Visualization as a method of overcoming anxiety and nervous tension, reducing symptoms of depression and stress in difficult life situation

Elena Makarova [1*], *Elena* Degtyareva[2], and *Oksana* Kholina[3]

[1]Don State Technical University, 344002 Rostov-on-Don, Russia
[2] Don State Technical University, 344002 Rostov-on-Don, Russia
[3]Taganrog Institute named after Chekhov A.P. (RSEU), Taganrog 347900, Russia

Abstract. The problem of overcoming anxiety and nervous tension has turned out to be one of the most pressing in the modern world, which has found itself in an unprecedented situation of uncertainty and instability. Like many other significant negative processes on a global scale, it provoked an increase in people's anxiety levels. A person's uncertainty about tomorrow, without the opportunity to live a normal way of life, has created the preconditions for the occurrence of excessive emotional reactions to ongoing events, a decrease in performance and the perception of the surrounding world or many objects within it as potentially dangerous or stressful. The study showed that adaptive coping strategies are interconnected with the processes of self-knowledge, revaluation of values and positive self-attitude, visualization bei8ng one of them.These coping strategies include the use of visualization techniques in situations that are accompanied by anxiety, nervous tension, stress and depression. The relevance of this study lies in the fact that in the era of instability and uncertainty, people experience stress much more often. This technique can not only help cheer up, but also help improve well-being. Anxiety causes fear; sudden mood swings; tearfulness; irritability; persistently low mood, gloomy forebodings.

1 Introduction

Today, an unprecedented life situation has arisen in the world that falls into the category of difficult: first, a person's prolonged stay in a confined space during Covid-19, then turmoil and technological disasters, geopolitical instability and information uncertainty, without the ability to move freely along usual routes, engage in hobbies, cross borders to communicate with loved ones and friends and even plan for tomorrow. Even if a person has and maintain a job, the very fact of the inability to independently influence the state of affairs makes it possible to equate long-term self-isolation with difficult life situations. In psychology, there are different interpretations of the concept "situation". For example, E. Korzhova [1] defines life situations as situations of personal life, namely, life circumstances that are closest or most significant to a person. She believes that we do not exist on our own, but in

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* Corresponding author: makarova.h@gmail.com

inextricable connection with the life situation in which we find ourselves at a particular moment. K. Evnina [2] defines a situation as initially a certain set of environmental phenomena, united by the subject into a single whole from the disparate background of occurring phenomena. A difficult life situation arises when the usual routine of life is disrupted, and a person is deprived of the opportunity to solve everyday problems using familiar methods and patterns of behavior.

We consider strategies for coping with stress and the negative experiences that generate it, defining coping strategies as a person's conscious desire to improve their well-being by coping with the demands of the situation; in this case, the situation can be not only traumatic for a person, but also aimed at achieving success. There are factors influencing a person's choice of coping strategy in a difficult life situation, researchers identify personal determinants of coping behavior. In this situation, the choice of coping strategy is associated with a person's individual peculiarities, accumulated experience of independent behavior management, decision-making tactics, as well as with individual psychological personality trait [3].

Anxiety has become a symptom of modern life. People worry for various reasons: teenagers on the eve of exams, adults experience increased anxiety in a situation of information deficiency and everyday instability and uncertainty of life. Anxiety is a personality trait that manifests itself in a feeling of excitement, worry, anxiety that arises for minor reasons; for many it has become the norm of life and usually gives rise to fear. Research on anxiety can be found in various fields of knowledge: psychology, psychiatry, victimology and others. Consequently, the definitions of anxiety differ depending on the sphere of research. Occasional anxiety is a normal part of life, but if it happens often we are talking about anxiety disorders, a feeling of fear, dread, and uneasiness in the absence of imminent threat, causing depression and social phobias. [4]

At the same time, anxiety acts as a necessary stimulating factor for individual activity, a condition for achieving high results, taking into account the predicted difficulties in achieving results. In a situation of limited mobility and changes in the usual way of life, aggravated by the inability to predict tomorrow, it becomes relevant to study the mechanisms of coping with life's difficulties and the constantly changing cognitive and behavioral efforts of the individual.

Along with symptoms of anxiety, coping strategies are studied – "cognitive, emotional and behavioral actions aimed at coping with the psychologically stressful conditions of modern life, with emotional disturbances" [5]. We will look at the following emotional disorders: negative emotions and states (fear, distress); insufficient formation and development of psycho-emotional intelligence; emotional discomfort, anticipation of danger (anxiety, fear); psychotic and psychosomatic disorders; psychological adaptation processes; critical life situations; addictions of various kinds and overcoming them [6].

Feeling anxious is normal for ordinary people; it is part of a life. However, for people with various anxiety disorders, severe and persistent worry and even fear about minor life events is excessive. "Often, anxiety disorders involve repeated episodes of sudden attacks of intense anxiety and fear or terror that reach a peak within a few minutes (panic attacks)" [7]. Anxiety and panic interfere with productive daily activities, are uncontrollable, disproportionate to the actual danger, and are long-lasting. "Common signs and symptoms of anxiety include: •feeling nervous, restless or tense, muscle tension; •a feeling of impending danger, panic or doom; • cardiopalmus; • rapid breathing (hyperventilation); •increased sweating; • motor restlessness, uncontrollable trembling; • easy fatigue, constant feeling of weakness or tiredness; • trouble concentrating or thinking about anything other than the present concern; • sleep problems, restless sleep; • problems with the gastrointestinal tract; • difficulty controlling anxiety; • the desire to avoid events that cause anxiety" [8] .

If people experience anxiety symptoms regularly, they can be detrimental to their mental health. Therefore, strategies and techniques are needed to help relieve anxiety and prevent distress that causes anxious thoughts or memories, unpleasant physical sensations (such as pain or discomfort), and emotions such as sadness or anger and rage. There are many techniques, but in this article we will consider one technique that can reduce the load on the human psyche under conditions of extreme exposure to the external or internal environment. Visualization is a popular relaxation technique that involves using the imagination to experience a desired feeling, such as peace, confidence, or motivation to take action. Visualization can also help reduce feelings of anxiety or reduce stress levels. By improving their relaxation skills through visualization, a person can reduce the "fight or flight" reaction, which often triggers in an extreme situation [9, 10].

What is visualization? Visualization is a powerful technique that can not only help relieve symptoms of anxiety, but also motivate success, improve memory and other cognitive functions of a person. It involves using mental images to achieve relaxation. As in daydreaming, in visualization one achieves a relaxed state of mind through the use of imagination. However, there are people who are unable to imagine material objects as images in their imagination. This phenomenon is known as aphantasia, people with this feature cannot even imagine images of everyday objects that are used every day, or the faces of loved ones. For people suffering from this disorder, additional exercises and training are needed to teach visualization techniques. There are several ways that visualization techniques can help manage anxiety. In an anxious state, a person not only experiences anxiety, his thoughts wander, the brain is focused only on the anxiety itself, the imagination helpfully depicts the worst versions of the event that could happen, and other cognitive distortions that contribute to an increase in feelings of fear and prevent relaxation. Visualization enhances the ability to relax and focus thoughts on safe, calming and serene images [11].

2 Materials and Methods

A pilot study was carried out to explore the feasibility of conducting a larger study with more participants in different age groups. Experimental data from the pilot study were obtained from responses to questionnaires not only from secondary school students, but also from first-year students during the first examination session in their lives. Various methods were used - through data collection, that is, first an interview was offered, and then the data necessary for the study were collected using a questionnaire. An analysis of existing studies found in foreign and domestic sources of information was also carried out. The data collection instrument, the questionnaire, consisted of three parts. Experiment participants: 11th grade students 1 day before taking the Unified State Exam Total interviewed - 15 people Valid results - 9 people Methods used: Questionnaire Ivanchenko T.A. et al. (1994) "Inventory of Stress Symptoms" [12]. Schreiner test for diagnosing stress (1990), adaptation by A.O. Prokhorova [13]. Projective drawing on a free topic. The purpose of these techniques is to identify the psycho-emotional background and state of recipients, as well as the level of stress. In addition to diagnostic techniques, a set of exercises was used within the framework of the visualization method []. Purpose of the imaging method: intervention aimed at recipients with signs of stress. In this empirical study, it was necessary to examine the changes of study participants during the intervention [14].

3 Result

According to the data obtained, a positive dynamics of the method's impact on recipients was revealed. The positive dynamics of the group according to Ivanchenko's questionnaire was 88.9% (for so many recipients, the scale of points reflected the dynamics in the direction of reducing stress symptoms) (Table 1). Positive dynamics according to the Schreiner's test - 66.7% (for so many recipients, the scale of scores reflected the dynamics towards a decrease in stress indicators) (Table 2). Positive dynamics in the projective drawing is 100% (in so many recipients, analysis of the drawings shows a decrease in emotional tension, aggression, fear, stress, etc., reflected in the drawings) (Table 3).

Table 1. Results achieved with Ivanchenko's questionnaire

Point scale	0-30 points	31-45 points	46-60 points	More than 60 points
Number of experiment participants	2	16	14	2
Percentage correspondence	5,90%	47,10%	41,10%	5,90%
Comments	Stress resistance	Tense state without stress	Constant tension, near stressful state	Chronic stress

Table 2. Results achieved with Schreiner's test

Point scale	0-4 points	5-7 points	8-9 points
Number of experiment participants	32	2	0
Percentage correspondence	94,10%	5,90%	0,00%
Comments	Correct response to stress, regulation of emotions	Self-control required	Self-regulation required

Table 3. Results achieved with projective drawing

	Free drawing	%	Non-existent animal	%
Positive dynamics	28	82,40%	12	48,00%
Lack of dynamics	5	14,70%	11	44,00%
Negative dynamics	1	2,90%	2	8,00%
Total	34	100,00%	25	100,00%

Table 4. Generalized results of positive dynamics based on the Program results

Indicators	%
Positive dynamics according to Ivanchenko's questionnaire	67,60%
Positive dynamics according to the Schreiner's test.	32,40%
Positive dynamics in projective drawing on a free topic	82,30%
Positive dynamics according to the projective drawing "Non-existent animal"	61,80%

The general conclusion of visual observation is that the group easily performed the exercises, made contact, and listened to the lecturer. Many easily entered a state of internal immersion in the process by performing an exercise using the visualization method (Table 4).

Table 5. Detailed results achieved with Ivanchenko's questionnaire

Point scale	Number of participants	%	Number of participants	%	Dynamics in %	Comments
	Before		After			
0-30 points	2	5,90	3	8,80	2,90	Stress resistance
31-45 points	16	47,10	19	55,90	8,80	Tensity without stress
46-60 points	14	41,10	10	29,40	-11,70	Constant tension, near stressful state
More than 60 points	2	5,90	1	2,90	-3,00	Chronic stress

The percentage level of "stress-resistant" category increased by 2.9%. There were 8.8% more recipients from the "Tension without stress" category, while "the category "Constant tension, near stressful state" decreased by 11.7%, it is reasonable to assume that the number of recipients as a result of the intervention moved into the "Tension without stress" category. This suggests that the imaging technique relieves symptomatic markers and stress states. In conclusion, it can also be noted that one person out of two moved from the "Chronic stress" category to a lighter state, characterized by three other categories (Table 5). The visualization method makes it possible to carry out therapeutic interventions among young people aged 17-22 years and have a positive effect on the psycho-emotional state. Visualization can be recommended as an independent component of therapy, or be part of a set of developed programs to increase psycho-emotional intelligence, relieve stress and other psycho-emotional disorders, support in the treatment of addictions of various kinds, in relieving addictive stress, is an integral component of personal therapy, and also carries diagnostic function. In addition, the visualization method was tested on primary and secondary school students with positive results; therefore, it can be recommended for implementation in the curriculum of primary and secondary schools for the stability of the emotional background, learning self-regulation and developing the cognitive abilities of children.

Visualization and imagery techniques (sometimes called guided imagery techniques) offer an effective way to relieve tension and reduce stress. These techniques work best when a person systematically practices creating a mental image of an attractive and

peaceful environment or safe environment. Guided imagery techniques show positive results when practiced in isolation, but combining them with physical relaxation techniques such as progressive muscle relaxation and massage provides even more effective relaxation. When guided imagery is combined with physical relaxation techniques, the goal is to associate the sensations of relaxation with a calming visual image so that future practice sessions involving only imagery will quickly recall the physical sensations of relaxation. Guided imagery techniques help people relax for several reasons. As with many techniques, these methods take a person's attention away from stressors, help redirect attention away from what is causing anxiety, and focus it on something else. The techniques are non-verbal instructions to the body and unconscious mind to act "as if" a peaceful, safe and beautiful (and therefore relaxing) environment is real. Finally, guided imagery can work through the associative process described above, where scenes become a learned cue or trigger that helps retrieve memories and sensations resulting from past relaxation practice [15].

Imaging techniques are used in psychotherapy for a wide range of treatments, including cognitive behavioral therapy and memory regression. Studies over the years have shown an increase in anxiety among populations of different ages and different social groups, and its connection with the occurrence of stress and depression [16]. Moreover, these symptoms cause psychosomatic and somatic disorders; comorbid conditions are a situation when a patient has several diseases occurring simultaneously, one enhances the other, and their negative impact on the body does not add up arithmetically, but multiplies geometrically. It is possible that the use of visualization can be successful in treating stress, anxiety and even depression. Our study examined levels of anxiety and depression before and after the use of imaging techniques. All subjects showed significant improvements in stress reduction, anxiety reduction, and depressive symptoms after several sessions. This demonstrates the effectiveness of imaging techniques in reducing stress. Visualization doesn't come easy for everyone. It is important to keep an open mind and freely use your imagination by visualizing yourself in different scenarios to better relieve stress. Incorporating the senses—vision, hearing, smell, taste, and touch—into visualization has been successfully used to reduce or even eliminate stress. There are limitless ways to practice visualization. What a person chooses to depict in his imagination is entirely up to him. Creative visualization is when a person visualizes a favorable resolution to a stressful situation. You need to imagine that the problem causing you stress has been completely resolved. It doesn't matter how it was resolved - the point is not to focus on solutions and details, but simply to imagine how things will be when the situation resolves itself. Many people find that creative visualization not only reduces stress levels, but also brings solutions to the forefront [17].

The imagery in these methods can be considered a form of guided meditation. As with other forms of meditation, one of the main goals and desired results is to help you move away from the constant fixation on negative thoughts and images that contribute to stress and phobias, and instead cultivate a relaxed detachment that can be easily released later, observe (but not focus on them) behind various sensations and thoughts that cause stress. Constant repetition and practice of imagery techniques can help you learn to relax and meditate. Guided imagery techniques are extremely flexible and flexible because they rely on one's own imagination and concentration abilities, which people always have in their arsenal. However, like most techniques that require mental concentration, to be successful they are best practiced continuously and in a familiar environment free from distractions. If there is no special room equipped for meditation, you can use any environment that is sufficiently secluded and calm. Another visualization technique for dealing with stress is to bring up a happy memory. Some may find it difficult to separate happy memories from past traumas or painful experiences; therefore this method cannot be recommended for everyone. In such cases, it is always recommended to consult your psychologist before practicing visualization techniques to reduce stress.

According to the data obtained, a positive dynamics of the method's impact on recipients was revealed. The visualization method makes it possible to carry out therapeutic interventions among young people aged 17-22 years and have a positive effect on the psycho-emotional state. The visualization method can be recommended as an independent component of therapy, or be part of a set of developed programs to increase psycho-emotional intelligence, relieve stress and other psycho-emotional disorders, support in the treatment of addictions of various kinds, in relieving addictive stress, be an integral component of personal therapy, and also carry diagnostic function. The visualization method can be introduced into the curriculum of primary and secondary schools to stabilize the emotional background, teach self-regulation and develop the cognitive abilities of children.

4 Discussion

Among visualization techniques, some are used for teaching and learning purposes, chart visualization and temporal visualization are more common, which also coincide with more high-dimensional and temporal data. Researchers use chart visualization to represent students' learning behaviors, and chart visualization can visually explain students' learning patterns. Temporal visualizations are popular in showing students' learning behaviors over time because it maximizes the explanation of students' learning habits. Comparing visualization techniques applicable to online learning tasks, we found that glyph visualization is suitable for visualizations for behavior analysis and learning pattern exploration. Intelligent visualization design can better satisfy the needs of users in exploring online learning. Visualization is also applied for psychotherapy [18].

How does positive visualization improve mental and physical health? When we imagine a situation, the brain reacts as if it were actually happening. Therefore, positive visualizations have a beneficial effect on the entire nervous system. Thus, by imagining oneself in a pleasant environment, a person automatically relaxes on all levels. You can use visualization for individual relaxation, or you can practice gradual relaxation and visualization in a group setting. Research also shows that visualization can help fight disease. This is because calming the body's stress response supports the immune system. In addition to promoting mental health, this method can also be used as a way to visualize your goals. This is called "creative visualization" [19]. A runner might imagine crossing the finish line in a triathlon. Or someone interviewing for a job might visualize the interview ahead of time, imagining everything going perfectly. Therefore, visualization can serve as a "mental rehearsal" for important events. The power of breathing is the key to effective visualization. It all starts with a person changing the type of breathing, moving from breathing with the chest to breathing with the stomach. Belly breathing at a slow and steady pace activates the parasympathetic nervous system. As a result, the body and mind calm down. Slow breathing lowers your heart rate and dilates your blood vessels, thereby lowering your blood pressure. A growing body of research shows that slow abdominal breathing is one of the best ways to increase what is called vagal tone. And good tone of the vagus nerve is associated with better resistance to stress; visualization allows you to be transported to a different emotional state. The idea is to create a visualization that is strong enough that you can find at least one thing in it that satisfies each of the five senses. Exploring all five senses can lead to a relaxed and grounded state, much better prepared to deal with stress. To summarize, positive visualization provides stress relief, increases optimism, and builds resilience.

5 Conclusions

A long-term stay in conditions of limited mobility, geopolitical instability and information uncertainty and the inability to lead a normal lifestyle is considered a difficult life situation. It can lead to anxiety, stress and depression. To battle the symptoms of anxiety, different coping strategies are used. The choice of a coping strategy depends on the age characteristics, social environment and communicative activity of the individual. Effective coping strategies during such a situation turned out to be interconnected with the processes of self-knowledge, reassessment of values and positive self-attitude.

The purpose of our research was to explore visualization as a coping strategy, a popular relaxation technique that involves using the imagination to experience a desired feeling such as peace, confidence, or motivation. Visualization can be practiced whenever symptoms of anxiety approach. To improve visualization, it is necessary not only to know how to do it, but also to practice several times a day. Visualization and imagination techniques (sometimes called guided imagery) offer more than one way to reduce stress. These methods involve visualization systematic practice creating a detailed mental image of a calm and non-threatening environment. Guided Imagery is effective on its own, but combined with physical relaxation techniques such as progressive muscle relaxation and massage, it is doubly effective.When a person feels very tense, proper breathing helps him relax and tune in to the optimal visualization mode.

Our study tested levels of anxiety and depression before and after using imaging techniques. All subjects showed a significant improvement in their condition and reduction in stress levels. Creative visualization not only helps visualize a favorable resolution to a stressful situation, but can also serve as a "mental rehearsal" for success in any activity. Also, visualization can be used as one of the coping strategies to increase optimism and form stress resistance. Further research vectors are indicated in this part of the article.

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