



Article

The Impact of Music on Emotional State and Mental Health in the Context of Modern Socio-Cultural Realities

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Abstract

This study investigates the role of music as a psycho-emotional resource during periods of socio-cultural instability, particularly amid the heightened levels of anxiety, depression, and stress caused by the ongoing war in Ukraine. It emphasizes the therapeutic potential of music and interdisciplinary art practices in enhancing emotional well-being, psychological resilience, and mental health. The study also considers the neurobiological aspects of music's influence on the emotional state of adults, which are essential to improving psychological health in times of crisis. The main objective was to assess the impact of music on emotional and mental well-being in the context of contemporary social conditions. A mixed-method approach was used, including surveys, observation, and qualitative data analysis. A total of 55 adult respondents (32 women and 23 men, aged 25–47) participated during a period of martial law. Each received a 15-day online music therapy intervention aimed at promoting mental wellness. Surveys were conducted before and after the sessions using Google Forms. Results indicate a notable decrease in symptoms of depression, anxiety, and stress, along with an increase in positive emotions and improved mental health indicators. The findings show that music therapy is an effective, non-invasive method for supporting psychological well-being, especially during extended periods of emotional strain. These findings highlight the value of incorporating music-based interventions into broader mental health support strategies in conflict-affected contexts.

Keywords: arts, cultural identity, emotions, mental health, music therapy, compositional creativity

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Introduction

In today's world, which is experiencing profound social transformations, rising anxiety, instability, and global challenges (economic crises, pandemics, wars, migration), the problem of mental health is becoming especially relevant (Chayka & Zelenin, 2024; Almalky & Alwahbi, 2023). Constant exposure to stress, information pressure, and emotional instability leads to a deterioration in psychological well-being, especially for vulnerable groups. According to recent studies, the emotional state of a person directly affects the overall level of mental health, productivity, ability to socially interact, and adapt to change (Chayka & Zelenin, 2024; Almalky & Alwahbi, 2023; Prib et al., 2023).

One of the most promising and natural means of emotional regulation is music, which uniquely influences the brain structures responsible for emotions, motivation, and memory. Several neuropsychological areas are activated, including the limbic system, ventral tegmental area, auditory cortex, prefrontal cortex, and the mirror neuron system, which provides empathic perception of a piece of music (Zatorre et al., 2020; Tanaka et al., 2021). Music activates the dopaminergic system, regulates the release of oxytocin and cortisol, which helps to reduce stress and anxiety and generally harmonize the mental state (Hou et al., 2021; Fancourt & Finn, 2019).

Music therapy, a psychotherapeutic intervention that includes both passive listening and active music creation (singing, playing instruments, composing), has been successfully used in the treatment of patients with depression, anxiety disorders, post-traumatic stress disorder, dementia, and other neuropsychiatric conditions (Garrido et al., 2022; Quintero et al., 2024). Regular participation in musical activities has been shown to increase emotional competence, prosocial behavior, improve self-esteem, and contribute to expanding social connections and forming cultural identity (Swaminathan & Schellenberg, 2018; Gustavson et al., 2021).

In the context of modern socio-cultural realities, interdisciplinary approaches that combine art, pedagogy, psychology, and neuroscience are of particular importance. Art teachers and practices based on the synthesis of the arts (music, movement, visual arts) create a unique space of emotional safety, promote personal expression, and a supportive social environment (Sloboda et al., 2020; Waddington-Jones & Perkins, 2022). Such approaches can be used in formal education and therapeutic and rehabilitation practice.

Thus, studying the impact of music on emotional state and mental health in the context of modern socio-cultural realities is not only relevant but also a necessary step towards a deeper understanding of the role of music as a tool for psychological recovery. This opens up prospects for implementing effective music therapy programs that take into account both neurobiological mechanisms and cultural and social factors.

Literature review

Over the past decade, the scientific community has seen a steadily growing interest in studying the impact of music on mental health and emotional state. This is due to global socio-cultural transformations that have led to an increase in anxiety, depression, psycho-emotional burnout, and other disorders in the general population. In this context, music is increasingly viewed not only as an aesthetic or cultural phenomenon but also as a tool for therapeutic intervention aimed at maintaining and restoring psycho-emotional balance (de Witte et al., 2022; Almalky & Alwahbi, 2023).

Music therapy occupies an important place among expressive approaches to psychological care. It is used as an additional or main method of therapy in clinical, rehabilitation, pedagogical, and social practice. It has been proven to be effective in reducing depression, anxiety, post-traumatic symptoms, improving social interaction, emotion regulation, and general psycho-emotional well-being (Gassner, Geretsegger, & Mayer-Ferbas, 2022; Eseadi & Ngwu, 2023). The results of systematic reviews and meta-analyses demonstrate that both active music therapy (playing instruments, singing, improvisation) and receptive music therapy (listening to music) can be equally effective depending on the individual patient's characteristics (Wesseldijk et al., 2023; Shan & Qi, 2024).

From a neurobiological perspective, music affects a number of functional areas of the brain related to emotions, memory, motivation, and interpersonal perception. In particular, the activation of the limbic system, ventral tegmental area, auditory cortex, and prefrontal cortex mediates complex emotional processing processes, which helps reduce psycho-emotional stress (Tanaka et al., 2021; Zatorre et al., 2020). In the process of music perception, mirror neurons are also activated, providing an empathic reflection of musical experience, deepening social interaction (Hou et al., 2021). Neurotransmitter changes also play an important role in this, including increased levels of dopamine, serotonin, and oxytocin, which are associated with positive emotions and decreased levels of cortisol, a stress hormone (Fancourt & Finn, 2019).

Music can evoke a wide range of emotions by penetrating the depths of the human psyche. This universal language, understandable to everyone, regardless of culture or age, has become a powerful tool in the hands of music therapists (Damsgaard & Jensen, 2021). Such therapy can be active or receptive. Active music therapy involves the patient's direct participation in the musical process - playing instruments, singing, and improvisation. This method allows them to express their feelings, develop creativity, and increase self-esteem and self-confidence. Receptive music therapy, on the other hand, focuses on listening to music. It helps to relax, relieve tension, reduce anxiety and depression, and focus on inner feelings. It also impacts emotions, mood, cognition, and behaviour (Gassner et al., 2022; Eseadi & Ngwu, 2023).

Modern neuroscience research allows us to "look into the brain" and study how music affects its structure and functions. It has been found that music activates various parts of the brain responsible for emotions, memory, movement, and the production

of neurotransmitters that are responsible for a person's mood (Draganchuk, 2016). Other researchers note that participation in musical activities supports well-being by managing emotions, promoting self-development, providing respite from problems, and facilitating social connections (Perkins et al., 2020; Shan & Qi, 2024).

Music has emotional, regulatory, and integrative functions in the socio-cultural context. Musical activities, including those in educational institutions, are often used to develop emotional intelligence, increase self-esteem, and build psychological resilience (Perkins et al., 2020). The synthesis of the arts, combining music with other types of creative activity, including visual arts, choreography, and drama, is particularly important, forming a multifunctional therapeutic space (Sloboda et al., 2020). Art teachers in schools and studios play the role of mediators in building this space, providing psycho-emotional support through creativity, communication, and cultural identity (Waddington-Jones & Perkins, 2022; Aguilar et al., 2024).

Music therapy is defined as a systematic process of intervention in which a clinician helps a patient improve mental health and get rid of negative emotions that can cause stress disorders. Music can not only evoke a variety of feelings, but also engage and motivate people to communicate with others through music. Music therapy helps maintain an individual's physical, psychological, and social well-being (de Witte et al., 2022; Wesseldijk et al., 2019).

Some empirical evidence confirms that practicing music improves well-being and self-development, provides abstraction from problems, and strengthens social ties (Ferreri et al., 2019; Riby et al., 2023). There is growing evidence that music therapy reduces stress responses, has a calming effect, reduces anxiety, and induces a relaxation response by reducing stimuli that lead to psychological problems (Gustavson et al., 2021; Eseadi & Ngwu, 2023). Various forms of music therapy for intensive care unit patients have been shown to reduce anxiety and in-hospital stress (Gassner et al., 2022; Wesseldijk et al., 2023). Most of the above studies used music that contained simple repetitive rhythms, low pitch, moderate tempo, harmony, and no harsh sounds. Music is a promising adjunct in the treatment of stress disorders (Golden, 2021). Data from various studies show a significant impact of individual and group music therapy on reducing major stress disorders and improving the social component of patients.

Relaxing music, such as natural sounds, classical, and light music, can help reduce pain, over-excitement, and other psycho-emotional symptoms (Perkins et al., 2020). The main thing is that the implementation of music therapy has no adverse side effects. However, the impact of music and music therapy has not been sufficiently studied in terms of emotional well-being and mental health, making this issue relevant.

The use of music in working with people who have experienced traumatic events deserves special attention. In studies of combatants, refugees, and victims of violence or natural disasters, music has demonstrated significant potential to reduce the symptoms of post-traumatic stress disorder (PTSD), help stabilize emotional states,

improve sleep, and reduce somatic complaints (Golden, 2021). Cases of effective use of music therapy in rehabilitation centers, military hospitals, and volunteer psychological support programs have been described. Group music practices that combined therapy with social support proved to be particularly useful (Wesseldijk et al., 2023).

In general, the analysis of scientific literature confirms that music plays a significant role in regulating emotions, stabilizing mental state, forming a positive identity, and expanding coping resources. Music therapy has proven effective in both clinical and informal settings, both in the format of individual therapy and in the context of communities, educational institutions, or art spaces. However, in the context of dynamic socio-cultural changes, further interdisciplinary research should be aimed at assessing the long-term effects of music therapy, developing evidence-based intervention models that consider cultural sensitivity, personal differentiation, and new technologies (Song et al., 2024).

Thus, a review of the current literature shows that music therapy is highly effective in maintaining mental health and emotional regulation.

Research objectives

The purpose of this review was to summarize the neurobiological aspects of music's impact on emotional state and mental health.

To achieve this goal, the objectives of the work were defined:

- to investigate the current state of the problem according to scientometric sources and identify the main neurobiological aspects of the impact of music on emotional state and mental health;
- to study the peculiarities of neurobiological connections regarding the effect of music on the mental health of an adult;
- to conduct an empirical analysis of the impact of music therapy on indicators of emotional state and mental health.

Materials and methods

The study was conducted by analysing modern scientific literature and observation, and using empirical data collected through a survey of respondents. Databases such as Scopus, Web of Science, and Google Scholar were used to analyse the literature on the current state of the problem. The keywords used in the search were "music," "psychology," "mental health," "emotions," "neurobiology," and "adults." The analysis included scientific articles for 2019-2025, so 37 modern scientific articles were included in the study.

In the course of the empirical study, 55 adults (32 women and 23 men) living in Ukraine were interviewed. The respondents' age ranged from 25 to 47 years, with an average age of (27.5±2.1) years. The respondent lives in the regions directly or indirectly affected by the war. The study reflects the psycho-emotional state of the population, which has been under chronic stress and uncertainty for a long time.

The work was carried out in compliance with ethical requirements and confidentiality. The voluntary survey was conducted online using Google Forms. All respondents were informed about the survey in advance.

This empirical study was conducted from December 2024 to March 2025 according to the design presented in Figure 1, which consists of an analysis of modern scientific literature, setting the purpose and objectives of the study, forming a sample, and determining research tools and methods.

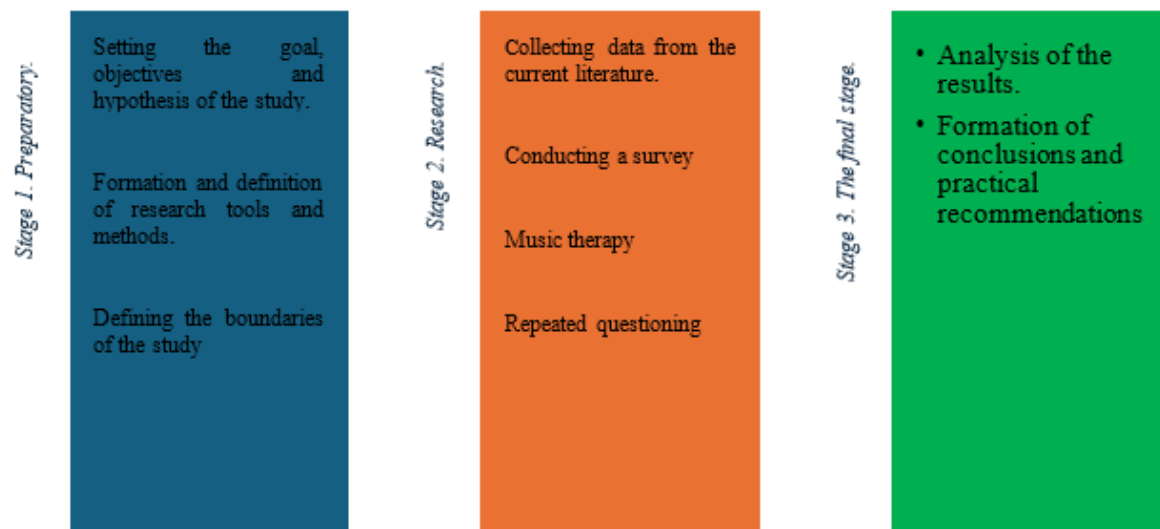


Figure 1. Stages of the study

At the second stage, data was collected by questioning respondents, and a database of questionnaire results was formed. At the last stage, the research data were analysed, the results were summarized, and conclusions and practical recommendations were formulated.

The voluntary survey was conducted online using Google Forms. The questionnaire included questions to determine the level of stress, depression, positive emotions, engagement, relationships, meaning and achievement, and internal factors of positive mental health.

A variant of the PERMA-Profiler methodology by Seligman (2011), in the modification of Savchenko and Lavrynenko (2023), consists of 23 questions. This methodology, consisting of 8 subscales and a general scale “Well-being”, takes into account the values of five components of the model of personal well-being: positive emotions “P - positive emotion”, engagement “E - engagement”, relationships “R - relationships”, meaning “M - meaning” and achievement “A - achievement”. The answers to the questions of the methodology use an 11-point rating scale: from 0 points (“never”, “terrible”, “not at all”) to 10 points (“always”, “excellent”, “completely”). Instructions to the questions: “Answer the questions on an 11-point scale from 0 to 10, depending on the degree to which the items in the survey are typical for you.”

The Positive Mental Health Scale (PMH-scale) assessed internal factors of positive mental health (including emotional and psychological), while also paying attention to external factors (e.g., social support, partnership) (Karamushka et al., 2022). It includes nine questions (1. I often feel carefree and in a good mood. 2. I enjoy my life. 3. In general, I feel satisfied with life. 4. I feel generally confident. 5. I am coping with getting my needs met. 6. I am in good physical shape and in a good emotional state. 7. I feel that I am able to cope with life and its difficulties. 8. Much of what I do brings me joy. 9. I am a calm and balanced person). A 4-point rating scale is used (not true, rather not true, rather true, true), and the total number of points is calculated. The minimum score for positive mental health is 9 points, and the maximum score is 36 points. A low level of positive mental health corresponds to the interval of 9-24 points, an average level of 25-29 points, and a high level of 30-36 points.

Music therapy. Respondents received a music therapy intervention for 15 days to promote positive mental well-being. To effectively develop personalized music therapy, the participants' preferences, musical background, and musical experiences related to their emotions and mood were identified. According to the results of the music assessment, an individualized music therapy plan was developed. Thanks to the targeted selection of music, respondents received positive emotions and developed emotion regulation skills once a day for 60 minutes.

Data analysis. Microsoft Excel software was used to analyse and interpret the data obtained from Google Forms. The study also used the method of comparison: it made it possible to compare the data obtained with the works of other foreign scholars.

Results

At the first stage of our work, the researchers surveyed the respondents. The questionnaire asked a number of questions to determine the level of stress, anxiety, depression, well-being, positive emotions, involvement, relationships, meaning of life, personal achievements, and mental health indicators. At the next stage, after the music therapy sessions, the participants were re-surveyed to determine what changes they felt.

Taking into account the current circumstances of the population, namely life and work during martial law in Ukraine, at the initial stage of the study, we assessed the level of depression, stress, and anxiety (Table 1). The results showed that only 14 (25.5%) respondents did not experience stress, anxiety, and depression at all or experienced them a little, and they had very low and low levels of these indicators. Whereas the majority of participants, 30 (54.5%), reported high and very high levels of stress, anxiety, and depression.

Table 1. Distribution of participants by the level of stress, anxiety, and depression before and after music therapy sessions in conditions of socio-cultural instability (frequency of detection)

Level	Initial, n=55		After music therapy, n=55		P
	n	%	n	%	
Very low (not at all)	5	9.1	5	9.1	>0.05
Low (feel a little)	9	16.4	15	27.3	>0.05
Medium	11	20.0	19	34.5	<0.05
High	24	43.6	12	21.8	<0.05
Very high	6	10.9	4	7.3	>0.05
Total	55	100	55	100	>0.05

After the music therapy sessions, 16 (29.1%) of the respondents experienced high and very high levels of anxiety and stress. At the same time, many participants reported low and medium levels of these indicators.

At the next stage, the average score was calculated based on the data of 8 subscales and the overall Well-being scale, and the state of positive emotions, involvement, relationships, meaning of life, and personal achievements was analysed (Table 2).

Table 2. Influence of music therapy on indicators of personality well-being according to the PERMA-model in martial law (11-point scale), (M±m)

Components of the model of personal well-being	Initial, n=55	After music therapy, n=55	P
Positive emotions	6.0±1.15	9.1±1.18	<0.05
Involvement	6.9±1.25	7.4±1.23	>0.05
Relationships	7.2±0.98	7.2±1.01	>0.05
Meaning	7.9±1.14	8.0±1.09	>0.05
Achievements	8.3±1.29	9.4±1.33	>0.05

Music affects emotional memory. Listening to a familiar melody, a person can experience the emotions associated with it, which contributes to a positive mood. The results of the Positive Mental Health Scale questionnaire were used to assess the emotional and psychological factors of positive mental health before and after music therapy sessions (Table 3). The results of calculating the total score of the level of positive mental health showed that music has a positive effect on the state of mental health, and the majority of respondents (54.6%) noted a high level after music therapy.

Table 3. The impact of music therapy on the distribution of respondents by the overall level of positive mental health “Positive Mental Health Scale”

Overall levels of positive mental health	Initial, n=55		After music therapy, n=55		P
	n	%	n	%	
Low	13	23.6	6	10.9	<0.05
Medium	30	54.6	19	34.5	<0.05
High	12	21.8	30	54.6	<0.05
Total	55	100	55	100	

Everyone reacts differently to the same music. It depends on a person’s preferences, mood, and personal characteristics. The surveyed respondents indicated that the classical pieces offered acted as a form of relaxation, while the music compositions subjectively chosen by the person caused them the most pleasure. After music therapy, 54.6% of respondents noted an improvement in their emotional state.

The mechanism of sound’s effect on the human body is quite complex and is associated with various physiological processes.

To understand how the brain is affected by emotional and psychological states, it is necessary to note the main brain structures associated with the storage of memories and stimuli associated with emotions (Dunlop & Wong, 2019). These brain structures include the prefrontal cortex, the amygdala, and the hippocampus. Scientists have observed changes in these brain areas in various studies of emotional and psychological disorders (Fig. 2).

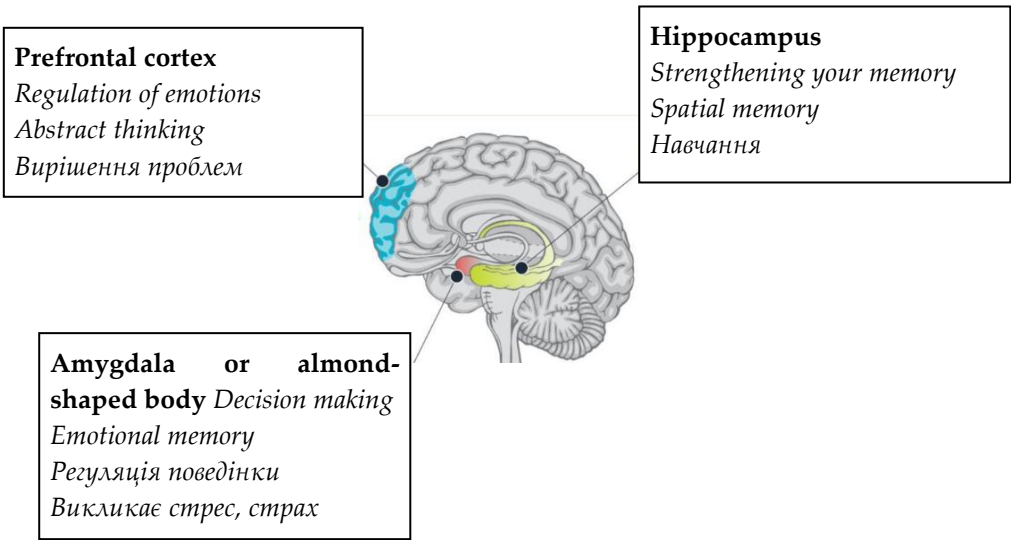


Figure 2. Emotional regulation in the brain and stress response
Source: Based on Song et al. (2024).

The hypothalamus-pituitary-adrenal (HPA) axis is the main endocrine mediator of responses to stressors, and recent studies have also confirmed the role of the HPA axis in the onset and maintenance of stress (Chu et al., 2021). The HPA axis interacts in a complex way between the hypothalamus, pituitary gland, and adrenal gland, which determines the level of circulating cortisol. Negative emotions and stress trigger the HPA and sympathetic nervous system. Cortisol is the main molecule that triggers the stress response and prevents the HPA axis from being constantly active. Excessive production of cortisol has been shown to create a state of toxic stress that alters the physical structure and function of the amygdala, hippocampus, and prefrontal cortex (Sheerin et al., 2020).

The amygdala can process stressful events, which in turn leads to the release of cortisol through the activation of the HPA axis. If an abnormal HPA axis feedback loop occurs, the continuous release of cortisol enhances the amygdala's ability to communicate with other brain structures (Liu et al., 2021). This makes the amygdala more receptive to a perceived threat. A meta-analysis of fifteen functional imaging studies investigating patients with PTSD demonstrated significant amygdala hyperactivation (Etkin & Wager, 2007). A hyperactive amygdala shifts the brain's processing mode to its fast, emotional, and reactive pathway.

Traumatic stressors alter the dendritic morphology of the hippocampus and inhibit neurogenesis in the hippocampus (Postel et al., 2021). Hypoactive prefrontal cortex in individuals with stress and psycho-emotional disorders disrupts the regulation of emotional processing in the amygdala, and prefrontal dysfunction also leads to a decrease in the ability to concentrate and regulate executive functions. Hypoactivity of the prefrontal cortex explains stress disorders, namely the inability to concentrate, solve problems, and manage thoughts or emotions through working memory (Mary et al., 2020).

Musical sounds stimulate neural pathways responsible for emotions, recognition, communication, movement, and social responses, and stimulate the mesocorticolimbic system. The mechanism of its action is the activation of the adjacent nucleus accumbens, ventral area, amygdala, hippocampus, and prefrontal cortex. Music plays an important role in balancing stimulus processing and reducing the amygdala response, and stimulating the connection between the amygdala, prefrontal cortex, and hippocampus through music can mitigate increased stress alertness and improve cognitive processing of emotions. The increased connection between the hippocampus and the hypothalamus leads to balancing the HPA axis (Desai, 2019).

Listening to music or practicing music stimulates impaired neurogenesis, which is important for people with mental disorders who have neuronal loss in the limbic system (Table 4).

Table 4. *Effects of music exposure and processing in different parts of the human brain*

The brain department	The effect of music influence
Prefrontal cortex	Attention and working memory Focus and track music over time Rhythm analysis Processing emotions
Hippocampus	Episodic memory Recognizing music Recalling associative memories Enhancement of neurogenesis Functional relationship with the hippocampus and amygdala
Amygdala or almond-shaped body	Emotional processing The process of playing music Feeling of pleasure

Discussions

In the context of modern socio-cultural challenges, including chronic stress, a decline in subjective well-being, and an increase in the number of psycho-emotional disorders, music is increasingly seen as a universal tool for supporting mental health. The scientific literature distinguishes between two main types of music therapy: passive, based on listening to music for relaxation or mood regulation, and active, when a person participates in the creation of music, sings, or plays instruments (Gustavson et al., 2021). Both types have been shown to impact emotional well-being positively, but their effectiveness depends on individual characteristics, level of engagement, and cultural context.

In their work, Gustavson et al. (2021) showed the positive impact of music practice on human mental health, namely, music therapy improves the quality of life, helps reduce symptoms of depression and anxiety. Other researchers have found a favorable effect of music on the patient's emotional state (Theorell et. al., 2014).

Our study's results align with the literature (Gustavson et al., 2021) and indicate a favorable impact of music therapy on a person's psychological health and the possibility of using music therapy to teach emotion regulation and coping skills.

These effects may be partly due to the rhythmic movements that occur when listening to music, which affect the functioning of the central nervous system, and changes in the autonomic nervous system. Music therapy affects the neurochemical processes involved in processing the response of brain regions (Ferreri et. al., 2019; Riby et. al., 2023).

According to the results of the PERMA questionnaire, music therapy demonstrates significant positive effects on reducing symptoms of anxiety and depression, leading to improved subjective well-being and specific indicators such as quality of life (Shan & Qi, 2024). In addition, increased patient satisfaction has a positive effect on prosocial behavior and memory outcomes (Curzel et. al., 2024). This

indicates that the optimal music for effective therapy depends on the individual and their preferences. Our findings are in line with other studies and indicate that the highest positive impact on the emotional state is exerted by a piece of music chosen by the person. Such music evokes joy, while the proposed classical music has a relaxation effect (Lynar, 2017).

Treatment with music leads to changes in the neurobiology of the brain, which triggers the reorganization of neural connections and normal physiological mechanisms in the brain's nerve pathways, which are responsible for reducing anxiety (Toader et. al., 2023). Scientific studies have confirmed that music therapy specifically causes changes in the brain that are interconnected with emotions and the ability to understand, cognize, learn, realize, perceive, and process information (Gold et. al. 2023). This leads to an improvement in the psycho-emotional state of patients: relief from symptoms of anxiety and depression. Visualization diagnostic methods confirm that music training has an impact on the maturation of cortico-cerebellar networks responsible for sensorimotor functions, as well as promoting structural plasticity of the brain and improving the treatment of mental disorders and agitated emotional states (Shenker et. al., 2022; Trost et. al., 2024).

Studies of the effect of music therapy should take into account neurobiological aspects, and their elucidation with different types of music, taking into account the intensity of music treatment (time of sessions, their repetition, duration of treatment) and specific patient populations will be important for an objective generalization of the effect of music treatment. Understanding the therapeutic potential of music by determining which music style (considering the individual patient's experience and preferences) is best suited to stimulate specific limbic brain structures may lead to a more systematic use of music in therapy.

Given the current socio-cultural conditions, especially in countries experiencing war or large-scale social upheaval, music performs both a therapeutic and an identifying and unifying function to the group, reducing feelings of isolation (Waddington-Jones & Perkins, 2022).

Thus, the results of our study confirm the effectiveness of music therapy as a means of improving mental health and emotional well-being in the context of socio-cultural instability. Music therapy stimulates the connection between the amygdala and the prefrontal cortex, the hippocampus, which is an important process for regulating stress reactions. Music not only affects emotional perception but is also able to modulate the activity of key neurophysiological systems that regulate the stress response. This substantiates the need for further development of interdisciplinary approaches to the use of music in clinical, educational, and social practice. It is recommended to use personalized interventions that take into account a person's preferences for background music associated with their positive emotions and mood, once a day for 60 minutes.

Conclusions

The results of the study demonstrated the high potential of music therapy as a means of reducing stress, anxiety, and depression in the context of socio-cultural instability. The participants who completed the course of music therapy sessions demonstrated an improvement in their psycho-emotional state and an increase in subjective well-being, which is especially important in the context of martial law, uncertainty, and social exhaustion.

Music therapy has been shown to stimulate the hippocampus and the amygdala, which are negatively affected by stressors. Music therapy stimulates neurogenesis and neuroplasticity in the above-mentioned brain structures, leading to its recovery and improving mental health. The experience of using music within the socio-cultural environment of Ukraine confirms that it performs not only a therapeutic, but also an identifying and integrative function. Music and the arts in general contribute to the preservation of values, social cohesion, and the maintenance of national and cultural identity in critical situations.

Art teachers who use elements of music therapy and art synthesis in their work can play an important role in the prevention of psycho-emotional disorders among students and youth. Their activities go beyond the traditional educational function, forming an emotionally safe environment that promotes the development of emotional intelligence, communication, and creativity in the face of social upheaval.

The data presented in this paper can be used to plan and test music therapy for people with mental health disorders. In addition, clarification of the neurobiological effects of certain types of music, taking into account the intensity of music therapy (i.e., duration of sessions, repetition), is necessary to increase the effect of music therapy for post-traumatic stress disorders. Understanding music's therapeutic potential by identifying which music types (based on individual experience and preferences) are best suited to stimulate specific limbic brain structures may lead to more systematic use of music in therapy. The materials in this article can help in the preparation of training courses and seminars for psychologists.

Given the significant potential of music in the context of chronic stress and socio-cultural turbulence, it is advisable to integrate it not only into clinical and psychotherapeutic practice but also into educational programs, public initiatives, cultural projects, and volunteer platforms. Involvement of art teachers, musicians, art therapists, and composers in the implementation of interdisciplinary psychosocial support programs should become a strategic direction of the state's humanitarian policy.

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Conflicts of Interests

The author declares no conflict of interest.

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