

UDC 159.923.5

DOI: <https://doi.org/10.17721/2616-7786.2023/9-1/10>

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A PROGRAM CALLED "TIME TRAVELLERS" FOR STRENGTHENING RESILIENCE AND STIMULATION OF POST-TRAUMATIC GROWTH IN CHILDREN AND ADOLESCENTS TRAUMATISED BY WAR

Background. *The article is focused on the analysis of the results of approbation of the program for strengthening resilience and stimulation of post-traumatic growth in children and adolescents traumatized by war called "Time Travellers". The structure and brief description of the program, its goals and objectives, principles of construction and main content components are presented.*

Methods. *The article shows the main results of approbation of this program, obtained as a result of testing the participants with the help of the Posttraumatic Growth Questionnaire by R. Tedeschi and L. Calhoun (R. Tedeschi, L. Calhoun), adapted by M.S. Magomed-Eminov.*

Results. *The program to increase resilience and stimulate post-traumatic growth in children and adolescents traumatized by the war "Travelers in Time" is a combination of such areas as tourism and psychotherapy, integrating theoretical and practical knowledge of history, geography, cultural studies, biology, ecology.*

Conclusions. *The presented program involves the creation of a coherent contextual space for safe expressive manifestation of experiences, stabilization of the psychophysiological state, reconstruction of the system of values and beliefs, change of coping strategies, strengthening of dominant and activation of potential resource channels.*

Keywords: *post-traumatic growth, rehabilitation program, resilience, traumatic experience, war-traumatized children.*

Background

People who have experienced stressful or psychologically traumatic events need psychological support and rehabilitation. Children and adolescents are a particularly vulnerable category. This is due to the fact that the time of crisis coincides with the stage of identity formation and the formation of the hierarchy of values and basic beliefs of the individual. These beliefs have to do with perceptions of the safety of the world and one's ability to influence the events of one's own life, as a condition for optimal adaptation and socialization of the adolescent.

According to the Israeli Ministry of Integration, as of 1 January 2023, more than 10,000 new immigrant children have arrived in Israel. These are children and adolescents who have experienced stressful or traumatic events: military actions, terrorist acts, loss of loved ones, insecurity, forced change of the center of life, difficult life circumstances, various kinds of violence.

Such stressful or traumatic events can cause distorted personal development, disorganization of the attachment system, disruption of the value system, reduced need for achievement, loss of vision of life perspective and positive expectations from life. Such children and adolescents have a number of psychological signs indicating the presence of instability of the psycho-emotional state, internal conflict, negative attitudes towards themselves, others, and their own experience, diffuse personal identity, a break in the time continuum and a low level of reflexivity, contradictions in value orientations and personal meanings.

At the same time, children and adolescents, due to the immaturity of their psyche, are more susceptible to rethinking meanings and reconstructing basic beliefs, and, accordingly, are more promising for post-traumatic growth. This is possible with a supportive environment and timely psychosocial intervention. In this case, the psyche is able to adapt, cope with challenges, turning them into a potential for qualitative changes, positive interpretation, self-improvement,

transformation of personality, reassessment of values and meanings, the need to search for positive life orientations.

It is worth noting that the effectiveness of most psychosocial support programs for adolescents is significantly limited due to low motivation and the tendency of participants to avoid traditional activities. At the same time, the innovative approaches used in this program are of high relevance.

Analyzing recent studies and publications. According to research results, the phenomenon of post-traumatic growth is a fairly common phenomenon. From 30 to 90 per cent of people who have experienced traumatic stressors of various kinds demonstrate posttraumatic growth. As criteria for the presence of post-traumatic growth are most often considered an increase in the value of one's own life, the installation of new life priorities, a sense of increased self-power, strength, power, recognition of new opportunities, correction of limited interpersonal relationships, positive changes in spirituality and the like. American psychologists R. J. Tedeschi, L. G. Calhoun defined posttraumatic growth as a process of positive transformations resulting from a psychotraumatic life situation or crisis (Tedeschi, & Calhoun, 2004). According to the authors, constructive reflection, analyzing the new situation, finding new meaning, significance and reassessment of the previous ones play a key role in the emergence of new properties and qualities instead of the lost ones, as well as the development of previously irrelevant ones (Tedeschi et al., 2018). Posttraumatic growth allows trauma survivors to adapt to subsequent difficult events more successfully and with significantly less psychological costs (Taku et al., 2018a).

K. Gieling and V. Sinchun conducted a study to identify patterns of symptoms of posttraumatic stress and posttraumatic growth in children and adolescents after the earthquake on 12 January 2008 in Wenchuan (Gieling, & Xinchun, 2017). In this study, symptoms of posttraumatic stress, posttraumatic growth, vulnerability to natural

disasters and social support were assessed among 618 participants with a mean age of 12.3 years 8 months after the earthquake. Three models of personal injuries were identified. Most of the participants fell into the model of growth, and smaller parts fell into either the model of resistance to stress or the model of growth. Loss and trauma, subjective fear and social support can lead people to the patterns of post-traumatic stress symptoms and post-traumatic growth.

O. Hasson and B. Zebrak studied posttraumatic growth among adolescents and young people with oncological diseases (Husson et al., 2017). The study also identified the buffer role of posttraumatic growth in the relationship between posttraumatic stress, quality of life related to health and psychological distress. The following results were obtained: among the participants 14 % showed an increase in posttraumatic growth, 45 % remained at a stably high level, 14 % showed a decrease and 27 % remained at a stably low level of posttraumatic growth. Most of the participants who had a high level of posttraumatic growth were adolescent girls who had received chemotherapy. The study showed that post-traumatic growth is a dynamic process that predicts the results of psychological well-being, but does not remember the effects of post-traumatic stress disorder. Psychosocial interventions should focus on promoting post-traumatic growth and reducing post-traumatic stress disorder in order to favor the categorization of young children with important diagnoses.

In another study of post-traumatic growth and resilience in childhood cancer patients, it was found that patients describe post-traumatic growth in terms of perceived benefits, including a change in outlook on life and a sense of strength and confidence. They describe resilience as a balance of several factors, including stress and coping, goals, optimism, sensemaking, communication and attachment (Greup et al., 2018). Both post-traumatic growth and resilience were positively related to life satisfaction and quality of life related to health. It was found that resilience is a mediator in the relationship between distress symptoms and quality of life.

The model of life expectancy for children was proposed by J. Haase and her colleagues. This model is based on the principle of triangulation of factors, the reference points of this model are:

- individual protective factors (male support of difficulties, hope and spirituality),
- family protective factors (family atmosphere, family support, resources)
- social protective factors (health resources and social integration). This model was created on the basis of research on groups of children with chronic diseases, particularly cancer (Haase, 2004).

Japanese undergraduate students, who reported their loss of loved ones as the most traumatic experience in the last 5 years, completed the Posttraumatic Growth Inventory and the Event Impact Scale. The results showed that the expected curvilinear links were observed in the area of relations with other people and in the combined area of spiritual changes and assessment of life, while linear links were found in the areas of personal strength and new opportunities (Tan, 2013).

K. Taku and L. McDiarmid in his research revealed individual differences among children in the relative individual importance of post-traumatic growth and the link between individually important factors of post-traumatic

growth, generally accepted factors of posttraumatic growth and self-assessment (Taku et al., 2018b).

Purpose of the article. To present to the psychological community a program called "Time Travelers" strengthening resilience and stimulation of posttraumatic growth in children and adolescents who have experienced stressful or psychotraumatic events

Methods

The article shows the main results of approbation of this program, obtained as a result of testing the participants with the help of the Posttraumatic Growth Questionnaire by R. Tedeschi and L. Calhoun, adapted by M. S. Magomed-Eminov.

Results

The program of increasing resilience and stimulation of post-traumatic growth in children and adolescents traumatized by war "Travellers in Time" is a combination of such directions as tourism and psychotherapy, integrating theoretical and practical knowledge of history, geography, cultural studies, biology, ecology. It is not just psychotherapy in nature, it is the creation of a holistic contextual space for safe expressive response to experiences, stabilization of the psychophysiological state, reconstruction of the system of values and beliefs, change of coping strategies, strengthening of dominant and activation of "sleeping" resource channels.

The Time Travellers program focuses on two main goals: post-traumatic growth and resilience building, it is based on three main models: BASICPh, fantasy reality, adventure therapy. It also contains a system of additional playful, creative, cognitive, body-oriented psychotherapeutic practices.

BASIC Ph. is a model of overcoming stress through resource channels: B (belief) – faith, beliefs; A (affect) – emotion, feelings; S (social) – social environment; I (imagination) – imagination, creativity; C (cognition) – logic, thinking; PH (physiology) – body, physical activity. All activities in the proposed program are based on the BASIC Ph model and activate each of the resource channels of the model in a balanced way.

Fantastic reality is the link between the infinite capacity of the creative imagination to create a picture of the world, desired or needed, and the actions that are carried out to solve the problems of reality in the therapy space. It is a space where anything is possible and anything is feasible.

Adventure therapy addresses psychological dysfunctions in emotional, behavioral and life skills by solving challenges, overcoming difficulties and being in a natural environment. Adventure therapy includes four main elements: nature, physical activity, coping and meaningful conversations. Adventure therapy should contain real or imagined psychological and/or physical risks that involve stepping out of the comfort zone and overcoming challenges. Challenge can be seen as an important factor in achieving desired behavioral changes. Positive behavioral change can occur through multiple processes. For example, through the use of indirect experience, verbal persuasion, and 'isomorphic transformation' – extending the experience gained in therapy to other areas of life. Instructor therapist – helps participants connect physical experience with reflection on therapeutic goals. It promotes awareness and changes in patterns of thinking and behavior, develops self-control, strengthens reliance on coping strategies to overcome life difficulties, develops problem-solving abilities, and reduces the level of subjective perception of stress.

The program consists of separate modules (meetings), each of which is not rigidly linked to the previous and subsequent one. The recommended number of modules is 8 or more.

Each module of the program consists of a fixed and a variable part. The permanent part of the program or "rituals" are activities that are repeated from meeting to meeting, helping to create continuity. Routines that reduce anxiety and restore feelings of safety.

The variable part of the program allows taking into account the theme, time of the year or season, calendar and religious significant dates, age and individual characteristics of children, requests of participants. The variable part includes quest games, trainings (psychological, communication, resource), sports and creative games (Sazonova, 2023).

The program was tested for two months (July–August 2023). Target audience – 23 summer camp students (11 girls, 12 boys) from the city of Rishon LeZion aged 14–18. Participants – new repatriates who have experienced stressful or psychotraumatic events: military actions, terrorist acts, loss of loved ones, insecurity, forced change of the center of life, difficult life circumstances, various kinds of violence. The program was implemented in Israel's national nature parks. To measure the level of post-traumatic growth we used the Post-Traumatic Growth Questionnaire by R. Tedeschi and L. Calhoun, adapted by M.S. Magomed-Eminovim. The diagnostic tool allows assessing the level of changes that occurred in the participant's life as a result of stress or trauma and includes five scales: attitude to others, new opportunities, personal strength, spiritual changes, and increasing the value of life.

- "Attitude towards others". The person began to rely more on other people in a difficult moment, to feel more intimacy with others, to express his emotions more readily. He or she has more compassion for people, spends more effort on building relationships with people, recognizes more

often that he or she needs other people, and values them more highly.

- "New Opportunities". The person has new interests, has set their life on a new path, has confidence that they can make their life better; they have opportunities that were not available before. He or she is more likely to try to change things that need changing.

- "Strength of Personality". The person began to feel more self-confidence, to realize better that he could cope with difficulties. He is more able to accept things as they are, has found that he is stronger than he thought he was.

- "Spiritual changes". Man became more aware of spiritual problems, became more religious.

- "Increasing the value of life". The person's life priorities have changed, he/she has become much more aware of the value of his/her own life, now he/she values every day of his/her life more.

The results of measurements before the implementation of the program are presented clearly (Table 1, Fig. 1).

Analyses of the percentage ratio of the representation of different levels indicate that only about 22 % of the whole electoral aggregate is characterized by a high level of post-traumatic growth. In about 34 % of respondents the "average level" of post-traumatic growth was found, and in about 45 % of participants the low level of post-traumatic growth was recorded. All trends in the distribution of posttraumatic growth levels in both groups are similar, which is statistically confirmed.

After the program, the post-traumatic growth rate showed significant changes. The results of measuring the level of posttraumatic growth are presented clearly (Table 2, Fig. 2).

Table 1

Levels of post-traumatic growth according to the methodology "Post-traumatic growth inventory"

Level of PTG manifestation	Experimental group (%)	Control group (%)	Criterion Fischer, ϕ $1.62 \leq \phi \leq 2.21$	Statistical level of significance, p
High	22,02	19,89	1,89	p > 0,1
Medium	32,23	34,09	1,86	p > 0,1
Low	43,77	45,20	0,63	p > 0,1

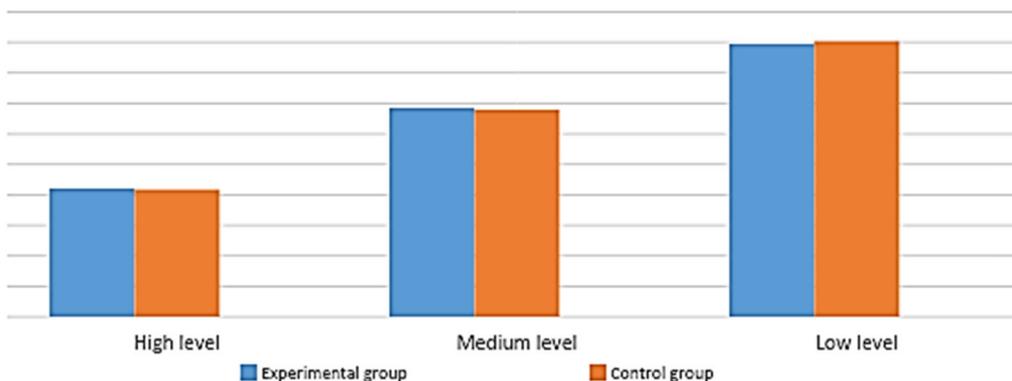


Fig. 1. Levels of post-traumatic growth of teenagers

Table 2

Levels of post-traumatic growth according to the methodology "Post-traumatic growth inventory" after implementation of the Program in the experimental group

Level of PTG manifestation	Experimental group prior to implementation of the Program (%)	Experimental group after implementation of the Program (%)	Criterion Fischer, ϕ $1.62 \leq \phi \leq 2.21$	Statistical level significance, p
High	22,02	26,09	1,56	p > 0,1
Medium	32,23	64,65	3,49	p < 0,01
Low	43,77	10,86	3,65	p < 0,01

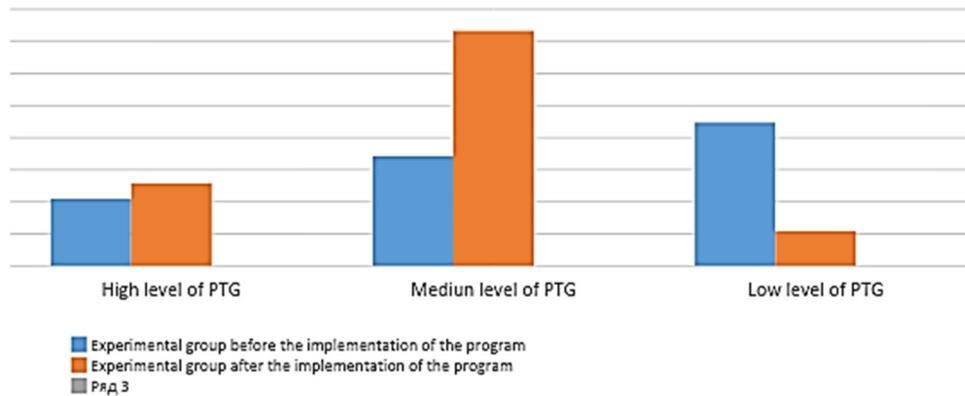


Fig. 2. Dynamics of posttraumatic growth according to the methodology "Posttraumatic growth inventory" after the Program implementation

As can be seen from Fig. 2, after the implementation of the Program, the children of the experimental group in the vast majority of cases showed essentially positive psychological changes in their personality, which occurred after traumatic events associated with military actions. This is fully consistent with the provisions of the functional-descriptive model of post-traumatic growth R. Tedeschi and L. Calhoun, which was developed by R. Tedeschi and L. Calhoun, who views a traumatic event as a "seismic" contraction in the initial life pattern, and

posttraumatic growth as a possible consequence of a cognitive attempt to reevaluate pre-traumatic reconceptions of the individual about himself and the world (Tedeschi, Calhoun, 1996). The stronger is the challenge to the basic ideas and beliefs of a person, the greater is the likelihood of post-traumatic growth.

The results of measuring the level of posttraumatic growth indicators on individual scales are presented clearly (Table 3, Fig. 3).

Table 3

Levels of post-traumatic growth indicators using the "Post-Traumatic Growth Questionnaire" method after the implementation of the Program in the experimental group (on individual scales)

Indicator of PTG Manifestation	Experimental Group before Program Implementation	Experimental group after program implementation	Fisher's, φ $1.62 \leq \varphi \leq 2.21$	Level of statistical significance, p
Attitude towards others	9	19	3,12	$p < 0,01$
Enhancement of the value of life	5	8	1,57	$p = 0,07$
New opportunities	11	15	1,63	$p < 0,05$
Personal strength	9	12	1,57	$p = 0,7$
Spiritual changes	2	3	1,22	$p > 0,1$

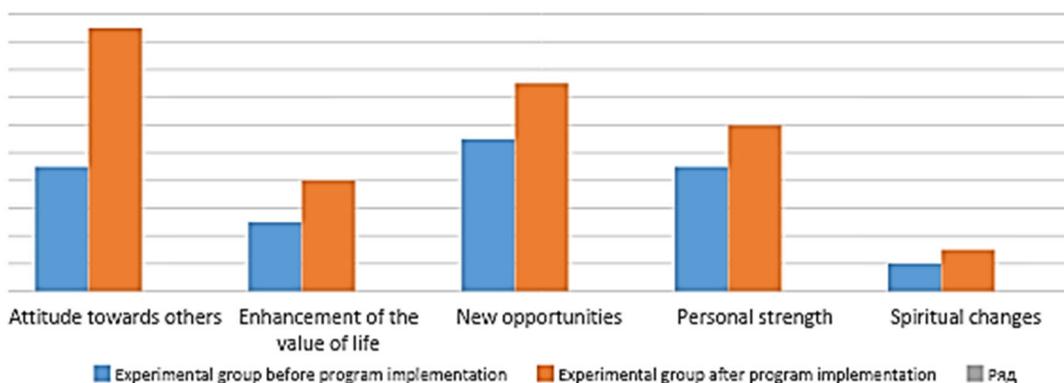


Fig. 3. Dynamics of posttraumatic growth indicators for the methodology "Posttraumatic Growth questionnaire" (for separate scales) after the implementation of the Program

The indicator of posttraumatic growth on the scale "Attitude to others" before participation in the program was 9 points, which corresponds to the "low level". After participation in the program, the indicator increased to 19 points, which corresponds to the "medium level". These changes were statistically significant.

The post-traumatic growth indicator on the scale "Increasing the value of life" before participation in the program participants demonstrated at the "average level" of 5 points. After participation in the program, the index

increased to 8 points, but remained at the "average level", which was confirmed statistically.

Also, on the "average level" before and after participation in the program was the indicator of post-traumatic growth on the scale "New opportunities", it changed from 11 to 15 points. These changes are statistically confirmed.

The values of the indicator on the scale "Personality Strength" increased from 9 points before the program to 12 points after the program, but were stable at the "average level".

The posttraumatic growth score on the Spiritual Change scale remained in the "low level" range, although its value increased from 2 points before the program to 3 points after the program. However, these changes were not statistically significant.

Thus, it can be stated that the strongest rehabilitation influence of the proposed program was in the sphere of relations with other people "attitude towards others" ($p < 0,01$) and the sphere of opportunities ($p < 0,05$) was also quite successful. The least significant impact on the spiritual sphere of the participants was achieved, but this can be explained by the fact that this sphere is only beginning to be actively formed in adolescence and its dynamics cannot be seen in a short period of time.

The mean values of the questionnaire scales of the program participants also changed significantly. The average value of the post-traumatic growth index before participation in the program was 31 points, which corresponds to the "low value". After participation in the program, the average value increased to 58 points, which corresponds to the "medium value".

The mean values on the scale "Attitude towards others" before participation in the program participants demonstrated at the level of 9 points, which corresponds to "low value". After participation in the program, the index increased to 19 points, which corresponds to the "average value".

The average value on the scale "Increasing the value of life" before participation in the program participants demonstrated at the level of 5 points, which corresponds to "low value". After participation in the program, the index increased to 8 points, which corresponds to the "average value".

The mean scores on the New Opportunities scale also increased from 11 points before the program to 15 points after the program. The mean scores on the Personal Strength scale increased from 9 points before the program to 12 points after the program. The mean scores on the Spiritual Change scale increased from 2 points before the program to 3 points after the program. At the same time, this indicator remained in the low-level range.

The process of post-traumatic growth is favored by confining children to a special organized rehabilitative environment, which combines psychological influences through a safe social and psychological space, environmental communication, creativity, various types of cognitive and developmental activities, psychological assistance. This process is developed in the conditions of gradual inclusion of psychological processes of renewal, strengthening, transformation of children's personality, with the use of a certain arsenal of diagnostic procedures, cognitive actions, relaxation methods, psychotherapeutic techniques and so on. This allowed to have a significant impact on the psychological state of children who suffered as a result of military actions through optimization of reflexion processes, personal identification, Formation of value orientations, transformation of personal attitudes, relations with others, attitude to the past experience and to their own life prospects.

Discussion and conclusions

The program of increasing resilience and stimulation of post-traumatic growth in children and adolescents traumatized by war "Travellers in Time", as a specially organized activity for the psychological renewal of personality, forms the ability of the subject to purposefully directed activity in order to regulate individual and specific characteristics, behavior and personal development, and also contributes to the formation of integral methods of learning psychological information necessary for solving actual life tasks related to personal development.

Thus, the results of the formative experiment confirmed the validity of the implementation of the program of increasing resilience and stimulation of post-traumatic growth in children and adolescents "Travellers in Time" and brought the effectiveness of the use of the corresponding program in the practice.

Research perspectives. The perspectives of this research could be in measuring the prolonged effects of the proposed program, for example, in the period of 6 months after its completion. Also the perspectives could lie in the developing and implementing of a similar program for Ukrainian children who are traumatized by the war.

Contribution of the authors: Iryna Sazonova – collection of empirical data and their validation, organization and conduct of empirical research, analysis of sources, preparation of a literature review; Olena Chuiko – conceptualization, research methodology, analysis of literary sources.

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Отримано редакцією журналу / Received: 26.10.23

Прорецензовано / Revised: 16.11.23

Схвалено до друку / Accepted: 25.11.23

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**ПРОГРАМА "МАНДРІВНИКИ В ЧАСІ"
ДЛЯ ЗМІЦНЕННЯ СТІЙКОСТІ ТА СТИМУЛЯЦІЇ
ПОСТТРАВМАТИЧНОГО ЗРОСТАННЯ ДІТЕЙ ТА ПІДЛІТКІВ,
ТРАВМОВАНИХ ВІЙНОЮ**

Вступ. Присвячено аналізу результатів апробації програми підвищення резильєнтності та стимуляції посттравматичного зростання у дітей та підлітків, травмованих війною, – "Мандрівники у часі". Представлено структуру та короткий опис програми, її цілі та завдання, принципи побудови та основні змістовні компоненти.

Методи. Показано основні результати апробації цієї програми, отримані в результаті тестування учасників за допомогою "Опитувальника посттравматичного зростання Р. Тедескі та Л. Калхоуна", адаптований М. Ш. Магомед-Еміновим. Діагностичний інструмент дозволив оцінити рівень змін, що відбулися в житті учасника внаслідок стресу або травми і має п'ять шкал: ставлення до інших, нові можливості, сила особистості, духовні зміни, підвищення цінності життя.

Результати. Програма підвищення резильєнтності та стимуляції посттравматичного зростання у дітей та підлітків, травмованих війною – "Мандрівники в часі" є поєднанням таких напрямів, як туризм та психотерапія, інтегруючи в себе теоретичні та практичні знання з історії, географії, культурології, біології, екології.

Висновки. Представлена програма передбачає створення цілісного контекстного простору для безпечного експресивного прояву переживань, стабілізації психофізіологічного стану, реконструкції системи цінностей та переконань, зміну копінг-стратегій, зміцнення домінуючих та активізацію потенційних ресурсних каналів. Програма "Мандрівники в часі" спрямована на дві основні цілі: посттравматичне зростання та підвищення резильєнтності, вона базується на трьох основних моделях: BASICPh, фантастична реальність, пригодницька терапія. А також містить систему додаткових ігрових, творчих, когнітивних, тілесно-орієнтованих психотерапевтичних практик. Після впровадження Програми діти експериментальної групи в переважній більшості зазначили у своїй особистості суттєві позитивні психологічні зміни, які відбулися після травматичних подій.

Ключові слова: посттравматичне зростання, реабілітаційна програма, резильєнтність, травматичний досвід, травмовані війною діти.

Автори заявляють про відсутність конфлікту інтересів. Спонсори не брали участі в розробленні дослідження; у зборі, аналізі чи інтерпретації даних; у написанні рукопису; в рішенні про публікацію результатів.

The authors declare no conflicts of interest. The funders had no role in the design of the study; in the collection, analyses or interpretation of data; in the writing of the manuscript; in the decision to publish the results.