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Student's Gender Differences in Stress Management Through Communication

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ABSTRACT

The aim of the article is to determine the specifics of optimizing the stress management of boys and girls during the student period through communicative training. The reliable data were obtained through valid and reliable test methods, and a formative experiment was planned and conducted. The results of the formative experiment indicate the moderate effectiveness of the developed communicative training programme for making stress management in student age more effective. Significant gender differences in stress management strategies and consequences of the impact of the training programme were identified. The girls are more focused on the strategy of actively overcoming the problem, planning a solution to the problem, and looking for social support. The boys are more focused on self-control, distancing, positive reassessment of the situation. Indicators of psychological well-being are higher among the boys compared to the girls. The training programme proved effective for the girls in building stress resistance, self-control, acceptance of responsibility, and psychological well-being. For boys, the most effective formative influence was based on self-control, search for social support, and the escape coping strategy. The study results can be used to optimize psychological assistance and the educational process at the student age.

KEYWORDS: Stress, stress management, communication, students, gender, training.

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Diferencias de género de los estudiantes en el manejo del estrés a través de la comunicación

RESUMEN

El objetivo del artículo es determinar las particularidades de optimizar la gestión del estrés de niños y niñas durante el periodo estudiantil a través de la formación comunicativa. Los datos confiables se obtuvieron mediante métodos de prueba válidos y confiables, y se planificó y realizó un experimento formativo. Los resultados del experimento formativo indican la eficacia moderada del programa de formación comunicativa desarrollado para hacer más eficaz el manejo del estrés en la edad estudiantil. Se identificaron diferencias de género significativas en las estrategias de manejo del estrés y las consecuencias del impacto del programa de capacitación. Las niñas están más centradas en la estrategia de superar activamente el problema, planificar una solución al problema y buscar apoyo social. Los chicos se centran más en el autocontrol, el distanciamiento y la reevaluación positiva de la situación. Los indicadores de bienestar psicológico son más altos entre los niños que entre las niñas. El programa de formación resultó eficaz para que las niñas desarrollaran la resistencia al estrés, el autocontrol, la aceptación de responsabilidades y el bienestar psicológico. Para los niños, la influencia formativa más efectiva se basó en el autocontrol, la búsqueda de apoyo social y la estrategia de afrontamiento de escape. Los resultados del estudio pueden utilizarse para optimizar la asistencia psicológica y el proceso educativo en la edad del estudiante.

PALABRAS CLAVE: Estrés, manejo del estrés, comunicación, estudiantes, género, formación.

Introduction

Stress is currently a daily component of the psyche in modern life. This problem has especially intensified in recent years, which is determined, in particular, by the Covid-19 pandemic (Dong and Bouey, 2020). In Ukraine, the issue of experiencing stress became particularly acute after the start of a full-scale war with the Russian Federation. The high social relevance of the problem of overcoming and coping with stress determines the intensification of academic research into this issue in the context of the new military-political situation. Clearly identifying the determinants of stress and their significance for the mental sphere is the foundation for creating effective stress management algorithms. People's reactions to potential stressors can significantly differentiate in different people: a violation of the functioning of physiological systems and psyche is recorded in some people, while others

can demonstrate significant stability. This is why the issue of stress management is important. Various means of managing stress involve certain physical or psychological actions (Worthen and Cash, 2023). An effective stress management tool is training programmes based on active participant communication (Lehmann et al, 2021).

Stress management should be optimized through determining the psychological characteristics of specific age or professional groups. Experiencing stress in student age deserves special attention from researchers. On the one hand, young people have a more plastic psyche, which helps them better adapt to the environment. At the same time, boys and girls go through a rather difficult period of life, which is associated with a radical change in social languages, so additional stress factors can have unpredictable consequences (Dubyna et al., 2019). The stress resulted from studying in a higher education institution (HEI) can significantly affect the students' psychological well-being (Barbayannis et al., 2022). Students' resistance to stress opens up opportunities for improving academic performance, effective adaptation to life and activities in HEIs (Buzhynska et al., 2021). The situation of experiencing stress in the educational process is complicated by experiencing military operations (Savelyuk, 2022).

So, psychological science has accumulated a significant volume of theoretical and empirical material on the problem of stress in student age. At the same time, the gender specifics of stress management through specially organized communication remains insufficiently studied.

The aim of the study is to determine the features of optimizing stress management of boys and girls during the student period through communicative training.

The aim involved the fulfilment of the following research objectives:

- 1) determine the conditions for effective stress management in student age;
- 2) empirically identify the indicators of stress and the features of stress management in young men and women;
- 3) compare the effectiveness of the communicative stress management training programme in student age by gender.

1. Literature review

Stress is a general term that means the experience of a situation when external circumstances reduce psychological and physiological stability (Cohen et al., 2016). Selye (1951), one of the first researchers of this phenomenon, believed that without adequate adaptive reactions, stress endangers life and, conversely, life-threatening factors stimulate environmental adaptation. It was established that stress affects a person's state of health directly through autonomic reactions and changes in neurohumoral regulation, and indirectly through changes in self-attitude (Hill et al., 2018). At the same time, the researcher warns against the primitivizing of ideas about stress, which are based only on widespread life stereotypes about its negative role (Slavich, 2019).

Many studies confirm the negative impact of stress on the body. In particular, Kampa et al. (2020) claim that chronic stress is one of the main sources of diseases – both somatic and mental. Carroll et al. (2017) prove that changes in the functioning of the circulatory system during stress, as well as the release of cortisol, can cause depression, bulimia, excess weight, and various addictions. The opinion is confirmed that prolonged adverse events, as well as information about such events, are associated with a significant deterioration of mental and physical health (Epel et al., 2018). Attention is focused on the relationship between loneliness and the intensity of experiencing stress (Campagne, 2019). The ability to manage stressful events is the basis for overcoming depression, anxiety, and emotional burnout (Khoury et al., 2022). In this context, an important process is the reconceptualization of the experience obtained due to experiencing stress (Finke et al., 2022).

O'Connor et al. (2021) classify stress according to various criteria: localization of the stress factor in the surrounding environment (military, pedagogical, environmental, etc.); degree of danger to the body; by the nature of the reaction (physiological and psychological). Chen et al. (2018) identified three main types of psychological stress management (coping strategies): focus on overcoming the problem, obtaining positive emotions, focus on overcoming negative experiences. At the same time, young people use coping strategies focused on solving problems more often than older people. The results of the study of gender differences in stress management point to the active use of socially oriented strategies by women, while men

consider it more appropriate to use physical activity and struggle with the problem (Gentry et al., 2007).

Albers and Pattuwage (2017) consider the issue of stress management in the student environment very promising, especially in analysing the difficulties and factors of the effective implementation of relevant programmes. Amaral et al. (2017) state that academic stress is directly related to negative thinking, intellectual regulation of the emotional sphere, and negative affective states, which can cause sleep problems in students. It should be noted that modern research also aims to determine the effectiveness of using modern technical devices for stress management (Can et al., 2020). Salam and Farhan (2021) states that there are no significant differences in the coping strategies of men and women. At the same time, it is claimed that students focus on overcoming the problem in their stress management, and not on emotions.

The results of the analysis of theoretical literature indicate that the problem of stress and stress management in student age has been studied intensively. At the same time, the data on gender differences in stress management in the context of specific socio-cultural conditions of study of higher school students need to be clarified.

2. Methods and materials

2.1. Research stages

The theoretical stage, which involved definition of the problem, analysis of the concepts and methodological foundations, building a model of the studied phenomenon. In particular, this stage provided for the study of the approaches to explaining the concept of stress; identification of the structure of the phenomenon and its features in the student period; the analysis of the methods of stress management, in particular, through communicative acts; determining the conditions for the effectiveness of stress management training. A hypothesis about gender differences in stress management through communication in student age is advanced.

Research planning stage – finding the necessary material, human, and time resources and procedures that will help achieve the aim and objectives of the research. The methodological

tools were chosen for collecting empirical data. A programme of the communicative stress management training for the students was developed. The research samples were formed and communication was established with the administration of the relevant HEIs for the coordination of formative experiment and research activities.

The stage of primary collection of empirical material, which took place mainly online in the selected HEIs.

The stage of conducting a formative experiment through the implementation of a stress management training programme at the student age.

The stage of repeated collection of empirical material to identify shifts in stress management mechanisms in the studied samples.

The stage of quantitative and qualitative data processing, which employed statistical data processing methods.

Data interpretation, which provided for drawing the conclusions by using the structural and comparative strategy.

2.2. Instruments

A number of tests were used to diagnose the features of coping with stress: The Cohen-Williamson self-assessment method of stress resistance; the questionnaire “What is Lazarus and Folkman's Transactional Model of Stress and Coping” (adapted by T.L. Kriukova, Ye.V. Kuftiak, M.S. Zamyshliaeva); Ryff's Scales of Psychological Well-being (adapted by T.D. Shevelenkova and P.P. Fesenko). The validity of these methods is substantiated by their use in previous studies of stress management features in student age (Bocheliuk and Vikhliaeva, 2020).

The formative experiment involved the use of communicative training as an independent variable. At the same time, the dependent variable is the individual's ability to manage stress. The classes were conducted online in groups of 20-25 people with a total of 9 lessons of 40-45 minutes each. The classes were held twice a week from May to June 2023. The main orientations of our programme are the improvement of perception and emotional assessment of reality, the formation of optimal motivational orientation, the development of positive thinking,

and the prevention of negative emotions during training. The structure of the classes provided for the announcement of the goal, warm-up, the main part, and reflection. The main content of the training was game-based communicative exercises, which involved modelling various emotionally charged stressful situations. In this way, situations were created that determined favourable conditions for forming stress management skills at student age. The authors of the article acted as trainers-experimenters. We should also note that the training groups were formed taking into account the equal gender distribution of participants.

The sample was formed from graduates of the first institutions of higher education: Donetsk State University of Internal Affairs, Alfred Nobel University, Donbas State Pedagogical University, Kharkiv National Karazin University. Two male experimental samples and two female control samples were formed. The quantitative composition of the sample of girls is 71 students of the experimental group (EG) and 69 students of the control group (CG). The quantitative composition of the sample of young men is 75 EG students and 74 CG students. The composition and structure of the samples allows obtaining representative data, as the samples were formed by the method of randomization.

The data collection provided for the implementation of primary and secondary diagnostics online. At the same time, the first and second diagnostics were performed by different researchers to avoid the Rosenthal effect. A positive, favourable atmosphere was created during the diagnostic process, which stimulated the subjects' motivation to cooperate.

Data analysis. Percentage analysis, tabular presentation of data, calculation of Student's *t*-test for dependent and independent samples were implemented. SPSS was used to automate data processing.

Ethical criteria were implemented through consent to participate, where the purpose, conditions, and course of the research were recorded. Relatives and friends of the experimenters did not participate in the study in order to avoid a conflict of interests. The methods used did not degrade the participants' dignity.

3. Results

The results of the formative experiment aimed at developing the ability to manage stress through communication are presented in the tables. Designations: CG – control group; EG — experimental group. Accordingly, numbers 1 and 2 reflect the primary and secondary empirical tests.

Table 1 presents trends in the dynamics of stress resistance. The primary diagnostics shows that stress resistance is more stable in the sample of young men. A third of girls have low indicators of this component. At the same time, medium indicators dominate among male students: approximately at the level of 90%. The programme developed for boys did not demonstrate effectiveness in terms of stress resistance. Positive changes were recorded in the experimental group of female students after the implementation of the programme, in particular, the number of people with low indicators of stress resistance decreased by 28.16%.

Confrontation as a means of stress management is determined by active actions aimed at transforming the situation. According to this parameter, similar trends are recorded in both studied groups — individuals with a medium level of active stress management dominate. At the same time, there is a greater shift of indicators towards the central values among young men, and the extreme indicators are presented insignificantly. The recorded differences in both experimental groups are not statistically significant.

The distancing strategy characterizes stress management due to rationalization and switching of attention. The described coping strategy is more characteristic of young men — almost 40% of the studied sample showed high indicators of the component. The medium indicators of the parameter (about 80% of respondents) prevail among girls. The dynamics of the results of the primary and secondary test indicate that there is no influence on the transformation of this component.

The self-regulation strategy involves the activation of volitional efforts to manage manifestations of stress. The manifestations of a low level of this stress management strategy significantly prevail in girls, compared to boys. Medium self-regulation of stressful manifestations dominates among young men. Communicative training has become effective for the formation of this strategy in students of both sexes. In girls, positive changes in this component were manifested because of the decreased share of subjects with low indicators, while the number of persons with a high level of self-regulation increased in boys.

Table 1. Gender differences in the formation of stress resistance, coping strategies and psychological well-being in student age

<i>Indicators of stress resistance</i>	<i>Female samples, %</i>				<i>Male samples, %</i>			
	CG1	CG 2	EG1	EG 2	CG 1	CG 2	EG 1	EG 2
High	2.9	4.35	4.23	14.08	6.76	4.05	5.33	4
Medium	65.22	63.77	64.79	83.1	86.48	89.19	88	90.67
Low	31.88	31.88	30.98	2.82	6.76	6.76	6.67	5.33
<i>Indicators of the confrontation coping strategy</i>								
High	26.09	26.09	28.17	29.58	14.86	14.86	13.33	16
Medium	63.77	63.77	61.97	63.38	74.32	74.32	73.33	69.33
Low	10.14	10.14	9.86	7.04	10.82	10.82	13.34	14.67
<i>Indicators of the distancing coping strategy</i>								
High	10.14	8.7	8.45	8.45	40.54	41.89	38.67	36
Medium	78.26	82.6	83.1	83.1	52.7	51.35	53.33	54.67
Low	11.6	8.7	8.45	8.45	6.76	6.76	8	9.33
<i>Indicators of the self-regulation coping strategy</i>								
High	8.7	10.14	4.23	14.08	9.45	9.45	13.33	42.66
Medium	63.77	60.88	66.2	76.05	87.83	87.83	82.67	54.67
Low	27.53	28.98	29.57	9.87	2.72	2.72	4	2.67
<i>Indicators of acceptance of responsibility coping strategy</i>								
High	10.14	10.14	12.68	23.94	10.81	10.81	12	13.33
Medium	42.03	42.03	39.44	59.16	37.84	37.84	34.67	37.33
Low	47.83	47.83	47.88	16.9	51.35	51.35	53.33	49.34
<i>Indicators of seeking social support coping strategy</i>								
High	65.22	65.22	67.6	67.6	35.14	35.14	33.33	57.33
Medium	31.88	28.99	29.58	29.58	56.76	56.76	57.33	36
Low	2.9	5.79	2.82	2.82	8.4	8.4	9.34	6.67
<i>Indicators of the escape coping strategy</i>								
High	13.04	13.04	9.86	9.86	0	0	0	0
Medium	57.97	60.87	61.97	60.56	94.59	94.59	92	69.33
Low	28.99	26.09	28.17	29.58	5.41	5.41	8	30.67
<i>Indicators of the problem solving coping strategy</i>								
High	30.43	30.43	28.17	28.17	2.7	5.4	5.33	5.33
Medium	55.07	55.07	56.34	56.34	93.24	90.54	90.67	90.67
Low	14.5	14.5	15.49	15.49	4.06	4.06	4	4
<i>Indicators of the positive reappraisal coping strategy</i>								
High	5.8	7.25	7.04	7.04	39.2	39.2	40	40
Medium	75.36	72.46	71.83	71.83	58.11	58.11	53.33	53.33
Low	18.84	20.29	21.13	21.13	2.69	2.69	6.67	6.67
<i>Indicators of psychological well-being</i>								
High	1.45	2.9	2.82	25.35	30.67	30.67	28	28
Medium	65.22	63.77	63.38	63.38	38.66	38.66	40	42.67
Low	33.33	33.33	33.8	11.27	30.67	30.67	32	29.33

Accepting responsibility is a manifestation of the internal locus of personal control in stress management. These stress management strategies have no significant gender differences. People with low indicators of the parameter (about 50% of respondents) dominate in both samples. No changes in the genesis of the component are observed in young men after the end of the experiment. The share of girls with a low level of acceptance of responsibility decreased by 30.98%. At the same time, the number of subjects with high indicators increased by 11.26%.

The search for social support indicates a high role of communication in stress management. This strategy is quite popular in samples of young men and women. The minimum number of persons with low indicators of the parameter is recorded in all studied groups. Among girls, the strategy of seeking social support is represented by a larger share of individuals with a high level (about 65% of respondents). The training did not stimulate significant transformations for the studied stress management strategy in girls. However, there is an increase in the share of persons with high indicators (shift by 24%) among young men after the formative influence.

The escape strategy characterizes the denial of difficulties, which is accompanied by immersion in the world of fantasies. A low level in the sample of girls (about 30% of the subjects) prevails. At the same time, medium indicators of the parameter in both sexes dominate. In girls, the indicators of the studied coping strategy almost did not change after the training. In the experimental group of young students, the share of persons with low manifestations of tendency to escape from problems decreased by 22% after the formative influence.

Problem solving is an effective stress management strategy, but its high levels may indicate poor emotional experiences. This stress management strategy is more pronounced among female students — a third of the respondents showed high scores. Young men (approximately 90% of students) showed an absolute predominance of the medium level of problem-solving propensity. Communicative training did not significantly affect the studied parameter in both samples.

The strategy of positive reappraisal involves rethinking the situation as a stimulus for personal growth. A predominance of medium levels of this coping strategy was found in both studied groups. A more pronounced share of people with a low level (about 20%) was found among girls, while there is a fairly significant number of people with high indicators (about

40%) among young men. The impact of the developed training on the stress management strategy through a positive reappraisal in student age was not revealed.

Psychological well-being is a general integrated indicator that reflects the emotional stability of an individual. In general, it can be said that communicative training had a positive effect on the psychological well-being of girls, while no significant effect was recorded for boys. Primary diagnostics showed that the low level of the parameter is more pronounced in girls. In young men, indicators of psychological well-being were distributed approximately equally with a slight predominance of the medium level.

The Student's t-test was calculated to determine the significance of the found differences. Table 2 presents the criterion coefficients for independent samples reflecting the differences in indicators of the studied parameters by gender in primary diagnostics. Significant gender differences were found in all components of stress management, except for the accepting responsibility strategy, which has similar trends in boys and girls.

Table 2. Statistical differences between the manifestations of stress in boys and girls (results of the primary empirical test)

Components of stress management	Student's t-test
Stress resistance	2.911**
Confrontation	2.664*
Distancing	3.362**
Self-regulation	3.722**
Acceptance of responsibility	1.257
Seeking social support	2.777*
Escape	3.945**
Problem solving	3.542**
Positive reappraisal	3.641**
Psychological well-being	4.003**

Table 3 presents the results of the Student's t-test before and after the formative experiment. No significant differences were found in all parameters in the control samples of both sexes. The used method of mathematical statistics confirmed significant changes after the training programme in the parameters of stress resistance, self-regulation strategy, responsibility acceptance strategy, and psychological well-being. In the sample of young men, statistically significant differences were found in the parameters of self-regulation, seeking social support strategy, and the escape strategy.

Table 3. Statistical differences in the results of the formative experiment

Components of stress management	Student's t-test			
	Girls		Boys	
	CG	EG	CG	EG
Stress resistance	1.232	2.112*	1.339	1.543
Confrontation	1.344	1.009	1.411	1.006
Distancing	1.545	1.557	1.603	1.912
Self-regulation	1.107	2.223*	1.832	2.908**
Acceptance of responsibility	1.877	3.099**	1.455	1.884
Seeking social support	1.690	1.778	1.228	3.223**
Escape	1.208	1.448	1.676	2.933**
Problem solving	1.444	1.890	1.199	1.198
Positive reappraisal	1.111	1.676	1.288	1.333
Psychological well-being	1.487	1.328**	1.828	1.667

The analysis of the results of the study confirmed the research hypothesis about gender differences in stress management through student communication.

4. Discussion

The results of the formative experiment indicate the moderate effectiveness of the developed communication training programme for increasing the effectiveness of stress management in student age. Significant gender differences in stress management strategies and consequences of the impact of the training programme were also found. Girls are more focused on active overcoming the problem, problem solving, and seeking social support. Boys are more focused on self-regulation, distancing, and positive reappraisal. Indicators of psychological well-being are higher among young men compared to girls. Medium indicators of stress management in the student period prevail.

In general, we agree with the opinion about the effectiveness of training programmes based on active communication of participants as an effective stress management tool (Lehmann et al, 2021). It is appropriate to carry out additional educational work to overcome primitive, stereotypical ideas about stress (Slavich, 2019). In our opinion, the conclusions regarding the relationship between loneliness and stress (Campagne, 2019) in the context of the student period need additional study. The process of rethinking the experience of individual stress (Finke et al., 2022) should be treated with caution in the context of war. It is worth noting

that we have considered specific ways of managing stress, not generalized strategies. In our study, there is no unequivocal confirmation of the popularity of coping strategies for solving problems among young people (Chen et al., 2018). We cannot confirm the role of physical activity for men (Gentry et al., 2007), as it was not anticipated by the objectives of our study. We consider research on the effectiveness of modern technical devices for stress management in student age to be promising (Can et al., 2020). It can be said that the conclusions of other researchers about the connection between stress and psychological well-being were indirectly confirmed (Barbayannis et al., 2022).

The discrepancies in our findings regarding gender differences in stress management strategies compared to other studies are of particular note (Salam & Farhan, 2021). The identified contradictions are explained by the socio-cultural context of studies and differences in the age composition of the studied samples.

Conclusions

The study showed that medium stress management indicators prevailed at student age. The results of the implementation of the formative experiment indicate the moderate effectiveness of the developed communication training programme for increasing the effectiveness of stress management in student age. Significant gender differences in stress management strategies and consequences of the impact of the training programme were revealed. Girls are more focused on actively overcoming the problem, problem solving, and seeking social support. Young men are more focused on self-regulation, distancing, positive reappraisal. Indicators of psychological well-being are higher in young men than in girls. Training proved effective for girls in building stress resistance, self-regulation, acceptance of responsibility, and psychological well-being. For young men, the most effective formative influence was based on self-regulation, seeking social support, and the escape coping strategy. The study results can be used to optimize psychological assistance and the educational process at the student age. In particular, the obtained empirical data are the basis for improving stress management trainings considering gender differences. It is relevant to use the obtained empirical data to create differentiated educational tasks. The prospects of further research on

the problem in the study of age-specific gender differences in stress management during the student period.

Limitations

In our opinion, the results of the formative experiment could have been influenced by the online training format, which did not sufficiently reflect the possibilities of communication in stress management.

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