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ORIGINAL ARTICLE

CONTENTS

Practices of trauma-informed learning and their influence on the level of situational and personal anxiety of students who are studying face-to-face during hostilities

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ABSTRACT

Aim: To reveal the essence of trauma-informed learning in the context of the functioning of a person's inner world and the impact on changing the levels of situational and personal anxiety.

Materials and Methods: The study involved 900 people who are pursuing higher education during the military operations on the territory of Ukraine. Two parts of the Spielberger State-Trait Anxiety Inventory (STAI) questionnaire were used to determine low, medium, and high levels of situational and personal anxiety.

Results: Two groups of education seekers are studying face-to-face during hostilities. The first group includes students with a high level of creativity development who quickly adjust to the learning process after the "Alarm Termination" signal and show interest in communicating with the lecturer and classmates. The second group includes students with a low level of creativity, who, after the "Alarm Termination" signal, seek solitude, withdraw from studies, are depressed for a long time, and are quickly distracted by extraneous sounds.

Conclusions: The repetitiveness of the process of experiencing situational anxiety without external supporting influence causes the formation of personal anxiety as a stable personal tendency in students. The use of preventive practices of trauma-informed learning (practices of focusing attention on breathing with a creative supplement, practices of supportive communication, practices of avoiding retraumatization, practices of "Creative pauses") helps to reduce the levels of situational and personal anxiety among students in face-to-face training during military operations.

KEY WORDS: the inner world of a person, restructuring, anxiety, synergistic approach, preventive educational practices

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INTRODUCTION

In this study, we use the terms anxiety (propensity of education seekers to experience anxiety) and worry (an emotional state that arises in situations of uncertain danger, manifested in anticipation of unfavorable development of events during Russia's military actions on the territory of Ukraine). Also, during the research, we consider the distinction in scientific sources [1-4] of two types of anxiety: 1) situational anxiety is the state of the subject at the moment, which is related to a specific external situation; 2) personal anxiety is a state of increased tendency to feel anxious about both real and imagined danger.

Experiencing situational anxiety can cause different states in different subjects. In particular, these are [3, 5, 6]: the state of perceiving anxiety as a warning about probable danger, a state that triggers the process of purposeful search for this danger, the state of active research of the surrounding environment for the specification of risk and its avoidance. It is important to emphasize that a feeling of helplessness, self-doubt, powerlessness in the face of the threatening nature of external factors, general disorganization of activities, and violation of the direction of actions and productivity can accompany the state of experiencing anxiety. Experiencing anxiety can take on external manifestations. It can be [7]: verbal aggression (expression of negativity through the form (raised tone of voice) or content of statements; indirect aggression (generation of gossip, jokes); negativism (demonstrating an oppositional form of behavior); irritation (readiness at the slightest excitement to demonstrate hot temper, harshness, rudeness); resentment (manifestation of envy and hatred towards others).

If the experience of one or another state of situational anxiety is constantly repeated, then with a high prob-

ability, personal anxiety is formed as a stable property of the student of education, that is, a state of increased tendency to feel anxiety about both real and imagined danger develops.

The Ukrainian scientists [1] not only established the connection between personal anxiety and alexithymia but also emphasized that the accumulation of resentment and anger in combination with indirect verbal aggression and a low level of aggressiveness lead to negative experiences and are the impetus for the development of psychosomatic disorders.

In this study, we assume that learning is mental work. Various factors determine the level of its tension. Among the significant factors we include: the content of the educational material; didactic tools used by the lecturer; the presence of education seekers with internal motives for effective mental work; external conditions. Focusing attention on external conditions (for the third year in a row, Russian military operations continue on the territory of Ukraine), we consider the introduction of face-to-face training in the context of two aspects:

The first aspect is a response to the need of education seekers to learn in direct interaction with the teacher and other students (as scientists prove [8]), because mental overload occurs during e-learning. According to the generalizations of scholars [8], mental overload during e-learning occurs when: 1) students on the following skills are formed at a low level: the ability to work with high-tech equipment, such as a computer and the Internet [9]; the ability to work with IC technologies [10]; the ability to manage one's study time without outside help and manage one's own learning rhythms [11]; the ability to separate primary and auxiliary information [12]; 2) it is difficult for students to study in a self-disciplined way [13]; 3) students lack motivation for instrumental use [7]; 4) students perceive the educational system as complex and confusing [14]; 5) the lecturer does not add methodological support to facilitate students' independent work [15].

The second aspect is considering face-to-face training during military operations as intense mental work since training is organized in situations of uncertain danger (shelling, destruction, etc.). During long-term stress, systemic morphofunctional disorders develop in the body, which underlie the mechanism of development of chronic fatigue [16]. In the case of the organization of face-to-face training without taking into account situations of uncertain danger, a high level of probable increase in psycho-emotional stress arises, which, in turn, contributes to the development of chronic fatigue, leads to uneven rates of growth in the severity of symptoms and causes the appearance of reverse processes (intensification of physiological processes, emergence of pre-pathological processes), and irreversible (formation of pathological processes).

AIM

To reveal the essence of trauma-informed learning in the context of the functioning of a person's inner world and the impact on changing the levels of situational and personal anxiety; to summarize the data on the practices of trauma-informed learning, which, according to the results of the study, effectively affect the reduction of the level of situational and personal anxiety of the students of education who are studying face-to-face during military operations.

MATERIALS AND METHODS

A total of 900 participants were included in the study. These are students pursuing higher education at Borys Grinchenko Kyiv Metropolitan University (in particular, future primary school teachers, English language teachers, and future managers of the quality system of primary education) and students of higher education and at the Bogomolets National Medical University (in particular, these are future public health specialists). The study participants studied face-to-face during hostilities; that is, they were negatively affected by war's stressful and destructive factors.

To determine the levels of situational and personal anxiety, two parts of the Spielberger Anxiety Scale questionnaire (State-Trait Anxiety Inventory, STAI) [17] were used. Questionnaire questions contributed to the assessment of situational anxiety (how students of education felt at the moment of full-time study) and personal anxiety (how students of education usually feel). The levels of situational and personal anxiety were determined as a result of the analysis of the answers of the students to the questions of the questionnaire with an emphasis on the degree of intensity (regarding personal anxiety) and with a focus on the frequency of repetition of the feeling of anxiety (regarding situational anxiety). Determining the levels of situational and personal anxiety was carried out using the following scale: low level of anxiety – up to 30 points; average level of anxiety – 31–45 points; high level of anxiety – more than 45 points.

In this study, the authors adhered to the Ethical Principles for Medical Research Involving Human Subjects outlined in the World Medical Association's Declaration of Helsinki (VMA, 1964 p.) and current Ukrainian regulations. The local ethics committee approved the study protocol.

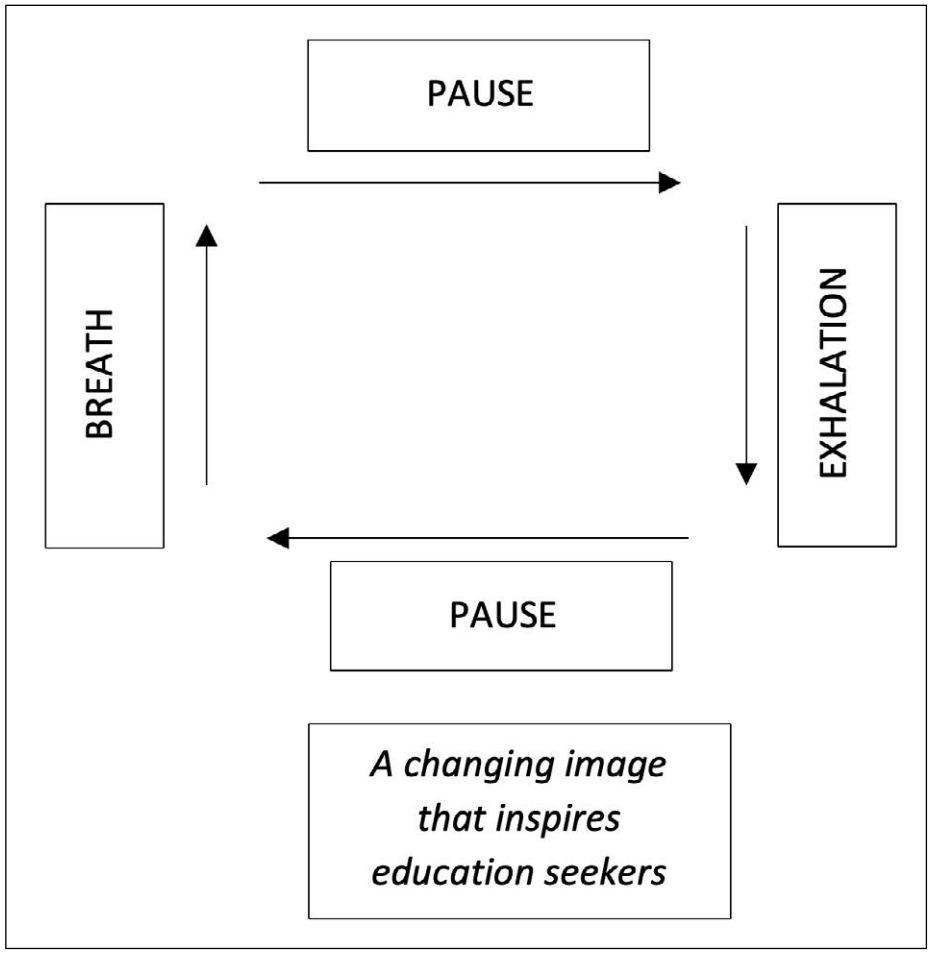

Fig. 1. Self-controlled breathing according to the square.

RESULTS

One of the components of the theoretical basis for the implementation of trauma-informed education of students is a synergistic approach to understanding the nature of the psyche and the functioning of structures in the inner world of a person. We can talk about the stable state of the structures of the inner world of a person only in two cases:

1. Presence of correspondence between the structures of the inner world and external conditions (In the absence of this correspondence, a person feels psychological discomfort. The appearance of this feeling proves that the existing structure no longer corresponds to the new conditions).
2. The presence of correspondence between the structures of the inner world and the person's self (In the absence of this correspondence, the basis for psychotrauma is created).

The organization of education in situations of uncertain danger (shelling, destruction, etc.) disrupts the stable state of the structures of the inner world of education seekers and starts the process of restructuring. The course of the process of restructuring the inner world of education seekers without various complications for their health is facilitated by training, which provides:

1. Considering that the influence of mental states manifests at the cellular level of the organism [18].
2. Increasing the level of resilience of students for full functioning during martial law [3].
3. Organization of training based on health-preserving didactics [20, 21].
4. Taking into account the dynamics of productivity, which is manifested in the sequential change of five stages:

1) the stage of entry into work;
2) the stage of relative working capacity;
3) the stage of inefficiency as a norm of efficiency;
4) the stage of gradual decline in working capacity;
5) final pulse stage.

These stages take place in the educational process of different durations, in particular during one educational session (lecture, seminar, etc.), as well as during one academic day, one semester, one academic year, or period of study at a higher educational institution [22].

5. Organization of higher education based on trauma-informed learning.

Based on the analysis of data from the questionnaires of lecturers and students of education, it was established that when organizing face-to-face training during military operations, various practices of

Table 1. Correspondence between the phrases of judgmental and supportive communication, which cause a specific effect on situational and personal anxiety, and the choice of words by students of education (%)

Phrases of supportive communication	Positive influence on education seekers, %	Phrases of reprehensible communication	Negative impact on education seekers, %
I see you have trouble concentrating, suggests a breathing exercise	95% cases	As always, you can't concentrate	99% cases
I see that it is difficult for you. How can I help you?	92% cases	Why is this such a difficult task for you?	97% cases
Did I notice something bothering you? Do you want to talk about it?	90% cases	What is happening to you lately? What happened to you?	95% cases
Let's agree on the rules of communication that will be comfortable for both of us.	87% cases	You must respect me as a teacher	94% cases

trauma-informed training contribute to reducing the levels of both situational and personal anxiety. During the research, the most effective preventive practices were classified as:

1. PRACTICES OF FOCUSING ATTENTION ON BREATHING WITH A CREATIVE ADDITION

Fig. 1. shows the practice of self-controlled breathing by the square. Students supplement this practice in this way: in the middle of the square, they add an image (photo) that inspires them in this particular situation on this specific day. According to the results of the study, students most often used photos depicting the sea (92% of cases), mountains (67% of cases), flowers (49% of cases), and funny cases with animals (32% of cases).

In the questionnaires, the students noted that the implementation of this practice contributed to switching their attention from external events, information, and sounds to breathing (in 96% of cases), emergence of a state of concentration (in 68% of cases); emergence of a sense of community (in 56% of cases); ease in thoughts (in 44% of cases); commonality with others (in 32% of cases), the emergence of a feeling of security (in 30% of cases).

2. PRACTICES OF SUPPORTIVE COMMUNICATION

In the first column of Table 1, there is a list of phrases that contribute to the reduction of indicators of situational and personal anxiety among students. Also indicated is the percentage of those students who felt a release from the state of anxiety by focusing their attention on the content of the lecturer's phrase. The second column of Table 1 lists the words of judgmental communication. According to the results of the study, the use of these phrases caused a significant increase in the indicators of situational and personal anxiety of students who are studying face-to-face during hostilities.

Table 1 shows the results obtained at the end of the study. It should be emphasized that students, in 68% of cases, ignored them at the beginning of the use of supportive communication phrases. Instead, phrases of judgmental communication had an equally adverse effect on them both at the start of the study and at the end of its conduct. According to the questionnaire data, the students of education reacted more actively to the tone with which a supportive or condemning phrase was said.

3. PRACTICES TO AVOID RETRAUMATIZATION

Trauma-informed education provides for the exclusion from the educational process of situations that directly or indirectly remind students of the trauma, that is, cause retraumatization. In the context of the impact of stressful and destructive factors of war on the inner world of education seekers, situations that cause retraumatization were determined. Based on the processing of the questionnaires, the following generalizations were made: retraumatization can be caused by the following situations:

- specific sounds (in 100% of cases);
- isolation (in 88% of cases);
- decrease or absence of lighting (in 88% of cases);
- public criticism (in 88% of cases);
- downplaying or denying the lived experience (in 80% of cases).

4. "CREATIVE PAUSES" PRACTICES

Also, practices were added to the educational process to develop student creativity. During the conduct of this study, we found that during the announcement of the "Air Alarm" signal and after the announcement of its end, students with different levels of creativity behaved differently, namely:

- students with a high level of creative development in the conditions indicated above quickly adjusted to the

learning process and communicated interestedly with the lecturer and fellow students;
- under the same conditions, students with a low level of creativity development did not show quick adaptation to new learning circumstances; they were depressed for a longer time, quickly distracted by extraneous sounds, and their detachment from learning and loneliness were observed. A short-term outburst of anger was also recorded when responding to the words of classmates or the lecturer. This testified that this category of education seekers needed external help, as experiencing a traumatic experience caused an inadequate perception of the environment and events, which, in turn, significantly increased the indicators of situational (in 47% of cases) and personal (in 16% of cases) anxiety.

To conduct the "Creative Pause" practices, students were offered to choose one of three methods of performing the practice. The method provided for the continuation of the creative idea proposed by the lecturer. During the implementation of the II method, the education students proposed their creative ideas—the third method provided for competition among students for the originality of creative ideas or formulas for creativity.

Next, we give examples of "Creative pauses" practices:

1. Based on creative ideas (1. How to bring a pencil to life. 2. How to combine a textbook and a clock. 3. How to teach a notebook to speak. 4. How to combine a ruler and an alphabet etc.).
2. Based on the application of the creativity formula.

Creativity formula: *Subject + Subject = New subject.*

Option to implement the formula of creativity: *Jacket + backpack = backpack with a hood.*

Options for continuing the implementation of the creativity formula:

Typewriter + TV = ? Book + TV = ? Blackboard + TV = ? Pencil + gouache = ?

DISCUSSION

In the context of a synergistic approach, scientists single out endlessly migrating structures in the ordered, structured, hierarchical space of the psyche. The organization of trauma-informed training contributes to the reduction of the negative impact of situations of uncertain danger on the health of students. The theoretical basis for implementing this training is the work of scientists [5, 6, 17] about the inner world of a person. In this study, we proceed from the fact that the essence of the concept "inner world of a person" is specified by two contexts, namely:

1) the semantics of the concept "world" – in this context, the inner world of a person is characterized as complex, non-linear, structured, capable of productivity, development and self-development;

2) the semantics of the concept of "personality" – according to this context, a person's inner world is characterized as self-directed.

To detail such a characteristic of a person's inner world as self-control, we refer to the scientific works of M. Papycha [17, 18]. The scientist emphasized that a person acts as a subject of his inner world, which he constantly structures and restructures. A person realizes specific behavior through his inner world and performs managerial and regulatory actions. However, these actions do not always occur with the same efficiency and intensity. In the period of age and life crises, psychotraumas, and stressful and destructive factors of war, these processes generally stop because what is not covered by structuring is perceived as alien to the inner world of a person and something that confuses and traumatizes them.

These structures represent processes that are localized in a specific time and space. Moving, the structures form temporary structural connections among themselves and with various components of the psyche. Different thoughts, emotions, feelings, goals, and ideas arise during the movement of structures, and human behavior is formed. Structures appear either slowly and gradually or instantaneously. They move in the inner world of a person, and during this movement, they change it and then disappear, leaving behind experience. Memory stores this experience and can reproduce any structure at any time.

According to scientists [4, 5, 6, 20], the processes of ordering, development, complication, and restructuring of structures in the inner world of a person can be triggered by various factors (experiencing various events (vital, extreme, etc.); experiencing one's own mental states, emotions, impressions; staging and achievement of one's own goals and motives; ontogenetic development; interaction with the environment; internal processes in the "personality" system).

CONCLUSIONS

The results of the conducted research provide grounds for forming the following conclusions:

1. Research results indicate that situational anxiety is observed in students who study during military operations both face-to-face and remotely.
2. The repetitiveness of the process of experiencing situational anxiety without external supporting influence causes the formation of personal anxiety as a stable personal tendency in students of education.
3. As a result of the conducted research, it was established that students with different levels of creative development react differently to the notification

of the "Air alarm" signal and the termination of this signal. Students with a high level of creativity develop quickly after the "Alarm Termination" signal, promptly tune in to the learning process, and show interest in communicating with the lecturer and fellow students. On the other hand, students with a low level of creativity seek solitude, withdraw from studies, are depressed for a long time, and are quickly distracted by extraneous sounds.

4. The use of preventive practices of trauma-informed training during training contributes to the reduction of the levels of situational and personal anxiety among students in face-to-face training during military operations.
5. As a result of the conducted research, the effectiveness of such preventive practices of trauma-informed learning was proven, such as focusing attention on breathing with a creative addition, supportive communication practices, retraumatization avoidance practices, and "Creative pauses" practices.

PROSPECTS FOR FURTHER RESEARCH

We plan to direct further research to establish the relationship between the reduction of personal anxiety indicators and the purposeful interaction of students of education with each other and with the lecturer in the conditions of face-to-face training during military operations.

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CONFLICT OF INTEREST

The Authors declare no conflict of interest

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