A sense of coherence as a factor of resistance to stress of future specialists in socionomic professions

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Abstract

The article presents the empirical study on the psychological features of a sense of coherence as a salutogenic factor that can positively influence the overcoming of diverse life stress by an individual. The analysis was performed on a group of 396 students (including 226 university students, 170 students of vocational schools; 192 men and 204 women) aged 16-38 years. The study data were analyzed in several directions: by gender, type of educational institutions, resistance to stress, mental stress and locus of control. University students have significantly higher sense of coherence, comprehensibility, manageability and meaningfulness compared with vocational school students. The article shows that sense of coherence, comprehensibility, manageability can be used as a psychological criteria predicting resistance to stress of students studying in socionomic disciplines.

Keywords: vocational training; sense of coherence; stress; resistance to stress

1. Introduction

The problems of resistance to stress in various professions always attracted attention of psychologists. The works of many authors shows that long-term stress influence leads to many adverse effects such as decreased mental health, a sense of dissatisfaction with an individual's own achievements, the tendency to refuse to perform tasks under increased demands or in the cases of failures and defeats (Avdija, 2014; Derbis, & Baka, 2011; Huber, 2010; Lecca, Finstad, Traversini, Lulli, Gualco, & Taddei, 2020; Lucas, Weidner, & Janisse, 2012; Maslach, & Leiter, 2011; Smyth, Healy, & Lydon, 2015). Therefore, resistance to stress is recognized as one of the factors that influences the professional effectiveness. On the other hand, successful professional work is the basis of a full-fledged experience of self-realization affecting life satisfaction in general, and psychological hardiness (Antonovsky, 2005; Fiori, Bollmann, & Rossier, 2015; Heszen, 2013; Pasca, & Wagner, 2012).

Currently, there is a sufficient number of scientific works devoted to future specialists' professional training. (Crişan, 2019; Melaku, Mossie, & Negash, 2015; Qamar, Khan, & Bashir Kiani, 2015; Rosiek, Rosiek-Kryszewska, Leksowski, & Leksowski, 2016; Shherbatyh, 2006; Sorina, Roman, & Vac, 2019; Tulbure, & Gavrila, 2019). It should be noted that the main focus of research is on the study of certain aspects of the problem of educational stress. Most often, the subject of interest is the choice of student strategies that allow them to cope with stress (Brougham, Zail, Mendoza, & Miller, 2009; Craşovan, Niţulescu, & Constantin, 2019; Palmer, & Rodger, 2009; Welle, & Graf, 2011) particularly in relation to substance use (Chen, & Feely, 2015; Digdon, & Landry, 2013; Melaku, et al., 2015; Tomaka, Morales-Monks, & Shamaley, 2013). Böke, Mills, Mettler, & Heath (2019) studied gender-specific

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substance use as a coping strategy for men and women. However, not many works have been devoted to the vocational training of specialists of socio-economic professions, although recently the interest of researchers in this area has increased. Research by Eres, & Atanasowska, 2011; Harvey, 2020; Senreich, Straussner, & Steen, 2020 et al. is devoted to the study of social and psychological factors that provoke stress conditions, the emergence of chronic fatigue syndrome and other negative symptoms of specialists in socio-economic professions.

The socio-economic (from Latin *societas* - society) professions, which also include helping professions, are the professions that in the process of activity base on human-to-human communication. Helping professions are professions that address the problems of a person's physical, psychological, intellectual, emotional or spiritual well-being, including medicine, nursing, psychotherapy, psychological counseling, social work, education, and others.

Such professional activity is one of the most stressful in psychological terms: it has a large number of stressors, because it takes place in a constantly changing environment; full of many different actions; filled with interaction with other people; and is often realized in the conditions of the expressed shortage of time; mediated by the results of other people's work.

A special aspect of current research on the problem of resistance to stress is the search for personal resources of coping (Cai, Tu, Ma, Chen, Fu, Jiang, & Zhuang, 2020; Fiori, et al. 2015; Lian, & Tam, 2014; Płaczekiewicz, & Tucholska, 2009; Wojnarowska, 2017). There are enough publications in the scientific literature devoted to the study of psychological resources for coping with stressful situations. The most frequently mentioned are high self-esteem, openness, optimism, social support, cognitive and emotional competence (Çutuka, & Aydoğanb, 2019; Gray-Stanley, & Muramatsu, 2011; Collins, 2008; Collins, Coffey, & Morris, 2010; Wiegel, Sattler, Göritz, & Diwald, 2016; Zandara, Garcia-Lluch, Pulopulos, Hidalgo, Villada, & Salvador, 2016).

However, a special place among them belongs to the sense of coherence, which, according to A. Antonovsky, plays a key role in the management of other personal resources. Therefore, the sense of coherence is seen as a pivotal element of psychological health, as well as a potential guarantee of the adequacy of coping behaviour (Antonovsky, 2005; Eriksson, 2017; Mattila, Rautava, Honkinen, Ojanlatva, Jaakkola, Aromaa, Suominen, Helenius, & Sillanpää, 2011; Moksnes, Lohre, & Espnes, 2013; Nilsson, Leppert, Simonsson, Starrin, 2009; Wiesmann, & Hannich, 2011; Wojnarowska, 2017).

Antonovsky defined sense of coherence as: «a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that the stimuli deriving from one's internal and external environments in the course of living are structured, predictable and explicable; the resources, available to one, meet the demands posed by these stimuli; and these demands are challenges, worthy of investment and engagement» (Antonovsky, 2005, p. 34).

A sense of coherence is a complex variable of a personality, which consists of an individual's beliefs about the world, his/her own personality and his/her relations with the world. This sense motivates active task solving, providing a choice of resources for stressor combating, while not allowing the stressors to turn into real stress and negative emotional states (Eriksson, 2017; Griffiths, Ryan, Foster, 2011; Wiesmann, & Hannich, 2011; Wojnarowska, 2017).

A sense of coherence is formed throughout all human life; however, according to psychologists, this process is the most active in the first decades of an individual's life, in particular during vocational training (Griffiths, et al., 2011; Länsimies, Pientilä, Hietasola-Husu, Kangasniemi, 2017; Mattila, et al., 2011; Nilsson, et al., 2009; Płaczekiewicz, & Tucholska, 2009; Welle, & Graf, 2011).

The source of the discussed sense of coherence is a life experience characterized by consistency, which means that the circumstances, that are unexplained and unpredictable in terms of past experience, are absent, requirements are balanced, thus tasks correspond personal abilities and an individual can choose tasks or methods for their solution and influence the end result. In this case, an individual's life experience

is fixed in his/her sense of coherence. By overcoming stress, an individual learns that his/her life is neither destructive nor meaningless.

Based on A. Antonovsky's view, in work with young people you should first and foremost focus on those health-causing components (salutogenesis), rather than finding out the causes of the disease (pathogenesis). Paraphrasing these words in relation to a given research problem: in studying the educational stress and stress resistance of students, attention should be paid to those conditions and factors that contribute to its formation and allow to deal with stress, and not only on the problems of its development.

The study of the psychological aspects of sense of coherence is an important aspect of modern psychological research, not only in theory but also in practical terms, in particular to meet the challenges of prevention, early diagnosis and correction of various psychological disorders of future specialists in socio-economic professions, and also to increase their efficiency in their education and future careers.

2. Methodology

2.1. Objective

The purpose of our study was to empirically study the psychological features of sense of coherence as a salutogenic factor in the stress resistance of future professionals in the socio-economic professions;

To determine what is the level of general sense of coherence of students and its components, as well as their features in relation to gender and type of educational institution;

To explore the relationship between a sense of coherence and the level of mental tension, resistance to stress and locus of control;

Empirically prove that a sense of comprehensibility, manageability and meaningfulness can be used as a psychological criterion for predicting stress resistance of students studying in the disciplines.

2.2. Participants

This study was conducted during 2018-2019 at higher educational institutions and vocational schools of Kiev and Chernivtsi (Ukraine). The empirical study involved 396 students of vocational schools and universities, including 226 university students, 170 students of vocational schools, which is respectively 57% and 43%. All subjects studied at public educational institutions.

The age of the investigated students were from 16 to 38 years ($M=19,21$; $SD=4,36$). The average age of university students ($M=20,60$, $SD=5,23$) was significantly higher than that of vocational schools ($M=17,23$, $SD=0,87$) ($p<0,001$). 192 men and 204 women. Chi-square test confirmed homogeneity of student groups by gender, specialty and types of educational institution ($p\geq 0,05$; ni).

2.3. Instrument

The study used 7 items to assess gender, overall levels of coherence, level of comprehensibility, manageability, meaningfulness, levels of stress and mental tension.

The level of coherence was measured by the questionnaire "The Scale of Coherence (SOC)" developed by A. Antonovsky adapted at the Institute of Gerontology of the Academy of Medical Sciences of Ukraine under the leadership of V. Bezrukov (Korobejnikov, 1999). SOC is a 29-element questionnaire containing three subscales: comprehensibility (11 items), manageability (10 items), meaningfulness (8 items). Each item is rated on a 7-point scale; the higher scores indicate a higher level of coherence and its components.

The level of stress resistance was measured using the Boston Stress Test (Shherbatyh, 2006). This scale includes 20 items, each rated on a 5 points scale. In the interpretation of the level of stress resistance should be considered inverse

dependence: according to the key to the method, the higher the stress index, the lower the stress of the person.

The level of mental tension was measured using Psychological Stress Measure PSM-25, which is designed to detect level of psychic tension. Translation and adaptation of the method was performed by Vodop'janova (2009). This method was designed to study the structure of stressful experiences, namely, somatic, behavioral and emotional stress sensations. In the interpretation of the results, the higher the rate of mental tension, the higher the level of psychological stress:

To determine the locus of control, we used the questionnaire for diagnostics of subjective locus of control, intended to diagnose internal-external locus. It was developed on the basis of the Rotter's Locus of Control Scale in by Bazhin in co-authorship (Bazhin, Golyunkina & Jetkind, 1984). A high score on this scale corresponds to a high level of subjective control over any significant situations: internal control, internal personality. A low score on this scale corresponds to a low level of subjective control: external control, external personality.

2.4. Procedure

This study was conducted during 2018-2019 in higher educational institutions and vocational schools in Kiev and Chernivtsi (Ukraine). Participants completed 4 structured questionnaires: A. Antonovsky's Scale of Coherence (SOC); Boston Stress Test; Psychological Stress Measure PSM-25; questionnaire for diagnostics of subjective locus of control.

Subjects were informed about the purpose of the research, procedure, voluntary participation, and asked to give honest answers. Students consented to participate in the study through signed consent forms.

The subjects were also warned that they have the right to stop participation in the study at any time without giving a reason and the results will not be disclosed to third parties. All procedures were approved by the university research ethics board.

2.5. Data analysis

The processing of the obtained empirical data was carried out using the statistical software package SPSS 23.0 for Windows. In accordance with the objectives of the study, research data was processed applying methods of mathematic statistics: descriptive statistics (mean, std. deviation, frequencies), independent samples T-test for independent groups, chi-square. Normality of data distribution was checked based on Kolmogorov-Smirnov test. The distribution of all scales is normal ($p > 0.05$). The level of statistical significance was set at $p < 0.05$.

3. Results

According to A. Antonovsky's concept, various stress factors appear during an individual's life, which mobilize the organism's resources to solve these difficult situations. One of these resources is a sense of coherence.

The sense of coherence has three components:

- comprehensibility: a belief that things happen in an orderly and predictable fashion and a sense that you can understand events in your life and reasonably predict what will happen in the future;
- manageability: a belief that you have the skills or ability, the support, the help, or the resources necessary to take care of things, and that things are manageable and within your control;
- meaningfulness: a belief that things in life are interesting and a source of satisfaction, that things are really worthwhile and that there is good reason or purpose to care about what happens (Heszen, 2013).

"The Scale of Coherence (SOC)" questionnaire has allowed us to determine the level of the sense of coherence and its components characteristic to contemporary students in socionomic professions.

The results presented in Table 1 show that everything that happens in students' life is not really clear for them: $M=115,27$, $SD=14,94$, these results correspond to the average coherence level. It follows from the frequency analysis of the data obtained, that students with average coherence make 96% of the total sample. It can be assumed that these students do not consider the stimuli encountered in everyday life as well-organized and coordinated information, and the resources available as sufficient to overcome problem / stress situations. The world around us is completely unclear only for 3% of the students. The students who can be attributed with a high level of coherence and for whom everything that happens around their lives is well understood is only 2% of the total sample.

Table 1. Analysis of students' sense of coherence (N=396)

Grade	M	SD	Min	Max
Sense of coherence	115,27	14,94	72	146
Comprehensibility	45,17	9,61	17	67
Manageability	42,79	10,08	15	63
Meaningfulness	35,82	9,17	15	54

Let us now analyze the features of comprehensibility, manageability, and meaningfulness that are constituents of the sense of coherence.

Comprehensibility means that an individual can understand the surrounding world in matters great and small. Everything, happening around, becomes understandable and is perceived as something organized, structured and clear. A problem or a stress situation can be understood. According to the method calculation, the indexes of comprehensibility can range from 11 to 77 points. The result obtained by us ($M=45,15$; $SD=9,61$) indicates that modern students do not quite understand the causes of problems or stress situations. In their opinion, the stimuli coming from the external and internal sources of their life experience are not structured, predictable, and cannot be interpreted.

The next component of the overall sense of coherence is manageability, which means an individual's feeling that he/she has enough resources to overcome various conflict or stress situations. According to the method, manageability varies from 10 to 70 points. The higher the index, the greater is an individual's awareness that he/she has enough resources to overcome stressful situations. The result in our study is ($M=42,79$; $SD=10,08$), which indicates the average development of manageability at the students.

Meaningfulness is greatly important for development of the sense of coherence. It is understood as a sense of active engagement in all that is happening, which helps an individual to find the meaning of his/her life. The indexes of meaningfulness can range from 8 to 56. The resulting meaningfulness index ($M=35,82$; $SD=9,17$) indicates its average development. This means that modern students do not perceive the demands they face as challenges to which resources should be invested, do not fully understand the meaning of their own lives, which should be taken into account at work with young people.

To understand the role of the sense of coherence in students' resistance to stress, we studied its features related to various factors, before all, with gender. The results are shown in Table 2.

Table 2. Sense of coherence and gender (N=396)

Grade	Women		Men		p
	M	SD	M	SD	
Sense of coherence	115,69	16,17	114,82	13,58	$p \geq 0,05$
Comprehensibility	44,97	11,08	45,39	7,80	$p \geq 0,05$
Manageability	42,75	11,14	42,84	8,88	$p \geq 0,05$
Meaningfulness	35,78	9,51	35,85	8,84	$p \geq 0,05$

The calculated Student's t-test shows that there are no significant differences in the

general sense of coherence of male and female students ($p \geq 0.05$). Also, there are no differences in the manifestations of comprehensibility, manageability and meaningfulness of young people. In our opinion, such data can be explained by the fact that the sense of coherence is a general human property and, first of all, depends on a life experience.

The analysis of the students' sense of coherence by type of educational institutions (see Table 3) shows that the examined indexes of the sense of coherence (comprehensibility, manageability and meaningfulness) are higher at university students than that of the vocational school students. The calculated Student's t-test shows that the revealed differences are statistically significant ($p \leq 0.001$).

Table 3. Sense of coherence by types of educational institutions (N=396)

Grade	University students		Vocational school students		t	d Cohena	p
	M	SD	M	SD			
Sense of coherence	121,69	12,94	106,73	13,09	8,012	1,14	0,001
Comprehensibility	48,90	7,83	40,21	9,55	7,027	1,00	0,001
Manageability	46,36	8,90	38,05	9,63	6,280	0,90	0,001
Meaningfulness	38,21	8,48	32,64	9,13	4,430	0,63	0,001

The d Cohen criterion shows the strength of links between the dependent and independent variables. In our study, the effect is very large, over one, and hence, there are very strong links between types of educational institutions and the indexes of students' coherence. In particular, it can be assumed that the higher level of intelligence of university students, in comparison with vocational school students, help them to find alternative solutions at stressful situations, which may influence on their general sense of coherence and its components.

The analysis of psychological literature allows us to conclude that there are a number of salutogenic factors that can positively influence on overcoming of diverse life stress (Gray-Stanley, & Muramatsu, 2011; Collins, 2008; Collins, et al., 2010). We, first of all, are interested in the factors associated with a person's individual characteristics.

Comparative analysis of the sense of coherence with the features of students' resistance to stress. The analysis of results presented in Table 4 convincingly show us the correlation between the level of general sense of coherence, comprehensibility, manageability, meaningfulness and the level of stress resistance.

Table 4. Sense of coherence and stress resistance (N=396)

Stress resistance		Sense of coherence		Comprehensibility	Manageability	Meaningfulness
High	M	136,44		54,44	56,81	37,50
	SD	5,59		6,40	5,38	6,34
Average	M	118,59		47,54	44,74	37,50
	SD	9,98		6,71	7,06	6,34
Low	M	93,11		31,87	29,11	25,00
	SD	7,90		8,10	7,02	5,15

Thus, students with high resistance to stress have also a high sense of coherence, comprehensibility, manageability, meaningfulness. On the contrary, students with a low resistance to stress show also the low level of the studied characteristics. The calculated Student's t-test confirms that the identified differences are statistically significant ($p \leq 0,01$).

An important stage of our research was the comparative analysis of the sense of coherence with mental tension (see Table 5).

Table 5. Sense of coherence and mental tension (N=396)

Indexes		Mental tension level		
		High	Average	Low
Sense of coherence	M	23,99	38,78	54,50
	SD	4,00	4,72	4,95

The following data indicate correlations between the sense of coherence and mental tension, namely, students with the high general sense of coherence are characterized by low mental tension. Students with the low coherence are characterized by high mental tension. The obtained empirical data are consistent with the above results and confirm the importance of a sense of coherence in the formation of students' resistance to stress.

The comparative analysis of the sense of coherence with the locus of control is given in Table 6.

The data below shows that the students with a high sense of coherence and high level of its components have mainly an internal locus of control, so these students feel that they can influence their lives and manage the life events.

The opposite, external locus of control means that life results are attributed to external factors. Such an external locus of control is characteristic for the students with a low sense of coherence. The obtained data may be practically important, namely, indicate the direction of psychological work with students for development of their resistance to professional stress.

Table 6. Students' sense of coherence and locus of control (N=396)

Indexes		Locus of control	
		Internality	Externality
Sense of coherence	M	116,55	112,00
	SD	15,11	14,21
Comprehensibility	M	46,20	42,54
	SD	9,70	8,99
Manageability	M	43,72	40,52
	SD	10,20	9,46
Meaningfulness	M	36,77	33,33
	SD	8,90	9,57

In order to test the possible prediction of students' resistance to stress based on the general sense of coherence, we performed a regression analysis. The r-Pearson coefficient of correlation between the general coherence and resistance to stress is $r=-0.815$, which indicates a strong negative correlation. Based on these data, we can assert the existence of a linear relation between these variables.

The proposed linear model has proved to be significant, $F(1,196)=413,36$, $p\leq 0,001$. This model explains 69% dispersion. The link between the predictor and the dependent variable is quite strong and negative ($\beta=-0,82$). The coefficient b1 is equal -0.71; $t(196)=20.33$; $p\leq 0.001$; and the constant is 120,261; $t(196)=29.64$; $p\leq 0,001$. This means that the higher is the coherence indicator, the lower is the resistance to stress index, which means the higher level of resistance.

The next step is to construct a regression equation. Since Fisher's criterion is ≤ 0.001 , the obtained data are statistically significant.

The regression equation for our model is:

$$Y_1 = 120,261 - 0,710 \cdot X_1, \text{ where}$$

Y_1 – resistance to stress index;

X_1 – general sense of coherence.

4. Discussions

The above empirical data show that the general sense of coherence can be a powerful personal resource, which affects formation of students' resistance to stress. Namely, the stronger the sense of coherence is, the higher is a person's ability to resist stress. Therefore, the sense of coherence is interpreted as a meta-tool, an internal central factor controlling other human resources (Wojnarowska, 2017, p. 53).

It should be emphasized that a person with a high sense of coherence does not necessarily feel and thinks that his/her life is absolutely recognizable, managed and understood. The sense of coherence is extended only to the sphere of life that a person regards as important for him/herself and has individual boundaries. The results obtained by us indicate the average level of the studied indicators and the general sense of coherence.

It is important to note that during a lifetime, an individual's sense of coherence may change. It can be significantly influenced by radical changes in living conditions that last for a long time. These changes can occur both under the influence of external factors, and as a result of an individual's actions. By positively influencing the sense of coherence, it is possible to improve the individual's health, and hence to reduce the negative impact of stress (Antonovsky, 2005; Eriksson, 2017; Fiori, et al., 2015; Länsimies, et al., 2017; Mattila, et al., 2011; Płaczekiewicz, & Tucholska, 2009; Wiesmann, & Hannich, 2011).

The study of the psychological characteristics of the sense of coherence as a factor of resistance to stress of future specialists of socioeconomic professions made it possible to draw the following conclusions:

1. Students are characterized by average level of the general sense of coherence and its components: comprehensibility, manageability and meaningfulness. Namely, internal links and a certain order of all three components is a prerequisite for development of a general sense of coherence. Therefore, the high score for all three components means that the person has a strong sense of interconnection, that is, coherence.

2. University students are characterized by significantly higher level of general sense of coherence, comprehensibility, manageability and meaningfulness in comparison with the vocational school students.

3. Students with high level of the sense of coherence and its components have mainly the internal locus of control, while the external locus of control is characteristic for students with the low sense of coherence.

4. There are the negative correlation of coherence with mental tension and the positive correlation with resistance to stress.

5. The indicators such as coherence, comprehensibility, manageability and meaningfulness can be used as psychological criteria predicting socioeconomic students' resistance to stress.

Thus, on the basis of the performed analysis, we can state that the general sense of coherence can act as a powerful personal resource, which influences the formation of students' resistance to stress. The results of this study are useful for applied psychologists of universities and secondary schools in their work with students.

References

1. Antonovsky, A. (2005). *Rozwikłanie tajemnicy zdrowia. Jak radzić sobie ze stresem i nie zachorować*. Warszawa, Instytut Psychiatrii i Neurologii.
2. Avdija, A. S. (2014). Stress and law enforcers: testing the relationship between law enforcement work stressors and health-related issues. *Health Psychology and Behavioral Medicine: an Open Access Journal*, 2(1), 100-110.
3. Bazhin, E., Golyukina, E. & Jetkind A. (1984). Методы исследования уровня субъективного контроля. [Research methods for the level of subjective control]. *Психологический журнал*, [Psychological Journal], 5(3), 154-162.

4. Böke, B. N., Mills, D. J., Mettler, J., & Heath, N. L. (2019). Stress and Coping Patterns of University Students. *Journal of College Student Development* 60(1), 85-103, doi:10.1353/csd.2019.0005
5. Brougham, R. R., Zail, C. M., Mendoza, C. M., & Miller, J. R. (2009). Stress, sex differences, and coping strategies among college students. *Current Psychology*, 28, 85-97.
6. Cai, H., Tu, B., Ma, J., Chen, L., Fu, L., Jiang, Y., & Zhuang, Q. (2020). Psychological Impact and Coping Strategies of Frontline Medical Staff in Hunan Between January and March 2020 During the Outbreak of Coronavirus Disease 2019 (COVID-19) in Hubei, China. *Med Sci Monit*, 26, e924171-1–e924171-16. doi: 10.12659/MSM.924171
7. Chen, Y., & Feeley, T. H. (2015). Predicting binge drinking in college students: Rational beliefs, stress, or loneliness? *Journal of Drug Education*, 45, 133-155.
8. Collins, S. (2008). Statutory social workers: Stress, job satisfaction, coping, social support and individual differences. *British Journal of Social Work*, 38(6), 1173-1193.
9. Collins, S., Coffey, M., & Morris, L. (2010). Social work students: Stress, support and well-being. *British Journal of Social Work*, 40(3), 963-982.
10. Craşovan, D. I., Niţulescu, L. M., & Constantin, A. C. (2019). Exploratory study on psychic defense and coping mechanisms used by students in the period of the exams session. *Journal of Educational Sciences & Psychology*, IX (LXXI), 2, 89 – 94.
11. Crişan, A. N. (2019). Higher education and the challenges of postmodern society. *Journal of Educational Sciences & Psychology*, IX (LXXI), 2, 10 – 16.
12. Çutuka, Z. A., & Aydoğanb, R. (2019). Emotional self-efficacy, resilience and psychological vulnerability: a structural equality modeling study. *Journal of Educational Sciences & Psychology*, IX (LXXI), 1, 106 – 114.
13. Derbis, R., & Baka, Ł. (2011). Znaczenie wsparcia społecznego i zaangażowania w pracę dla związku stresorów w pracy i wypalenia zawodowego. *Czasopismo Psychologiczne*, 17(2), 277-287.
14. Digdon, N., & Landry, K. (2013). University students' motives for drinking alcohol are related to evening preference, poor sleep, and ways of coping with stress. *Biological Rhythm Research*, 44, 1-11.
15. Eres, F., & Atanasowska, T. (2011). Occupational Stress of Teachers: A Comparative Study between Turkey and Macedonia. *International Journal of Humanities and Social Science*, 1(7), 59-65.
16. Eriksson, M. (2017). The sense of coherence in the salutogenic model of health. In: Mittelmark M.B, Sagy S., Eriksson M., et al. (eds). *The handbook of salutogenesis*. Springer. https://doi.org/10.1007/978-3-319-04600-6_1
17. Fiori, M., Bollmann, G., Rossier, J. (2015). Exploring the path through which career adaptability increases job satisfaction and lowers job stress: The role of affect. *Journal of Vocational Behavior*, 91, 113-121.
18. Gray-Stanley, J. A., & Muramatsu, N. (2011). Work stress, burnout, and social and personal resources among direct care workers. *Research in developmental disabilities*, 32(3), 1065-1074.
19. Griffiths, C. A., Ryan, P., Foster, J. H. (2011). Thematic analysis of Antonovsky's sense of coherence theory. *Scandinavian Journal Psychology*, 2011, 52, 168–173.
20. Harvey, D. F. (2020). Physician Burnout Quality of Life/ Wellness Resource Pilot Program. *Journal of Medical Research and Health Sciences*, 3(2), 886-912. <https://doi.org/10.15520/jmrhs.v3i2.160>
21. Heszen, I. (2013). *Psychologia stresu*. Warszawa: PWN.
22. Huber, L. (2010). Style adaptacyjne do sytuacji stresowych w różnych grupach wiekowych, a choroby cywilizacyjne XXI wieku. *Problemy Higieny i Epidemiologii*, 91(2), 268-275.
23. Korobejnikov, G. V. (1999). Субъективное представление целостности и удовлетворенности жизнью как отражение тревожных состояний человека [Subjective presentation of integrity and satisfaction with life as a reflection of human anxiety conditions]. *Таврический журнал психиатрии [Taurida Journal of Psychiatry]*, 3(1–2), 132-134.
24. Länsimies, H, Pientilä, A-M, Hietasola-Husu, S, Kangasniemi, M. (2017). A systematic review of adolescents' sense of coherence and health. *Scandinavian Journal of Caring Sciences*, 311, 651–661. <https://doi.org/10.1111/scs.12402>
25. Lecca, L. I., Finstad, G. L., Traversini, V., Lulli, L. G., Gualco, B., Taddei, G. (2020). The Role of Job Support as a Target for the Management of Work-Related Stress: The State of Art. *Quality - Access to Success*, 21(174), 152-158.

26. Lian, S. Y., & Tam, C. L. (2014). Work stress, coping strategies and resilience: a study among working females. *Asian Social Science*, 10(12), 41.
27. Lucas, T., Weidner, N., & Janisse, J. (2012). Where does work stress come from? A generalizability analysis of stress in police officers. *Psychology & Health*, 27(12), 1426-1447.
28. Maslach, C., & Leiter, M. (2011). *Prawda o wypaleniu zawodowym: Co robić ze stresem w organizacji*. Warszawa, PWN.
29. Mattila, M. -L., Rautava, P., Honkinen, P. -L., Ojanlatva, A., Jaakkola, S., Aromaa, M., Suominen, S., Helenius, H. and Sillanpää, M. (2011). Sense of coherence and health behaviour in adolescence. *Acta Paediatrica*, 100, 1590-1595. doi:10.1111/j.1651-2227.2011.02376
30. Melaku, L., Mossie, A., & Negash, A. (2015). Stress among Medical Students and Its Association with Substance Use and Academic Performance. *Journal of Biomedical Education*, 1-9. Retrieved from <http://dx.doi.org/10.1155/2015/149509>
31. Moksnes, U. K., & Espnes, G. A. (2012). Self-esteem and emotional health in adolescents – gender and age as a potential moderators. *Scandinavian Journal of Psychology*, 53, 483-489.
32. Nilsson, K., Leppert, J., Simonsson, B., Starrin, B. (2009). Sense of coherence and psychological well-being: Improvement with age. *Journal of epidemiology and community health*, 64(4), 347-52. doi:10.1136/jech.2008.081174
33. Palmer, A., & Rodger, S. (2009). Mindfulness, stress, and coping among university students. *Canadian Journal of Counselling and Psychotherapy*, 43, 198-212. Retrieved from <http://cjc-rcc.ucalgary.ca/cjc/index.php/rcc/article/view/648>
34. Pasca, R., & Wagner, S. L. (2012). Occupational stress, mental health and satisfaction in the Canadian multicultural workplace. *Social indicators research*, 109(3), 377-393.
35. Placzekiewicz, B. & Tucholska, S. (2009). Poczucie koherencji a zachowania zaradcze młodzieży. *Studia Psychologica*, 9, 45-56.
36. Qamar, K., Khan, N. S., & Bashir Kiani, M. R. (2015). Factors associated with stress among medical students. *Journal of the Pakistan Medical Association*, 65(7), 753-755.
37. Rosiek, A., Rosiek-Kryszewska, A., Leksowski, Ł., & Leksowski, K. (2016). Chronic stress and suicidal thinking among medical students. *International journal of environmental research and public health*, 13(2). Retrieved from <https://doi.org/10.3390/ijerph13020212>
38. Senreich, E., Ashenberg Straussner, S. L., & Steen, J. (2020). The Work Experiences of Social Workers: Factors Impacting Compassion Satisfaction and Workplace Stress. *Journal of Social Service Research*, 46 (1), 93-109, doi:10.1080/01488376.2018.1528491
39. Shherbaty, Ju. (2006). *Психология стресса и методы коррекции [Psychology of stress and correction methods]*. SPB, Piter.
40. Smyth, E., Healy, O., & Lydon, S. (2015). An analysis of stress, burnout, and work commitment among disability support staff in the UK. *Research in developmental disabilities*, 47, 297-305.
41. Sorina, D., Roman, I., & Vac, C. (2019). Emotional intelligence of students – instrument of adaptation and control of the university dropout. *Journal of Educational Sciences & Psychology*, IX (LXXI), 1, 43 – 50.
42. Tomaka, J., Morales-Monks, S., & Shamaley, A. G. (2013). Stress and Coping Mediate Relationships between Contingent and Global Self-Esteem and Alcohol-Related Problems among College Drinkers. *Stress and Health*, 29(3), 205-213. doi: 10.1002/smi.2448
43. Tulbure, C., & Gavrilă, C. (2019). Gender differences reflected in academic achievement in higher education. *Journal of Educational Sciences & Psychology*, IX (LXXI), 1, 139 – 144.
44. Vodop'janova, N. E. (2009). *Психодиагностика стресса [Psychodiagnosis of stress]*. SPB, Piter.
45. Welle, P. D., & Graf, H. M. (2011). Effective lifestyle habits and coping strategies for stress tolerance among college students. *American Journal of Health Education*, 42, 96-105.
46. Wiegel, C., Sattler, S., Göritz, A. S., & Diewald, M. (2016). Work-related stress and cognitive enhancement among university teachers. *Anxiety, Stress, & Coping*, 29(1), 100-117.
47. Wiesmann, U., & Hannich, H. J. (2011). Salutogenic perspectives on health maintenance. *GeroPsych*, 24(3), 127-135. <https://doi.org/10.1024/1662-9647/a000040>
48. Wojnarowska, B. (2017). *Edukacja zdrowotna*. Warszawa, PWN.
49. Zandara, M., Garcia-Lluch, M., Pulopulos, M. M., Hidalgo, V., Villada, C., & Salvador, A. (2016). Acute stress and working memory: The role of sex and cognitive stress appraisal. *Physiology & behavior*, 164, 336-344.