

# THE BENEFITS OF INTERDISCIPLINARY TEAM WORK: MY RESEARCH EXPERIENCE ON LIFESTYLE CHOICES

ALIAKSANDR SHPAKAU<sup>1 A,B,D-F</sup>,  
ANDREI SHPAKOU<sup>1,3 A-F</sup>,  
AGNIESZKA KUŁAK-BEJDA<sup>2 A,B,D,E</sup>,  
GRZEGORZ BEJDA<sup>3 D-F</sup>

<sup>1</sup> Department of Sports Medicine and Rehabilitation, Yanka  
Kupala State University of Grodno, Belarus

<sup>2</sup> Clinic of Psychiatry of Medical University in Białystok, Poland

<sup>3</sup> University of Medical Science in Białystok, Poland

A – study design, B – data collection, C – statistical analysis, D – interpretation of data, E – manuscript preparation, F – literature review, G – sourcing of funding

## ABSTRACT

**Background:** A common international research area is being created as a result of linked activities of research centres.

**Aim of the study:** To implement an interdisciplinary approach based on the example of a pilot study of lifestyle and identify connections between physical activity levels (PA), health-related behaviours, and the locus of health control among students.

**Material and methods:** The research was carried out using 294 students of human sciences (235 females and 59 males) aged 18-24. A diagnostic survey method was chosen using the International Physical Activity Questionnaire (IPAQ), Health-Related Behaviour Inventory (HBI) and Health Locus of Control Scale (MHLC).

**Results:** Total PA was assessed at 3829.3 MET-min/week. The dominant types of activities were walking (1245 MET-min/week) and moderate PA (1254 MET-min/week). Higher values in intensive and moderate efforts were reported among the male students, while women reported higher values in walking. The general severity index HBI is 72-93 points. There were no significant gender-related differences regarding the general indicator (except for the increased frequency of low health-related behaviours among females). Respondents mostly presented with internal locus of control with influence of others being reported less frequently, and accident locus of control least frequently. The analysis revealed a correlation between the internal placement of MHLC and PA among men ( $r=0.226$ ,  $p<0.01$ ) and individual HBI indices among women.

**Conclusions:** Most young people present a sufficient level of PA, desirable HBI, and, to a large extent, the internal locus of MHLC. The participants had a greater sense of responsibility for their own health. Females, when deciding on a lifestyle, are more easily influenced by other people. It is necessary to conduct interdisciplinary group work for comparative research in order to create educational and preventive programs addressing identified lifestyle abnormalities.

**KEYWORDS:** group work, physical activity, health behaviours, students

## BACKGROUND

Complex tasks and projects that require interdisciplinary knowledge, diverse skills, and extensive experience can be implemented by research teams. The development of information and communication technology (ICT) has caused the emergence of new forms of organization and management of work in science [1, 2]. Virtual teams are groups that perform collective work which require joint efforts and generate positive synergy. Since the participants often do not have

a direct contact, they communicate through the ICT sector. This current investigation is focused on virtual collaborative research activities uniting researchers from different parts of Europe. The intent of this example of cooperation between a group of scientists from Poland and Belarus using internet platforms is designed to incite cooperation among other centres working in the field of broadly understood health promotion and encourage an interdisciplinary approach to lifestyle education.

Effective implementation of entrusted interdisciplinary tasks requires a virtual team to meet certain specific requirements [3]:

1. A common goal / task (and its sense) as well as performance indicators.
2. Involvement in the task achievement (the goal itself must be motivating).
3. An atmosphere of trust and openness.
4. Open and honest exchange of information, opinions, and ideas.
5. The sense of attachment to the team.
6. Expertise (knowledge, experience, and skills).

The research team creates conditions for building interpersonal relations based on mutual acceptance, sympathy, and trust among representatives of various specialties [4,5]. Network organization also requires a new style of management and a new form of cooperation between scientists. Similarity of goals, at least in part, is an essential component for successful connection between virtual research teams. The stages of the networking process include participant selection and implementation of connections among those selected. In other words, the launch of the network operation is most often based on written agreements, or contracts, with individual members [6]. In our case, networks were contracted between the following universities: Yanka Kupala University in Grodno, Belarus represented by the Department of Sports Medicine and Rehabilitation, and the University of Medical Science in Bialystok, Poland.

As a result of the network activities of research centres, a common international research area is being created, and the actions of scientists are becoming, on the one hand, more flexible, dispersed, and focused on specific tasks. On the other hand, they are cheap and implemented as quickly as possible. The reconstruction of knowledge as well as the process through which this knowledge is transferred, is of equal importance. Conducting research in virtual teams allows universities to reduce costs while ensuring high quality and timeliness, which, in the modern era of seeking minimization of hurdles, is very important. An example here is the study of the connections between the level of physical activity, health-related behaviours, and the locus of health control among active students as an interdisciplinary problem in public health.

## AIM OF THE STUDY

The main objective of the research was to find a relation between the level of physical activity, pro-health attitudes, and generalized expectations across three dimensions of the locus of health control among Grodno male and female students.

Specific objectives:

- assessment of the physical activity among respondents.
- assessment of student health-related behaviours (eating habits, preventive behaviours, positive mental attitudes, health practices).

- assessment of generalized expectations across three dimensions of the locus of health control: internal (belief that control over one's health depends on the person), the influence of others (belief that the state of health is the effect of others) and accident (health condition depends on an accident or other external factors).

## MATERIAL AND METHODS

### Data collection instruments and operational definitions

The assessment of the level of all studied characteristics of the population group was made using the following questionnaire techniques:

1. The International Physical Activity Questionnaire (IPAQ), whose Polish version has been officially registered (the Belarusian one is in the process of registration), expresses physical activity in MET-min units / week, which allows easy classification of respondents into one of three categories of activity: insufficient, sufficient, or high [7].
2. The Standardized Health-Related Behaviour Inventory (HBI), according to Juczyński, contains 24 statements describing various types of health-related behaviours, determines the general index of the severity of health behaviours, and determines the severity of these four categories of behaviours: appropriate nutrition (mainly taking into account the type of food consumed), preventive behaviours (regarding compliance with health recommendations and obtaining information on health and disease), health practices (everyday habits regarding sleep, rest and physical activity), and positive mental attitude (avoidance or coping with stress) [8].
3. The Standardized Multidimensional Health Locus of Control Scale (MHLC) contains 18 statements about generalized expectations across three dimensions of the locus of health control depending on both internal and external factors [9].

### Study location and respondents

A pilot study was conducted by the authors in October 2017 among 294 students of the University of Grodno, Belarus. The respondents consisted of 235 women and 59 men, aged 18-24. Female respondents outnumbered male respondents (79.9% women versus 20.1% men), which reflects the students' gender balance at the faculties in each university and guarantees the consistency between the group of respondents and the population of students studying at these universities. All respondents were first-stage students. The age of the respondents was presented as median with minimal and maximal ranges on account of non-par-

ametric distribution of variables. Age [median] (min-max, interquartile range - IQR) - [20] (18-24, 19-23), among men [21] (18-24, 19-24), among women [20] (18-24, 20-22).

### Statistical analysis

The results of the study were exposed to statistical analysis. Descriptive statistics including mean, standard deviation, median, minimum, maximum, and IQR were calculated. The non-parametric tests Mann-Whitney U test and Chi-square test were also applied. The critical level of significance for all tests was  $p < 0.05$ . Statistical analysis was performed using the statistical software STATISTICA 10.0.

The research was carried out after obtaining a positive opinion of the Bioethics Committee of the University of Yanka Kupala in Grodno (3/44 30-11-2017) and was also conducted in accordance with the requirements of the *Helsinki Declaration*. Participation in the study was voluntary and anonymous. Each person was informed about the purpose of the study and the use of the results obtained.

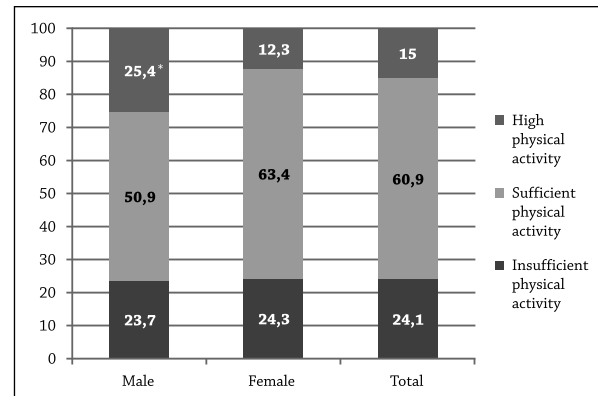
## RESULTS

### Physical activity

The long version of the International Physical Activity Questionnaire (IPAQ) was used in the research to determine 3 levels of physical activity: high (>1500 MET min/week and at least 3 days a week with intensive efforts, or over 3000 MET min/week), sufficient (600-1500 MET min / week), and insufficient (<600 MET min/week) [7, 10]. MET is a metabolic equivalent that corresponds to the oxygen consumption during the resting metabolism. According to scientific findings, 1 MET equals 3.5ml O<sub>2</sub>/kg body weight per minute. Intense physical effort is equal to the consumption of 8 MET every minute within its duration, moderate effort is equal to 4 MET, and walking (march, fast walking) equals 3.3 MET. The calculation of the total energy release, i.e. the identification of the level of physical activity of the subject, was made by multiplying the frequency and duration of the effort by the intensity as expressed in MET units. The total physical activity was assessed at the level of 3829.3 MET-min./times regarding physical efforts of intense, moderate pace and walking, and proved not to differ among men 3906 MET-min/week and women with 3807 MET-min/week correspondingly. The dominant types of activity were walking (1245 MET-min/week) and moderate physical activity (1254 MET-min/ week).

Men had higher values in intensive and moderate efforts, while women had marginally higher values in terms of walking. Statistically significant variation according to the Mann-Whitney U test in favour of male subjects was found only in relation to intense physical activity ( $Z = -2.72$ ,  $p < 0.005$ ). Every fourth male (25.4%) was characterized by high activity, but the percent-

age was only 12.3% among females. The Pearson Chi-square test showed a statistically significant ( $p < 0.05$ ) variation in a high level of physical activity in relation to the gender of students (Fig. 1).



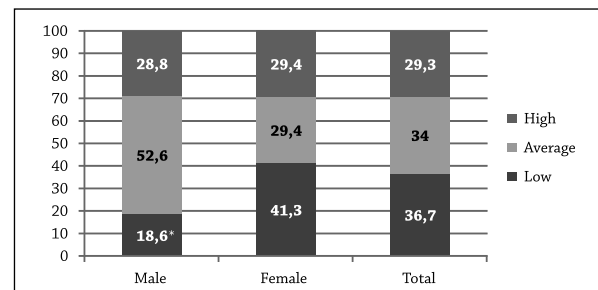
\*Pearson's chi-squared test ( $\chi^2 = 6.61$ ,  $p = 0.03$ )

Figure 1. Types of physical activity of students (including gender)

### Health behaviours

In the further part of the study, a comparison of health behaviours in individual categories of the Standardized Health-Related Behaviour Inventory (HBI) according to Juczyński was made. The average number of points obtained by the respondents in the questionnaire was 81.5 (SD=14.2). The general indicator of the severity of health behaviours of respondents, measured by the HBI scale, appeared to be within the range of 72-93 points. The higher the score, the greater the severity of health behaviours declared (median 80 points).

108 participants of the survey obtained a low result in HBI, 100 - average, and 86 - high (almost one third of respondents in each group). The analysis of health behaviours depending on the *gender* variable, made it possible to conclude that there are no statistically significant differences in the general indicator of health behaviours and its components (apart from the representatives with low levels of health behaviours) (Fig. 2).



\*Pearson's chi-squared test ( $\chi^2 = 14.0$ ,  $p < 0.001$ ).

Figure 2. Types of students' health behaviours (including gender)

The severity of four categories of health behaviours presented in the description of the method was then calculated separately. The indicator was the average number of points and the median in each category (Tab. 1).

Table 1. Average results of the Standardized Health Behaviour Inventory (HBI) scale assessment in the group of surveyed students

HBI	Gender	M±SD	Median	Min	Max	Q1*	Q3*
Total score	Male	79.9±13.3	76.0	51.0	114.0	72.0	90.0
	Female	81.9±14.4	81.0	27.0	120.0	71.0	94.0
	Total	81.5±14.2	80.0	27.0	120.0	72.0	93.0
Appropriate eating habits	Male	3.19±0.66	3.0	1.8	4.8	2.8	3.7
	Female	3.24±0.78	3.3	1.0	5.0	2.7	3.8
	Total	3.24±0.76	3.17	1.0	5.0	2.67	3.83
Preventive behaviours	Male	3.38±0.74	3.3	1.5	5.0	3.0	3.8
	Female	3.59±0.79	3.7	1.0	5.0	3.0	4.2
	Total	3.55±0.78	3.5	1.0	5.0	3.0	4.17
Positive mental attitude	Male	3.46±0.70	3.3	2.3	5.0	3.0	4.0
	Female	3.58±0.73	3.5	1.0	5.0	3.0	4.2
	Total	3.55±0.73	3.5	1.0	5.0	3.0	4.0
Health-related practices	Male	3.28±0.62	3.2	2.0	4.7	3.0	3.7
	Female	3.24±0.68	3.2	1.2	5.0	2.8	3.7
	Total	3.25±0.67	3.17	1.17	5.0	2.53	3.67

\* – Q1 can be thought of as a median in the lower half of the data, and Q3 can be thought of as a median for the upper half of data.

Analysing the research material, a low rate of health behaviours in the range of consumed food and health practices was found. Higher than medium index was declared across positive mental attitude and preventive behaviours variables.

Statistical significance was not found in case of the general indicator of health behaviours ( $p > 0.05$ ) dependent on physical activity. There were no statistically significant differences in individual categories of health behaviours ( $p > 0.05$ ) depending on gender, with the exception of the category „preventive behaviour” where sufficient physical activity among women was found ( $p < 0.05$ ) (Tab. 2).

In many works it is stated that women lead healthier lifestyles than men. This statement was supported by the findings that the male students were less likely to practice positive health behaviours than were their female counterparts.

### Health Control Locus

Respondents were asked to express their attitudes to the presented statements in the Multidimensional Health Locus of Control Scale (MHLC) [9, 11]. Concerning health, there are two types of control locus: internal - an individual's belief of being able to control his/her health, and external - conviction of the indi-

Table 2. Average respondents' results from the Standardized Health-Related Behaviour Inventory

Group	N	Health behaviour indicator	Appropriate eating habits	Preventive practices	Positive mental attitudes	Health-related practices
Insufficient physical activity						
Male	14	80.3±17.5	3.21±0.68	3.57±0.98	3.38±0.90	3.21±0.86
Female	57	82.8±13.9	3.22±0.71	3.61±0.76	3.68±0.72	3.28±0.65
Total	71	82.3±14.6	3.20±0.70	3.60±0.80	3.62±0.76	3.27±0.69
Sufficient physical activity						
Male	30	79.5±11.87	3.20±0.68	3.26±0.68*	3.47±0.61	3.32±0.55
Female	149	81.6±15.0	3.27±0.83	3.60±0.82	3.51±0.74	3.30±0.71
Total	179	81.5±14.5	3.26±0.80	3.54±0.80	3.51±0.72	3.27±0.68
High physical activity						
Male	15	80.3±12.5	3.16±0.62	3.46±0.63	3.51±0.68	3.26±0.50
Female	29	80.8±12.9	3.18±0.68	3.50±0.69	3.70±0.69	3.18±0.62
Total	44	80.6±12.6	3.17±0.65	3.48±0.67	3.64±0.68	3.14±0.58

\* Differences in the categories of health behaviours ( $p < 0.05$ ) depending on gender.

vidual that his or her health condition is dependent on external factors. The calculation of the results was made separately for three dimensions of health control: internal control, influence of others, and the accident. By studying the same students with the MHLC scale, it was established that the respondents mostly presented internal health control dimension. The second most common response was the locus of control within the category of influence of others with the accident category appearing least often. Male students obtained a higher level of declared health behaviours ( $p < 0.05$ ) than female students. Details are presented in Tab. 3.

The locus of health control in the category of influence of others positively correlates with the general assessment of health behaviours in both groups ( $p < 0.05$ ). Moreover, in the group of men, a positive correlation was also found with the locus of health control in the internal category ( $p < 0.001$ ).

The locus of health control in the category of influence of others positively correlates with the general assessment of health behaviours in both groups ( $p < 0.05$ ). Moreover, in the group of men, a positive correlation was also found with the locus of health control in the internal category ( $p < 0.001$ ).

Conducting group research according to the recommendations of the authors of the tool, the results were classified assuming the median was a border for the division of results into high and low thresholds in

each of the three dimensions. Depending on the level of physical activity, the highest level was achieved by the internal locus of the control ( $26.98 \pm 4.77$ ) with high physical activity and a significantly lesser level -  $24.17 \pm 5.38$  among students with insufficient physical activity.

The conducted analysis of the correlation between physical activity, the general indicator of health behaviours, and the locus of health control showed a statistically significant relationship between the internal locus of the control and physical activity, especially among men ( $r = 0.26$ ,  $p < 0.05$ ), and individual categories of the Standardized Health Behaviour Inventory among women ( $p = 0.03$ ) (Table 4). Among female students, the general level of declared health behaviours increased with an increase in the locus of the control in the category of influence of others ( $p = 0.003$ ) (prophylactic behaviour and positive psychological attitude).

It is possible that women often have a motive to improve their beauty, while chiefly the health aspect governs men [12]. On the other hand, the decrease in the locus of accident control among men is accompanied by the increase in the level of positive mental attitude ( $r = -0.30$ ,  $p = 0.004$ ) as health behaviour.

## DISCUSSION

The lifestyle of contemporary societies is characterized by factors that are usually the cause of the occur-

Table 3. Interpretation of the Standardized Multidimensional Health Locus of Control Scale (MHLC) depending on the gender of the respondents

MHLC	Gender	M±SD	Median	Min	Max	Q1	Q3
Internal factors	Male	26.7±5.4	28	14	36	24	30
	Female	25.8±4.6	26	6	36	23	28
	Total	25.9±4.8	26	6	36	23	29
Influence of others	Male	24.6±7.1	24	6	36	20	30
	Female	23.0±6.0	24	6	36	19	27
	Total	23.3±6.3	24	6	36	19	28
Accident	Male	24.3±6.7	25	11	36	18	30
	Female	21.7±5.3	22	6	36	18	25
	Total	22.2±5.7	22	6	36	18	26

Table 4. Spearman's correlation coefficient in terms of physical activity, health behaviours and the locus of health control depending on gender

Gender	Variables MHLC	Physical activity	General indicator of the severity of health behaviours (sum)	Appropriate eating habits	Preventive behaviours	Positive mental attitude	Health-related habits
Male	Internal type	0.26*	-0.12	-0.08	-0.21	-0.05	-0.11
	Influence of others	0.07	0.09	0.14	0.06	0.12	-0.04
	Accident	0.09	-0.16	0.06	-0.19	-0.33*	-0.11
Female	Internal type	0.07	0.01	0.04	-0.01	-0.01	0.03
	Influence of others	-0.01	0.21*	0.12	0.27*	0.17*	0.13
	Accident	0.06	-0.09	-0.07	-0.04	-0.12	-0.03

\* - Correlations are significant at  $p < 0.05$ .

rence of many abnormalities and illnesses (low level of physical activity, high level of stress, use of psychoactive substances). The point is likewise proven in cases studying youth. The conducted research shows unfavourable tendencies of the level of physical activity observed in the comparative assessment carried out in recent years [13, 14].

Physical activity is one of the important components of a lifestyle. Movement causes physiological reactions (physiological mechanisms) in the body. The main components of these mechanisms, according to Kasperczyk, are [15] effects on energy metabolism, increasing the adaptive (and working) capacity of the organism, information on the impact of physical activity, and a positive effect on the human psyche (reduction of stress level). Unfortunately, in recent years, according to Maszorek-Szymala and Kaźmierczak [16], the level of physical activity of young people has decreased. Baj-Korpak and others [12] note in studies of physical culture that 12 percent or more of young people do not take any physical activity during their free time. There is convincing experimental evidence that physical activity of moderate intensity prevents a wide range of physical and mental disorders and improves quality of life [17].

A review of research on physical activity conducted by Bergier showed that the current results do not allow for an objective assessment of physical activity even within the same social group, e.g. academic youth [10]. In fact, these results often seem to be overestimated. To avoid this, the authors of the article personally conducted studies on physical activity of students, students' pro-health attitudes, and students' generalized expectations across three dimensions of the locus of health control.

The International Physical Activity Questionnaire (IPAQ) was designed to compare country-specific surveys and their consequent use [18]. The basic English version of IPAQ has been used to develop and effectively utilize other language versions [19, 20]. The Russian version of IPAQ was used for the purposes of this study [21, 22].

Many factors determine the nature of physical activity. Sometimes it is difficult to determine to what extent they depend on certain objective conditions inducing the individual to express greater concern for his or her own health and lifestyle by undertaking pro-health activities [23]. Health behaviours are one of the categories of human behaviour that are part of lifestyle. These are both factors related to the social characteristics of the individual, as well as those that result from the nature of collective life. During the research on determinants of health behaviours among a group of students, the researchers tried to check how physical activity, health behaviours, and the locus of health control affect each other. Reviewing the available literature, the authors of the study did not find studies comparing the level of health behaviours, their determinants, and the level of physical activity among students.

Studies available in scientific databases described specific behaviours, such as smoking or nutritional behaviours. The theory of Health Locus of Control indicates the existence of a relationship between the locus of the sense of control of one's own health and the performance of activities conducive to health [24].

Similar to the studies conducted by the group of physical education teachers Szczepańska-Kunder and Lipowski [25], men were characterized by the dominant internal locus of health control in comparison to women who were characterized by stronger health locus in terms of influence of others and accident. In the research on the impact of the locus of health control and the categories of HBI, Kurowska and Różańska stated that higher values of appropriate eating habits, preventive behaviours and positive mental attitude were demonstrated by respondents who obtained high results in health control of the internal dimension and the category of influence of others [26]. In general, it is believed that the internal locus of control is more beneficial because people who manifest dominance of internal control are more autonomous in decision making process, more often engage in pro-health activities, and have a greater sense of responsibility for their health. The internal sense of control is often related to the desire to improve and maintain health, which is why the result of this scale correlates with exercise of preventive behaviours [27]. A study by Nowicki and co-workers, 2017 [9] shows that the internal locus of health control correlates positively with the level of health behaviours and all categories across HBI among representatives of non-medical professions and with a positive mental attitude, and categories of preventive behaviours and health practices among representatives of medical professions.

## CONCLUSIONS

In summary, declarations regarding the key role of physical activity, health behaviours and the locus of health control build a comprehensive picture of students, allow for a broader understanding of the context of choices made, and provide the possibility of modifying individual behaviour patterns. The youth covered by the study mostly presented a desirable level of physical activity, both mediocre and desirable health behaviours and, to a large extent, the internal locus of health control. The subjects of the study had a greater sense of responsibility for their own health, but women were more likely to be influenced by other people when shaping their lifestyle. It becomes necessary to investigate the causes of such behaviour to create remedial programs which are meant to address identified lifestyle abnormalities. The significant role should be attributed to conducting comparative research, for the benefit of which both interdisciplinary group works, proposals of educational and prophylactic programs and health education aimed at young people are used.

## REFERENCES

1. Katzenbach JR, Smith DK. Siła zespołów. Wpływ siły zespołowej na efektywność organizacji. Kraków: Oficyna Ekonomiczna; 2001. (in Polish).
2. Urlych W. The Constraints and Problems in Team Performance Management. *Zesz Nauk UEK* 2014; 9(933): 95–108.
3. Kohn SE, O'Connell VD. 6 nawyków wydajnego zespołu. Warszawa: Helion one press; 2008. (in Polish).
4. Zenun M, Loureiro G, Araujo C. The effects of teams' co-location on project performance. W: Loureiro G, Curran R, ed. *Complex systems concurrent engineering-collaboration, technology innovation and sustainability*. London: Springer; 2007.
5. Roi GS, Stefoni S, Mosconi G, Brugin E, Burra P, Ermolao A, et al. Physical activity in solid organ transplant recipients: organizational aspects and preliminary results of the Italian project. *Transplant Proc* 2014 Sep; 46(7): 2345–2349.
6. Shpakou A, Kleszczewska E, Knaś M, Kłossowska J, Pancevich A, Shpakou A. International research teams - the social utility of health promotion and health education. *Puls Uczelni* 2016; 10(1): 5–8.
7. Biernat E. Międzynarodowy kwestionariusz aktywności fizycznej – polska długa wersja. *Polish J Sport Med* 2013; 1(4): 29: 1–15. (in Polish).
8. Moczyłowska A, Krajewska-Kułak E, Kózka M, Bielski K. Preferred patient behaviours related health. *Prog Health Sci* 2015; 5(2): 122–133.
9. Nowicki G, Ślusarska B, Młynarska M, Rudnicka-Drożak E, Chemperek E. Umiejscowienie kontroli zdrowia a deklarowane zachowania zdrowotne w grupie osób wykonujących zawody medyczne i pozamedyczne. *Pol Prz Nauk Zdr* 2017; 1(50): 38–48. (in Polish).
10. Bergier J. Aktywność fizyczna społeczeństwa – współczesny problem (przegląd badań). *Człowiek i Zdrowie* 2012; T.VI (1): 3–12. (in Polish).
11. Wallston KA, Wallston BS, DeVellis R. Development of the Multidimensional Health Locus of Control (MHLC) Scales. *Health Educ Behav* 1978; 6: 160–70.
12. Baj-Korpak J, Korpak F, Szepeluk A, Sudoł G. Czynniki warunkujące motyw i bariery aktywności fizycznej studentów kierunku wychowanie fizyczne. *Rozprawy Społeczne* 2016; 4(10): 60–72. (in Polish).
13. Dzwilewska I, Brzóska M, Ejsmont M. Rozpowszechnianie palenia tytoniu oraz świadomość szkodliwości tego nałogu wśród studentów Uniwersytetu Medycznego w Białymstoku. *Przegl Lek* 2011; 10(68): 858–61. (in Polish).
14. Kuczyński J, Kleszczewska E, Popławski T, Łogwiniuk K, Szpakow A, Szpakow A. Badanie używania substancji psychoaktywnych oraz postaw prozdrowotnych wśród studentów uczelni z Suwałk, Białegostoku i Grodna. *Probl Hig Epidem* 2011; 92(4): 760–65. (in Polish).
15. Kasperczyk T. Poziom sprawności i aktywności fizycznej a zdrowie. *Nowa Med* 2000; 108(12): 88–90. (in Polish).
16. Maszorek-Szymala A, Kaźmierczak A. Sprawność fizyczna młodzieży łódzkiej – kandydatów na studia wychowania fizycznego – prognozy a stan aktualny. W: Kuder A, Śledziwski D, Perkowski K, ed. *Proces doskonalenia treningu i walki sportowej*. T. 2. Warszawa: AWF; 2005: 261–263. (in Polish).
17. Loginov SI, Nikolaev AYU, Vetoshnikov AYU, Sagadeeva SG. Physical activity of man and adaptation to the conditions of life in the subarctic zone. *Theory and practice of physical culture and sports* 2015; 6: 89–99. (in Russian).
18. Gauthier AP, Lariviere M, Young N. Psychometric Properties of the IPAQ: A Validation Study in a Sample of Northern Franco-Ontarians. *J Phys Act Health* 2009; 6(1): 54–60.
19. Wanner M, Probst-Hensch N, Kriemler S, Meier F, Autenrieth Ch. Validation of the long international physical activity questionnaire: Influence of age and language region. *Prev Med Rep* 2016 Jun; 3: 250–256.
20. Mannocci A, Masala D, Mei D, Tribuzio AM, Villari P, LA Torre G. International Physical Activity Questionnaire for Adolescents (IPAQ A): reliability of an Italian version. *Minerva Pediatr* 2018 Jan 29; doi: 10.23736/S0026-4946.16.04727-7 [ahead to print].
21. Zabina HY, Schmid TL, Potemkina RA, Glasunov IS, Deev AD. Evaluation of Physical Activity Levels in Russia Based on the International Physical Activity Questionnaire (IPAQ). *Med Sci Sport Exerc* 2002; 34(5): 264–274.
22. Loginov SI, Nikolaev AYU, Vetoshnikov AYU, Sagadeeva SG. Surgut residents: physical activity based on international physical activity questionnaire IPAQ. *Theory and practice of physical culture and sports* 2015; 1: 83–85. (in Russian).
23. Skommer M. Uwarunkowania zachowań zdrowotnych człowieka. In: Bartkowiak G, ed. *Czynniki kształtujące zachowania zdrowotne człowieka na przestrzeni życia*. Nauka i praktyka. Poznań: Wyd. Naukowe Uniwersytetu Medycznego im. Karola Marcinkowskiego w Poznaniu; 2008: 11–30. (in Polish).
24. Norma P, Bennet P. Health locus of control. In: Conner M, Norman P, ed. *Predicting health behaviour*. Buckingham: Open University Press; 1996: 62–94.
25. Szczepańska-Kunder Ż, Lipowski M. Poczucie umiejscowienia kontroli a podejmowanie aktywności prozdrowotnej przez nauczycieli wychowania fizycznego. *Teoria i Praktyka Wychowania Fizycznego i Sportu* 2014; 4: 87–100. (in Polish).
26. Kurowska K, Różańska O. Zachowania zdrowotne a umiejscowienie kontroli zdrowia u osób z rozpoznaniem kamicy żółciowej. *Piel Chir Angiol* 2014; 1: 35–40. (in Polish).
27. Juszczyński Z. Narzędzia pomiaru w psychologii zdrowia. *Przegląd Psychologiczny* 1999; 42(4): 43–56. (in Polish).

---

Word count: 3036

• Tables: 4

• Figures: 2

• References: 27

---

**Sources of funding:**

The research was funded by the authors.

**Conflicts of interests:**

The authors report that there were no conflicts of interest.

**Cite this article as:**

Shpakou A, Shpakou A, Kułak-Bejda A, Bejda G.

The benefits of interdisciplinary team work: my research experience on lifestyle choices.

MSP 2018; 12, 1: 4–11.

**Correspondence address:**

Andrei Shpakou, PhD, MD, Associate Professor  
Head of Department of Sport Medicine and Rehabilitation,  
Yanka Kupala State University of Grodno, 22 Ozheshko St.  
Grodno 230023, Belarus  
Tel. +375 152 754601  
E-mail: shpakoff@tut.by

Received: 15.02.2018

Reviewed: 5.03.2018

Accepted: 5.03.2018