The effects of art-based intervention techniques on mood and perceived stress in individuals diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder

Edanur Elif Kesikler[1], Bahar Akoğlu[2]

[1]Clinical Psychology Master's Student, Department of Psychology, Institute of Graduate Education, Nişantaşı University, İstanbul, Turkiye
[2]Department of Psychology, Faculty of Economics, Administrative and Social Sciences, Nişantaşı University, İstanbul, Turkiye

ABSTRACT

Aims: This study aims to investigate the effect of art-based intervention techniques on mood disorders and perceived stress levels in individuals diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder.

Methods: Designed as a quasi-experimental study, the research included 60 participants receiving inpatient care at the Private Çağlayan Care Center Tuzla branch in Istanbul, with 26 individuals in the experimental group receiving 12 sessions of art-based intervention techniques and 30 in the control group receiving only psychoeducation. Data were collected using the Perceived Stress Scale and the Mood Disorders Questionnaire.

Results: Findings revealed that the Perceived Stress Scale scores in the experimental group were significantly lower than those in the control group. A similar significant difference was found in the Perceived Stress subscale scores for the experimental group for the control group. Mood Disorder Questionnaire scores were also significantly lower in the experimental group compared to the control group. However, there was no significant difference between the groups in terms of perceived inadequate self-efficacy scores.

Conclusion: These results suggest that art-based interventions have a statistically significant positive impact on stress levels and mood disorder symptoms, while no significant effect was observed on perceived self-efficacy. Ethics committee approval was obtained for this study.

Keywords: Art, schizophrenia, schizoaffective disorder, bipolar disorder, perceived stress, mood

INTRODUCTION

Art therapy is a multidisciplinary intervention method that enables individuals to express their inner world and is formed by the combination of psychotherapy and art. The term was first used in 1942 by Adrian Hill, and it was observed that individuals expressed their traumatic experiences and inner emotions through the paintings made by tuberculosis patients.[1] With Hill's observations, the therapeutic power of art was recognized, and in the following years, the structure of art therapy was enriched by Margaret Naumburg and her colleagues, leading to the establishment of the American Art Therapy Association.[2] This association defines art therapy as a profession that uses the creative power of art to improve individuals' physical, emotional, and mental well-being.[3]

Art therapy is a field of mental health used in the regulation of conditions such as addictions, lack of insight, and lack of social skills. In this therapeutic process, which involves the use of tangible materials such as drawing, painting, collage, photography, masks, puppets, drama, and music, the individual creates a product that reflects their inner world using the material of their choice and examines this product together with their therapist.[4] The resulting product is a tangible reflection of the individual's emotional state.[5] Art-based intervention can be applied to many mental disorders, one of which is schizophrenia. In the DSM-5, the psychiatric diagnostic manual, schizophrenia is described as a clinical syndrome involving hallucinations or delusions that reduces functionality in the areas of thought, behavior, and emotion. For a diagnosis of schizophrenia, symptoms are expected to persist for at least six months.[6] The World Health Organization (WHO) has revealed that schizophrenia is one of the leading causes of disability.[7]

In this disorder, which presents with positive and negative symptoms, art therapy functions as a symbolic bridge to help individuals gain insight and strengthen communication.[8] Another disorder in which art-based intervention is used is bipolar disorder.

Corresponding Author: Edanur Elif Kesikler, elifkesiklerr@gmail.com

J Health Sci Med. 2025;8(4):592-600

Kesikler et al. The effects of art-based intervention techniques on mood and perceived stress in individuals
diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder

Bipolar disorder is a mood disorder characterized by episodic manic and depressive episodes. In addition to pharmacological treatment, psychotherapeutic approaches have also been found to be effective in this disorder, with evidence suggesting that art therapies reduce anxiety levels.[9]

In schizoaffective disorder, which carries both schizophrenia and bipolar disorder symptoms, individuals exhibit both psychotic and mood symptoms.[10] For these individuals, art therapy applications, which enable non-verbal communication and support emotional expression, emerge as an important support mechanism. One of the factors closely associated with mental health in the literature is stress.[11,12] Interventions using art therapy have been emphasized in the literature for their significant and positive effects on stress levels and mood disorder symptoms in individuals with severe psychiatric diagnoses.[13,14] Mindfulness-based interventions, which are one of the psychosocial treatments added to medication to enhance functionality in mental health disorders, are a preventive, supportive, and complementary program used to reduce stress and regulate emotions.[15] The mind generates automatic thoughts about emotions such as anxiety and thinking, and as these negative contents begin to be perceived as more real, the individual may feel unhappy or anxious, engaging with disturbing thoughts and feelings.[16] In such cases, by raising awareness, the individual's ability to respond to disturbing events is improved. The way individuals cope with situations and the types of behaviors they exhibit are important in assessing perceived stress levels; the more varied the responses, the greater the individual's coping ability.[17] A study by Heayen[18] found that when individuals express their emotions through art, aggressive and destructive impulses decrease, and emotional tension levels can be controlled, thus preventing potential breakdowns. However, in the context of Turkiye, there is a limited number of experimental studies examining the effects of art therapy applications on individuals with these three diagnoses. Therefore, the present study aims to investigate the effects of art-based intervention techniques on mood disorders and perceived stress levels in individuals diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder.

Hypotheses

H1: Art-based intervention techniques reduce the levels of mood disorders in individuals diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder.

H2: Art-based intervention techniques reduce the perceived stress levels of these individuals.

METHODS

Ethics

The ethical approval for the study was obtained with İstanbul Nişantaşı University Rectorate Ethics Committee (Date: 21.11.2024, Decision No: 09). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki. Informed consent forms were obtained from all participants.

Research Design

The research was conducted using a pre-test-post-test control group quasi-experimental design. This design is reliable for determining the effects of a variable and testing cause-and-effect relationships.[19] In the study, the independent variable is art-based intervention techniques, while the dependent variables are mood disorders and perceived stress levels.

Participants

The research sample consists of 56 individuals (26 in the experimental group and 30 in the control group) from the Private Çağlayan Care Center Tuzla branch in İstanbul. Participants were selected based on their diagnoses, medications, and the severity of their illnesses, and groups were formed accordingly. At the beginning of the experiment, there were 30 individuals in the experimental group, but later, 4 participants were lost. The demographic information of the participants is presented in **Table 1**.

According to the data in **Table 1**, 34.6% (n=9) of the participants in the experimental group are women, and 65.4% (n=17) are men, while in the control group, the ratio is 86.7% (n=26) women and 13.3% (n=4) men. The mean age of the experimental group is 46.04 (SD=9.76), with ages ranging from 29 to 64, while the mean age of the control group is 30.17 (SD=9.20), with ages ranging from 20 to 55.

In terms of marital status, all participants in the experimental group (100%, n=26) are single, while 56.7% (n=17) of the control group are single, and 43.3% (n=13) are married. Regarding the presence of children, 11.5% (n=3) of the experimental group reported having children, while 88.5% (n=23) stated they do not have children. In the control group, 33.3% (n=10) have children, and 66.7% (n=20) do not. Only 11.5% (n=3) of the experimental group have 2 children, while the remaining 88.5% (n=23) do not have children. In the control group, 13.3% (n=4) have 1 child, 3.3% (n=1) have 2 children, and 16.7% (n=5) do not have 3 children.

In terms of education level, 7.7% (n=2) of the experimental group completed primary school, 30.8% (n=8) completed middle school, 50.0% (n=13) completed high school, and 11.5% (n=3) completed university. In the control group, 3.3% (n=1) completed primary school, 10.0% (n=3) completed middle school, 13.3% (n=4) completed high school, and 73.3% (n=22) completed university.

Regarding diagnosis, all individuals in both the experimental group (100%, n=26) and the control group (100%, n=30) have a psychiatric diagnosis. The distribution of diagnoses in the experimental group is as follows: 38.5% (n=10) have schizophrenia, 38.5% (n=10) have bipolar disorder, and 23.1% (n=6) have schizoaffective disorder. In the control group, 33.3% have schizophrenia, 33.3% have schizoaffective disorder, and 33.3% (n=10) have bipolar disorder.

In terms of chronic illness, 42.3% (n=11) of the experimental group have a chronic illness, while 57.7% (n=15) do not. In the control group, 16.7% (n=5) have a chronic illness, and 83.3% (n=25) do not. Lastly, regarding medication usage, all participants in the experimental group (100%, n=26) use medication regularly, while only 20% (n=6) of the control group use medication.

Kesikler et al. The effects of art-based intervention techniques on mood and perceived stress in individuals diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder

J Health Sci Med. 2025;8(4):592-600

Table 1. Distribution according to demographic variables		Experiment (n=26)		Control (n=30)	
		n	%	n	%
Gender	Female	9	34.6	26	86.7
	Male	17	65.4	4	13.3
Age X±SD (min-max)		46.04±9.76 (29-64)		30.17±9.20 (20-55)	
Marital status	Single	26	100.0	17	56.7
	Married	0	0.0	13	43.3
Children status	Yes	3	11.5	10	33.3
	No	23	88.5	20	66.7
If any, how many?	0	23	88.5	20	66.7
	1	0	0.0	4	13.3
	2	3	11.5	1	3.3
	3	0	0.0	5	16.7
Educational status	Primary school	2	7.7	1	3.3
	Middle school	8	30.8	3	10.0
	High school	13	50.0	4	13.3
	University	3	11.5	22	73.3
Current diagnosis	Yes	30	100.0	30	100.0
	No	0	0.0	0	0.0
Diagnosis	Schizophrenia	10	38.5	10	38.5
	Bipolar disorder	10	38.5	10	33.3
	Schizoaffective disorder	6	23.1	10	33.3
Chronic illness status	Yes	11	42.3	5	33.3
	No	15	57.7	25	83.3
Medication usage status	Yes	26	100.0	6	20.0
	No	0	0.0	24	80.0
Total		26	100.0	30	100.0

Data Collection Tools

The research data were collected through face-to-face administration of a survey form. The survey form includes demographic questions, the Perceived Stress Scale, and the Mood Disorder Scale.

Perceived Stress Scale: The scale was developed by Cohen, Kamarck, and Mermelstein[20] and was adapted by Eskin.[21] It is a five-point Likert-Type Scale consisting of 14 items. Items 4, 5, 6, 7, 9, 10, and 13 are reverse-scored. The scale includes two dimensions: self-efficacy and perceived stress. It has been reported to be a valid and reliable measurement tool.

Mood Disorder Scale: The scale was developed by Hirschfeld and colleagues. The Turkish adaptation was conducted by Konuk et al.[22] The scale consists of 3 questions and 13 sub-items. The first section examines manic and hypomanic symptoms and is answered with "yes/no." The cutoff score for this section is 7. The second section assesses whether the situations in which "yes" was answered in the first question are occurring simultaneously. Finally, the scale evaluates how these factors impact the individual's experience and functionality. For its validity, the cutoff score is reported to have 64% sensitivity and 77% specificity.

Sociodemographic Form: The form, prepared by the researchers, consists of 10 questions that include the participants' sociodemographic characteristics and diagnostic information.

Application Process

The experimental group underwent 12 sessions of art-based intervention techniques, while the control group received psychoeducation. The sessions lasted between 60 to 90 minutes and were conducted once a week.

Application Process

The sessions for the art-based intervention techniques were prepared based on the literature.[25-29] The researcher underwent a training process beforehand.

Session 1:

Materials: Colored pencils, paper

Process: The group members were informed about the purpose of the group and the sessions. Each participant was asked to introduce themselves and share their purpose for joining the group.

J Health Sci Med. 2025;8(4):592-600

Kesikler et al. The effects of art-based intervention techniques on mood and perceived stress in individuals
diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder

Together with the group members, the rules to be followed throughout the sessions were discussed.

The session began with a breathing exercise. Participants were asked to imagine a flower, draw that flower, focus on their emotions through the colors, and express those emotions by depicting them in the flower they created.

Session 2:

Materials: Colored pencils, paper

Process: Participants were asked to draw a bird's nest. They were then questioned about the meanings of the birds and eggs that were present or absent in the nest. The drawings featuring birds that had left the nest or nests alone without birds were discussed in depth.

Session 3:

Materials: Colored pencils, paper

Process: Participants were given sheets of paper to cut into the shape of a mask. They were asked to depict on one side how they perceive themselves socially, and on the other side how they perceive themselves when alone. The drawings were discussed and interpreted collectively.

Session 4:

Materials: Colored pencils and paper

Process: Participants were asked to draw a house, a tree, and a person on a sheet of paper. They depicted their dream versions of these figures and were asked to express the emotions associated with them. The discussion focused on why the roof of the house was decorated, the type and height of the tree and what it was reaching toward, and who the person was and what they were doing. This activity was inspired by projective assessment techniques and implemented within the framework of art therapy. The activity in this session was structured based on inspiration from projective techniques. It was designed to encourage participants to develop insight through symbolic expression and to explore their emotional world through metaphors.

Session 5:

Materials: Pencil and paper

Process: Participants were asked to write down past mistakes that emotionally disturbed them. The purpose was to foster self-awareness by discussing why they made those mistakes, why they still consider them as such, and how they felt both at the time and now. The stress and emotional burden experienced as a result of these mistakes were also explored to help participants gain insight into their emotional processes.

Session 6:

Materials: Pencil and paper

Process: Based on insights from the previous session, participants were asked to write a self-forgiveness letter to promote reconciliation with themselves and enhance their self-esteem. They were encouraged to express situations they could not forgive themselves for and articulate their desire to normalize these experiences and reduce the related stress. The letters were then discussed collectively, focusing on mechanisms of forgiveness.

Session 7:

Materials: Pencil and paper

Process: A poem was read aloud to the group, followed by a discussion about the emotions it evoked in each participant and how those emotions surfaced. As participants heard each other's interpretations, the poem took on different meanings, enriching the group consciousness. Through commenting on the poem and reflecting on the emotions of its author, participants gained insight by aligning their emotional responses with shared understanding.

Session 8:

Materials: Flower-patterned mandala coloring sheets and colored pencils

Process: Participants were given flower-patterned mandala designs to color freely. The activity was accompanied by music to help regulate mood. After coloring, the colors and brush strokes were discussed. Interpersonal interaction increased as participants also commented on each other's work, leading to enhanced awareness. The music-supported coloring process had a positive impact on mood regulation. The participants were observed to engage deeply and provide positive feedback, indicating enjoyment.

Session 9:

Materials: Animal and labyrinth mandala coloring sheets, colored pencils

Process: Following feedback from the previous session, mandalas were selected according to participants' diagnoses: labyrinth mandalas were given to the psychosis group, and animal mandalas to the bipolar group. The coloring was again accompanied by music. Participants were observed to work calmly and thoughtfully, each choosing unique color combinations. After the coloring, a discussion was held about their emotional states and why they chose specific colors. The session concluded with reflective conversation.

Session 10:

Materials: Music, group dance

Process: Music was selected with participant preferences in mind, and group members were encouraged to dance freely and live in the moment. As they danced, participants reported increased enjoyment and gained awareness that there are various ways to reduce stress. Some danced in pairs while others danced solo. It was observed that their social interaction improved, their communication deepened, and they moved more freely without concern for external judgment, expressing rather than suppressing emotion.

Session 11:

Materials: Colored pencils and paper

Process: Participants were asked to draw a cactus. They were then guided to imagine and describe the cactus they envisioned-where and with whom it lived, its age, color, and the nature of its spines. Through these descriptions and drawings, discussions were held. The aim was to explore participants' self-perceptions, their sense of loneliness, and the environments they wished for.

Kesikler et al. The effects of art-based intervention techniques on mood and perceived stress in individuals
diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder

J Health Sci Med. 2025;8(4):592-600

Session 12:

Materials: Film, projector

Process: A film was shown to the group, followed by a discussion. Participants were asked which character they identified with, which character they disliked, and what the film meant to them personally. The discussion explored the similarities and differences between themselves and the characters they favored, providing insight into their self-perception.

Psychoeducation Program

The psychoeducation program administered to the control group included basic mental health awareness. The 90-minute session covered symptoms of psychiatric disorders, how stress contributes to these symptoms, and emotional regulation strategies.

Statistical Analysis

IBM SPSS Statistics 27 software was used to analyze the data obtained in this study. A normality test was conducted to evaluate the suitability of the data for parametric analyses, and the results showed that the skewness and kurtosis values of all scales were within the ±2 range. This finding indicates that the variables follow a normal distribution and supports the applicability of parametric tests.[23] In group comparisons, an independent samples T test was used to determine whether there was a significant difference between the scale scores of the experimental and control groups. Additionally, a paired samples T test was applied to evaluate the change between the pre-test and post-test scores of each group. All statistical analyses were conducted at a 95% confidence level, in accordance with widely accepted standards in the social sciences, with a significance level set at $p < .05$.[24] This statistical approach enhances the validity and reliability of the findings, demonstrating that the research was conducted based on scientific principles.

RESULT

The scores obtained by the participants from the measurement tools are presented below.

According to the data presented in **Table 2**, when comparing the levels of the experimental and control groups during the pre-test period, no statistically significant difference was found in the Perceived Stress Scale scores between the experimental group (X=29.35, SD=9.26) and the control group (X=28.40, SD=6.98) [t (54)=0.44, p=0.665]. Similarly, no significant difference was found in the Insufficient Self-Efficacy Perception scores between the experimental group (X=10.35, SD=5.80) and the control group (X=10.83, SD=4.49) [t (54)=−0.35, p=0.725]. In the stress perception dimension, no significant difference was observed between the experimental group (X=19.00, SD=6.51) and the control group (X=17.57, SD=4.67) [t (54)=0.96, p=0.344]. In the analysis of the Mood Disorders Scale scores, no significant difference was found between the experimental group (X=5.96, SD=3.28) and the control group (X=5.80, SD=3.27) [t (54)=0.18, p=0.855]. These findings suggest that both groups exhibited similar levels of stress, self-efficacy, and mood symptoms in their pre-test measurements, indicating that the initial conditions of the groups were comparable.

According to the data in **Table 3**, the comparison of pre-test and post-test scores of the experimental group revealed a significant reduction in the Perceived Stress Scale scores, with the pre-test (X=29.35, SD=9.26) and post-test (X=20.85, SD=6.48) showing a statistically significant decrease in favor of the participants [t (25)=5.01, p<.001]. Similarly, in the Stress Perception subscale, a significant reduction was observed between the pre-test (X=19.00, SD=6.51) and post-test (X=11.38, SD=6.59) scores [t (25)=6.33, p<.001]. A significant decrease was also recorded in the Mood Disorder Scale, with the difference between the pre-test (X=5.96, SD=3.28) and post-test (X=3.92, SD=2.62) scores found to be statistically significant [t (25)=2.62, p=0.015]. However, no significant difference was found in the insufficient self-

Table 2. Comparison of Perceived Stress Scale and Mood Disorders Scale scores according to experimental and control groups (pre-test)							
	Experiment (n=26)		Control (n=30)				
	X	SD	X	SD	t	SD	p
Perceived Stress Scale	29.35	9.26	28.40	6.98	0.44	54	0.665
Perceived inefficacy in self-efficacy	10.35	5.80	10.83	4.49	-0.35	54	0.725
Perceived Stress	19.00	6.51	17.57	4.67	0.96	54	0.344
Mood Disorders Scale	5.96	3.28	5.80	3.27	0.18	54	0.855
***p<.001, **p<.01, *p<.05 Test used: independent samples T test, SD: Standard deviation							

Table 3. Comparison of Perceived Stress Scale and Mood Disorders Scale scores for pre-test and post-test in the experimental group							
	Pre-test (n=26)		Post-test (n=26)				
	X	SD	X	SD	t	SD	p
Perceived Stress Scale	29.35	9.26	20.85	6.48	5.01	25	<.001***
Perceived inefficacy in self-efficacy	10.35	5.80	9.46	6.14	0.48	25	0.638
Perceived stress	19.00	6.51	11.38	6.59	6.33	25	<.001***
Mood Disorders Scale	5.96	3.28	3.92	2.62	2.62	25	0.015*
***p<.001, **p<.01, *p<.05 Test used: Paired samples T test, SD: Standard deviation							

J Health Sci Med. 2025;8(4):592-600

Kesikler et al. The effects of art-based intervention techniques on mood and perceived stress in individuals
diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder

efficacy perception, with the pre-test (X=10.35, SD=5.80) and post-test (X=9.46, SD=6.14) scores showing no significant difference [t (25)=0.48, p=0.638]. These results suggest that the intervention was effective in reducing stress and mood disorders, but did not significantly change the perception of self-efficacy.

Based on the findings presented in **Table 4**, when comparing the pre-test and post-test scores of participants in the control group, no statistically significant differences were found for the Perceived Stress Scale (t(29)=1.07, p=0.295), perceived insufficient self-efficacy (t(29)=0.29, p=0.771), stress perception [t (29)=1.37, p=0.182], and Mood Disorder Scale [t (29)=0.20, p=0.843]. These results indicate that there was no statistically significant change in the relevant variables between the pre-test and post-test levels for the control group.

According to the data presented in **Table 5**, the Perceived Stress Scale scores were significantly lower in the experimental group (X=20.85, SD=6.48) compared to the control group (X=26.57, SD=7.44) [t (54)=−3.04, p=0.004]. A similar difference was found in the Stress Perception subscale, where the experimental group's score (X=11.38, SD=6.59) was significantly lower than the control group (X=16.03, SD=4.99) [t (54)=−3.00, p=0.004]. In the Mood Disorders Scale scores, the experimental group (X=3.92, SD=2.62) achieved significantly lower scores compared to the control group (X=5.63, SD=3.32) [t (54)=−2.12, p=0.039]. However, no significant difference was found in the Insufficient Self-Efficacy Perception scores between the experimental (X=9.46, SD=6.14) and control groups (X=10.53, SD=3.69) [t (54)=−0.80, p=0.425]. These findings suggest that the intervention had a significant and positive effect on stress levels and mood disorders, but no statistically significant effect on self-efficacy perception.

DISCUSSION

The aim of this study was to examine the effects of art intervention techniques on mood disorders and perceived stress levels in individuals diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder. The findings showed that the Perceived Stress Scale scores were significantly lower in the experimental group. The Mood Disorders Scale scores in **Table 5** indicated that the experimental group scored lower than the control group. However, no significant difference was found between the two groups regarding the Insufficient self-efficacy perception scores in Table 5. The literature reports improvements in psychiatric symptoms in individuals diagnosed with schizophrenia who underwent group music therapy.[14] Montag et al.[13] similarly reported that the art therapy program led to a significant reduction in both positive and negative symptoms. In domestic studies, Sarandöl et al.[30] similarly reported that the art therapy program had a significant effect on the symptoms of the schizophrenia group. Akhan and Atasoy[31] reported a significant effect of art intervention on positive and negative symptoms. In a study conducted with a different sample group, it was stated that art interventions with incarcerated individuals positively affected their mood and locus of control, and were also effective in reducing depression.[32] Adar and Akoğlu[33] found that art intervention led to a significant reduction in the level of psychological symptoms in adult participants. Specifically, art is highlighted as a facilitating element in the process of connecting negative emotions that reduce an individual's functionality to positive experiences.[34] It has been reported that the results of other creative therapies, such as music therapy and body movement therapy, are promising for individuals with schizophrenia.[35] On the other hand, it is also discussed in the literature that small-scale creative therapy trials showing improvements in schizophrenia symptoms have not yielded effective results.[24] In this regard, the impact of the inpatient treatment of the study group should not be overlooked. Different results may have been obtained depending on whether inpatient or outpatient treatment was applied in the study groups.

Table 4. Comparison of the Perceived Stress Scale and Mood Disorders Scale scores of the control group participants based on pre-test and post-test scores							
	Pre-test (n=30)		Post-test (n=30)				
	X	SD	X	SD	t	SD	p
Perceived Stress Scale	28.40	6.98	26.57	7.44	1.07	29	0.295
Perceived inefficacy in self-efficacy	10.83	4.49	10.53	3.69	0.29	29	0.771
Perceived Stress	17.57	4.67	16.03	4.99	1.37	29	0.182
Mood Disorders Scale	5.80	3.27	5.63	3.32	0.20	29	0.843
***p<.001, **p<.01, *p<.05 Test used: Paired samples T test, SD: Standard deviation							

Table 5. Comparison of Perceived Stress Scale and Mood Disorder Scale scores between experimental and control groups (post-test)							
	Experiment (n=26)		Control (n=30)				
	X	SD	X	SD	t	SD	p
Perceived Stress Scale	20.85	6.48	26.57	7.44	-3.04	54	0.004*
Perceived inefficacy in self-efficacy	9.46	6.14	10.53	3.69	-0.80	54	0.425
Perceived stress	11.38	6.59	16.03	4.99	-3.00	54	0.004*
Mood Disorders Scale	3.92	2.62	5.63	3.32	-2.12	54	0.039**
***p<.001, **p<.01, *p<.05 Test used: Independent samples T test, SD: Standard deviation							

Kesikler et al. The effects of art-based intervention techniques on mood and perceived stress in individuals
diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder

J Health Sci Med. 2025;8(4):592-600

Limitations

This research presents significant findings on the effects of art intervention techniques on mood disorders and perceived stress levels in individuals diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder; however, it has some limitations.

First, the sample of the study is limited to individuals receiving inpatient services at a specific care center (Private Çağlayan Care Center Tuzla Branch) in İstanbul. Therefore, the findings may be restricted in their generalizability to individuals living in different cities or institutions. Additionally, the sample size is relatively small, and studies conducted with larger sample sizes could increase the reliability of the results. Since four participants selected for the group art intervention did not attend any sessions, the number of participants in the experimental group could not be equalized with the control group in Table 1.

Another limitation is that only self-report-based scales were used in the study. Additionally, the art therapy process was applied to the experimental group for only 12 sessions. Follow-up studies could be beneficial in assessing the long-term effects of the therapeutic process. Participants did not have any additional psychiatric diagnoses. All participants had been receiving long-term inpatient treatment and were regularly using medication. This eliminated the possibility of introducing new medications or treatment protocols during the intervention process, thereby reducing the impact of confounding variables. Although the participants had different primary diagnoses, their perceptual problems and pharmacological treatments shared similar characteristics. Therefore, the intervention was applied across three different diagnostic groups with similar symptom profiles in order to assess its effectiveness. In addition, to prevent interaction between groups, the sessions were conducted separately for each group, on the same day and at the same time each week, ensuring both consistency of the intervention and group isolation. The content used during the twelve-week intervention was selected based on the participants' mood states and levels of insight.

In this study, individuals diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder were evaluated within the framework of a common intervention protocol, based on the literature indicating that these groups share common symptom clusters, similar perceptual and cognitive impairments, and pharmacological treatment profiles. The aim of the intervention was not to comparatively analyze these three diagnostic groups, but rather to observe the effects of art-based intervention within these groups.

The methodological rationale for this approach is the presence of overlapping areas in the symptom structures of the mentioned diagnoses, the observation of similar levels of impairment in social functioning, and the fact that art-based therapeutic interventions applied to these groups target similar neuropsychological processes. Additionally, the frequent use of similar psychotropic medications in these groups, and the emotional, cognitive, and social domains targeted by art-based interventions being functionally impaired in all three diagnostic groups, support the combined analytical approach of this study. Therefore, it was aimed to observe the overall effect of the intervention on these three diagnostic groups without pursuing a comparative purpose.

In this study, individuals diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder were evaluated within a common intervention protocol framework, based on the literature indicating that these groups share common symptom clusters, similar perceptual and cognitive impairments, and pharmacological treatment profiles. The purpose of the intervention is not to conduct a comparative analysis of these three diagnostic groups, but to observe the effects of art-based intervention within these groups. The methodological rationale for this approach is based on the presence of overlapping areas in the symptom structures of the diagnoses, similar levels of impairment in social functioning, and the targeting of similar neuropsychological processes by art-based therapeutic interventions applied to these groups. Additionally, the frequent use of similar psychotropic medications in these groups and the association of the emotional, cognitive, and social domains targeted by art-based interventions with functional difficulties in all three diagnostic groups support the combined analysis approach of this study. Therefore, the aim was to observe the overall effect of the intervention on these three diagnostic groups without pursuing a comparative analysis. In the study, diagnostic groups did not attend the same sessions; individuals participated in the session process in different physical areas during the same time period, in a way that prevented interpersonal interaction. This procedure ensured the exclusion of potential cross-effects by preventing interaction between diagnostic groups. The structured protocol used during the intervention was planned based on common content for all participants; however, flexible adaptations were allowed according to mood responses and individual needs. Each session was organized by considering feedback from the previous session, thus creating a structure compatible with individual responses and a holistic approach. The implementing researcher completed the relevant training in the field of art-based intervention. During the inclusion process, whether participants had any additional psychiatric diagnoses was determined through a detailed review of relevant medical board reports and patient files. The current diagnoses of each participant were confirmed based on the institution's record system and physician approval. This procedure allowed for the exclusion of potential confounding factors that could particularly affect variables such as stress and mood. All participants had been receiving inpatient treatment for an extended period, and no changes were made in their medication use (e.g., dose increases, addition of new medications, discontinuation of medications) during the course of the study. This information was verified through regular monitoring of patient files and reports from the psychiatrists responsible for the treatment process. The researcher's position within the institution enabled regular and reliable monitoring of the pharmacological treatment processes. Although all participants continued the use of psychotropic medications, this study is designed to examine changes during the intervention process solely at the pre-

J Health Sci Med. 2025;8(4):592-600

Kesikler et al. The effects of art-based intervention techniques on mood and perceived stress in individuals
diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder

test and post-test levels, and individual differences in pharmacological responses are beyond the primary focus of the study. Nevertheless, the heterogeneity of medication use at the individual level has been identified as a potential limitation and explicitly stated within the article. It is recommended that future studies statistically control for variables such as medication type, dosage, and response (e.g., through covariance analysis). In conclusion, this study aims to observe the effects of a structured and controlled art-based intervention in individuals with different diagnoses but similar clinical characteristics. Therefore, the combined analysis of diagnostic groups is based not on assumption, but on a theoretical and methodological rationale.

Lastly, the art intervention techniques used in the study were planned as structured sessions, without considering individual differences. It is recommended that art intervention programs be developed for individuals with different diagnoses in the future.

CONCLUSION

The results indicate that the art intervention techniques had significant and positive effects on mood disorders and stress levels, but no significant effect on self-efficacy perception. In this regard, the intervention program appears to contribute to emotional regulation, while it may not be sufficient for a more cognitive domain such as self-efficacy. From this perspective, longer-term interventions and those addressing individuals' belief systems may have a more significant impact.

ETHICAL DECLARATIONS

Ethics Committee Approval

The study was carried out with the permission of the İstanbul Nişantaşı University Rectorate Ethics Committee (Date: 21.11.2024, Decision No: 09).

Informed Consent

All patients signed and free and informed consent form.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

The authors declared that this study has received no financial support.

Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

Acknowledgements

This article is based on the first author's master's thesis.

REFERENCES

1. Çakmak Ö, Biçer İ, Demir H. The use of art therapy in healthcare: a literature review. *J Health Soc Welfare Res*. 2020;2(2):12-21.

2. Okcu, C. Psychodynamically oriented art therapy. *Turk J Integrat Psychother*. 2022;5(10):31-41.

3. Bostancıoğlu B, Kahraman ME. The effect of the art therapy method and techniques on the power of health-healing. *Beykoz Acad J*. 2017;5(2):150-162. doi:10.14514/BYK.m.21478082.2017.5/2.150-162

4. Sezen C. The effect of art therapy on the fear of childbirth. [master's thesis]. İstanbul: Uskudar University; 2016.

5. Göktepe A. The effect of expressive art therapy on flow state and psychological well-being in university students. [master's thesis]. İstanbul: Uskudar University; 2014.

6. Saunders JC. Families living with severe mental illness: a literature review. *Issues Ment Health Nurs*. 2003;24(2):175-198. doi:10.1080/016128 40305301

7. Şevik AE, Özcan H, Uysal E. Examination of suicide attempts: risk factors and follow-up. *Clin Psychiatry*. 2012;15(4):218-225.

8. Duman H. Examination of emotional expression in relatives of schizophrenia patients in terms of some variables. [master's thesis]. İstanbul: Halic University; 2014.

9. Aktaş Özkafacı A, Nalça N, Eren N. The effect of the group art psychotherapy process with marbling art on anxiety, depression, and functional recovery levels in individuals with schizophrenia. *Turk J Integrati Psychother*. 2023;6(12):15-29. doi:10.56955/bpd.1309661

10. Eğribel M. Symptom screening and distribution in psychotic disorders (schizophrenia, paranoid disorder, schizoaffective disorder, bipolar disorder). [master's thesis]. İstanbul: Uskudar University; 2019.

11. Çevik A, Şentürk V. A general overview of psychosomatic medicine and psychosomatic disorders in historical process. *Turk Clin J Psychiatr*. 2008;1(2):1-11.

12. Schneiderman N, Ironson G, Siegel SD. Stress and health: psychological, behavioral, and biological determinants. *Annu Rev Clin Psychol*. 2005;1: 607-628. doi:10.1146/annurev.clinpsy.1.102803.144141

13. Montag C, Haase L, Seidel D, et al. A pilot RCT of psychodynamic group art therapy for patients in acute psychotic episodes: feasibility, impact on symptoms and mentalising capacity. *PLoS One*. 2014;9(11):e112348. doi:10.1371/journal.pone.0112348

14. Lu SF, Lo CH, Sung HC, Hsieh TC, Yu SC, Chang SC. Effects of group music intervention on psychiatric symptoms and depression in patient with schizophrenia. *Complement Ther Med*. 2013;21(6):682-688. doi:10. 1016/j.ctim.2013.09.002

15. Özdemir A. The effect of mindfulness-based stress reduction training on hope, psychological well-being, and functional recovery in patients with schizophrenia. [doctoral thesis]. Malatya: İnönü University; 2020.

16. Ataseven, E. The effect of art therapy and mindfulness-based cognitive behavioral therapy applications on symptom profile, insight, and social functionality in patients with chronic schizophrenia hospitalized in chronic wards. [specialization thesis in medicine]. İstanbul: Health Sciences University; 2018.

17. Yağmur T, Nehir Türkmen S. Perceived stress and psychological resilience in family members providing care to individuals with mental illness. *Celal Bayar Univ Health Sci Instit J*. 2017;4(1):542-548.

18. Yılmaz T. The effect of structured art therapy group on self-esteem in patients diagnosed with bipolar disorder: a public hospital case study. [master's thesis]. İstanbul: Gelişim University; 2019.

19. Fraenkel JR, Wallen NE, Hyun HH. How to design education research. *New York, Estados Unidos: Mc Graw-Hill*. 1996.

20. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav*. 1983;24(4):385-396.

21. Eskin M, Harlak H, Demirkıran F, Dereboy Ç. Adaptation of the Perceived Stress Scale into Turkish: reliability and validity analysis. *New Yeni Sympos J*. 2013;51(3):132-140.

22. Konuk N, Kıran S, Tamam L, Karaahmet E, Aydın H, Atık L. Validity of the Turkish adaptation of the Mood Disorder Questionnaire in screening for bipolar disorder. *Turk J Psychiatr*. 2007;18(2):147-154.

23. Hahs-Vaughn DL, Lomax R. An introducti on to statistical concepts. 4th ed. Routledge; 2020.

24. Field A. Discovering statistics using IBM SPSS Statistics. 5th ed. Sage Publications;2018.

Kesikler et al. The effects of art-based intervention techniques on mood and perceived stress in individuals
diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder

J Health Sci Med. 2025;8(4):592-600

25. Bonnet M, Belot RA, Sanahuja A, Vandel P. The house-drawing test: using a projective test in assessment to differentiate normal from pathological ageing. *Mediterr J Clin Psychol*. 2019;7(3):1-19. doi:10.6092/2282-1619/2019.7.2256

26. Buck JN. The House-Tree-Person Test. Grune & Stratton. 1963.

27. Crawford MJ, Killaspy H, Barnes TR, et al. Group art therapy as an adjunctive treatment for people with schizophrenia: multicentre pragmatic randomised trial. *BMJ*. 2012;344:e846. doi:10.1136/bmj.e846

28. Demir V. Using the creative process in therapeutic practice: art therapy. *Üsküdar Univ J Clin Hypnos Complement Med*. 2018;1(1):1-3.

29. Eracar N. Beyond words: art therapy and creativity. 3P Publishing; 2013.

30. Sarandöl A, Akkaya C, Eracar N, Kırlı S. The effects of art therapy carried out with schizophrenic patients and their relatives, on symptoms, personal and social skills. *Anat J Psychiatr*. 2013;14(4):333-339. doi:10.5455/apd.39256

31. Akhan LU, Atasoy N. Impact of marbling art therapy activities on the anxiety levels of psychiatric patients. *J Human Sci*. 2017;14(2):2121-2128. doi:10.14687/jhs.v14i2.4397

32. Gussak D. The effectiveness of art therapy in reducing depression in prison populations. *Int J Offender Ther Comp Criminol*. 2007;51(4):444-460. doi:10.1177/0306624X06294137

33. Adar K, Akoğlu B. The effect of group intervention using art therapy techniques on mental symptoms, psychological well-being, and cognitive flexibility in adults. *J Soc Humanit Administrat Sci*. 2024;9(68):3558-3568.

34. Hass-Cohen N, Findlay JC. Art therapy and the neuroscience of relationships, creativity, and resiliency: skills and practices (Norton series on interpersonal neurobiology). WW Norton & Company. 2015.

35. Talwar N, Crawford MJ, Maratos A, Nur U, McDermott ORII, Procter S. Music therapy for in-patients with schizophrenia: exploratory randomised controlled trial. *Br J Psychiatry*. 2006;189(5):405-409. doi:10.1192/bjp.bp.105.015073