Original Article

Effect of social stressful factors on mental health in students

A.V. EGANOV¹, V.S. ROMANOVA², S.A. NIKIFOROVA³, V.Yu. KOKIN⁴, N.Ya. PLATUNOVA⁵
^{1,2,3,4,5}Institute of Sport, Tourism and Service, South Ural State University (National Research University),
Chelyabinsk, RUSSIA

Published online: March 31, 2020

(Accepted for publication: March 09, 2020)

DOI:10.7752/jpes.2020.02116

Abstract.

The article deals with the effect of stressful factors on the mental health of students. Stressful factors of the social environment require more in-depth study due to worsening mental health. **Materials** for the study were obtained in Chelyabinsk. 128 students from 18 to 23 years old engaged and not involved in physical education and sports were tested. Mental health components were diagnosed using a screening test. **Results.** Such social stressful factors were revealed as mental disorders and diseases, nervous tension, anger, mental stress and irritability that had statistically significant correlation coefficients and negatively affected mental health. The following components have a positive effect on mental health: permanent mood, psychological climate, the ability to optimize the mental status under stress, mental well-being. **Conclusion.** Statistically significant relationships between the integral indicator of mental health and all mental health components are identified. The revealed correlations indicate that the higher the numerical values of stressful factors (mental disorders and diseases, nervous and mental stress, irritability), the lower the integral indicator of mental health. Also, the higher the values of positive factors such as permanent mood, psychological climate, relationships with others, the ability to optimize the mental status under stress, the mental well-being, harmonious relationships, the higher the integral indicator of the mental health of students.

Keywords: stress, factor, social environment, mental health, students.

Introduction.

The effect of social stressful factors on mental health currently requires more in-depth study. This is due to the ever-worsening mental health of different age groups of the population (Gorskaya GB, 2012, Cherepov, EA, 2013, Landow, M.V., 2006). The study of health covers a wide range of biomedical, pedagogical, psychological, social and other sciences that determine different views on this phenomenon (Alcalay R., 1983, Gorskaya GB, 2012, Antipova, E., Shibkova, D., 2017), Eganov A.V., Bykov V.S., Romanova L.A., Kokin V.Yu., 2018). According to experts, about 70% of diseases are associated with emotional stress, including social stressful factors. If a person is into social conditions when his/her position seems unfavorable, then an increased anxiety, discomfort, fear, depression may occur, which negatively affect mental health.

According to M.V. Landow, twenty percent of children and adolescents have mental disorders, and five percent of them are characterized by severe disorders, i.e. in each group, at least one student has a mental disorder (Landow M.V., 2006).

Students prone to stress need successful and ever-changing coping strategies. These students show symptoms that lead to a decrease in any activity, including educational ones (Cherepov, EA, 2013). Preservation of mental health and a sense of well-being is possible with sufficient adaptation to the social, professional and natural environment. At the same time, undesirable mental conditions indicate impaired adaptation in the "man - environment" system (Druzhilov S.A., 2013).

Currently, the concepts of "social stress", "stress factors", and "psychosocial stress" are increasingly used in the literature. The main feature of stress is the special nature of the stressors that cause it, including the social environment. Dolgova V.I., Vasilenko E.A. analyzed the data on various types of social stress and its impact on the social adaptation of a person and the role of the education system in the pedagogical correction of this impact. The authors identified stressors of a physical and social nature that are perceived as threatening and associated with emotional experiences (Dolgova V.I., Vasilenko EA, 2016).

Any change in a person's status causes a certain degree of stress and requires adaptation to society. The effect of stress is superimposed on specific manifestations of mental health and changes a person's status for the worse or for the better. Consequently, the effect of stress can be beneficial or undesirable, depending on whether struggling with the disorder or enhancing its reactions inherent in stress is required. People should not and are

not able to avoid stress factors because many stressors are activators, and idleness itself is also a stress factor (G. Selye, 1982). G. Selye, the creator of the theory of stress, understood stress as a nonspecific reaction of the body to any requirement, which necessitates the restructuring of the body's vital activity. He found that adverse effects of all kinds such as cold, fatigue, fear, humiliation, pain, provoke a protective reaction specific to each exposure, as well as a common response of the same type regardless of the stimulus. The leading role belongs to the so-called adaptive hormones of the adrenal cortex, the anterior pituitary. Responses are provided by the coordinated activity of all body systems under the control of the neuroendocrine system (Selye G., 1982).

Man is a socio-biological being. Therefore, the physical and mental health of a person is directly related to the favorable social atmosphere. Stressogenic factors are an acute social issue associated with other mental disorders such as anxiety and depression that provoke impaired adaptation to society (Andersen IA, Thielen K., Bech P., Nygaard E., Diderichsen F., 2011).

Long-term studies have confirmed the commonality of physiological changes resulting from mental stress. If a psychological assessment reveals an obvious discrepancy between the requirements of the environment and the needs of the subject, then a stressful situation arises. The subjective attitude to the stimulus, which depends on the features of the mental status, is a psychological mechanism that determines the individual significance of the stressor (Sokolova ED, Berezin FB, Barlas TV, 1996). Under normal conditions, stress provides optimal health and is called eustress. The nonspecific response of the body to stress under adverse external conditions causes a pathological reaction leading to poor health. G. Selye called such stress distress, which is characterized by a phase of anxiety and mobilization, a phase of resistance, and a phase of failure of adaptation. Stress is a manifestation of an adaptation of the body to changing conditions and the consequences of overload. G. Selye called it the general adaptive syndrome (G. Selye, 1982).

Depending on how a person assesses the prevailing conditions, stress has a disorganizing or mobilizing effect. However, the danger of body exhaustion remains since all systems work to the limit. Adrenaline rises and stimulates the production of cortisol, due to which additional energy accumulates, strength and endurance increase, and a person experiences a surge of energy.

Social factors are one of the most important environmental factors that affect mental health. The interaction of social factors with biological and psychological characteristics determines mental health (Alcalay R., 1983, Dolgova V.I., Vasilenko E.A., 2016, Eganov, A.V., Bykov V.S., 2012, Zhdanova T.N., 2013).

Stressors are a set of physiological and emotional adaptive reactions that cause stress as a result of excessive exposure to adverse psychogenic and emotigenic factors. The stressogenic nature of these factors is determined by the quantitative characteristics and the degree of violation of the homeostasis of the body. Moreover, modern life often does not provide an opportunity to avoid the effects of these stressors on the body forcing people to adapt to them (Aleksandrovsky Yu.A., 1996, Dolgova V.I., Vasilenko E.A., 2016, Zhdanova T.N., 2013).

The social factors affecting mental health include individual social behavior of persons belonging to the same social environment. As a result, mental mechanisms of overcoming difficulties in everyday life are included (Aleksandrovsky Yu.A., 1996, Alcalay R., 1983). Socially stressful factors and circumstances can be short-term and extended in time. They depend on work and life conditions, sports activities, instability and uncertainty of the environment, including political, economic, cultural and environmental conditions. For example, the lack of food or water causes homeostasis disorders in various systems of the body (T. Zhdanova, 2013).

Social networks in situations of stress, crisis, lack of information will be the most valuable source of resource management and the most useful component providing a sense of stability and social values.

Based on the results of a theoretical analysis, external and internal factors affecting mental health can be distinguished:

- primary factors is a group of factors that form the basis on which a specific status of a person develops (Zhdanova T.N., 2013);
- transmitting factors are stereotypes of behavior, mediating relationships in the "man-environment" system and contributing to the preservation of health. These include physical education and sports, the choice of labor and educational activities, living conditions, physical activity, etc. ;
- motivators are a set of background responses of the human body to external and internal factors. Stress acts as a motivator when its effect on the body has a productive level and indicates the presence of eustress. Exceeding the productive level of distress causes decompensation of adaptive capabilities, and stress ceases to play the role of a health motivator. Researchers note that a group of motivators affects health and disease through specific behavior (Druzhilov S.A., 2013);
- personal factors represent various factors that can be attributed to ambitiousness, aggressiveness, irritability, impatience, hostility, anger, etc. The inability to achieve ambitious goals associated with individual characteristics of an emotional response to a situation is an optimistic or pessimistic view (Maklakov A.G., 2001).

Personal factors can directly or indirectly affect mental health through a variety of social aspects such as:

- adaptation-related issues expressed in mental and physical responses arising in training, sports, labor, professional activity, family environment, socio-economic and political conditions;

- stereotypes of behavior, destructive forms of physical activity, non-adaptive forms of self-destructive behavior with suicidal tendencies, the use of psychotropic substances and the abuse of alcohol, nicotine, drugs, etc. (Druzhirov S.A., 2013).

- demographic factors: gender, age, ethnicity and social class;

- diseases: mental disorders, schizophrenia, diabetes, cardiovascular disorders, etc.

The article is aimed at studying the effect of social stressful factors on the mental health of students.

Materials and methods.

The data were obtained in the period from 2014 to 2019 in Chelyabinsk. The study involved young people aged 17 to 23 years from the Institute of Sport, Tourism and Service of the South Ural State University. Mental health diagnosis was carried out in the laboratory using a rapid test with a ten-point scale that meets metrological requirements. Self-assessment of health was also used for obtaining data on the mental health of a person. The integral level of mental health was determined by the total score of all components characterizing mental health (Eganov A.V., Erlikh V.V., Bykov V.S., 2013).

The sample included male and female athletes (hiking, athletics, aerobics, shaping, step aerobics, dancing, kickboxing, hand-to-hand combat, football, skiing) and students not actively involved in physical education ($n = 128$). Calculations were performed using the Microsoft Excel analysis package.

The following definitions are essential for this work:

Social stressful factors (stressors, stress factors) are a set of emotional and adaptive responses of the nervous system, which affect the mental status, increase stress, and have an adverse effect on mental health.

Mental health has a complex, multicomponent and multi-level structure based on a state of general mental comfort, which is characterized by the absence of mental deviations, optimal regulation of the individual's mental sphere, and the body's resistance to adverse external and internal environmental factors (Eganov A.V., Bykov V.S., 2012).

Results and discussion.

The results were subjected to mathematical and statistical processing by the Pearson method, which determines the relationship between the variables. Correlation analysis is intended for revealing the statistical relationships between the studied phenomena.

The effect of social stressful factors on the mental health of students is demonstrated in the correlation matrix (Table 1).

Table 1.

The correlation matrix of mental health in students

Components	1	2	3	4	5	6	7	8	9	10	11
1. Mental disorders, diseases	×										
2. Nervous tension and anger in ordinary life	25	×									
3. Stressful factors in society	30	51	×								
4. Mental stress in everyday life	39	42	46	×							
5. Irritability in everyday life	20	59	40	43	×						
6. Permanent mood in everyday life	-20	-36	-38	-30	-14	×					
7. Psychological climate	-21	-18	-36	-13	-05	-34	×				
8. Relations with people	-25	-29	-54	-27	-24	-32	-54	×			
9. Ability to optimize stress	-26	-35	-34	-38	-23	-46	-33	-39	×		
10. Mental well-being in the social environment	-26	-33	-35	-42	-19	-60	-25	-45	-72	×	
11. Integral level of mental health	-43	-52	-53	-60	-44	59	47	51	72	73	×

Note: at $n=128$, $r=0.22$, $P \leq 0.01$; $r=0.37$, $P \leq 0.001$. The correlation coefficients are multiplied by 100.

The study of correlations between stressful factors and other components revealed statistically significant correlations that positively affect mental health and are manifested in the social environment: permanent mood; psychological climate; relations with people; ability to optimize stress; mental well-being (components 6, 7, 8, 9, 10; if $r = -0.34-53$, then $P \leq 0.01-0.001$).

A direct correlation of social stressful factors that negatively affect mental health was obtained with the following components: mental disorders and diseases, nervous tension, anger; mental stress and irritability

(components 1, 2, 4, 5; if $r = 0.30-0.46$, then $P \leq 0.01-0.001$). The higher the values of these components, the more often young people are affected by these stressful factors.

The integral indicator of mental health revealed a statistically significant correlation ($P \leq 0.001-0.0001$) with all the components. These correlations indicate that the higher the value of the components: mental disorders, diseases; nervous tension and mental stress; irritability, the lower the integral level of mental health. Also, the higher the values of positive factors (permanent mood, psychological climate, relations with people, ability to optimize stress, mental well-being, harmonious relationship in the social environment), the higher the integral level of mental health in young people.

Thus, the correlation analysis revealed the structure of social stressful factors in young people that affect the integral indicator of mental health and its individual components.

Conclusion.

Social stressful factors, which have a negative effect on mental health, are caused by such components as mental disorders, irritability, nervous and mental stress. Social stressful factors that have a positive effect on the mental health of students depend on the following components: permanent mood, psychological climate, ability to optimize stress, mental well-being.

References

- Alcalay R. (1983). Health and Social Support Networks: A Case for Improving Interpersonal Communication. *Social Networks*, 5: 71-88.
- Andersen I.A., Thielen K., Bech P., Nygaard E., Diderichsen F. (2011). Increasing Prevalence of Depression From 2000 to 2006. *Scandinavian Journal of Public Health*, 39 (8): 857-863. DOI: 10.1177/1403494811424611.
- Antipova, E., Shibkova, D. (2017). Assessment of psychophysiological status and quality of life of social work specialists. *Human. Sport. Medicine*, 17(2): 30-39. doi.org/10.14529/hsm170203
- Eganov A.V., Bykov V.S., Romanova L.A., Kokin V.Y. (2018). Effect of permanent mood on the mental health of students. *Gazzetta medica italiana archivio per le scienze mediche. Suppl 1. 3* (177): 40-42.
- Eganov A.V., Erlikh V.V., Bykov V.S. (2013). Screening test for express assessment of students' mental health. *International Journal Of Applied And Fundamental Research*, 2.
- Landow M.V. (2006). *Stress and mental health of College students* New York: Nova Science Publishers, 2006. 324 p.
- Aleksandrovsky Yu.A., (1996). *Borderline psychiatry and contemporary social issues*. Rostov-on-Don: Phoenix. 111 p.
- Gorskaya G.B. (2012). Organizational stress in sport: origins, manifestation specificity, investigation trends. *Physical education, sport – science and practice*, 4: 74-76.
- Dolgova V.I., Vasilenko E.A. (2016). Social stress as a factor maladjustment personality. *Modern high technologies*, 8-2: 303-306.
- Druzhilov S.A. (2013). Psychological factors of human health and the determinants of its negative mental conditions in labor. *International Journal of Experimental Education*, 10-2: 250-253.
- Eganov A.V., Bykov V.S. (2012). Psychological and pedagogical issue of the targeted impact on strengthening and maintaining mental health in students through physical education and sports. *Bulletin of the South Ural State University*, 8 (267). vol. 30: 12-17.
- Zhdanova T.N. (2013). The effect of social factors on mental health (on the example of people with mental disorders). *Bulletin of the St. Petersburg University*, 2: 144-151.
- Maklakov A.G. (2001). *Assessment of the development of adaptive abilities of a person*. St. Petersburg: Rech. 127-146.
- Selye G. (1982). *Stress without distress*. M.: Progress. 128 p.
- Sokolova E.D., Berezin F.B., Barlas T.V. (1996). Emotional stress: psychological mechanisms, clinical manifestations, psychotherapy. *Materia Medica*, 1 (9): 5-25.
- Cherepov E.A. (2013). Promoting the preservation of mental health in adolescents through physical education at school. *Bulletin of the South Ural State University*. No 1 (13). 9-16.