

Art Therapy as an Effective Means of Overcoming Stress: Neurophysiological Features

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Abstract: The article presents the results of research into the use of the most effective means to overcome stress in children and adults, in particular, the use of art therapy. The relevance of the study is determined by the need to build stress resistance in crisis situations, which are a fairly common phenomenon in the context of modern problems.

The study defined the essence of the concepts of "fear", "anxiety" and "art therapy". Aspects related to the impact of stress on children, its causes, and the main trends in overcoming it were formed. The work describes art therapy as one of the most effective methods of preventing stress and building stress resistance. The results of the study confirm the hypothesis regarding the use of art therapy as a method of overcoming stress and at the same time as prevention. The most effective means of overcoming stress have been determined, in particular fairy-tale therapy, art therapy, etc. The causes of stress as neurophysiological features in a child were also investigated. The prerequisites and factors of stressful situations are characterized. Methods of synthesis, analysis, research, scientific and descriptive methods were used to ensure an effective research result. The research became the basis for determining ways to overcome stress, for the formation of effective means of diagnosis and psychocorrection. To determine effective approaches to overcoming stress, scientific research on the problem was analyzed and features were determined. The results of the study became the basis for establishing the features of stress in crisis conditions, analyzing the most effective methods of overcoming stress, describing neurophysiological factors that cause stress, and characterizing art therapy as the most effective method of overcoming stress. The article is the result of research and analysis of scientific intelligence on the specified problem.

Keywords: *Fear, Neurophysiological Features, Stress Resistance, Ways to Overcome Stress, Psychological State*

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Introduction

The process of human perception of the phenomena of the surrounding reality and internal sensations is always accompanied by certain emotions. Emotions are closely related to the needs of the human body, develop in the process of activity, influence its activity and are formed already in the process of social interactions. The activity of the organs and systems of the human body as a whole depends on emotional processes: the cardiovascular system, the endocrine system, breathing, digestion, the activity of the endocrine glands and mental processes, Bekh (2015). Emotions regulate all mental activity of a person. They reflect his subjective attitude to perceived and experienced events, his own activities, the surrounding reality.

Emotions are diverse in nature, they color the subjective attitude of a person to the surrounding world, express his well-being and mood, Vykhov (2006). Thus, the surrounding reality, which causes certain feelings in a person, depending on its significance for the individual, is for him a source of positive or negative emotions, Lazurenko (2015). Positive emotions are manifested in the form of pleasant experiences, feelings of joy, satisfaction, negative - in the form of unpleasant experiences, feelings of dissatisfaction, longing and stress.

Frequent experience of both strong negative and strong positive emotions can cause emotional stress in a person. Emotional stress is a type of emotional state characterized by increased physiological and mental activity, and one of its main characteristics is extreme instability, Mashovets (2017). Under unfavorable conditions, stress can transform into a state of neuro-emotional tension, characterized by a decrease in the efficiency and effectiveness of the functioning of systems and organs, and most importantly, by a rapid depletion of the body's energy resources.

A person in a modern metropolis is constantly exposed to nervous overload. Stress affects all spheres of a person's life, including his educational and professional activities, and also has a devastating effect on family relationships. Children, teenagers who live in dysfunctional families, as well as people with disabilities are especially prone to stress. This is connected with pathological age crises, incorrect upbringing, misunderstanding on the part of others. In people with disabilities, it can also be related to the awareness of the defect. In addition, even some categories of socially successful adults are also constantly under stress. But internally displaced persons, unemployed, dysfunctional families, including

those with disabled children, victims of terrorist attacks, etc., are especially prone to stress.

As experience shows, one of the most effective means of combating emotional stress in children is the regular practice of visual arts. Fine arts, drama therapy, performance, both passive (contemplation, experiencing art phenomena) and active (creating works of art), are not only a means of aesthetic influence, but also help the individual to build an adequate system of psychological protection. Artistic activity allows everyone to feel like a creator, to learn to compensate for negative experiences with the means of art, to model the communicative process both in communication with one's own works and in interaction with other people in the process of collective creative activity. Successful classes, praise, interest in his work increase the significance of the child in his own eyes and in the eyes of his loved ones. The relationship between children and parents changes for the better, who hope that the child will be able to find his place in this difficult life, become a respected person and achieve what his parents failed to do.

The purpose of the article is to investigate the features of art therapy as an effective method of combating stress.

Neurophysiological features and factors of stressful experience in humans

A stress disorder develops in a person as a remote consequence of the traumatic impact of stress factors of an exclusively threatening or catastrophic nature, caused by an extreme situation (combats, life-threatening accidents, sexual violence, etc.). Such an influence destabilizes the psychophysiological status of a person and is manifested by repeated episodes of the experienced traumatic event in obsessive memories; thoughts or nightmares related to the circumstances of the psychotrauma; there is a persistent feeling of numbness, emotional retardation, alienation from other people and pronounced avoidance of actions and situations reminiscent of trauma (Mykytenko, 2016). Such symptoms are often accompanied by overexcitement and pronounced increased vigilance, increased reaction to fright, insomnia.

At the same time, the manifestations of a stressful state depend on the individual experience formed after previous psychological traumas, on social factors, the level of physical health, psychological and physiological factors, etc. At the same time, stress does not develop in every person who has experienced a psycho-traumatic impact. Factors predisposing to the development of stress can be, for example, some personality traits

(compulsiveness, asthenia, etc.), the presence of neuropsychological disorders in the anamnesis, etc., which can lower the threshold of sensitivity to a traumatic stressor, create conditions for its development of symptoms of post-traumatic stress disorder. Until recently, people who survived psychological trauma were categorically divided into two groups: stress bearers and individuals resistant to PTSD. In addition, in recent years, people who have experienced psychological trauma and are characterized by the phenomenon of post-traumatic personal growth have been allocated to a separate group.

Forecasting the development and outcome of any disease requires, among other things, the identification of biomarkers, which are a set of anatomical, biochemical or physiological features characteristic of certain diseases or syndromes. Unlike most somatic diseases and mental disorders, the search for biomarkers for stressful emotions has not been successful, despite the high intensity of research in this direction, although potential candidates for such a status have been repeatedly identified, Moyseyuk (2007). The main difficulties associated with the hypervariability of clinical, paraclinical and psychological indicators used in the diagnosis of the disease. In addition, one of the reasons for this should also be noted the generally subjective nature of the interpretation of these indicators, which prevents strict reproducibility of the values of the studied indicators, which makes them unsuitable for the role of biomarkers. At the same time, by definition, biomarkers contain not only indicators characterizing one or another state, but also parametric characteristics of various dynamic processes.

As follows from all the above definitions of overcoming stress, this phenomenon (quality, trait, property) is considered mainly from a functional standpoint, as a characteristic that affects the productivity (success) of an activity.

This feature is manifested in the consideration of stress resistance as a property that affects the result of activity (success-failure), and as a characteristic that ensures the homeostasis of the individual as a system. And from these positions, stress resistance can be considered as an indicator of activity (external) and personal (internal) (Padalka, 2008).

The "internal" personal component of stress resistance manifests its activity when the subject's capabilities do not match the conditions and requirements of a specific activity. The role of this component consists in the development of such a system of personal protection against stressful factors, which would ensure the stability (protection) of a person against the development of a distressed state.

There is a dependence of ensuring individual resistance to emotional stress on the formation of the corresponding mechanisms of the sympathetic-adrenal and pituitary-adrenal functional systems. Emphasizing a great tendency to stress, one should note their tendency to inadequate assessment of the tasks before them, haste in making decisions.

If we consider the neurodynamic group of individual characteristics of a person in connection with the definition of stress resistance, which is included in the class of primary individual-typical properties, then we will see that the results presented here are not completely unambiguous. At a low and medium level of psycho-emotional stress, the efficiency of activity increases in all people, regardless of the typological features of the manifestation of the properties of the nervous system inherent in them, (Melnyk et al., 2021). However, under severe stress, the performance of people with a weak nervous system deteriorates earlier. Representatives with a high expression of the strength of nervous processes show greater resistance to significant psycho-emotional loads, while at an average level of stress, individuals with a weak nervous system demonstrate high activity efficiency, sometimes even ahead of individuals with a strong nervous system. With a further increase in the intensity of the action ability, increasing the significance of the work result, there is a decrease in the efficiency of activity in people with a weak nervous system. At the same time, representatives of the strong type in such conditions mobilize resources and, as a result, increase the efficiency of their activities.

Therefore, the search for such biomarkers requires the creation of new methodological approaches of an interdisciplinary nature.

Stressful state of personality as an aspect of psychophysiological disease

The semantics of the term "stress disorder" implies that a person has experienced one or more traumatic events and their consequences, which deeply affected his psyche. These events are so drastically different from all previous experiences or cause such intense suffering that the human body and psyche responded to them with a violent negative reaction. The compensatory mechanisms of the psyche in such a situation are naturally aimed at mitigating discomfort: a person who has experienced such trauma and a reaction to it fundamentally changes his attitude to the world around him in order to facilitate his existence in it.

Depending on the intensity of mental stress or the specifics of its assessment, the symptoms of stress disorder can either decrease within a few

hours, days or weeks, or the painful reaction can last for many years, Onishchuk et al. (2020).

Psychologically, it is important to note that some special psychological manifestations are observed during stress:

- unmotivated anxiety, manifested by close attention to what is happening around with a feeling of constant threat and danger;
- "explosive" nature of reaction to sensory stimuli (primarily visual and auditory) or to imagined or unexpected actions of other persons;
- blunting of emotions and reduction (up to loss) of the ability to express emotional manifestations, establish emotional and positive relationships with loved ones and the environment;
- aggressiveness, manifested by a stereotypical desire to solve problems by force (from physical to psychological and verbal).
- impairment of cognitive activity, primarily memory, concentration and distribution of attention;
- affective disorders of the depressive circle in combination with existential problems, in particular, with a sense of meaninglessness and uselessness of one's existence, a negative attitude towards life;
- psychovegetative and emotional correlates of increased anxiety and worry;
- extreme affective-behavioral excesses, for example, fits of rage, most often provoked by taking psychoactive substances;
- tendency to abuse psychoactive substances and a high risk of developing addictive disorders;
- obsessive psychopathological experiences or involuntary recurrent memories in the waking state in situations reminiscent of or related to psychotrauma or their reflection in dreams;
- sleep disturbance, with nightmares;
- suicidal thoughts and intentions;
- the phenomenon of "survivor's guilt" in persons who have survived situations with loss of life of others, combined with manifestations of "emotional deafness" that followed traumatic events.

The second block is associated with the strengthening of the processes of activation of excitability, irritability, impulsivity, etc. The third block is the opposite of the second in nature and contains reactions of freezing, avoidance, dissociation, depression.

In domestic psychological science, the intensification of research on stress disorders is caused, first of all, by the need to provide psychological and psychotherapeutic help to war veterans, as well as to persons who work

in conditions of increased danger and threat to life, as well as to people who have survived disasters and natural disasters.

The relevance of studying the relationship between stress symptoms and suicidal behavior is determined primarily by the statistics of suicides among persons who have experienced traumatic effects, Kramer (2001). Most stress studies are devoted to the psychological and psychiatric consequences of terrorist acts in direct victims of terrorist attacks and their relatives, while little attention is paid to the peculiarities of the perception of the terrorist threat by indirect victims - subjects who witnessed terrorist acts through the mass media. There are three causes of this type of stress (Malchiodi, 2006):

- "trauma from the past", that is, an event that cannot be forgotten in any way, which is extremely beyond the boundaries of the usual (previously usual) experience of a person's life;
- "trauma of the current life", when the current life can become unbearable, psychotraumatic;
- "trauma of the expected future", when a person is afraid of tragedies that happened earlier and left a terrible mark on his soul.

The most terrible is the "trauma of the expected future".

From a clinical point of view, the study of stress in life-threatening diseases, for example, in cancer patients, is important. There are empirical data that justify the possibility of including oncological diseases in the list of traumatic stressors, after which many life-threatening diseases were included in the list of potential stressors that can lead to development (Malchiodi, 2010).

Thus, a person experiences stress very hard, psychophysiological injuries occur in him, which change his well-being and affect his behavior.

Art therapy as an effective means of overcoming stress

Attention, close to the perception of works of art, even in the process of their creation, can bring pleasant impressions and has the ability to transform negative emotions into positive experiences. In the process of artistic activity, favorable conditions are also created for the development of an emotional and positive perception of art, which, in turn, contributes to the formation of a positive aesthetic attitude to reality (Potash et al., 2015).

Art therapy emerged as a new direction in psychotherapy at the turn of the 19th and 20th centuries. Psychoanalytic theories had a great influence on the ideas of leading art therapists, and also greatly contributed to the theoretical justification of the healing effect of art on the human psyche,

Gerasymova et al. (2019). It was recognized that "unconscious processes with their destructive effect turn into a highly effective tool for creating new connections and forms, progressive concepts and images. Expressing the content of one's own inner world in a visual form contributes to progress towards their awareness.

The essence of the psychoanalytic approach in art therapy is to give a person the opportunity to realize his problems through the products of his own creativity, American Art Therapy Association (2013). This is considered not only necessary, but also sufficient to overcome them. Thus, the psychoanalytic approach does not involve the possession of practical skills of artistic expression, Schwartz (2017).

In the second half of the 20th century American researchers proposed a phenomenological approach to the organization of the art therapy process. Based on philosophical anthropology, which understands the human being as being-in-the-world, phenomenology places at the center the subjective experience of the individual and its accessibility to consciousness, Roberts & Thomas (2010). It follows from this that a person is able to consciously and actively perceive himself and others, to change something in himself, and not only to be a slave to circumstances, that is, to change something in the surrounding reality, and not only to adapt to it, Anxiety and Depression Association of America (2017). According to phenomenology, art therapy constructs an inner world of experiences, safe risks, solvable problems, offering to first paint pictures, make engravings, installations, theater performances and photographs, sculpt from clay, and then project the products of one's creativity into everyday life.

Working with means of artistic expression, in particular color, learning their nature and method of application, a person in the process of creative activity finds solutions to accumulated problems, acquires the ability to independently design his own life, Tartakovsky (2015). Art therapy work with adolescents from risk groups, disabled people, victims of terrorist attacks, etc. began relatively recently, about 10-15 years ago, Frank (2014). Programs are being developed, within the framework of which various projects are offered. However, specialists working in this field still need deeper knowledge and skills in various types of artistic activity to perform art therapy work.

When organizing art therapy classes, it should be taken into account that currently the most relevant for the organization of the art therapy process is the integration of various forms of visual creativity. Such creativity is a consequence of the change of various forms of artistic activity, it allows

to reveal new facets of created images, to understand the level of aestheticism and emotional discourse. Such an organization of the lesson can be planned or improvised, but in any case it can become a meaning for further actions already using the elements of the performance. During group isotherapeutic work (art therapy using visual arts), the same regularities as in the dramatic therapeutic process often begin to emerge.

Art therapy affects individual manifestations of personality, and is also a factor influencing the formation of relationships by the method of spontaneous actions and their rethinking, Buchalter (2009). Art therapy develops empathy for each other, develops socialization and self-actualization, Curry & Kasser (2005). Teenagers from disadvantaged families using various types of artistic activities that have an aesthetic and psychotherapeutic effect based on color combinations. To implement psychotherapeutic tasks, trainings have been developed that can be modified and used in various activities. Before starting to master the proposed techniques, a number of exercises were performed to position the hand and teach the skills of building a composition. The proposed activities are available in one form or another to children, adolescents and adults, including persons with disabilities, which is confirmed by the experience of the authors and other specialists.

Conclusion

This article presents the results of a study on the problem of using art therapy as an effective method of overcoming stress. The tasks are aimed at: learning to work with materials, forming cognitive skills, the ability to express a wide range of experiences, developing communication skills, fostering a culture of interaction with loved ones; learning the culture of relationships with the environment; learning to reflect individual needs.

The obtained results confirmed the effectiveness of the proposed method in group work with people who need measures to overcome stress.

In addition to the aesthetic and art-therapeutic effect, the proposed methods have important side effects. The level of success of adolescents in school increases, children, including those with disabilities, can participate in exhibitions and competitions, theatrical performances, where their success was marked by improvement, which indicates the effectiveness of art therapy. In many families, the relationship between parents and children has improved. After learning about the success of their difficult children, many parents began to respect their hobby, take an interest in their success, and visit their art exhibitions.

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Author 2 researched and formed the concepts of research, art therapy, stress resistance, ways to overcome stress and formed his research into an article.

Author 3 analyzed the theoretical and methodological approaches of the research, formed methodological and theoretical grounds for the formation of conditions for overcoming stress

Author 4 defined the concept of the article, structured the research content according to certain structural and thematic blocks.

Author 5 has created an application of scientific research on the problem of applying art therapy as one of the important aspects of research

Author 6 defined the criteria and methods of researching the neurophysiological state of a person as a factor of a stressful state.

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