant correlation for all participants. The highest correlation are revealed for comparison to positive mental attitude in a group of males. No significant correlation was revealed in terms of age (Table 3).

Table 3. Spearman rank correlation between self-esteem of progress and each aspect of health behaviour ($p<0.05$)

	Self-estimation of progress		
	Males	Females	All
Proper eating habits	0.403*	0.449*	0,409*
Health practices	0.269	0.402*	0.497*
Positive mental attitude	0.632*	0.460*	0,545*
Preventive behaviours	0.160	0.281	0.319*
Age	0.166	-0.347	0.203
Proper eating habits	0.403*	0.449*	0,409*
Health practices	0.269	0.402*	0.497*

*$p<0.05$

Discussion

The research conducted shows that the value of the general indicator of health behaviour amounted to 76.03 ± 13.14 (Table 1). With the aim of interpreting the acquired results, they were subsequently calculated on a scale of a standard ten, by applying the method frequently used in health psychology (other fields of science) which involves the transposing of data to standardized units. This enabled the comparison of results for the analysed people from a wide group of norms (standard results range between 1 and 10) (Zalas et al., 2018). The indicator of the level of intensity of health behaviour of the analysed group that is calculated in this way is placed at around 6 out of ten, thus it is possible to state that this result is not high, but rather average by comparison with the average values indicated in subject-related literature (Table1) (Juczyński, 2009).

It is possible to suppose that this average to low result resulted from the fact that the analysed individuals were in the process of acquiring knowledge (during the course of studies). It is possible to treat it in this way that the acquired result indicates the closeness to the high values of health behaviour. To a certain extent, this may certify to the correct program of studies that include content relating to pro-health behaviour.

We are of the opinion that it is worth checking how this indicator is formed after the conclusion of the process of education at higher level. The results acquired in our research partially correspond with the other existing research reports which display that in terms of the people who prepare for work in the field of health during the course of studies, the level of pro-health activities undertaken was paradoxically very low, while simultaneously the great awareness of the significance of health behaviour in terms of preserving the welfare of the bio-psycho-social scheme (Ferriz, González-Cutre, Sicilia, & Hagger, 2016). This divergence may have a multitude of aspects and potential explanations. In the case of the research group presented in the herein paper, it constituted people studying the course of physical education, namely at a course in which students have the possibility to gain knowledge on the subject of the impact of lifestyle on the speed of progress during training and competitions. Yet, as the research of other scientists shows (Smith, 2003), a significant difference may exist between theory and practice. There is also the likelihood that this may also relate to those people whose sporting results depend to a large extent on their lifestyle (Wibowo & Indrayana, 2019) . Obtained results have shown, that despite differences in an age for both genders, both groups did not present significant differences between each indicator. However, correlation analysis shown that there is only moderate correlation between self-esteem and each of health indices. We can conclude, that general evaluation of student's adaptation is connected with health behaviour aspects to a certain extent, but differences may be connected with their self-perception in general. Either there are additional factors affecting their self-esteem, or they does not posses enough introspective competences to perform detailed, rational and objective evaluation of themselves, despite being on a course of physical education, which should be the most appropriate higher education course of such competences. This study could support hypothesis, that education could emphasise health behaviours and nullify gender differences regarding self-esteem exposed in other studies (Aanesen, Meland, & Torp, 2017).

Interesting phenomena, regarding possible future development of such study lies in comparing subjective and objective indicators of health. Self-reported estimation of some health indices could be compared to objective, tested by fitness test evaluation (Dobosz, 2018). In mentioned study, males results was not statistically significant, while newer study of same phenomena about female athletes shown significant correlation between subjective and objective measurements (Dobosz, 2019).This is concurrent with our obtained results, where females results have higher correlation between self-reported general indicator and more objective detailed evaluation. In light of the results acquired, it would seem to be even more justifiable to continue research on the subject of the circumstances of shaping the responsibility for undertaking behavioural traits that have an impact on health. This corresponds with reports from other researchers which indicate that the positive mental approach has a connection with greater satisfaction with progress made in training. This fact may be of long-term psychological significance as the research illustrates that a good mental state is a factor that favours a good execution of sporting techniques, even during competitions associated with experiencing strong pressure (Raglin, 2001). Trusting your own possibilities increases the effectiveness of activities, in spite of the fact that external factors distract the attention of the particular individual (Wąsik, Ortenburger, Góra, & Mosler, 2018).

Conclusions

The research conducted provided the arguments that there is potential in terms of programming prophylactic activities and monitoring change in terms of the health practices among students in the course of physical education in the sphere of the global level of the intensity of health behaviour, as well as the particular manifestations in the composition of a broader category of health behaviour, such as the following: the correct nutritional behaviour, prophylactic behaviour, positive mental approach, healthy practices. Likewise, the further continuation of research is justifiable with regard to the dependencies between the particular health behavioural traits and the subjective evaluation of the progress made in terms of the individual possibilities of adapting to psychophysical strain. More emphasis towards building objective self-evaluation of self-esteem should be addressed to males as they have tendency to overvalue their esteem in comparison to more objective data. The accumulated empirical data and calculations carried out confirm the validity of conducting broader research on the perception of the role of health behaviour in a student environment. The acquired results may lead to drawing greater attention to the problematic issue of nutrition in the area of the course content conducted in the course of physical education.

References

Aaby, A., Friis, K., Christensen, B., Rowlands, G., & Maindal, H. T. (2017). Health literacy is associated with health behaviour and self-reported health: A large population-based study in individuals with cardiovascular disease. *European Journal of Preventive Cardiology*, *24*(17), 1880–1888. https://doi.org/10.1177/2047487317729538

Aanesen, F., Meland, E., & Torp, S. (2017). Gender differences in subjective health complaints in adolescence: The roles of self-esteem, stress from schoolwork and body dissatisfaction. *Scandinavian Journal of Public Health*, *45*(4), 389–396. https://doi.org/10.1177/1403494817690940

Aarts, H., Paulussen, T., & Schaalma, H. (1997). Physical exercise habit: On the conceptualization and formation of habitual health behaviours. *Health Education Research*, *12*(3), 363–374. https://doi.org/10.1093/her/12.3.363

Buková, A, Zusková, K., Szerdiová, L., & Küchelová, Z. (2017). Demographic factors and physical activity of female undergraduates. *Physical Activity Review*, *5*, 202–221.

Cabassa, L. J. (2016). Implementation Science: Why It Matters for the Future of Social Work. *Journal of Social Work Education*, *52*(July), S38–S50. https://doi.org/10.1080/10437797.2016.1174648

Conry, M. C., Morgan, K., Curry, P., McGee, H., Harrington, J., Ward, M., & Shelley, E. (2011). The clustering of health behaviours in Ireland and their relationship with mental health, self-rated health and quality of life. *BMC Public Health*, *11*. https://doi.org/10.1186/1471-2458-11-692

Dobosz, D. (2018). Empirical verification of self-rated positive health (somatic dimension) in men with professional competence in the field of health education. *Science of Martial Arts and Extreme Sport*, *14*(1), 93–100. https://doi.org/10.15561/18189172.2019.0203

Dobosz, D. (2019). Empirical verification of self-rated positive health (somatic dimension) in women with professional competence in the field of health education. *Pedagogics, Psychology, Medical-Biological Problems of Physical Training and Sports*, *23*(2), 66–75. https://doi.org/10.15561/18189172.2019.0203

Ferriz, R., González-Cutre, D., Sicilia, & Hagger, M. S. (2016). Predicting healthy and unhealthy behaviors through physical education: A self-determination theory-based longitudinal approach. *Scandinavian Journal of Medicine and Science in Sports*, *26*(5), 579–592. https://doi.org/10.1111/sms.12470

Fleary, S. A., Joseph, P., & Pappagianopoulos, J. E. (2018). Adolescent health literacy and health behaviors: A systematic review. *Journal of Adolescence*, *62*(March 2017), 116–127. https://doi.org/10.1016/j.

Free, C., Phillips, G., Galli, L., Watson, L., Felix, L., Edwards, P., … Haines, A. (2013). The Effectiveness of Mobile-Health Technology-Based Health Behaviour Change or Disease Management Interventions for Health Care Consumers: A Systematic Review. *PLoS Medicine*, *10*(1). https://doi.org/10.1371/journal.pmed.1001362

Galea, S., Hall, C., & Kaplan, G. A. (2009). Social epidemiology and complex system dynamic modelling as applied to health behaviour and drug use research. *International Journal of Drug Policy*, *20*(3), 209–216. https://doi.org/10.1016/j.drugpo.2008.08.005

Gohman, D. (1997). Health behavior research: definitions and diversity. In *Handbook of health behavior research. Vol. 1. Personal and social determinants* (pp. 397–417). New York: Plenum Press.

Harrington, J., Perry, I. J., Lutomski, J., Fitzgerald, A. P., Shiely, F., McGee, H., … Shelley, E. (2010). Living longer and feeling better: Healthy lifestyle, self-rated health, obesity and depression in Ireland. *European Journal of Public Health*, *20*(1), 91–95. https://doi.org/10.1093/eurpub/ckp102

Heszen, I., & Sęk, H. (2008). *Psychologia Zdrowia*. PWN.

Juczyński, Z. (2009). *Narzędzia pomiaru w promocji i psychologii zdrowia Towarzystwa Psychologicznego*. Warszawa: Pracownia Testów Psychologicznych.

Krane, V., & Williams, J. (2015). Psychological characteristics of peak performance. In K. V. Williams JM (Ed.), *Applied Sport Psychology. Personal Growth to Peak Performance* (pp. 159–175). McGraw-HillEducation.

Leite, W. S. (2014). Competition versus nature : how the sport warps human character. *Physical Activity Review*,

Łuczyńska, A. (2014). *Psychologia sportu i aktywności fizycznej*. PWN.

Raglin, J. S. (2001). Psychological Factors in The Mental Health Model Revisited. *Sports Medicine*, *31*(12), 875

Šmela, P., Pacesova, P., & Kracek, S. (2019). Three component model of meaningfulness of life of male and female university students regarding their sport activity. *Physical Activity Review*, *7*, 175–181. https://doi.org/10.16926/par.2019.07.21

Smith, D. J. (2003). A Framework for Understanding the Training Process Leading to Elite Performance. *Sports Medicine*, *33*(15), 1103–1126. https://doi.org/10.2165/00007256-200333150-00003

Spring, B., Moller, A. C., & Coons, M. J. (2012). Multiple health behaviours: Overview and implications. *Journal of Public Health*, *34*(SUPPL. 1), 3–10. https://doi.org/10.1093/pubmed/fdr111

Strümpfer, D. J. W. (1990). Salutogenesis: A new paradigm. *South African Journal of Psychology*, *20*(4), 265–276. https://doi.org/10.1177/008124639002000406

Tomljenovic, H., & Bubic, A. (2019). Cognitive and emotional factors in health behaviour: Dual-process reasoning, cognitive styles and optimism as predictors of healthy lifestyle, healthy behaviours and medical adherence. *Current Psychology*. https://doi.org/10.1007/s12144-019-00268-z

Wąsik, J., Ortenburger, D., Góra, T., & Mosler, D. (2018). The influence of effective distance on the impact of a punch - Preliminary Analysis. *Physical Activity Review*, *6*, 81–86. https://doi.org/10.16926/par.2018.06.11

Wibowo, Y. ., & Indrayana, B. (2019). SPORT: A REVIEW OF HEALTHY LIFESTYLE IN THE WORLD. *Indonesian Journal of Sport Science and Coaching*, *1*(1), 1–57.

Zalas, D., Reinehr, T., Niedziela, M., Borzikowsky, C., Flader, M., Simic-Schleicher, G., … Kulle, A. E. (2018). Multiples of Median-Transformed, Normalized Reference Ranges of Steroid Profiling Data Independent of Age, Sex, and Units. *Hormone Research in Paediatrics*, *89*(4), 255–264.