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Article · December 2019

DOI: 10.33120/ssj.vi44(47).122

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УДК [159.923.2+316.37]:378.4
DOI: https://doi.org/10.33120/ssj.vi44(47).122

Bogusław Stelcer
Philosophy Doctor, Assistant Professor at the Department of Human Nutrition and Hygiene,
Poznan University of Life Sciences,
Poznan, Poland
ORCID:0000-0002-8133-4154
stelcer@up.poznan.pl

Marcin Cybulski
Philosophy Doctor, Assistant Professor at the Department of Clinical Psychology,
Poznan University of Medical Sciences,
Poznan, Poland
ORCID: 0000-0002-5492-9558
cybulski@ump.edu.pl

Iryna Kryvenko
Candidate of Psychological Sciences, Associate Professor at the Department of Psychology and Psychotherapy,
Ukrainian Catholic University,
Lviv, Ukraine
ORCID: 0000-0002-7558-5440
i.horbal@ucu.edu.ua

Olha Yurtsenyuk
Candidate of Medical Sciences, Associate Professor at the Department of Nervous Diseases, Psychiatry and Medical Psychology,
Bukovinian State Medical University,
Chernivtsi, Ukraine
ORCID: 0000-0002-1450-1530
yurtsenyuk.olga@bsmu.edu.ua

Marta Kachmarska
Candidate of Medical Sciences, Associate Professor at the Department of Psychiatry and Psychotherapy,
Danylo Halytsky Lviv National Medical University,
Lviv, Ukraine
ORCID: 0000-0003-1104-3420
kachmarskamarta@gmail.com

Nataliya Ryshkovska
Candidate of Medical Sciences, Associate Professor,
Department of Psychiatry and Psychotherapy,
Danylo Halytsky Lviv National Medical University,
Lviv, Ukraine
ORCID: 0000-0002-0426-5490
ryshkovska@gmail.com

Halyna Katolyk
Candidate of Psychological Sciences, Professor at the Department of Psychology,
Lviv State University of Life Safety,
Lviv, Ukraine
ORCID: 0000-0002-2169-0018
katolyk@hotmail.com

Przemysław Lisiński
Philosophy Doctor, dr. hab., Associate Professor at the Department of Rehabilitation and Physiotherapy,
Poznan University of Medical Sciences,
Poznan, Poland
ORCID: 0000-0002-3551-7347
plisinski@vp.pl

PERSONAL AND BEHAVIOURAL HEALTH RESOURCES IN UKRAINIAN STUDENTS PURSUING HEALTHCARE DEGREES: PRELIMINARY STUDY

The aim of the study was to explore health behaviours, general self-esteem and sense of coherence, as well as the relationships between them, in Western Ukrainian students pursuing health care degrees. The research sample was composed of students of three Ukrainian Universities in Lviv and Chernivtsi (N=193). Each participant was asked to fill in several questionnaires, namely, the Self-Esteem Scale (SES), the Health Behaviours Inventory (IZZ), and the Sense of Coherence Scale (SOC-29). The collected data were entered and analyzed using IBM SPSS 25. For all purposes, the criteria of significance were considered at $p<0,01$ & <0.05. Generally, according to the question's responses, subjects show adequate health resources and self-esteem. There was no significant difference in health resources in the context of the place of origin or the age of the respondents. There are differences between men and women in terms of health practices and a healthy eating style. Ukrainian young men tend to take less care of their health, however, they score higher in two of three dimensions of the sense of coherence, comparing to women. A strong correlation was found between the level of self-esteem and a healthy lifestyle, and sense of coherence. A strong link between the sense of coherence, health behaviours, and self-esteem proves that Ukrainian students have resources to deal with the stress accompanying studies at universities. It may also be viewed as a good indicator for their effective future career in the healthcare sphere. Though, men are inclined to treat their health with less responsibility and not to ask for help until the situation with their health becomes critical. Self-esteem was proved to be crucial for higher scores of the sense of coherence and a tendency to behave in a healthy manner. Further work is planned on the cultural adaptation of tools in the field of health psychology.

Keywords: health behaviours; health resources; sense of coherence; self-esteem; education; students.

Богуслав Стельцер
доктор філософії, викладач кафедри харчування та гігієни людини,
Познанський університет природничих наук,
Познань, Польща
ORCID:0000-0002-8133-4154
stelcer@up.poznan.pl

Марцін Цибульскі
доктор філософії, викладач кафедри клінічної психології,
Познанський університет медичних наук,
Познань, Польща
ORCID: 0000-0002-5492-9558
cybulski@ump.edu.pl

Ірина Кривенко
кандидат психологічних наук, доцент кафедри психології та психотерапії,
Український католицький університет,
Львів, Україна
ORCID: 0000-0002-7558-5440
i.horbal@ucu.edu.ua

Ольга Юрценюк
кандидат медичних наук, доцент кафедри нервових хвороб,
психіатрії та медичної психології ім. С. М. Савенка,
Буковинський державний медичний університет,
Чернівці, Україна
ORCID: 0000-0002-1450-1530
yurtsenyuk.olga@bsmu.edu.ua

Марта Качмарська
кандидат медичних наук, доцент кафедри психіатрії та психотерапії,
Львівський національний медичний університет імені Данила Галицького,
Львів, Україна
ORCID: 0000-0003-1104-3420
kachmarskamarta@gmail.com

Наталія Ришковська
кандидат медичних наук, доцент кафедри психіатрії та психотерапії,
Львівський національний медичний університет імені Данила Галицького,
Львів, Україна
ORCID: 0000-0002-0426-5490
ryshkovska@gmail.com

Галина Католик
кандидат психологічних наук, професор кафедри психології,
Львівський державний університет внутрішніх справ,
Львів, Україна
ORCID: 0000-0002-2169-0018
katolyk@hotmail.com

Пшемислав Лісіньскі
доктор філософії, доктор габілітований, доцент кафедри реабілітації та фізіотерапії,
Познанський університет медичних наук,
Познань, Польща
ORCID: 0000-0002-3551-7347
plisinski@vp.pl

ОСОБИСТІСНІ ТА ПОВЕДІНКОВІ РЕСУРСИ ЗДОРОВ'Я УКРАЇНСЬКИХ СТУДЕНТІВ, ЯКІ ВИВЧАЮТЬ НАУКИ ПРО ЗДОРОВ'Я: ПІЛОТНЕ ДОСЛІДЖЕННЯ

Ця наукова розвідка мала на меті дослідити поведінку щодо здоров'я, загальну самооцінку та почуття когерентності, а також зв'язок між ними у студентів Західної України, які здобувають освіту у сфері наук про здоров'я. Опитування проводилося серед студентів трьох львівських та чернівецьких університетів (N=193). Кожен учасник

дослідження відповідав на запитання методик, а саме: Шкали самооцінки, Опитувальника поведінки щодо здоров'я, Шкали почуття когерентності. Для статистичного аналізу отриманих даних було використано пакет IBM SPSS 25, статистична значущість визначалася при $p<0,01$, $p<0,05$. Отримані результати свідчать про адекватні в цілому ресурси здоров'я та адекватну самооцінку респондентів. Значущих відмінностей щодо ресурсів здоров'я залежно від місця проживання чи віку досліджуваних не виявлено. З'ясовано, що є певні відмінності серед чоловіків і жінок у здійсненні практик щодо здоров'я та в способі харчування. Так, українські чоловіки молодого віку зазвичай менше дбають про своє здоров'я, водночас у них за двома із трьох вимірів почуття когерентності вищі показники, порівняно із жінками. Суттєві кореляції встановлено між рівнем самооцінки і здоровим способом життя, а також почуттям когерентності. Наявність тісного зв'язку між почуттям когерентності, поведінкою щодо здоров'я та самооцінкою студентів свідчить про те, що студенти мають ресурси для подолання стресу, який супроводжує навчання в університеті. Це також можна трактувати як хороший індикатор ефективності їхньої майбутньої діяльності у сфері охорони здоров'я. Чоловікам властиво, утім, менш відповідально ставитися до здоров'я і не просити про допомогу, доки ситуація зі здоров'ям не стане критичною. Самооцінку визначено як ключовий чинник вищих показників почуття когерентності та схильності поводитися здоров'яорієнтовано. Подальші дослідження плануються в контексті культурної адаптації методик у сфері психології здоров'я.

Ключові слова: поведінка щодо здоров'я; ресурси здоров'я; почуття когерентності; самооцінка; навчання; студенти.

The problem statement. Health issues are intertwined with social life. The scope of health-related phenomena is on the rise and this is becoming increasingly relevant in demographic, economic and political terms, and primarily in people's daily lives. For years, intensive research has been carried out in the field of health psychology, the aim being to identify the psychological determinants of health-related behaviours. It has been shown that human health depends primarily on individual lifestyles and characteristics of the physical and psychosocial environment and to a lesser extent on medical factors. Based on the data contained in the so-called Lalonde report of 1974, it was estimated that lifestyle is responsible for our health in approximately 50%. Lifestyle includes among others physical activity and recreation, eating habits, use of stimulants and mental hygiene. Health is also affected by the living environment (20%), hereditary factors (also 20%) and health care (only 10%). The main task of modern health psychology is therefore to identify health determinants resulting from psychological phenomena (Lalonde, 1974; Wysocki, Miller, 2003).

Analysis of recent studies and publications. The formation of health behaviours results both from an individual's commitment and from external factors. However, an individual's commitment to health care results from personality traits and temperament, attitudes, habits, needs and beliefs, which are also subject to external influences in the processes of a person's development and upbringing. The literature indicates the influence of family systems, peer groups and upbringing processes on health behaviours in later developmental periods (Zadworna-Cieślak, 2010; Tabak, Jodkowska, Oblacińska, Mikiel-Kostyra, 2012; Babicz-Zielińska, Jeżewska-Zychowicz, 2015). Cultural influences, comprising both media influences (Pilch, 1995; Evans, 2006; Strzelecki, Cybulski, Strzelecka, Dolczewska, 2007; Syrkiewicz-Światła, Holecki, Wojtynek, 2014; Babicz-Zielińska, Jeżewska-Zychowicz, 2015) and those related to religious systems, are also an important factor modelling health behaviours (Jedlecka, 2016). The influence of sociodemographic factors on health behaviours is defined by variables such as gender, age, level of education and material status. Behaviours related to health care are more often manifested by women (Zielińska, 2008; Królikowska, 2011). Increased interest in preserving health resources is also age-related, the relationship being directly proportional (Kubiak, 2009; Tiszczenko, Surmach, Piecewicz-Szczęsna, 2009). At the same time higher material status and higher level of education contribute to a higher health awareness and adherence to the principles of healthy living, primarily thanks to financial resources and knowledge (Ślusarska, Dobrowolska, Zarzycka, 2013). Among the psychological factors influencing pro-health attitudes, one can mention self-esteem, emotional maturity, resistance

to stress factors, fear and anxiety (Ogińska-Bulik, 2010). In the area of pro-health involvement of psychological predispositions, one can also mention the locus of control (Strzelecki, Cybulski, Strzelecka, 2009) and the sense of coherence (Hakanen, Feldt, Leskinen, 2007).

Self-esteem is one of the most important psychological structures that helps individuals to define themselves. It is recognized as a predictor of physical health and longevity (Łaguna, Lachowicz-Tabaczek, Dzwonkowska, 2007). These relationships probably result from the fact that it is related to the intensity of experiencing negative emotions as a consequence of life events occurring in the life of the individual. One of the assumptions of cognitive psychology is to find the sources of people's behaviours as a result of processing information about themselves and the surrounding world. Therefore, health behaviours appear to be related to knowledge about oneself and self-esteem (Pervin, 2002; Łaguna, Lachowicz-Tabaczek, Dzwonkowska, 2007).

The salutogenic approach, seeking the sources of health, is based, among others, on the belief that this construct allows an individual to maintain physical health and good mental condition despite strain. The creator of the salutogenic approach, Aaron Antonovsky, sought common features in individuals who, despite straining and stressful life experiences, were enjoying optimum health, paying attention to their health resources, which is known as the sense of coherence. The sense of coherence is defined as a global orientation of an individual expressing a firm belief that the stimuli coming from both the internal and external environment are predictable and have a semantic structure (comprehensibility). Such individual is also convinced that he or she has the resources to deal with the challenges of the environment (manageability). The third component of coherence is the belief that life has meaning from an emotional point of view and that the challenges faced by the individual are worth the effort and commitment (meaningfulness). Studies on the sense of coherence have demonstrated the key significance of this construct in explaining the sources of mental and physical health of people affected by stressful and critical events (Antonovsky, 1995).

The health-related personality resources of Ukrainian students are crucial for migration movements in Europe. They allow taking into account Ukrainians' needs and attitudes in shaping central & western countries health policies (Stola, 2019). Universities are responsible for ensuring that graduates are knowledgeable, skillful, and professional. To achieve these goals, higher schools typically use a curriculum of didactic lectures, modeling, supervised practice, mentoring, and hands-on experience to augment individual study (Hojat, Glaser, Xu, Veloski, Christian, 1999; Darling, McWey, Howard, Olmstead, 2007). Unfortunately, some aspects of the educating process have unintended negative consequences on students' personal health resources. Studies suggest that students experience a high incidence of personal distress with potentially adverse effects on academic performance, competency, professionalism, and health (Darling, McWey, Howard, Olmstead, 2007; Fila, Eatough, 2018). It seems to be critical for academic educators to understand the prevalence and causes of student distress, potential adverse personal and professional consequences, and institutional factors that can positively and negatively influence student health (Ostrowska, 1999; Wnuk, Hędzelek, Marcinkowski, 2009; Romanowska-Tołłoczko, 2011).

The sources of stress for students vary by year in education. The first-year student is faced with the challenges of being uprooted from family and friends and adapting to a demanding new learning environment. Human cadaver dissection is well-recognized stress for many students, but other sources of distress, such as a substantially increased scholastic workload and concern for academic performance, also characterise this transition (Hojat, Glaser, Xu, Veloski, Christian, 1999; Wnuk, Hędzelek, Marcinkowski, 2009; Romanowska-Tołłoczko, 2011).

Although sources of stress related to the training experience have been the focus of most research on student distress, students also experience numerous personal life stressors common to individuals their age. In a study of more than 1000 medical students, many reported experiencing the death of a family member (15%), personal illness or injury (25%), or change of health in a relative (42%) within the past year (Hojat, Glaser, Xu, Veloski, Christian, 1999). These life events would be expected to adversely affect students' quality of life and professional development, their effect has not been well studied. Personal factors also play a huge role in developing health

resources. A stable personality structure and individual coping skills, as well as a high level of motivation, seem to be leading in this context (Ostrowska, 1999; Szymczak, 2005).

The goal of the current study was to find out the peculiarities of health behaviours, general self-esteem and sense of coherence, as well as the relationships between them, in Western Ukrainian students pursuing health care degrees.

The statement of the main research material.

Methodology and methods. Measurements took place between February and March 2019. 193 Ukrainian students participated in the research, all of them studying so called health sciences by which we mean that they prepare to become professionals in health-related areas – medicine, clinical psychology, physiotherapy and ergotherapy. The group of respondents included 106 medicine students from Danylo Halytsky Lviv National Medical University and 56 students from Bukovinian State Medical University in Chernivtsi, and 31 clinical psychology and physiotherapy and ergotherapy students from Ukrainian Catholic University in Lviv. For further details, see Table 1. The research was carried out using "paper and pencil" questionnaires while supervised by the academic staff.

Table 1

Descriptive statistics – a group characteristics

Variables	***n=193 (%)***
Sex	
Female	130 (67%)
Male	63 (33 %)
Age	
Min	17
Max	38
M	20,47
SD	1,95
Place of origin	
Village	65 (34%)
Town/city	128 (66%)
University	
Lviv National Medical University	106 (55%)
Ukrainian Catholic University	31 (16%)
Chernivtsi National University	56 (29%)

Source: own calculations

The differences between health behaviours and the sense of coherence depending on age, sex, place of residence and the level of self-esteem among students were described. The results obtained by the questionnaires were analyzed: the Health-related Behaviours Inventory (IZZ) by Juczyński (Juczyński, 2012), the Self-Esteem Scale (SES) by Rosenberg (Łaguna, 2008; Dzwonkowska, Lachowicz-Tabaczek, Łaguna, 2008) and the Sense of Coherence scale (SOC-29) by Antonovsky (Antonovsky, 1999; Pasikowski, 2001). Questionnaires were translated into Ukrainian by translator under the supervision of a competent judge – a psychologist. Due to lack of Ukrainian standards (norms), raw results were used to describe the results. In the analyses of age groups (younger & older) and the level of self-esteem groups (lower & higher), median (Me) was used as a caesura (Me 20 years for age, and Me 29 pts for self-esteem).

The Health Behaviours Inventory (IZZ) contains 24 statements describing various types of health-related behaviours. It allows obtaining a health behaviours intensity general rate, as well as results referring to particular categories of these behaviours (i.e. adequate eating habits, preventive behaviours, positive psychological attitudes and health practices).

The Self-Esteem Scale (SES) is a one-dimensional tool which allows assessment of the level of general self-esteem – a relatively constant disposition defined as a conscious attitude (positive or

negative) towards the self. It consists of 10 diagnostic statements. The respondent has the task to indicate on a four-level scale, to what extent he agrees with each of these statements.

The Sense of Coherence scale (SOC-29) is used to assess the salutogenic concept of coherence. The SOC consists of at least three dimensions: comprehensibility, manageability and meaningfulness. It consists of 29 statements (Antonovsky, 1995; Pasikowski, 2001).

The IBM SPPS Statistics 25 for data analysis was used as a statistical tool. Due to the lack of normal distribution, non-parametric tests were proposed.

Results. *Personal health resources in the research group of female and male students.* Table 2 presents the differences in health-related behaviours among men and women.

Table 2

Sex vs dependent variables – U Mann-Whitney test

Variable	**Sex**		***U Mann-Whitney***	***P***
	Female (*N*=130)	**Male** (*N*=63)		
	M (SD)	***M (SD)***		
Self-esteem (SES)	28,65 (4,25)	29,78 (3,94)	-1,65	0,099
Adequate eating habits (IZZ)	**18,35 (4,37)**	16,44 (4,46)	-2,76**	**0,006**
Preventive behaviours (IZZ)	17,48 (3,72)	17,37 (3,96)	-0,67	0,505
Positive psychological attitudes (IZZ)	20,19 (3,47)	20,21 (3,96)	-0,04	0,966
Health practices (IZZ)	**19,65 (3,31)**	18,57 (3,82)	-2,06*	**0,040**
Comprehensibility (SOC-29)	41,92 (7,50)	**44,76 (8,49)**	-2,12*	**0,034**
Manageability (SOC-29)	47,44 (7,60)	**50,16 (6,17)**	-2,30*	**0,022**
Meaningfulness (SOC-29)	42,02 (7,18)	42,00 (6,25)	-0,28	0,776

* $p < 0,05$, ** $p < 0,01$; Source: own calculations

The results obtained using the Mann-Whitney U test, presented in Table 2, show significant differences between women and men in terms of Adequate Eating Habits, Health Practices, Comprehensibility and Manageability, that are four of eight measured dimensions. Women are characterized by a higher level of Adequate Eating Habits, Health Practices, while men are characterized by a higher level of Comprehensibility and Manageability. Results also show that surveyed male students present higher global sense of coherence than women.

Personal health resources in relations to the place of origin. A separate statistical analysis has been submitted to detect the way of answering questions of the research questionnaires depending on the place of origin of the surveyed students.

Table 3

Place of origin vs dependent variables – U Mann-Whitney test

Variable	**Place of residence**		***U Mann-Whitney***	***P***
	Village (*N*=65)	**Town/city (*N*=129)**		
	M (SD)	***M (SD)***		
Self-esteem (SES)	28,25 (3,11)	29,40 (4,57)	-1,95	0,051
Adequate Eating habits (IZZ)	18,29 (4,45)	17,49 (4,49)	-0,96	0,336
Preventive behaviours (IZZ)	17,60 (,348)	17,38 (3,94)	-0,25	0,801
Positive psychological attitudes (IZZ)	20,60 (3,61)	20,01 (3,61)	-0,84	0,403
Health practices (IZZ)	19,74 (3,65)	19,11 (3,43)	-0,80	0,421
Comprehensibility (SOC-29)	42,34 (6,88)	43,09 (8,39)	-0,95	0,343
Manageability (SOC-29)	47,78 (7,47)	48,62 (7,14)	-0,53	0,596
Meaningfulness (SOC-29)	41,42 (6,85)	42,40 (6,92)	-1,08	0,279

* $p < 0,05$, ** $p < 0,01$; Source: own calculations

The results obtained using the Mann-Whitney U test, presented in Table 3, indicate that there are no significant differences between the respondents living in the countryside and in the city in terms of the variables studied. However, it is worth noting that the result for Self-esteem is on the verge of significance, it is possible that if more people from rural areas were examined, the differences would turn out to be significant, it would indicate a slightly higher self-assessment of people living in the city. The study showed an existing statistical tendency concerning the place of residence and its relation to the level of self-esteem in the studied population.

Personal health resources in relations to the age. In the next step, the surveyed students were divided into two age groups (up to and including 20 years and over 20 years old) for comparing their health resources. The division into two age groups referred to the theses taken in the theory of psychosocial development by Erik Erikson (2004). The aim was to analyze the groups of adolescents and people entering the stage of life called early or young adulthood. Table 4 contains data informing about the method of responses to survey questions by both groups.

Table 4

Age vs dependent variables – U Mann-Whitney test

Variable	Age		*U Mann-Whitney*	*P*
	younger (≤20 yrs) (*N*=109)	**Older (>20 yrs) (*N*=85)**		
	M (SD)	***M (SD)***		
Self-esteem (SES)	28,77 (4,31)	29,33 (3,91)	-0,67	0,503
Adequate eating habits (IZZ)	17,52 (4,42)	18,06 (4,57)	-0,62	0,533
Preventive behaviours (IZZ)	17,37 (3,82)	17,56 (3,76)	-0,13	0,896
Positive psychological attitudes (IZZ)	20,06 (3,53)	20,40 (3,73)	-0,91	0,365
Health practices (IZZ)	19,01 (3,45)	19,72 (3,57)	-1,52	0,128
Comprehensibility (SOC-29)	42,52 (7,58)	43,25 (8,35)	-0,04	0,965
Manageability (SOC-29)	47,93 (7,10)	48,87 (7,43)	-1,07	0,285
Meaningfulness (SOC-29)	41,86 (6,84)	42,33 (6,99)	-0,43	0,670

* $p < 0,05$, ** $p < 0,01$; Source: own calculations

The results obtained using the Mann-Whitney U test, presented in Table 4, show that there are no significant differences between younger and older students in terms of the variables studied.

Personal health resources in relations to the self-esteem of the research group of students. The next step was to investigate how to answer the questions of IZZ and SOC-29 questionnaires in people with different levels of self-esteem. In the group of people with low self-esteem (Me≤29 pts), there were 102 students tested, while a high level of self-esteem (Me>29) pts) was presented by 92 subjects. The results are shown in Table 5.

The results obtained using the Mann-Whitney U test, are presented in Table 5. Data show significant differences between respondents with a lower and higher level of Self-esteem. Differences are observed in terms of Preventative Behaviour, Positive Psychological Attitudes, Health Practices. Self-esteem also correlates with Sense of Coherence all three dimensions are statistically different. People with higher self-assessment are characterized by a higher level of all the above-mentioned variables.

Discussion. The questions of attitudes towards health and health-related resources are very urgent in Ukraine. According to statistics, Ukrainians live much shorter lives than EU citizens. E.g., in 2013 the expected live longevity of the new-born Ukrainians was 66,3 years for men and 76,2 years for women. The same indexes, e.g., for Sweden, are 14 years for men and 8 years for women higher, for Poland – 7 and 5 years higher. For Ukrainian men who reached 20 years old, the expected live longevity is even shorter, only 47,3 years comparing to 60+ in Sweden, Switzerland, Spain, 53,7 in Poland. The biggest losses in live longevity happen in young and middle, working age – the middle shortening of life among Ukrainians is 5,4 years, comparing to 2,8 years in Poland

and 1,2 in Sweden (for more details see Левчук, 2017). Although one of the big factors of mortality of the young generation in Ukraine for the past few years is the military conflict in Donbass region, numerous other factors are also important, namely those connected to health attitudes and health-related behaviours, and everyday stresses, including those connected with study process.

Table 5

Self-esteem vs dependent variables – U Mann-Whitney test

Variable	Self-esteem		*U Mann-Whitney*	*P*
	Lower (Me≤29 pts) (*N*=102)	**Higher (Me>29)** (*N*=92)		
	M (SD)	***M (SD)***		
Adequate eating habits (IZZ)	17,43 (4,37)	18,12 (4,61)	-0,96	0,339
Preventive behaviours (IZZ)	16,84 (3,87)	**18,13 (3,59)**	-2,22*	**0,026**
Positive psychological attitudes (IZZ)	19,19 (3,75)	**21,34 (3,10)**	-3,93**	**0,000**
Health practices (IZZ)	18,78 (3,54)	**19,91 (3,39)**	-2,43*	**0,015**
Comprehensibility (SOC-29)	39,12 (6,57)	**46,97 (7,22)**	-6,93**	**0,000**
Manageability (SOC-29)	45,11 (7,09)	**51,92 (5,54)**	-6,62**	**0,000**
Meaningfulness (SOC-29)	39,23 (7,04)	**45,22 (5,16)**	-6,30**	**0,000**

* $p < 0,05$, ** $p < 0,01$; Source: own calculations

It is twice more important to investigate health resources and related personal aspects of those who prepare to become healthcare workers, those who are expected "the most valuable resource for health" (Joseph, Joseph, 2016, p.71). But do these people have what to share in terms of health and personal resources? Everyday meeting with people's troubles is a stressful condition itself, so good personal resources for coping are needed for effective work. Thus, the article focused on the aspects related to health of Ukrainian future healthcare workers.

This study demonstrated differences in health resources and certain health behaviours between women and men. Ladies showed greater discipline in terms of dietary behaviours and general health practices. This result is generally coordinated with other researchers, e.g. with the statement that women have higher terminal health value, tend to take care of their health earlier and visit doctors for prevention more often than men do etc. (Волошко, 2011). The data may seem to be inconsistent first, given the higher results obtained by the examined men in terms of two dimensions of the sense of coherence (sense of manageability and comprehensibility) constituting personal health resources, while the third dimension (meaningfulness) was more intense in the group of women. This means that men feel the environment as structured and predictable and evaluate their resources as adequate for dealing with stressful and conflict situations rather than women do. In the area of health-related behaviours, these results, however, make sense in accordance to the fact that ladies are more tendentious to ask for help for help in solving their health troubles, than gentlemen do – as stated above, women visit doctors more often, they also ask for advices concerning health in non-specialists, discussing problems with relatives, friends etc., when men are predisposed to ignore their health troubles (Гурвич, 1999) probably thinking that they may solve them independently, being more passive in treating health threats and asking for help only when having serious disease or acute pain symptoms (Волошко, 2011). Scoring higher in meaningfulness among women also corresponds this logic: they find it significantly more important to put effort and commitment in overcoming everyday difficulties and to consistently pursue their life goals, e.g., plan some preventive activities instead of treatment.

The report does not show whether the place of origin of the respondents is related to health behaviours and the sense of coherence of the studied population. This problem requires further detailed analysis by assessing the dynamics and structure of family systems. Literature to date indicates the influence of family systems, peer groups and upbringing processes on health behaviours in later developmental periods (Zadworna-Cieślak, 2010; Tabak, Jodkowska, Oblacińska, Mikiel-Kostyra, 2012; Babicz-Zielińska, Jeżewska-Zychowicz, 2015). However, the

received result may be explained also by the fact that all of the respondents now live in the city being students at least for a year or longer, so the current life circumstances of those born and grown in the rural areas have changed. One of the factors for higher sense of coherence is having personal interests and hobbies, actualizing one's creativity (Буланов, 2012), and city life gives much more opportunities for it. So students of different origin but similar actual life conditions may be quite close in their scores so that the place of origin factor does not play a key role here.

Age of the subjects constitutes a separate context of statistical analysis. The students were in a transitional phase of life from adolescence to early adulthood as the next stage of psychosocial development (Erikson, 2004). The obtained results showed a lack of relationship between the age of the students and the level of the sense of coherence and health behaviours. The majority of the studied population were 20-year-olds. Homogeneity of the studied group was a probable cause of the lack of variation in the results. Unfortunately, this study project did not include analysis of changes in health behaviours, self-esteem and sense of coherence in subsequent years of the subjects' university course. Published data indicate that the period of university education should be associated with initiation of alcohol abuse and cigarette smoking (Kamińska, Dąbrowska, Baranowska et al., 2011). Other studies show changes in health resources expressed as a decrease in the sense of coherence among students in final years of medical studies (Sójka, Stelcer, Roy, Mojs, Pryliński, 2019). Reports on stress and health resources of medical students indicate a negative relationship between the level of sense of coherence and somatic stress-related ailments (Kamińska, Dąbrowska, Baranowska et al., 2011). Other publications point to an opposite relationship. Increased interest in preserving health resources is age-related, the relationship being directly proportional (Kubiak, 2009; Tiszczenko, Surmach, Piecewicz-Szczęsna, 2009).

An interesting correlation between the level of self-esteem and other variables has been demonstrated. All variables positively correlated with each other except for the variable Adequate eating habits, which does not depend on self-esteem. In other cases, an increase in self-esteem positively correlated with engaging in health behaviours, as well as with a higher level of all three components of the sense of coherence. This is indicative of the fact that self-esteem is an important health factor in the studied population. The development of health behaviours results from the commitment of an individual, his or her traits of character and external factors. At the same time, the individual's commitment to health care results from personality traits and temperament, attitudes, habits, needs and beliefs, which are also subject to external influences in the processes of development of the individual and upbringing. Self-esteem is located in the area of psychological factors affecting pro-health attitudes. Its role was studied next to emotional maturity, resistance to stress factors, fear and anxiety (Ogińska-Bulik, 2010). The sense of coherence analyzed in this study project and the locus of control of events are the subject of numerous reports (Hakanen, Feldt, Leskinen, 2007; Strzelecki, Cybulski, Strzelecka, 2009). The results obtained in the quoted studies confirm the importance of the sense of coherence as an important health resource for students.

The personal resources consisting of positive, slightly overestimated self-esteem and self-acceptance, general self-confidence, optimism and self-efficacy positively influence the ability of an individual to cope with difficult situations (Poprawa, 1996). In this context, the results of self-esteem and sense of coherence obtained in this study allow us to conclude that the group of Ukrainian students have personal resources to deal with stressors.

The limitation of the study concerns the low number of respondents and lack of well evaluated psychological tools in Ukrainian language. In forthcoming studies, the results of Polish students of health and other sciences should be also be analyzed comparatively. It is also strongly recommended to work on the cultural adaptation of diagnostic tools in health psychology.

Personal contributions of the authors. Bogusław Stelcer designed research, collected the data and co-wrote the paper (25% of work done). Marcin Cybulski, collected & statistically analysed the data and co-wrote the paper (25%). Iryna Kryvenko, collected the data and co-wrote the paper, corresponding author (25%). Olha Yurtsenyuk, Marta Kachmarska and Nataliya Ryshkovska collected the data (5% each). Halyna Katolyk and Przemysław Lisiński supervised the research (5% each).

Conclusions and prospects for further research. To sum up, it is important to stress on a confirmation of the need to establish assistance and support centers for students at universities which would operate in the context of real needs. Another conclusion drawn from this study is the legitimacy of undertaking nutrition education and coping with stress as essential elements of psychological support and assistance for students (Skrzypek, Piątkowski, Brysiewicz, Wszędyrówny, 2001; Muirhead, Locker, 2008; Marcinkowska, Lau, Jośko-Ochojska, 2013). Academic teachers need to be aware of the manifestations, causes, and consequences of student distress, as well as personal health resources, and medical schools need to develop and evaluate programs to support struggling students and promote student health well-being. Additional research is necessary to identify individual and program factors that promote student health resources, coping styles and well-being and explore its potential to enhance competency (Hojat, Glaser, Xu, Veloski, 1999). Stress-management programs that inform students about the effects of stress on physiological and psychological functioning and teach students how to identify sources of stress, and cope with stress and reduce tension and anxiety and simultaneously increase awareness, positive coping strategies, self-esteem and sense of coherence (Hojat, Glaser, Xu, Veloski, 1999; Wnuk, Hędzelek, Marcinkowski, 2009).

The presented study of health resources of students of universities in western Ukraine could be supplemented in an interesting way by making comparisons with a group of students of Polish universities. This would enable analysis of factors modeling health behaviours such as cultural influences, including both media influences and those related to belief systems and religious affiliation (Pilch, 1995; Evans, 2006; Strzelecki, Cybulski, Strzelecka, Dolczewska, 2007; Syrkiewicz-Świątła, Holecki, Wojtynek, 2014; Babicz-Zielińska, Jeżewska-Zychowicz, 2015; Jedlecka, 2016). One more research perspective drawn from this study is the possible comparison of students studying health sciences and other sciences to understand their specific personal and health resources deeply.

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