

Systematic Rehabilitation of Student Youth with Post-Traumatic Stress Disorders under Conditions of the Armed Conflict in Eastern Ukraine

Rehabilitación sistemática de los jóvenes estudiantes con trastornos de estrés postraumáticos en las condiciones del conflicto militar en el este de Ucrania

Author¹ ZAVATSKYI Vadym Yu.

Author² PILETSKA Lybomyra S.

Author³ ZAVATSKA Nataliia Ye.

Author⁴ SEMENOV Oleksandr S.

Author⁵ BLYSKUN Olena O.

Author⁶ BLYNOVA Olena Ye.

Author⁷ YAREMCHUK Vitaliya V.

Author⁸ POPOVYCH Ihor S.

Contents

1. Introduction

2. Materials and Methods

3. Results and Discussion

4. Conclusions

Bibliographic references

Abstract

¹ Doctor of Psychological Sciences, Associate Professor of Department of Social Psychology and Social Work, East Ukrainian National University named after V. Dahl, Severodonetsk, Ukraine

² Doctor of Psychological Sciences, Full Professor of Department Social Psychology, Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine

³ Doctor of Psychological Sciences, Full Professor of Department of Practical Psychology and Social Work, East Ukrainian National University named after V. Dahl, Severodonetsk, Ukraine

⁴ Doctor of Pedagogical Sciences, Associate Professor of Department of Pedagogy, Eastern European National University named after Lesia Ukrainka, Lutsk, Ukraine

⁵ Candidate of Psychological Sciences, Associate Professor of Department of Psychology and Sociology, Volodymyr Dahl East Ukrainian National University, Severodonetsk, Ukraine

⁶ Doctor of Psychological Sciences, Full Professor of Department of General and Social Psychology Kherson State University, Kherson, Ukraine

⁷ PhD of Psychological Sciences, Associate Professor of Department of Social Pedagogy and Social Work, Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine

⁸ Doctor of Psychological Sciences, Full Professor of Department of General and Social Psychology, Kherson State University, Kherson, Ukraine. Contact e-mail ihorpopovych999@gmail.com

The study examines and analyzes systematic rehabilitation of student youth with post-traumatic stress disorders. The results of the regression analysis makes it possible to select significant parameters of PTSD – predictors of social maladjustment of the research participants and distinguish the types of the symptoms of these disorders in the sub-groups the experimental group: active-protective (36.3%), passive-protective (39.3%) and discordant (24.4%). The study presents a structural model of the types of PTSD symptoms.

Key words

PTSD, stress, rehabilitation, coping-strategy.

Resumen

Se ha investigado y analizado la rehabilitación sistemática de los jóvenes estudiantes con trastornos de estrés postraumáticos. Según los resultados del análisis regresivo, se ha hecho la selección de los parámetros significativos de TEPT – predictores del descondicionamiento de los sujetos. Se ha distinguido los tipos de manifestación de estos trastornos en los subgrupos del grupo experimental: de defensa activa (36.3%), de defensa pasiva (39.3%) e inarmónico (24.4%). Se ha construido el modelo estructural de los tipos de manifestación de TEPT.

Palabras clave

TEPT, estrés, rehabilitación, estrategia de coping.

1. Introduction

The current state of our society and microenvironment is accompanied by an intense social and political situation, natural and man-made disasters, an increase in the number of illegal actions, acute conflicts and military invasions. University students are often in the environment of stressful and/or extreme situations. Therefore the study on the problem of the origin of post-traumatic stress disorders (PTSD) and the ways to cope with them is topical in both psychological and social contexts.

Literature review. The majority of the studies on PTSD were related to epidemiology, etiology, dynamics, diagnostics and therapy of the participants of military actions, victims of different catastrophes and terrorist acts, and the participant pools consisted predominantly of mature age people (Kekelidze & Portnova, 2002). The research on PTSD was conducted in medical and medical-psychological contexts. Clinical psycho-pathological PTSD features in combatants (Fastovtsov, 2010) and liquidators of the consequences of the disaster at Chernobyl nuclear power plant in Ukraine (26.04.1986) (Tarabrina et al., 1994) were determined. Some studies offer a clinical typology of PTSD and examine the issue of differential psychopharmacotherapy (Voloshin, 2004), investigate transient psychotic states

of individuals with PTSD (Dmitrieva et al., 2003), clinical and dynamic characteristics of PTSD (Bundalo, 2009) and psychophysiological markers of resistance of individuals with combat psycho-trauma (Ushakov, 1987). The research on mental rigidity as a factor of the emergence of post-traumatic disorder in workers of operation departments (Kosova, 2005) is of special scientific interest. There is a study on PTSD features in individuals with endogenous diseases (Smulevich et al., 1999). Special attention is paid to the attitude of the most injured persons towards a traumatic event (Shcherbak, 2009). PTSD were examined through gender differences in bullying among primary school children (Volchegorskaya et al., 2019). The research on motivational mental states of servicemen participating in military actions (Popovych, & Aleksieieva, 2019; Popovych, 2019) is significant from a methodological point of view.

The experience of emotional and physical abuse and psychological boundaries of personality of psychology students evokes scientific interest. The study establishes that the experience of abuse stipulates a high level, complexity and inconsistency of the structure of psychological defence mechanisms of personality, among which the search for social support loses its immediacy and is associated with confrontation, planning and escape (Suvorova et al., 2017).

It is necessary to stress that there is a lack of studies on social and psychological features of the development of PTSD and coping with them in student youth, however, some scientists focus on the peculiarities of the formation of PTSD symptoms and their correction in the representatives of different age groups (Kekelidze, 2003). In addition, the available experience of psychological assistance to young people with PTSD requires detailed scientific analysis, generalization and systematization aimed at developing systematic measures of their rehabilitation.

Hypothesis. We assume that the systematic rehabilitation of student youth with post-traumatic stress disorders under conditions of the armed conflict in eastern Ukraine examined and presented in the research is an important component in the work with casualties; the application of the research results operationalizes the education process of student youth with post-traumatic stress disorders.

Purpose. To examine and analyze systematic rehabilitation of student youth with post-traumatic stress disorders.

2. Methodology

2.1. Participants

Our sample consisted of 160 participants (58.1% men and 41.9% women) in the experimental group (EG) with PTSD symptoms and 128 participants (51.6% men and 48.4% women) in the control group (CG) without the mentioned symptoms. The research was carried out on the basis of the Scientific and Practical Center of Modern Psychotechnologies (Severodonetsk, Ukraine) and the Department of Military Training of the State Higher Education Institution “Vasyl Stefanyk Precarpathian National University” and the Rehabilitation Center for ATO participants (Ivano-Frankivsk, Ukraine). There were 288 persons in total (55.2% men and 44.8% women). The age of the research participants was 18–25 years. The average age of the sample was 19.8 years (SD = 1.4).

According to Hollingshead four-factor index (Hollingshead, 1975), the participants’ families corresponded to the following categories: 31.3% low Familiar socioeconomic-status (FSS), 34.7% – low-medium FSS, 22.9% –medium FSS, 10.4% – medium-high FSS, 21.4% – FSS high, and 7% did not provide information.

2.2. Organization of research

The experimental research was conducted in January 2016 – the beginning of September 2019. The sample was formed of student youth experiencing psychological traumatic situations. The young people had to leave eastern Ukraine for the territory of the country free from military actions, in particular, for Severodonetsk – a new frontier of Ukraine and for Ivano-Frankivsk, in western Ukraine because of military actions. Such respondents voluntarily agreed to participate in the experimental research. In advance, the permission of the administration of the higher education institutions was received.

2.3. Procedures and instruments

The following methods were used: an observation method; analyzing documents; structured clinical interview (“SCID”) (Weathers, Litz & Keane, 1993) with a scale for diagnosing PTSD (“CAPS”) (Weathers, 1990) and “The Impact of Event Scale-Revised” (IES-R) (Weiss, Marmar, Metzler, & Ronfeldt, 1995) (adapted by Tarabrina, (2009); “Buss-Durkee Inventory” (“BDI”) (Buss, & Durkey, 1957) and “Luescher Color Selection Test” (“LCST”) (Luescher, 2005). Clustering analysis with k-means was applied: it allowed distinguishing the degrees of PTSD symptoms: low, middle and high by the parameters of frequency and intensity of traumatic stress situations and the level of distress.

Such parameters as frequency and intensity of traumatic situations and post-traumatic experiences, anxiety, agitation, oppositional behavior, sociophobia, social activeness/passiveness, reflexion, self-attitude, ethnocultural characteristics and religiousness were determined on the basis of structured diagnosing interview. The data of

the interview and analyzing documents allowed comparing subjective views of the research participants and the parameters determined by the scale of the impact of a traumatic event (“IES-R”) and the questionnaire of traumatic stress (“QTS”), in particular, by the following scales: “intrusion” (recurring experience of trauma), “avoidance” (preventing traumatic memories), “hyperactivation”, “depression”; “distress” and “maladjustment”.

The application of clustering analysis with k-means based on frequency parameters, intensity of traumatic stress situations and distress level made it possible to distinguish the degrees of PTSD symptoms: low, middle and high. In order to distribute the research participants to subgroups of different degrees of PTSD we used Kolmogorov-Smirnov coefficient λ , (Kolmogorov, 1993; Smirnov, 1983), showing that the sample belonged to the normal distribution with a high degree of probability ($p \leq 0.01$).

It proved the relevancy of using data in the distinguished subgroups in order to obtain statistically significant results in further application of the methods of parametric statistics. The respondents of the experimental group (EG) were divided into three subgroups: I – 55 persons (34.4%) with a low degree of PTSD symptoms, II – 69 (43.1%) of the research participants with a middle and III – 36 (22.5%) persons with a high level of the symptoms of such disorders. The results of regression analysis made it possible to select significant parameters of PTSD – predictors of social maladjustment of the research participants and distinguish the types of the symptoms of these disorders in the subgroups of the EG: active-protective, passive-protective and discordant.

2.4. Statistical analysis

Mathematical statistical processing of the empirical data and graphical presentation of the obtained results were made by means of the statistical software package “SPSS” v. 23.0 and MS “Excel”. Spearman’s correlation coefficients (r_s) were used to determine correlations between content psychological parameters. Arithmetic mean (M) of the parameters and mean-square deviation (SD) were calculated. Verification of the parameters of the normal distribution was done by means of Kolmogorov-Smirnov one-sample criterion λ . The differences between the values of the parameters at the level $p \leq 0.05$ are considered statistically significant.

3. Results and Discussion

The results by the research indexes in the distinguished EG and in the CG by the scales “CAPS”, “IES-R” and the method “QTS” are presented in Table 1.

Table 1

Comparison of the research indexes of the EG and CG by the scales “CAPS”, “IES-R” and the method “QTS” (n=288)

Parameters	Indexes by the groups of the research participants			
	CG	EG, I group	EG, II group	EG, III group
F	2.32±.13	8.07±1.76	16.54±3.71*	23.00±3.62*
I	1.03±1.72	11.42±1.34	19.88±3.78*	27.29±1.22*
Level of distress	.09±.03	.24±.02*	1.70±.04*	2.41±.07*
Intrusions	1.10±.89	3.03±.92	19.47±1.07*	26.85±1.74*
Avoidance	2.05±.49	6.49±.80*	2.11±.94	2.20±1.69
Hyperactivation	2.11±1.32	10.20±1.11*	18.29±.97*	23.65±1.72*
Depression	.04±.04	1.18±.03*	1.93±.07*	2.57±.18*
Maladjustment	.07±.02	.12±.02	1.88±.06*	2.77±.13*

Note: * – p<.05; F – frequency of traumatic situations, I – intensity of traumatic situations.

Quantitative distribution of the respondents of the EG by the degree of PTSD symptoms according to their types is given in Table 2.

Table 2

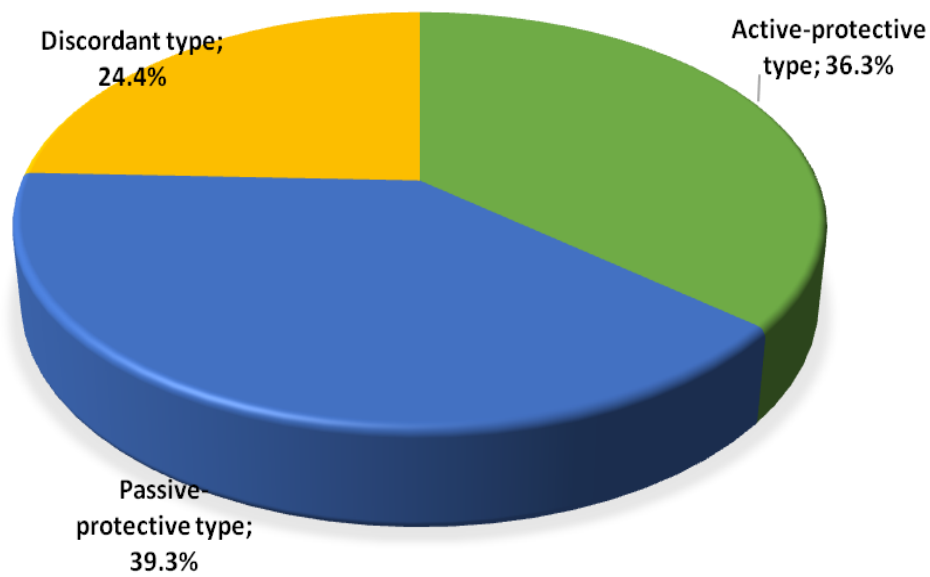
Distribution of the research participants of the EG by the degree and type of PTSD symptoms: post-traumatic, stress, personal (n=160)

Degrees of PTSD symptoms	Types of the symptoms of post-traumatic disorder					
	Active-protective		Passive-protective		Disharmonious	
	n	%	n	%	n	%
Low	32	20.0	19	11.9	4	2.5
Middle	21	13.2	33	20.5	15	9.4
High	5	3.1	11	6.9	20	12.5
In total	58	36.3	63	39.3	39	24.4

We identified social and psychological factors of PTSD in student youth and presented a structural pattern of the types of PTSD symptoms (see Fig. 1) and their differentiation to consider these data in developing a correction program at the second stage of the empirical research.

Figure 1

Structural pattern of the types of PTSD symptoms in student youth



The research shows that an active-protective (predominantly adaptive) type of PTSD symptoms with an adequate evaluation of traumatic situation (sometimes with the tendency to ignore it) prevailed in the participants of I (20.0%) and II (11.9%) groups. A passive-protective type (maladjustment with intrapsychic direction) with anxious and depressive tendencies was identified mainly in the participants of II (20.5%) and I (13.2%) groups. A discordant type (maladjustment with interpsychic direction) with impaired social functioning, internal tension and dysphoria was identified in 12.5% of the participants in III group characterized by interpersonal conflicts, explosiveness, brutality, auto-aggressive tendencies and consumption of psychoactive substances.

We found a statistically significant correlation between the intensity of PTSD symptoms and social-demographic characteristics of the participants. In general, we can confirm that young people of 20–24 years old with a low level of education have a higher intensity of such symptoms ($p \leq 0.01$). The course of PTSD could be worsened by a family (singles, divorced, widows) and social (students, unemployed) status of the research participants ($p \leq 0.05$).

We established that differentiation of the disintegration coefficient by the degree of PTSD symptoms in the distinguished subgroups manifested statistically significant differences. This coefficient in the majority (65.5%) of the participants of I group was 32.3 ± 5 points corresponding to the normative data and indicated the lack of continuous internal conflicts and meant coincidence of the categories “values” and “accessibility” in major life areas

($\phi=2.25$; $p\leq.01$). 73.9% of the participants of II group had different categories “values” and “accessibility”, and the average index of the disintegration coefficient was $46.7\pm.3$ points, indicating the condition of frustration and considerable difficulties in achieving valuable objects (in particular, in the area of material welfare, interpersonal relationships and health)($\phi=1.57$; $p\leq.05$). 72.2% of the participants of III group had absolutely different categories “values” and “accessibility” and the disintegration coefficient was $65.2\pm.4$ points, and when the values prevailed over accessibility in achieving them there was a steady durable and deep internal conflict, and in the case of a reverse correlation there was a condition of internal devastation and a significant reduction of productive activity ($\phi=1.61$; $p\leq.05$). The obtained results were compared to the data of the evaluation of internal discomfort condition in young people with PTSD. It was determined that the participants of I group were characterized by the lack of vivid subjective experiences of internal discomfort ($\phi=2.19$; $p\leq.01$). There were 76.8% and 80.1% of the participants belonging to II and III groups respectively classifying their internal experiences as strong discomfort. Thus, we identified tension in the area of values of modern young people with PTSD expressed as impossibility to access the most important life values and it manifests itself as internal discomfort and causes controversial emotional experiences, discontent with things happening in life.

We found significant correlations between internal conflicts and self-attitude of the participants of the EG (by the parameters of self-acceptance, self-worth and self-interest). Negative correlations between the mentioned parameters mean that when there is an increase in internal conflicts the interest to one’s own internal world decreases (by the “self-worth” scale $r=-.71$; $p\leq.05$), causing a reduction of self-confidence, an increase in self-discontent, provoking the desire to change oneself according to the concept of the Ideal Self (according to “self-interest” scale $r=-.66$; $p\leq.05$) and a reduction of openness, an increase in critical attitude towards self-awareness (according to “self-acceptance” scale $r=-.76$; $p\leq.05$). We established a negative correlation between internal conflict and self-respect (the correlation with the “self-management” scale $r=-.61$; $p\leq.05$ is statistically significant), that means a decreasing ability to influence the circumstances, a reduction of self-regulation and activity in achieving goals.

We proved that an increase in inner conflict is proportional to a reduction of the level of social competence development in young people. It is confirmed by the fact that all the correlations are negative. Such features of social competence as openness, the development of logical thinking, control of one’s own behavior, and the ability to follow the

established rules are especially significant indexes with the tendency of decreasing, their low values were characteristic of the research participants of II and III groups ($p \leq 0.05$).

We identified a high level of personal anxiety in a considerable part of the research participants of all the subgroups of the EG. We detected the prevalence of personal anxiety over situational anxiety ($p \leq 0.05$) in the majority of the respondents. We found that the manifestation of situational anxiety in the participants rose with an increase in the degree of PTSD symptoms. In addition, there was an increase in the number of persons with high indexes of personal anxiety – from 52.7% with a low degree of PTSD symptoms to 86.1% with a high degree.

We established that the indexes of depression were higher in II and III subgroups of the EG ($p \leq 0.05$). The participants of I group had the indexes of this parameter within a normal range ($\phi = 1.86$; $p \leq 0.03$), however, they were higher than those of the young people of the CG. As the degree of PTSD symptoms increased, the indexes of depression rose and the number of persons with a higher degree of depression increased as well.

We determined that the order of color choice (“LCST”) in 43.6% of the participants of I group proves the lack of intrapersonal conflicts, non-productive tension, nervous breakdowns ($\phi = 2.22$; $p \leq 0.01$). The choice of colors in II group shows the desire of the participants to prevent themselves from unpleasant situations, the avoidance of agitation, the desire of emotional independence, negative attitude to restrictions and difficulties ($\phi = 2.05$; $p \leq 0.02$). The participants of this group were characterized by passive-protective psychological position and rigidity. The choice of colors by the participants of III group indicated constant frustration, resistance to the environmental influences, anti-prohibition protest, tendency to social limitation, aggressiveness, and pessimistic forecast about the future ($\phi = 2.11$; $p \leq 0.01$).

The use of E. Wagner’s test (1983) made it possible to detect higher anxiety and emotional instability in the participants of II group; high points of open aggressive behavior in the participants of III group; social maladjustment. The level of aggressiveness, calculated as a difference between the sum of “adaptive” responses and the sum of the responses in the categories “aggression” and “direction” indicated the lack of behavioral restraint and insufficient control of aggressive tendencies ($\phi = 2.16$; $p \leq 0.01$) in I group. An increase in aggressive tendencies and their prevalence over the tendencies that restrain aggressive behavior were identified in the participants of II group with a middle degree of PTSD symptoms ($\phi = 2.07$; $p \leq 0.01$). Quality analysis of the significance and place of aggressive tendencies in the general system of dispositions shows an increase in the number of

aggressive responses and, at the same time, a complete lack of responses of a social cooperation type and a high degree of hostility in the participants of III group ($\phi=1.81$; $p\leq.03$). The indexes obtained as a result of E. Wagner's test (1983) correlate with the data obtained as a result of A. Buss – A. Durkee questionnaire (1957) ($r=.73$; $p\leq.05$).

The study of individual-typological features of the participants demonstrated that there are accentuations of depressive, irritable, exalted and cyclothymic types in the young people of III group. It enables us to state that the participants are inclined to impulsive, risky, conflict and asocial actions. The accentuations of emotive, anxious and depressive types ($\phi=2.31$; $p\leq.01$) dominated among the participants of I group. Mosaic accentuations were identified in the participants of II and III groups, namely, such controversial combinations of accentuated features as stuck with irritable features (34.3% persons), or the combination of demonstrative and stuck accentuated features – in 17.4% of the participants of II group, and also the combination of demonstrative and irritable features in 11.1% of the participants of III group ($\phi=2.19$; $p\leq.01$).

The research shows that the young people with PTSD have higher activity of such defensive psychological mechanisms as displacement, regression, substitution, compensation and reaction formation ($p\leq.05$). The determined divergence in the EG subgroups by the mentioned parameters proves that the participants chose the least differentiated inefficient strategies of psychological defense. Such choice of protective mechanisms by the participants of I group emphasized the wish to get rid of a stressful situation and distract from the realized affective impulses and conflicts ($\phi=1.59$; $p\leq.05$). As a result, low or understated self-esteem developed. The mechanisms of psychological defense manifested themselves as a hyper compensation type; personality was internally integrated. In the young people of II group, the reaction of emotional-psychic tension in the process of intrapsychic adaptation occurred, first of all, through such psychological mechanisms as regression and denial, when a person keeps away from the environment, becomes less involved emotionally; their disintegration with society takes place ($\phi=1.63$; $p\leq.05$). The removal of affective impulses by the participants of III group was realized predominantly by means of actualization of expressive behavior in the form of aggression and hostility; there was an increase in disintegration of personality and the environment and simultaneous intrapersonal disharmony occurred ($\phi=1.56$; $p\leq.05$).

We established that personal coping-resources of young people affect the process of their social interaction, acquisition and application of adaptive abilities and skills, determine their conscious choice of the strategies for managing stress. We determined that maladjustment

mental state of the participants of II and III groups with PTSD activates coping-resources that are either unformed or exhausted (sharply reduced). It causes considerable domination of maladjustment coping strategies (60.9%). The participants of these subgroups were more likely to have inherent emotion-oriented types of coping-strategies (“escape-avoidance”, “emotional relaxation”, “ignoring”) that are considered less productive as compared to problem-oriented coping-strategies. The limited use of cognitive types of coping-strategies caused low efficiency in overcoming PTSD in the young people.

The participants of the distinguished subgroups of the EG vary in their perception of support provided by the society. The young people of II group were subjectively more likely to feel loneliness, the deficiency in care, attention, emotional involvement of close people as compared to the participants of I group ($\phi=1.94$; $p\leq.02$). The participants of III group, as compared to those of I and II groups also felt the lack of practical and instrumental support on the part of the society ($\phi=1.85$; $p\leq.03$). They identified the lack of their social connections, denied the existence of them or pointed to their limited number.

We distinguished the degrees and typology of PTSD symptoms in the young people. General criteria for their determination are the indexes of frequency and intensity of traumatic situations, the degree of distress manifestation, intrusion, hyperactivation, depression and predictors of social-psychological maladjustment, whose dynamics depends on the indexes of social functioning of an individual.

The participants with a low degree of PTSD symptoms are characterized by emotional discomfort, discontent with social relationships, their social status, the level of self-realization and prevailing active-protective (mainly adaptive) type of PTSD symptoms. The participants with a middle degree of PTSD symptoms were characterized by anxious and depressive tendencies, the use of maladjustment behavior patterns and low self-control, social passiveness, a low level of self-acceptance with prevailing social-psychological maladjustment of intrapsychic direction and a passive-protective type of PTSD symptoms. The participants with a high degree of PTSD symptoms were characterised by high internal tension, dysphoria, explosiveness, a low level of social integration, the lack of deep personal contacts, limited social interactions and a discordant type of PTSD symptoms with prevailing maladjustment of interpsychic direction.

78 persons with different degrees and types of PTSD symptoms participated in rehabilitation work – 14 persons (10 males and 4 females) of I group, 36 persons (22 males and 14 females) of II group and 28 participants (21 males and 7 females) of III group, who entered the experimental group. The participants were selected by the principle of

voluntary participation. The rest of the participants (82 participants, 40 males and 42 females) with PTSD symptoms entered the control group that did not participate in any rehabilitation work.

The participants of the experimental group were divided into 7 subgroups of 10-12 persons. Each subgroup took part in the rehabilitation twice a week during three months.

The rehabilitation work was based on a multimodal approach incorporating the techniques of rational, cognitive and behavioral psychotherapy, relaxation methods, gestalt psychology, psychodrama, logotherapy, psychological debriefing considering leading strategies of coping with PTSD in young people: personal distantiation, modeling, position change, a reduction of subjective importance. Such an approach correlates with "psychotherapy of a new decision" (R. Goulding, M. Goulding), that re-evaluates the meaningful experience of certain (traumatic) moment recorded in the previous experience and forms another view of the situation, self, external conditions and influences. A new sense is achieved through finding the experience that corresponds to greater freedom, spontaneity, possibilities to trust oneself and others, check and test one's psychological boundaries, make choices, find personal resources for coping with PTSD.

In the process of implementing rehabilitation measures we considered social-psychological features of student youth and the correspondence of the selected methods of assistance to the main tasks of the suggested program: a reduction of psycho-emotional tension; work with impressions, reactions and feelings of the participants; formation of their understanding of the essence of the events that occurred and psycho-traumatic experience; a reduction of the feeling of uniqueness and pathological nature of one's reactions through discussions of feelings and experience exchange; mobilization of inner resources, group support, solidarity and understanding; a reduction of individual and group tension; preparation to experiencing those symptoms and reactions that may occur in the future; development of communicative and social competence; teaching the main methods of psychological self-regulation.

We examined the possibility of coping with PTSD in young people at the stages of prevention, intervention and postvention under conditions of individual and group forms of rehabilitation work differing in an organizational and not in a content aspect. When organizing the space for rehabilitation interaction with the participants, we introduced a number of requirements corresponding to the modern concept of organizational and interactive features of such assistance. These requirements were considered as psychological conditions for actualizing internal resources of the young people with PTSD.

They included mutual responsibility of the psychologist and the participants for the process and results of their common activity (it is realized through discussing and making an organizational and therapeutic contract); realization of a phenomenological idea of “here and now” (Steiner, 1984), absence of pressure or enforcement of the participants – non-prescriptive in nature (Rogers, 1999) and others. Consideration of ethno-cultural and religious peculiarities of the young people contributed to the efficiency of rehabilitation measures, especially those aimed at achieving the objective of changing traumatic destructive convictions.

Taking into account the fact that the lack of social support, especially on the part of close people (not only relatives) is among the leading factors influencing PTSD development, organization of a psychological support group and carrying out training sessions with family members were considered as useful palliative assistance contributing to coping with PTSD in the student youth.

The analysis of the results of implementing the rehabilitation system offered by us showed that the level of self-esteem of the participants became more adequate ($t=-1.96$; $p\leq.05$) as a result of a decreasing level of internal discomfort ($t=-3.2$; $p\leq.05$) and self-accusation ($t=-2.96$; $p\leq.05$). The disintegration coefficient between the main values and the possibilities to achieve them ($p\leq.01$) fell in the participants of I and II subgroups. The degree of divergence between “value” and “accessibility” in the area of motivation and values of the participants of III group did not change, but the degree of internal discomfort decreased ($t=-4.06$; $p\leq.05$). We identified an increase in interest to the internal world (based on “self-worth” scale $t=2.42$; $p\leq.05$), an increase in self-confidence and self-content (based on “self-interest” scale $t=2.53$; $p\leq.05$) and a reduction of critical attitude to self-awareness (based on “self-acceptance” scale $t=4.28$; $p\leq.05$) in the participants of the experimental group.

The participants of the experimental group showed an increase in their ability to influence the circumstances and improvement in self-regulation (based on “self-management” scale $t=3.94$; $p\leq.05$). We recorded a reduction of such indexes of communicative social competence as reticence ($t=1.81$; $p\leq.05$), emotional instability ($t=1.54$; $p\leq.05$); there was an increase in the ability to follow the established rules ($t=2.32$; $p\leq.05$).

While conducting comparative analysis of anxiety levels before and after correction, we found evident changes of high anxiety ($T=1721$; $p\leq.01$) in the participants of I and II groups and a reduction of aggressiveness ($T=2543$; $p\leq.01$) showing an increase in control of aggressive tendencies and behavioral restraints. The participants of III group did not achieve the statistically significant level of improvement, which can be evidenced by

aggressive behavioral tendencies. We identified improvement of the parameters of psychological defense by the indexes “regression”, “intellectualization”, “compensation”, “projection” ($p \leq 0.01$). However, the improvement by the indexes “denial”, “substitution” and “reaction formations” did not achieve the level of statistical significance, which can be the evidence of steady and severe psychological trauma.

In the experimental group, there was an increase in the frequency of using coping-strategies to plan problem-solving ($T=3811$; $p \leq 0.05$). In other words, the research participants started using the purposeful analysis of possible behavioral patterns taking into consideration objective circumstances and former experience more frequently. There was a reduction of the average values of the coping strategy of distantiating ($T=1926$; $p \leq 0.05$).

In the participants of I and II groups, there was a significant increase in the general index of social support, the social support network expanded ($T=2937$; $p \leq 0.05$): the relationships with close friends improved, the circle of friends expanded. However, the participants of III group had a limited social network of support, the development of adequate concepts on the types of social support and possibility to receive it was insufficient.

The most evident positive changes were recorded in the young people with low and average degrees of PTSD symptoms of an adaptive type. They were less evident in the persons with a high degree of such disorder and the prevalence of social-psychological maladjustment of an interpsychic direction of a discordant type. There were not any statistically significant differences by the mentioned parameters in the control group.

The results of the forming stage of the research proved the efficiency of the program of psychological correction and the possibility to implement it in coping with PTSD in student youth under conditions of modern society.

4. Conclusions

The system of rehabilitation of student youth with PTSD presented in the research is based on the following principles: activity, feedback, differentiated approach, availability and complexity of psychological assistance, formation of positive self-attitude and constructive life prospects, mobilization of adaptive coping-mechanisms. It considers the following leading strategies: personal distantiating; modeling; changing position; a reduction of subjective significance. The strategies are aimed at treating PTSD at the stages of prevention, intervention and postvention.

The efficiency of the rehabilitation system was proved by positive dynamics of an integration level between the need of obtaining main life values and the possibility of

achieving them in reality; a reduction of internal discomfort indexes, situational and personal anxiety, depression, indexes of aggressiveness and animosity; an increase in communicative and social competence; formation of adaptive coping-strategies of behavior; expansion of social support network. The most evident positive changes were recorded in the student youth with low and middle degrees of PTSD symptoms of adaptive type, less evident – in the persons with a high degree of PTSD symptoms and the prevalence of social-psychological maladjustment of an interpsychic direction of a discordant type.

The research identified a statistically significant correlation between the intensity of PTSD and social-demographic characteristics of the research participants. It shows that student youth with PTSD have higher activity of such psychological protective mechanisms as displacement, regression, substitution, compensation and reaction formation ($p \leq 0.05$). We established that the research participants with PTSD symptoms are characterized by emotional discomfort, discontent with relationships with people, their social status, the level of self-realization and predominant active-protective (mainly adaptive) type of PTSD symptoms. The respondents with a high degree of PTSD symptoms are notable for anxious-depressive tendencies, the use of non-adaptive patterns of behavior, low self-control, social passiveness, a low level of self-acceptance with dominating social-psychological maladjustment of an intrapsychic direction and a passive-protective type of PTSD symptoms. The research participants with a high degree of PTSD symptoms are characterized by high internal tension, dysphoria, explosiveness, a low level of integration with the environment, a lack of deep personal contacts, limited communication and a discordant type of PTSD symptoms with dominating maladjustment of an interpsychic direction.

The research proves that the systematic rehabilitation of student youth with post-traumatic stress disorders under conditions of the armed conflict in eastern Ukraine examined and presented in the study is an important component of the work with casualties. The application of the research experimental results operationalizes the educational process of the student youth experiencing post-traumatic stress disorders.

Acknowledgments. The research was conducted within the framework of fundamental scientific practical themes of three departments: the Department of General and Social Psychology of Kherson State University; the Department of Military Training of Vasyl Stefanyk Precarpathian National University; the Department Social Psychology and Social

Work of East Ukrainian National University named after Volodymyr Dahl, the state registration number is 0119U101096.

Bibliographic references

1. Bundalo, N. L. (2009). Post-traumatic stress disorder (clinical picture, dynamics, risk factors, psychotherapy). *Extended abstract of Doctor's thesis*. St. Petersburg Psychoneurological Research Institute. St. Petersburg.
2. Buss, A. H., & Durkee, A. (1957). An inventory for assessing different kinds of hostility. *Journal of Consulting Psychology*, 21, 343-349. Retrieved from: <http://dx.doi.org/10.1037/h0046900>
3. Dmitrieva, T. B., Vasilevskii, V. G., & Rastovtsev, G. A. (2003). Transient psychotic conditions in combatants suffering from post-traumatic stress disorder (forensic psychiatric aspect). *Russian Psychiatric Journal*, 3, 38-41.
4. Fastovtsov, G. A. (2010). Criminal aggression of combatants with post-traumatic stress disorder (clinical and forensic psychiatric aspects). *Extended abstract of Doctor's thesis*. State Research Center for Social and Forensic Psychiatry named after V. P. Serbani. Moscow.
5. Hollingshead, A. (1975). *Four factor index of social status*. Unpublished manuscript, Yale University, New Haven, CT. Retrieved from: https://www.academia.edu/927771/Four_Factor_Index_of_Social_Status
6. Luescher, M. (2005). *Luescher color test*. Moscow: AST. Retrieved from: <https://www.livelib.ru/author/119355/top-maks-lyusher>
7. Kekelidze, Z. I. (2003). *Mental disorders arising in emergency situations. Analytical review*. Moscow, Science.
8. Kekelidze, Z. I. & Portnova, A. A. (2002). Post-traumatic stress disorder in children and adolescents. *Journal of Neurology and Psychiatry named after S. S. Korsakov*, 102(12), 56-62. Retrieved from: <https://elibrary.ru/item.asp?id=25875808>
9. Kolmogorov A. N. (1993). On the empirical determination of a distribution law. *Journal of the Italian Institute degli Attuari*, 4 (1), 83-91.
10. Kosova E.G. (2005). The psychological rigidity as a factor of the development of PTSD in workers of operation departments experiencing combat stress. *Extended abstract of a Candidate's thesis*. Tomsk.

11. Popovych, I. S. & Aleksieieva, M. I. (2019). Study of psychological content parameters of servicemen' motivation. *Fundamental and applied researches in practice of leading scientific schools*, 34 (4), 26-33. DOI: 10.33531/farplss.2019.4.4
12. Popovych, I. S. (2019). The research on servicemen's motivational mental states. *Theoretical and applied problems of psychology*, 3(50), 158-173.
13. Rogers, C. R. (1999). *Counselling and Psychotherapy. Latest Practical Approaches*. Moscow: EKSMO-Press.
14. Shcherbak, M. G. (2009). Identification of post-traumatic stress disorders resulting from emergencies. *Problems of extreme and crisis psychology*, 6, 247-257.
15. Smirnov, N. V. (1983). *Mathematical statistics tables*. Moscow: Science.
16. Smulevich, A. B., Syrkin, A. L. & Kozyrev, V. N. (1999). Psychosomatic disorders (clinical picture, epidemiology, therapy, medical care models). *Journal of Neuropathology and Psychiatry*, 4, 4-16.
17. Steiner, C. M. (1984). Emotional literacy. *Transactional Analysis Journal*, 14, 162-173. Retrieved from: <https://doi.org/10.1177/036215378401400301>
18. Suvorova, O. V.; Ivanova, N. V., Minaeva, E. V., Mamonova, Ye., B., Sorokoumova, S. N. y Gutko, A. V. (2017). Experience of Emotional and Physical Violence and Psychological Boundaries of Personality of Psychology Students. *Revista ESPACIOS*, 38(56), page 34. Retrieved from: <https://revistaespacios.com/a17v38n56/17385634.html>
19. Tarabrina, N. V., Lazebnaia, E. O. & Zelenova, M. E. (1994). Psychological features of post-traumatic stressful conditions in the liquidators of the consequences of the Chernobyl disaster. *Psychological Journal*, 15(5), 67-70.
20. Tarabrina, N. V. (2009). *Psychology of post-traumatic stress: Theory and practice*. Moscow: Institute of Psychology, Russian Academy of Sciences. Retrieved from: <https://www.twirpx.com/file/1669600/>
21. Ushakov, G. K. (1987). *Borderline Neuropsychiatric Disorders*. Moscow: Medicine.
22. Volchegorskaya, E. Y.; Zhukova, M. V., Frolova, E. V., Shishkina, K. I. y Kalugina, E. V. (2019). Gender differences in bullying among primary school children. *Revista ESPACIOS*, 40(31), page 21. Retrieved from: <https://www.revistaespacios.com/a19v40n31/19403121.html>
23. Voloshin, V. M. (2004). Typology of chronic post-traumatic stress disorder. *Journal of Neurology and Psychiatry*, 104(1), 17-23.
24. Wagner, E. E. (1983). *The Hand Test, Revised ed.: Manual*. Los Angeles: Western Psychological Services.

25. Weathers, F.W. (1990). *Assessment of post-traumatic stress disorder. Paper presented at the annual meeting of the National Association of Social Workers in symposium on PTSD*, MA: Boston.
26. Weathers, F. W., Litz, B. T. & Keane, T. M. (1993). *The development of optimal test batteries for the diagnosis of PTSD. Paper presented at the Lake George Research Conference on PTSD*, NY: Bolton Landing.
27. Weiss, D. S., Marmar, C. R., Metzler, T. & Ronfeldt, H. (1995). Predicting symptomatic distress in emergency services personnel. *Journal of Consulting and Clinical Psychology*, 63, 361-368. DOI: 10.1037/0022-006x.63.3.361