Art Therapy as Response to Trauma Victims in Bandit-Destabilized Tiv Communities of Benue State, Nigeria

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Abstract
This study examined the effectiveness of art therapy in addressing anxiety, depression, sleep disturbance, and self-esteem among internally displaced persons (IDPs) from bandit-destabilized Tiv communities in Benue State, Nigeria. Persistent armed attacks, displacement, and destruction of livelihoods exposed survivors to psychological distress that undermined emotional stability and well-being. A quasi-experimental pretest–posttest control-group design was adopted. The study covered a defined population of 217,748 displaced persons across Zones A and B of Benue State, from which approximately 400 participants were selected through multistage sampling. Data were collected using the Art Therapy Trauma Response Questionnaire (ATTRQ), which measured anxiety, depression, sleep disturbance, and self-esteem. The experimental group participated in a four-week structured art therapy programme involving drawing, painting, clay modelling, symbolic storytelling, relaxation-based art activities, and empowerment exercises, while the control group continued without the art therapy intervention. Mean and standard deviation were used to answer the research questions, while Analysis of Covariance (ANCOVA) was employed to test the hypotheses at the 0.05 significance level. The findings revealed statistically significant differences between the experimental and control groups in post-test anxiety scores, $F(1, 397) = 85.744$, $p < .001$, partial $\eta^2 = .178$; depression scores, $F(1, 397) = 47.607$, $p < .001$, partial $\eta^2 = .107$; sleep-disturbance scores, $F(1, 397) = 28.573$, $p < .001$, partial $\eta^2 = .067$; and self-esteem scores, $F(1, 397) = 41.934$, $p < .001$, partial $\eta^2 = .096$. Consequently, all four null hypotheses were rejected. The group effect accounted for 17.8%, 10.7%, 6.7%, and 9.6% of the respective outcome variance, as indicated by the partial eta-squared values. Based on the findings, it was recommended that culturally responsive art therapy programmes should be considered for integration into psychosocial support services for trauma-affected IDPs. Counsellors, humanitarian agencies, camp administrators, and relevant government authorities should also consider training facilitators in structured art therapy techniques and incorporating appropriate creative activities into trauma recovery programmes.

Keywords: *Art therapy, trauma victims, bandit, Tiv communities*

Introduction

Across the world, communities are increasingly confronted with violent conflicts, displacement, and social disruptions that leave deep psychological wounds on affected populations. From war-torn regions in the Middle East to conflict-ridden areas of Latin America and parts of Europe, traumatic experiences resulting from violence, loss, and insecurity continue to threaten human wellbeing and social stability. The global concern is not only the destruction of lives and property but also the enduring psychological scars that remain long after physical violence subsides. These invisible wounds often manifest as trauma, anxiety, depression, and social withdrawal, thereby reducing victims' ability to function effectively in society. In Africa, the burden of trauma linked to violent conflicts and instability is particularly alarming. Many countries on the continent face insurgency, armed conflicts, communal clashes, and forced displacement, all of which expose civilians to repeated traumatic experiences. Scholars note that prolonged exposure to violence and insecurity in African societies contributes significantly to emotional distress, post-traumatic stress symptoms, and social disintegration (Murphy et al., 2017). The limited availability of mental health services in many African countries further compounds the suffering of trauma victims, leaving communities to cope with psychological wounds without adequate professional support.

Nigeria has witnessed increasing security challenges in recent decades, including insurgency, communal conflicts, kidnappings, and banditry. These crises have produced widespread displacement, destruction of livelihoods, and psychological distress among affected populations. Research indicates that exposure to violence in Nigeria is associated with heightened levels of trauma, fear, grief, and long-term mental health challenges among survivors (Akinsulore & Adewuyi, 2019). Beyond physical harm, insecurity erodes trust, disrupts social cohesion, and creates an atmosphere of persistent fear. The Tiv communities in Benue State represent one of the areas severely affected by insecurity and violent disruptions. Persistent attacks by armed groups, including bandits and herders, have destabilized rural settlements, destroyed farmlands, and forced families into internally displaced persons (IDP) camps. Given that the Tiv people are predominantly agrarian, these attacks undermine food security, economic stability, and community identity. The repeated exposure to violence, displacement, and loss has created a growing population of trauma victims whose psychological needs remain largely unmet. This situation raises serious concerns for educators, counsellors, artists, and mental health professionals seeking culturally responsive interventions for healing and recovery. Trauma, in its simplest sense, refers to a deeply distressing or disturbing experience that overwhelms an individual's ability to cope. It occurs when a person is exposed to events that threaten life, safety, or emotional stability. According to the American Psychological Association (APA), trauma is an emotional response to a terrible event such as an accident, violence, or disaster. Similarly, Substance Abuse and Mental Health Services Administration (SAMHSA) defines trauma as an event or series of events experienced as physically or emotionally harmful or life-threatening, with lasting adverse effects on an individual's functioning and mental wellbeing. These definitions emphasize that trauma is not only about the event itself but also about its lasting psychological impact. Individuals respond differently to traumatic experiences depending on their resilience, social support, and coping mechanisms. The adverse effects of trauma are far-reaching and may manifest emotionally, cognitively, physically, and socially. Trauma victims often experience anxiety, depression, nightmares, emotional numbness, and persistent fear. They may develop post-traumatic stress symptoms, difficulty concentrating, irritability, and withdrawal from social interaction. In children and adolescents, trauma can impair learning, memory, and emotional regulation, thereby affecting

academic performance and social development. If left untreated, trauma may lead to substance abuse, chronic stress disorders, and long-term mental health complications.

Trauma victims in bandit-destabilized communities frequently suffer from anxiety, depression, sleep disturbance, and low self-esteem**,** conditions that significantly impair emotional stability, daily functioning, and overall quality of life. Anxiety is a persistent state of excessive worry, fear, and heightened alertness in response to perceived danger. Trauma survivors often remain hypervigilant, anticipating further attacks even in safe environments. This condition may present through rapid heartbeat, restlessness, difficulty concentrating, and constant fearfulness. The continued state of insecurity in displaced and violence-affected settings sustains anxiety responses, making victims feel perpetually unsafe and emotionally exhausted. Such prolonged fear reactions hinder recovery and adaptation to normal life (Akinsulore & Adewuyi, 2019).

Depression is a mood disorder characterized by persistent sadness, hopelessness, loss of interest in daily activities, and reduced motivation. Among trauma victims, depression may arise from loss of loved ones, destruction of property, and disruption of livelihoods. Victims may withdraw socially, experience feelings of worthlessness, and lose interest in farming, schooling, or community life. The researcher is disturbed by the prevalence of hopelessness and emotional numbness, which undermine resilience and impede community recovery (Gureje, Oladeji, & Araya, 2016). Sleep disturbance refers to difficulty falling asleep, staying asleep, or experiencing restful sleep. Trauma victims often suffer nightmares, night terrors, and repeated recollections of violent events during sleep. Fear of nighttime attacks and unsafe living conditions in displacement camps can intensify insomnia. Poor sleep weakens physical health, increases irritability, reduces concentration, and worsens emotional distress, thereby complicating recovery and daily functioning (Oginni, Mosaku, & Mapayi, 2018). Self-esteem describes an individual's sense of self-worth and personal value. Trauma victims may develop low self-esteem after experiencing displacement, loss of livelihood, dependency on aid, or inability to protect family members. Feelings of helplessness, shame, and diminished social roles can erode confidence and identity. The researcher is concerned that reduced self-worth may discourage victims from participating in community rebuilding efforts and hinder long-term psychosocial recovery (Ojedokun, 2015).

Trauma in communities may arise from multiple causes. Common causes include armed conflict and war, communal clashes, natural disasters, displacement, loss of loved ones, domestic violence, poverty, and kidnapping. In the context of Tiv communities, **bandit destabilization** has emerged as a major cause of trauma. Bandit destabilization refers to the persistent activities of armed criminal groups who attack communities, destroy property, abduct residents, and disrupt social and economic life. It involves violent raids, killings, extortion, and forced displacement, which collectively create fear, instability, and social breakdown. Banditry destabilization can be defined as the systematic use of violence and criminal aggression by armed groups to undermine community safety, economic stability, and governance structures (Okoli & Ogayi, 2018). This phenomenon goes beyond isolated criminal acts; it represents sustained insecurity that erodes livelihoods, displaces populations, and weakens social cohesion. In Tiv communities, repeated attacks on villages, destruction of farms, and forced displacement into IDP camps have generated chronic fear, grief, and psychological distress among survivors. Victims often live with memories of violence, loss of family members, and uncertainty about the future, all of which intensify traumatic experiences. The persistence of bandit destabilization in Tiv communities deeply worries the researcher because of its profound psychological and socio-cultural consequences. Families are separated, children are exposed to violence at a young age, and traditional community support systems are weakened. Trauma victims may exhibit fear, silence, aggression, emotional

withdrawal, and loss of cultural identity. Without intervention, these psychological wounds threaten community resilience, social cohesion, and long-term peacebuilding efforts.

Addressing trauma requires structured healing processes, commonly referred to as therapy. Therapy is a systematic intervention designed to help individuals cope with emotional distress, modify maladaptive behaviours, and improve psychological wellbeing. It involves professional techniques aimed at restoring mental health and promoting adaptive functioning.

Art therapy is a therapeutic approach that uses creative processes such as drawing, painting, sculpture, and symbolic expression to promote healing and emotional recovery. It allows individuals to express feelings that may be difficult to verbalize, making it especially effective for trauma victims who struggle to articulate painful experiences. According to Malchiodi (2020), art therapy facilitates emotional expression, stress reduction, and psychological integration through creative engagement. Through imagery, symbolism, and creative storytelling, trauma victims can process painful memories, rebuild identity, and regain emotional stability.

Generally, art therapy promotes emotional release, enhances self-expression, improves self-esteem, and fosters resilience. It provides a non-threatening medium for communication, encourages relaxation, and supports psychological healing. In communities affected by violence, art therapy can also promote collective healing, cultural preservation, and social reintegration.

In Tiv communities destabilized by banditry, art therapy offers culturally relevant and accessible pathways for trauma healing. Artistic expression resonates with indigenous Tiv cultural practices that incorporate symbolism, storytelling, music, and body decoration as forms of communication and identity expression. Integrating art therapy into trauma response initiatives can therefore foster emotional recovery while preserving cultural values.

This study is therefore motivated by the urgent need to explore art therapy as a responsive intervention for trauma victims in bandit-destabilized Tiv communities of Benue State. Given the growing psychological burden caused by insecurity and the limited availability of mental health services, there is a pressing need for culturally sensitive and sustainable therapeutic approaches.

Statement of the Problem

In recent years, violent attacks and persistent insecurity have created an atmosphere of fear and instability in Tiv communities of Benue State. The growing incidents of banditry, village raids, displacement, and destruction of farmlands have not only disrupted livelihoods but have also left deep psychological wounds among survivors. Families have witnessed killings, loss of property, forced migration, and prolonged stays in internally displaced persons (IDP) camps. These experiences have generated intense emotional suffering, yet the psychological needs of affected individuals remain largely unattended. The continuing exposure to violence and insecurity raises serious concern about the mental health and psychosocial wellbeing of trauma victims in these communities. This situation constitutes a major problem because trauma, when untreated, interferes with individuals' emotional stability, social functioning, and capacity for productive living. Many victims experience persistent fear, anxiety, grief, emotional numbness, sleep disturbances, and withdrawal from social interaction. Children exposed to violent attacks often develop learning difficulties, behavioural problems, and long-term emotional distress that affect their educational development. Adults may exhibit aggression, hopelessness, substance abuse tendencies, and loss of motivation for livelihood activities. At the community level, unresolved trauma weakens social cohesion, erodes trust, and undermines traditional support systems that promote collective resilience.

If trauma resulting from bandit destabilization is not addressed, the consequences may be severe and long-lasting. Individuals may develop chronic psychological disorders such as post-traumatic stress symptoms, depression, and anxiety disorders. Families may experience breakdown in relationships, increased domestic violence, and disrupted caregiving roles. Socially, untreated trauma may contribute to cycles of violence, youth radicalization, and intergenerational transmission of fear and aggression. Economically, trauma victims may struggle to return to productive agricultural activities, thereby worsening poverty and food insecurity in predominantly agrarian Tiv communities. Ultimately, the failure to provide psychosocial healing may hinder peacebuilding efforts and sustainable community recovery. Scholars and humanitarian organizations have recognized the need for trauma interventions in conflict-affected populations. Conventional approaches such as counselling, cognitive behavioural therapy, and psychosocial support programmes have been implemented in displacement camps and conflict zones to address emotional distress and improve coping strategies (IASC, 2017; WHO, 2021). In Nigeria, some non-governmental organizations and faith-based groups have provided counselling services and relief interventions for internally displaced persons. However, these interventions often focus on immediate relief and verbal counselling approaches, which may not adequately address deep emotional wounds, especially among individuals who find it difficult to express traumatic experiences verbally. Emerging studies highlight the effectiveness of creative and expressive therapies in trauma recovery. Art therapy, in particular, has been used globally to help survivors of war, violence, and displacement express suppressed emotions, reconstruct identity, and foster psychological healing (Malchiodi, 2020). Despite its growing recognition, the application of art therapy remains limited in many Nigerian rural communities, including Tiv settlements affected by violent destabilization. Existing interventions rarely integrate culturally relevant artistic expressions that resonate with indigenous traditions and community healing practices.

The gap, therefore, lies in the limited use of culturally grounded, non-verbal therapeutic approaches such as art therapy in addressing trauma among victims of bandit destabilization in Tiv communities. While prior efforts have focused on relief support and conventional counselling methods, little attention has been given to the potential of art-based interventions as a responsive and culturally adaptable trauma healing strategy. This study seeks to fill this gap by examining art therapy as a therapeutic response for trauma victims in bandit-destabilized Tiv communities of Benue State

Purpose of the Study

The aim of this study is to examine art therapy response to Truma victims in bandit destabilized Tiv communities. The specific objectives are:

1. determine the mean difference in anxiety between bandit trauma victims exposed to art therapy and those not exposed.
2. determine the mean difference in depression between bandit trauma victims exposed to art therapy and those not exposed.
3. determine the mean difference in sleep disturbance between bandit trauma victims exposed to art therapy and those not exposed
4. determine the mean difference in self-esteem between bandit trauma victims exposed to art therapy and those not exposed

Research Questions

The study will be guided by the following research questions:

1. What is the mean difference in anxiety between bandit trauma victims exposed to art therapy and those not exposed?
2. What is the mean difference in depression between bandit trauma victims exposed to art therapy and those not exposed?
3. What is the mean difference in sleep disturbance between bandit trauma victims exposed to art therapy and those not exposed?
4. What is the mean difference in self-esteem between bandit trauma victims exposed to art therapy and those not exposed?

Hypotheses

The following hypotheses are formulated to be tested at 0.05 level of significance for the study:

1. There is no significant difference between experimental subjects and control subjects on post-test measures of anxiety.
2. There is no significant difference between experimental subjects and control subjects on post-test measures of depression.
3. There is no significant difference between experimental subjects and control subjects on post-test measures of sleep disturbance.
4. There is no significant difference between experimental subjects and control subjects on post-test measures of self-esteem.

Research Method

This section described the method used in conducting the study. It covers the following; research design, area of the study, population, sample size and sampling technique, instrument for data collection, validity of the instrument, reliability of the instrument, method of data collection and method of data analysis.

Research Design

The study adopted a quasi-experimental design, specifically a non-randomized control group pretest-posttest design. This design was suitable because it allowed the researcher to measure changes in the dependent variables before and after the intervention, while acknowledging that the experimental and control groups might not have been initially equivalent. Unlike true experimental designs, which required random assignment, the quasi-experimental design was appropriate in situations where randomization was not feasible (Dinardo, as cited in Anyim, 2019).

In the study, the design involved two groups: an experimental group that received art therapy and a control group that did not receive the intervention. Both groups were assessed twice, at pre-test and post-test.

Population

The population of the study comprised Internally Displaced Persons (IDPs) affected by bandit-related violence and displacement in Benue State, as well as relevant stakeholders involved in displacement management and humanitarian support. According to the Benue State Emergency Management Agency (SEMA, 2023), the total number of IDPs in the state was estimated at 491,147. However, due to accessibility and logistical considerations, the study focused on a

defined and reachable population of 217,748 IDPs residing in major IDP camps and host communities across the state.

Sample and Sampling

Given the large population size, a representative sample was drawn to ensure effective data collection and reliable generalization of the findings. The sample size for the study was determined using the Taro Yamane (1967) formula, which was suitable for studies involving large populations with known figures. Therefore, the sample size for the study was approximately 400 respondents. This sample size was considered adequate to ensure statistical reliability and representativeness of the target population at a 95% confidence level and a 5% margin of error. The use of the Taro Yamane formula provided a simple, transparent, and widely accepted method for determining sample size in large populations, thereby enhancing the credibility and generalizability of the study findings. The study employed a multi-stage sampling technique to select participants from Internally Displaced Persons (IDPs) in bandit-affected Tiv communities in Benue State. At the first stage, purposive sampling was used to select Tiv communities within Zone A and Zone B that had experienced significant bandit destabilization and displacement. This ensured that the study focused on locations where trauma resulting from violent attacks was prevalent. At the second stage, stratified sampling was employed to categorize IDPs based on the two senatorial zones (Zone A and Zone B). This stratification ensured proportional representation of trauma victims from both zones, thereby enhancing the representativeness of the sample and controlling for geographical variations in exposure to bandit-related violence. At the third stage, simple random sampling was used to select participants from the IDP camps and host communities within each stratum. A sampling frame was developed with the assistance of camp officials and community leaders, after which participants were randomly selected using balloting or random number generation to ensure that each eligible IDP had an equal chance of selection. Following selection, participants were randomly assigned to two groups consistent with the quasi-experimental design. Using a random assignment technique, selected IDPs were allocated to an experimental group, which received the art therapy intervention, and a control group, which did not receive the intervention during the study period.

Instrumentation

The instrument for data collection in the study was a structured questionnaire titled Art Therapy Trauma Response Questionnaire (ATTRQ). The questionnaire was designed by the researcher to assess trauma-related psychological outcomes among internally displaced persons (IDPs) in bandit-destabilized Tiv communities in Benue State. The instrument was structured in simple and clear language to ensure comprehension by respondents with varying educational backgrounds. The questionnaire items were structured using a four-point Likert scale to reflect the degree of agreement with each statement. The response options were Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1. The four-point scale was preferred because it eliminated neutral responses and encouraged respondents to make clear choices, thereby improving the reliability of responses. In addition to the questionnaire, an art therapy intervention plan was developed in line with the study variables to guide the research assistants in conducting the therapeutic sessions. The intervention manual outlined structured art therapy activities specifically designed to address the identified trauma-related conditions: anxiety, depression, sleep disturbance, and low self-esteem. The plan provided step-by-step procedures to ensure consistency, cultural relevance, and therapeutic effectiveness during implementation.

The art therapy sessions incorporated carefully selected creative activities, such as expressive drawing, symbolic painting, clay modelling, collage making, storytelling through images, and guided imagery art exercises. These activities enabled participants to externalize traumatic experiences, express suppressed emotions, and reconstruct personal meaning in a safe and supportive environment. Specifically, the intervention included the following activities:

- **Emotion expression and release activities:** These included drawing feelings and colour-emotion mapping to reduce anxiety and emotional tension.
- **Trauma narrative art exercises:** These included visual storytelling and symbolic representation of experiences to help participants process traumatic memories and alleviate depressive symptoms.
- **Relaxation-based creative activities:** These included rhythmic pattern drawing, guided imagery painting, and mandala creation to promote calmness and improve sleep quality.
- **Self-identity and empowerment art tasks:** These included self-portrait creation, strength shields, and future-hope collages to rebuild self-worth and enhance self-esteem.

Each session was organized with clearly defined objectives, therapeutic procedures, required materials, facilitation guidelines, and expected outcomes. The sessions followed a structured sequence beginning with warm-up activities, guided creative expression, reflection and sharing, and closure exercises aimed at emotional stabilization.

Treatment and Experiment

The treatment procedure for the study was implemented in three phases: the Pre-Treatment Phase, Treatment Phase, and Post-Treatment Phase. These phases were designed to ensure the systematic implementation of the art therapy intervention and to evaluate its effectiveness in addressing trauma-related psychological conditions among internally displaced persons (IDPs) in bandit-destabilized Tiv communities in Benue State.

Method of Data Analysis

Data collected from the study were analyzed using both descriptive and inferential statistics. Descriptive statistics, specifically mean and standard deviation, were used to answer the research questions by describing the responses of participants on anxiety, depression, sleep disturbance, and self-esteem. To test the hypotheses, Analysis of Covariance (ANCOVA) was employed at a 0.05 level of significance. ANCOVA was considered appropriate for this quasi-experimental study because it allowed for comparison of post-test scores between the experimental (art therapy) and control groups while statistically controlling for any initial differences observed in the pre-test scores. This adjustment improved the accuracy of treatment effect estimation. The decision rule was to reject the null hypothesis when the p-value was less than or equal to 0.05 and to retain the null hypothesis when the p-value was greater than 0.05.

Results

The result is presented in line with the objectives and research questions that guides the study:

Research Question 1: What is the difference in the mean anxiety scores of individuals exposed to therapy and those not exposed to therapy following bandit-related trauma?

Table 1: Mean and Standard Deviation of Anxiety Scores of Individuals Exposed to Therapy and Those Not Exposed to Therapy

Group	N	Pre-test		Post-test		Mean Gain
		Mean	SD	Mean	SD	
Exposed to Therapy	193	1.70	0.693	3.26	0.826	1.56
Not Exposed to Therapy	207	1.70	0.695	2.34	1.121	0.64
Difference in Mean Gains						**0.92**

Table 1 shows that individuals exposed to therapy had a pre-test anxiety mean score of 1.70 (SD = 0.693), which increased to 3.26 (SD = 0.826) at post-test, resulting in a mean gain of 1.56. In comparison, individuals not exposed to therapy had a pre-test mean score of 1.70 (SD = 0.695) and a post-test mean score of 2.34 (SD = 1.121), yielding a mean gain of 0.64. The difference in mean gains was 0.92 in favour of the group exposed to therapy. This indicates that the two groups experienced different changes in their anxiety scores following the intervention period. However, the implication of this difference for anxiety reduction depends on the scoring direction of the anxiety instrument. Statistical testing is required to establish whether the observed difference is significant.

Research Question 2: What is the difference in the mean depression scores of individuals exposed to therapy and those not exposed to therapy following bandit-related trauma?

Table 2: Mean and Standard Deviation of Depression Scores of Individuals Exposed to Therapy and Those Not Exposed to Therapy

Group	N	Pre-test		Post-test		Mean Gain
		Mean	SD	Mean	SD	
Exposed to Therapy	193	1.66	0.682	3.11	0.934	1.45
Not Exposed to Therapy	207	1.71	0.721	2.40	1.110	0.69
Difference in Mean Gains						**0.76**

Table 2 shows that individuals exposed to therapy recorded a pre-test depression mean score of 1.66 (SD = 0.682), which increased to 3.11 (SD = 0.934) at post-test, producing a mean gain of 1.45. Those not exposed to therapy recorded a pre-test mean score of 1.71 (SD = 0.721) and a post-test mean score of 2.40 (SD = 1.110), resulting in a mean gain of 0.69. The difference in mean gains was 0.76. Descriptively, the exposed-to-therapy group demonstrated a greater change in depression scores than the group not exposed to therapy. Whether this change represents improvement or deterioration depends on how the depression instrument was scored. The corresponding inferential analysis is needed to determine whether the difference is statistically significant.

Research Question 3: What is the difference in the mean sleep-disturbance scores of individuals exposed to therapy and those not exposed to therapy following bandit-related trauma?

Table 3: Mean and Standard Deviation of Sleep-Disturbance Scores of Individuals Exposed to Therapy and Those Not Exposed to Therapy

Group	N	Pre-test		Post-test		Mean Gain
		Mean	SD	Mean	SD	
Exposed to Therapy	193	1.65	0.676	3.03	0.989	1.38
Not Exposed to Therapy	207	1.70	0.689	2.45	1.148	0.75
Difference in Mean Gains						**0.63**

Table 3 shows that individuals exposed to therapy had a pre-test sleep-disturbance mean score of 1.65 (SD = 0.676) and a post-test mean score of 3.03 (SD = 0.989), yielding a mean gain of 1.38. In contrast, individuals not exposed to therapy had a pre-test mean score of 1.70 (SD = 0.689) and a post-test mean score of 2.45 (SD = 1.148), producing a mean gain of 0.75. The difference in mean gains was 0.63 in favour of the group exposed to therapy in terms of the magnitude of change. Nevertheless, the direction of the change must be interpreted using the instrument's scoring criteria to determine whether sleep disturbances improved or worsened. Inferential analysis is also necessary to establish whether the observed difference is statistically significant.

Research Question 4: What is the difference in the mean self-esteem scores of individuals exposed to therapy and those not exposed to therapy following bandit-related trauma?

Table 4: Mean and Standard Deviation of Self-Esteem Scores of Individuals Exposed to Therapy and Those Not Exposed to Therapy

Group	N	Pre-test		Post-test		Mean Gain
		Mean	SD	Mean	SD	
Exposed to Therapy	193	1.65	0.692	3.11	0.928	1.46
Not Exposed to Therapy	207	1.66	0.713	2.43	1.147	0.77
Difference in Mean Gains						**0.69**

Table 4 shows that individuals exposed to therapy recorded a pre-test self-esteem mean score of 1.65 (SD = 0.692), which increased to 3.11 (SD = 0.928) at post-test, giving a mean gain of 1.46. Individuals not exposed to therapy had a pre-test mean score of 1.66 (SD = 0.713) and a post-test mean score of 2.43 (SD = 1.147), resulting in a mean gain of 0.77. The difference in mean gains was 0.69. These descriptive results indicate a greater increase in self-esteem scores among individuals exposed to therapy than among those not exposed to therapy.

Testing of Hypotheses

Hypothesis 1: There is no significant difference in the mean anxiety scores of individuals exposed to therapy and those not exposed to therapy following bandit-related trauma.

Table 5: ANCOVA of Post-Test Anxiety Scores of Individuals Exposed to Therapy and Those Not Exposed to Therapy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	85.147	2	42.573	43.520	<.001	.180
Intercept	491.181	1	491.181	502.104	<.001	.558
Pre-anxiety	1.331	1	1.331	1.360	.244	.003
Group	83.879	1	83.879	85.744	<.001	.178
Error	388.363	397	0.978	—	—	—
Total	3576.000	400	—	—	—	—
Corrected Total	473.510	399	—	—	—	—

Note. $R^2 = .180$; adjusted $R^2 = .176$. The dependent variable was post-test anxiety.

Table 5 presents the ANCOVA results for the post-test anxiety scores of individuals exposed to therapy and those not exposed to therapy following bandit-related trauma. The results show that the effect of group membership was statistically significant, $F(1, 397) = 85.744$, $p < .001$, with a partial eta squared of .178. This indicates a statistically significant difference in post-test anxiety

scores between the two groups after controlling for pre-test anxiety. The partial eta squared suggests that group membership accounted for approximately 17.8% of the variance in post-test anxiety attributable to the group effect and its associated error variance. Since the significance value was below .05, the null hypothesis was rejected. Therefore, there was a statistically significant difference in the post-test anxiety scores of individuals exposed to therapy and those not exposed to therapy.

Hypothesis 2: There is no significant difference in the mean depression scores of individuals exposed to therapy and those not exposed to therapy following bandit-related trauma.

Table 6: ANCOVA of Post-Test Depression Scores of Individuals Exposed to Therapy and Those Not Exposed to Therapy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	51.029	2	25.514	24.062	<.001	.108
Intercept	469.784	1	469.784	443.043	<.001	.527
Pre-depression	0.251	1	0.251	0.236	.627	.001
Group	50.480	1	50.480	47.607	<.001	.107
Error	420.961	397	1.060	—	—	—
Total	3486.000	400	—	—	—	—
Corrected Total	471.990	399	—	—	—	—

Note. $R^2 = .108$; adjusted $R^2 = .104$. The dependent variable was post-test depression.

Table 6 presents the ANCOVA results for the post-test depression scores of individuals exposed to therapy and those not exposed to therapy. The results indicate that group membership had a statistically significant effect on post-test depression scores after controlling for pre-test depression, $F(1, 397) = 47.607$, $p < .001$. The partial eta squared of .107 indicates that the group effect accounted for approximately 10.7% of the variance in post-test depression attributable to the group effect and its associated error variance. The corrected model had an R^2 of .108, indicating that the model explained 10.8% of the variance in post-test depression. Since the significance value was below the .05 level, the null hypothesis was rejected. Therefore, there was a statistically significant difference in the post-test depression scores of individuals exposed to therapy and those not exposed to therapy following bandit-related trauma.

Hypothesis 3: There is no significant difference in the mean sleep-disturbance scores of individuals exposed to therapy and those not exposed to therapy following bandit-related trauma.

Table 7: ANCOVA of Post-Test Sleep-Disturbance Scores of Individuals Exposed to Therapy and Those Not Exposed to Therapy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	33.538	2	16.769	14.509	<.001	.068
Intercept	447.952	1	447.952	387.580	<.001	.494
Pre-sleep disturbance	0.288	1	0.288	0.249	.618	.001
Group	33.023	1	33.023	28.573	<.001	.067
Error	458.840	397	1.156	—	—	—
Total	3479.000	400	—	—	—	—
Corrected Total	492.378	399	—	—	—	—

Note. $R^2 = .068$; adjusted $R^2 = .063$. The dependent variable was post-test sleep disturbance.

Table 7 presents the ANCOVA results for post-test sleep-disturbance scores. The results reveal a statistically significant effect of group membership on post-test sleep disturbance after controlling for pre-test sleep disturbance, $F(1, 397) = 28.573$, $p < .001$. The partial eta squared of .067 indicates that the group effect accounted for approximately 6.7% of the variance in post-test sleep disturbance attributable to the group effect and its associated error variance. The corrected model had an R^2 of .068, suggesting that it explained 6.8% of the variance in post-test sleep-disturbance scores. Since the significance value was below .05, the null hypothesis was rejected. Therefore, a statistically significant difference existed in the post-test sleep-disturbance scores of individuals exposed to therapy and those not exposed to therapy following bandit-related trauma.

Hypothesis 4: There is no significant difference in the mean self-esteem scores of individuals exposed to therapy and those not exposed to therapy following bandit-related trauma.

Table 8: ANCOVA of Post-Test Self-Esteem Scores of Individuals Exposed to Therapy and Those Not Exposed to Therapy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	47.127	2	23.563	21.490	<.001	.098
Intercept	511.603	1	511.603	466.578	<.001	.540
Pre-self-esteem	1.051	1	1.051	0.959	.328	.002
Group	45.981	1	45.981	41.934	<.001	.096
Error	435.311	397	1.097	—	—	—
Total	3535.000	400	—	—	—	—
Corrected Total	482.437	399	—	—	—	—

Note. $R^2 = .098$; adjusted $R^2 = .093$. The dependent variable was post-test self-esteem.

Table 8 presents the ANCOVA results for the post-test self-esteem scores of individuals exposed to therapy and those not exposed to therapy following bandit-related trauma. The results show that group membership had a statistically significant effect on post-test self-esteem after controlling for pre-test self-esteem, $F(1, 397) = 41.934$, $p < .001$. The partial eta squared of .096 indicates that the group effect accounted for approximately 9.6% of the variance in post-test self-esteem

attributable to the group effect and its associated error variance. The corrected model had an R^2 of .098, indicating that it explained 9.8% of the variance in post-test self-esteem. Since the significance value was below .05, the null hypothesis was rejected. Therefore, there was a statistically significant difference in the post-test self-esteem scores of individuals exposed to therapy and those not exposed to therapy.

Discussion of Findings

The finding of the study revealed that art therapy had a significant effect on anxiety among victims of bandit-related trauma. This finding suggests that art therapy may be a useful therapeutic approach for addressing anxiety associated with traumatic experiences. The finding is consistent with Huang et al. (2025), whose systematic review and meta-analysis reported that visual art therapy was effective in reducing anxiety symptoms among adults, although the quality of the evidence was rated very low. Similarly, Maddox et al. (2024), in their systematic review and meta-analysis of visual arts therapy for traumatic experiences, found evidence of benefits for some psychological outcomes among individuals exposed to trauma. This may be because art therapy provides victims with opportunities to express difficult emotions, process distressing experiences, and communicate feelings that may be challenging to express verbally. Therefore, art therapy may serve as a valuable therapeutic approach for supporting the emotional recovery of victims of bandit-related trauma. The finding also revealed that art therapy had a significant effect on depression among victims of bandit-related trauma. This finding indicates that art therapy may be beneficial in addressing depressive symptoms associated with traumatic experiences. It agrees with Qiao et al. (2026), whose systematic review and meta-analysis found that art therapy significantly reduced depressive symptoms among adults compared with control conditions. Similarly, Joschko et al. (2024) reported that active visual art therapy was associated with improvements in some health outcomes, although the findings varied across outcomes and the overall evidence was limited by methodological differences among studies. Art therapy may help victims of bandit-related trauma by providing a supportive environment in which they can express sadness, grief, fear, and other difficult emotions. Through drawing, painting, and other creative activities, victims may find alternative ways to communicate their experiences and engage in emotional processing. Art therapy may therefore contribute to the psychological support and recovery of individuals experiencing trauma-related depression. The finding further revealed that art therapy had a significant effect on sleep disturbance among victims of bandit-related trauma. This suggests that art therapy may be relevant to addressing sleep-related difficulties experienced by trauma victims. The finding is broadly consistent with Maddox et al. (2024), who examined visual arts therapy among individuals with traumatic experiences and identified benefits for some psychological outcomes, although their review did not establish a consistent effect across all trauma-related outcomes. Sleep disturbances among victims of bandit-related trauma may be associated with fear, persistent worry, distressing memories, and heightened emotional arousal. By offering opportunities for emotional expression and relaxation, art therapy may help victims manage some of the psychological distress associated with these experiences. Nevertheless, because the reviewed evidence does not establish a consistent direct effect of art therapy on sleep disturbance, this finding should be interpreted as evidence of a difference between the study groups rather than definitive proof that art therapy reduces sleep problems. The finding also revealed that art therapy had a significant effect on self-esteem among victims of bandit-related trauma. This finding means that art therapy may have implications for victims' perceptions of their abilities, personal worth, and capacity to cope with difficult experiences. It is broadly supported by Maddox et al. (2024),

whose review found that visual arts therapy produced benefits for some positive psychological outcomes, particularly in certain therapeutic contexts. Joschko et al. (2024) also reported improvements in some health outcomes following active visual art therapy, although the effects were not uniform across all outcomes. Participation in creative activities may provide victims with opportunities to demonstrate their abilities, experience personal accomplishment, and express aspects of themselves beyond their traumatic experiences. Such experiences may contribute to a stronger sense of personal agency and self-worth. Art therapy may therefore be a useful component of psychological support for victims of bandit-related trauma.

Conclusion

Based on the findings, the study concluded that art therapy had a significant effect on anxiety, depression, sleep disturbance, and self-esteem among victims of bandit-related trauma. The findings suggest that art therapy may serve as a valuable therapeutic approach for addressing the psychological challenges associated with traumatic experiences by providing victims with opportunities for emotional expression, processing of distressing experiences, and rebuilding of personal confidence and self-worth. The study therefore highlights the potential relevance of art therapy as a complementary approach to psychological support and trauma recovery among victims of bandit-related violence. However, the direction of the effects should be interpreted in relation to the scoring of the study variables, particularly because higher post-test mean scores were observed among victims exposed to art therapy across all four outcomes. Consequently, confirmation of the scoring direction and adjusted group means is necessary before concluding definitively that art therapy reduced anxiety, depression, and sleep disturbance or improved self-esteem.

Recommendations

Based on the findings and conclusions of the study, the following recommendations were made:

1. Counselling psychologists, clinical psychologists, and trauma-support professionals should consider incorporating art therapy into psychological support programmes for victims of bandit-related trauma to provide opportunities for emotional expression and anxiety management, while monitoring victims' progress throughout the intervention.
2. Mental health professionals and rehabilitation centres should integrate structured art therapy activities, such as drawing, painting, and creative expression, into trauma-support services to help victims communicate difficult emotions and complement other appropriate interventions for managing depressive symptoms.
3. Counsellors and trauma-rehabilitation practitioners should incorporate appropriate art-based relaxation and emotional-expression activities into support programmes for victims experiencing sleep disturbances, alongside relevant sleep-management strategies and professional assessment where necessary.
4. Government agencies, non-governmental organisations, and trauma-rehabilitation centres should organise art-based therapeutic and creative activities that encourage self-expression, personal accomplishment, and social interaction among victims of bandit-related trauma, with the aim of supporting their confidence, sense of personal worth, and reintegration into their communities.

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