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*Research Article*

# Imagination Therapy through Art and Technology: A Collaborative Mental Health Intervention

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## ABSTRACT

This research explores imagination therapy as a creative method aimed at providing visual therapy for ten schizophrenic clients, referred to as "chosen people." Utilizing the concept of hyperreality, the therapy seeks to reactivate cognitive abilities and minimize delusions and hallucinations. Hyperreality is constructed from imagined data, drawing from clients' personal documents, archives, and daily life elements, such as songs, objects, and routines. Imagination therapy integrates clients' unrealized stories, desires, and imaginations with hyperrealistic visuals through collaborative sessions. The process involves repeated evaluations to refine visuals based on client preferences and feedback, ultimately culminating in the creation of a visual lab. The therapy's effectiveness is assessed using the PANSS (Positive and Negative Syndrome Scale), measuring symptom changes over time. The findings indicate that imagination therapy not only fosters confidence in clients' ability to process their expectations but also helps reactivate cognitive functions and empower desires. The concept of hyperreality proves essential in enhancing self-confidence and enabling clients to realize their deepest desires, contributing to their overall mental health recovery. This study highlights the potential of using artistic and technological methods in schizophrenia treatment.

**Keywords:** chosen people; collaborative lab; empowered and equal; hyperreality concept; imagination therapy

## 1. INTRODUCTION

Mental health is a crucial aspect of human life, encompassing the balance between mental functions, an individual's ability to adapt to themselves and their environment, and the achievement of a meaningful and fulfilling life (Bohlmeijer & Westerhof, 2021; Coronel-Santos & Rodríguez-Macías, 2022). Mental health involves an individual's ability to feel at ease with themselves and others, and to evaluate problem-solving alternatives in a positive manner (Huang et al., 2024). A mentally healthy individual can interact with their social and emotional environment in a healthy way, leading to a harmonious and productive life (Sapra & Mathur, 2020; Servidio, 2023). However, not everyone can achieve this state, especially those suffering from mental disorders (De Pablo et al., 2021). Schizophrenia is one such mental disorder that significantly impacts an individual's thinking, emotions, and behavior (McCutcheon et al., 2023; Neves et al., 2025). Schizophrenia is a chronic psychotic disorder characterized by distorted perceptions of reality, often accompanied by hallucinations and delusions (Martinuzzi et al., 2022; Ursini & Weinberger, 2021). This disorder affects an individual's ability to interact with the outside world, often leading to social dysfunction and difficulties in daily life (Fett et al., 2019; García-López et al., 2022).

In Indonesia, according to data from the WHO and basic health research, the prevalence of emotional mental disorders, such as depression and anxiety, as well as severe mental disorders like schizophrenia, shows significant numbers (Asrullah et al., 2022). The prevalence of severe mental disorders, including schizophrenia, is around 400,000 individuals, or 1.7 per 1,000 population (Meshram & Kasturkar, 2021), presenting a major health challenge. One of the key challenges in treating schizophrenia is the reliance on pharmacological treatments, such as antipsychotics, which are often associated with serious side effects and potential treatment resistance. Despite this, with advancements in the medical field, non-pharmacological therapies are receiving more attention (Bushnell et al., 2021). One such approach is art therapy, which includes visual and imaginative therapy (Hu et al., 2021). Art therapy serves to enhance cognitive abilities, reduce symptoms such as delusions and hallucinations, and provide clients with an opportunity to express their thoughts and emotions creatively (Shukla et al., 2022; Yazdanpanah et al., 2022). Recent research indicates that art therapy can accelerate psychological recovery and provide significant physical benefits, such as boosting immune function and reducing anxiety (Richesin et al., 2021; Zhou et al., 2025). Moreover, the integration of advanced technology such as digital art platforms, virtual reality, and interactive

media (Morande & Tewari, 2023) has further expanded the scope and accessibility of art therapy, making it more engaging and adaptable to individual therapeutic needs.

This study aims to develop a more effective art therapy through a visual and imaginative approach, integrating multimedia technology. One result of this development is Peta Jiwa (Soul Map), a collaborative lab using the imagination therapy method to treat schizophrenia clients, particularly those with residual status or outpatient treatment (Kaimal et al., 2020). Peta Jiwa is designed to provide clients with the opportunity to interact with dynamic, interactive visuals controlled through multimedia devices. Through this technique, clients are expected to become more open in exploring and expressing their experiences, feelings, and hopes, which have often been difficult to reach through traditional therapies.

Peta Jiwa not only serves as an expressive medium but also as a tool to access deeper psychological data from clients. By using various visual elements such as images, sound, video, and physical interaction, this therapy seeks to reactivate the cognitive abilities of clients and minimize the mental disorder symptoms they experience. Each interaction within the lab provides feedback, enabling the creator, along with psychiatrists and therapists, to closely monitor and precisely track the psychological development of the clients.

The main goal of this study is to develop a visual therapy based on imagination that not only enhances clients' self-expression but also provides more accurate data on their psychological development. Additionally, Peta Jiwa is expected to serve as a more effective art therapy alternative that can be implemented in psychiatric hospitals or other schizophrenia care facilities. The benefits of this research include contributing to the development of more effective art therapy for schizophrenia clients and providing a deeper understanding of how visualization and imagination can be utilized to restore cognitive and social functions. Furthermore, this research aims to raise public awareness, especially among the families of clients, about the importance of a more humanistic and creative approach to mental health care.

## 2. RESEARCH METHOD

This study employs an artistic research methodology known as practice-led research (Hamilton & and Hansen, 2024), integrating therapeutic imagination within the conceptual framework of hyperreality. Practice-led research enables the researcher to treat creative practice as a form of inquiry and knowledge generation (Jia & Shahir, 2025; Zhang & Li, 2025). This approach systematically intertwines creative practices with psychological interventions aiming at cognitive activation and reduction of symptoms such as delusions and hallucinations among selected participants. The study involved ten participants, labeled S1 to S10, who were selected based on psychosocial similarities. Participants were grouped according to emotional resonance and behavioral characteristics identified through preliminary assessments. Collaboration was central to the process, involving artists (researchers), psychiatrists, and participants' family members to ensure a holistic support system (Holttum et al., 2021).

The research process comprised structured yet adaptable phases. Initially, baseline assessments using the Positive and Negative Syndrome Scale (PANSS) were conducted to gauge participants' psychosocial functions and symptom severity prior to the intervention (Lee & Lee, 2025). This approach aligns with standardized clinical assessment methods (Melvin et al., 2022). The intervention phase involved therapeutic imagination sessions, employing hyperreality techniques such as simulacrum and visual simulation inspired by Baudrillard's theories (Shayanpoor & Kolahjooei, 2024). Participants engaged with imagery and visualizations based on everyday objects, habitual realities, and personal archives, creating interactive and personalized visual stimuli. Post-intervention, PANSS evaluations were repeated to quantify changes and improvements. Regular qualitative evaluations occurred throughout the intervention phase, allowing adjustments in visual stimuli and creative interactions based on participant feedback.

Materials utilized in the study included everyday objects, personal documents, and audiovisual stimuli strategically employed using techniques of layering and overlap to create hyperrealistic experiences (Hadjipanayi et al., 2023). Techniques encompassed blending reality with fantasy elements (simulacrum), creating visual experiences detached from direct real-world references (simulation and representation), and integrating narrative and game-like elements to enhance cognitive engagement and emotional response (Shafir et al., 2020). For data analysis, qualitative evaluations of visual and emotional feedback collected during the intervention sessions were thematically analyzed, providing insights into the creative and therapeutic processes (Parkinson et al., 2024). Quantitative analysis involved statistical examination of PANSS scores (Hieronymus et al., 2023), comparing pre- and post-intervention data to objectively evaluate the therapeutic efficacy and psychological improvements. A subset of PANSS items focusing on delusions, hallucinations, and emotional reactivity was utilized for targeted analysis, as partially illustrated in **Table 1**. The data were collected by a psychiatrist in collaboration with RSJD Dr. Arif Zainudin.

**Table 1.** Example PANSS Instrument Items

| No | Symptom Description | Assessment Description and Questions |
|---|---|---|
| P1 | Delusions | Delusions (contents of thought are unrealistic, strange, egocentric, and difficult to correct). Question: Does the patient have any beliefs or experiences that are unusual or extraordinary? |

| | | |
|---|---|---|
| P2 | Conceptual Disorganization | Thought process disorder (verbal thought process that is disconnected or not immediately conveyed due to loose associations, circumstantiality, tangentiality, or incoherence). Assessment: Based on interpretation of the patient's speech during interviews. |
| P3 | Hallucinatory Behavior | Hallucinatory behavior (bizarre or purposeless behavior without being stimulated by external stimuli). Assessment: Based on observation or reports from others (nurses or family members). |
| P4 | Excitement | Restlessness/agitation (motor hyperactivity, increased response to stimuli, excessive alertness, or mood lability). Assessment: Based on observation or reports from others who know the patient. |
| P5 | Grandiosity | Grandiose delusions (exaggerated beliefs about oneself). Question: Does the patient believe they have extraordinary power, wealth, invincibility, or other special abilities? |
| P6 | Suspiciousness/Persecution | Suspicion/persecution delusions (unrealistic or illogical beliefs of being harmed or persecuted). Question: Does the patient believe that someone or a group, or a certain situation, is trying to harm, monitor, or spy on them? |
| P7 | Hostility | Hostility (attitude and expression of anger, hatred, including verbal abuse, swearing, or physical aggression). Assessment: Based on observation or reports from others. |

Ethical approval was secured, and informed consent was obtained from all participants. Confidentiality and psychological safety were maintained throughout, guided by ethical protocols and oversight by mental health professionals. This methodological framework represents an innovative interdisciplinary approach, integrating artistic creativity, psychological therapy, and collaborative practices to explore the transformative potential of hyperrealistic therapeutic imagery.

## 2.1 Development of Art Therapy Media: Immersive Space Based on Interactive Video

The development of the art therapy media in this study employed a Research and Development (R&D) approach, adapting the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) (Branch & Varank, 2009) to suit the psychosocial therapeutic needs of clients with residual schizophrenia or those undergoing outpatient treatment. In the analysis phase, researchers conducted a series of in-depth interviews with each respondent, carried out three times during the pre-intervention stage. These semi-structured interviews aimed to explore the respondents' visual preferences, personal experiences (Suwastini & Dewi, 2023), as well as their emotional and psychosocial needs. The qualitative data collected from these interviews were then analyzed and used as the primary basis for designing therapeutic video content that is both personally relevant and therapeutically appropriate.

In the design and development phase, a collaborative team consisting of art therapists, clinical psychologists, and multimedia designers worked together to create an immersive therapy room, where all walls functioned as projection screens. The interactive videos displayed in this space were specifically tailored to the visual preferences, narratives, and themes gathered from the respondents during the interview process. Each video incorporated elements of color, movement, symbolism, and narrative that held particular meaning for the respondent, with the goal of facilitating self-reflection and providing visual and emotional stimulation to support the therapy process. The design of the space enabled active interaction whether through gestures, touch, or voice so that respondents could dynamically participate during each therapy session. Figure 1 shows an illustration of the immersive therapy room.

**Figure 1.** The immersive therapy room, featuring interactive video projections on all walls, designed to engage participants in a dynamic therapeutic experience.

The implementation phase involved engaging respondents in several therapy sessions within the immersive room. Throughout these sessions, respondents were encouraged to interact actively with the video content, explore their emotional responses, and reflect on relevant personal experiences. This approach is supported by recent findings that active engagement and personalized visual experiences can enhance the effectiveness of art therapy interventions, especially for individuals with chronic mental health conditions such as residual schizophrenia (Luo et al., 2022). The entire therapeutic process was closely monitored and supervised by professionals to ensure the psychological safety and comfort of the participants.

Evaluation was conducted comprehensively, encompassing behavioral observation during therapy sessions, post-session interviews, and the use of psychological instruments such as the Positive and Negative Syndrome Scale (PANSS) to measure changes in symptoms, as well as subjective satisfaction scales to assess the respondents' comfort and acceptance of the media used. Data were collected before and after the intervention, then analyzed descriptively and comparatively to evaluate the effectiveness of the immersive interactive video room as an art therapy medium. Feedback from respondents and expert teams was also utilized for revising and improving the content and interactive features before further application in subsequent sessions or for new respondents.

## 3. RESULTS AND DISCUSSION

### 3.1 Implementation of Imagination Therapy Through Visual Artworks

The implementation of imagination therapy in this study emphasizes the role of visual art as an effective medium to support psychological and social recovery for clients with residual schizophrenia. The artworks produced such as visual archives, handwritten notes, reflective writings, poems, and photographs are not merely regarded as aesthetic products but also as dynamic and participatory therapeutic instruments. All materials are documented in digital formats and integrated into a collaborative laboratory, serving as the foundation for exposure sessions and therapeutic interventions. Clients are given space to express their subjective experiences through various forms of art, including poetry, drawings, motivational notes, and everyday objects creatively transformed into therapeutic visuals. This approach combines the expertise of visual communication design with psychological perspectives in a collaborative framework, promoting active client involvement, enhancing self-confidence and independence, and contributing to the reduction of delusions and hallucinations. Practical applications of this method include visualizing poems written by clients and developed collectively, transforming personal objects such as fictional characters, photo albums, or diaries into meaningful visual components, and utilizing digital technology and artificial intelligence to create hyperreal representations inspired by Baudrillard's theory of simulacra. Figure 2 shows the result of visualizing a client's personal preference, where their favorite character was reimagined as a central visual element in a therapeutic narrative. This process constructs a new, more positive and supportive reality. Overall, the practice demonstrates that the structured management of visual and narrative archives can gradually support cognitive and emotional recovery while reinforcing the principle of empowered and equitable access in building more inclusive social interactions.

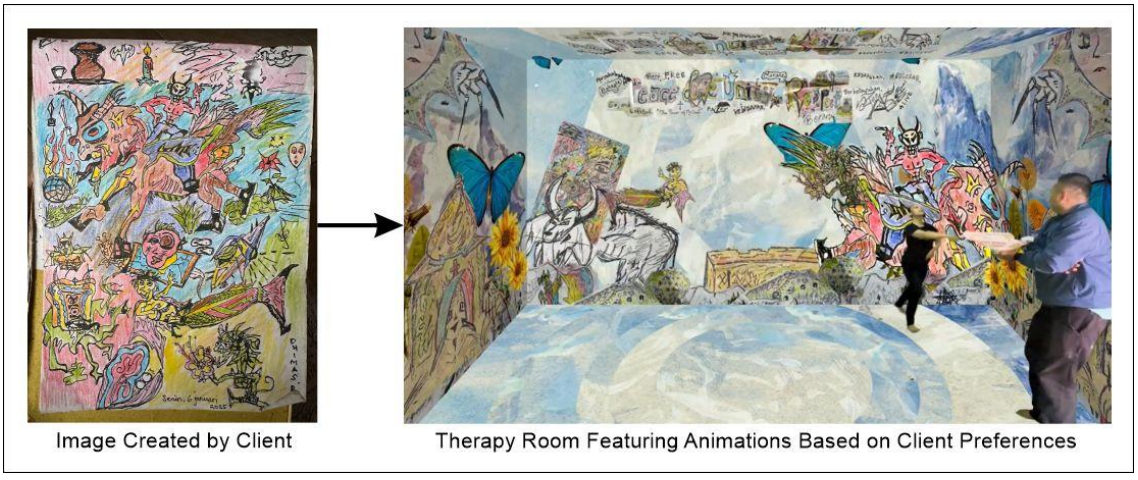


**Figure 2.** Visualization of a client's personal preference using digital media

To enhance the effectiveness of this approach, various multimedia tools and interactive technologies were employed within a unified therapeutic art installation. The main visual output was projected onto a 5 x 4 meter LED panel serving as the central backdrop. Additional visuals were presented via projectors on vertical surfaces, while LED TVs functioned as supplementary monitors for facilitators and clients. All visuals were controlled in real-time using Resolume Arena 7

software, allowing dynamic manipulation of graphic elements during the sessions. Interactivity was further supported by Kinect cameras, which detected and translated body movements into live visual responses, encouraging natural emotional and kinesthetic engagement. Rigging equipment ensured the safe and stable mounting of audiovisual components such as LEDs, projectors, and lighting systems. A black backdrop was used to neutralize the environment, guiding audience focus and reducing light reflections to optimize the visual experience.

The entire system and digital content management were powered by high-performance computing devices, including a MacBook Pro for running creative software, a Mac Mini for playback in permanent installations, and an Asus ROG laptop for real-time visual rendering requiring intensive graphics. Interactive entertainment was supported by the use of Nintendo Wii consoles and mobile gaming devices, providing playful, motion-based therapeutic sessions. The documentation process was handled using digital cameras to capture both the session progress and client artworks. Audience comfort was ensured by the provision of 50 chairs, and an immersive auditory experience was achieved through a 5000-watt sound system delivering clear and powerful audio. This combination of hardware and software formed the backbone of an adaptive, technology-driven therapeutic ecosystem, fostering an inclusive atmosphere that stimulates self-expression, emotional recovery, and active client participation throughout each session.

## 3.2 Collaboration, Trauma Deconstruction, and Hyperreality

### *3.2.1 Collaboration and Empowered Access*

The principle of collaboration in imagination therapy is implemented not only as a method of teamwork but as a core approach that empowers clients to take an active role in their healing journey. The collaborative process between the artist, facilitation team, and clients fosters an inclusive and participatory therapeutic environment, where each individual is given equal opportunity to share their experiences and contribute to the creative process. Clients are encouraged to express themselves freely and become co-creators of visual narratives that reflect their personal stories. This approach creates a space where every contribution is valued equally, enabling clients to engage meaningfully and confidently in the construction of their own visual expressions.

In practice, this collaboration is not always conducted through verbal dialogue but rather through interactive visual approaches. Artistic techniques such as “overlay”, “layering”, and “blending/dissolving” are employed to collectively elaborate on each client’s artwork. For instance, one client might illustrate a fragment of a personal memory, which is then complemented by visual elements contributed by another client resulting in a co-created narrative that reflects shared psychological journeys. The “overlay” technique ensures that no contribution dominates or erases another, instead allowing all elements to remain visible and equally valued. The “layering” method explores new meanings through the combination of distinct visual inputs, while “blending” is used to symbolize a gentle release of trauma, where visual boundaries soften and merge into one another. Figure 3 shows an example of a collaborative image based on a client's stated fondness for the television show *Unyil*, in which the character's visual style was reimagined and incorporated into a therapeutic composition.

**Figure 3.** Collaborative artwork inspired by a client's childhood memory of *Unyil*.

Through these techniques, a collective artwork emerges one that reflects the psychological journey of the group while providing a safe space for clients to re-encounter their traumatic experiences without judgment. This space further demonstrates how open, inclusive, and respectful creative expression can foster supportive and healing social relationships. Figure 4 presents a summary of individual preferences collected from each respondent following a series of in-depth interviews, serving as a reference for tailoring personalized visual elements used during the therapy sessions.

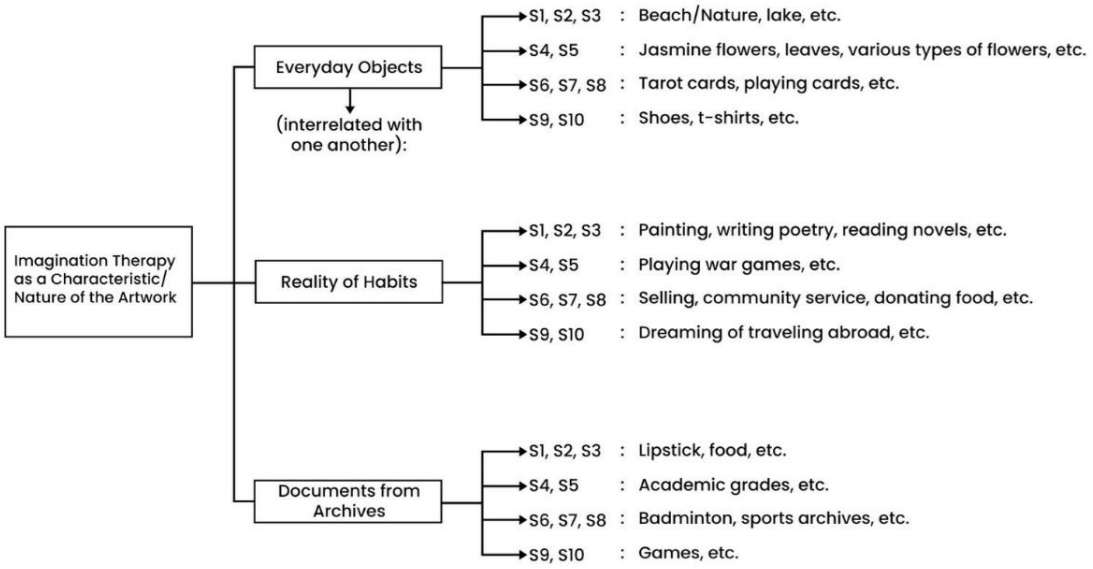


**Figure 4.** Summary of client preferences identified through in-depth interviews.

### *3.2.2 Trauma Deconstruction through Visual Art*

In imagination therapy, the visualization of personal experiences is positioned as a strategy to deconstruct trauma. This process involves breaking down and reinterpreting emotionally charged memories stored in clients' personal archives, such as handwritten notes, diaries, poems, or symbolic sketches, and transforming them into creative visual expressions. Rather than aiming to erase trauma, this approach opens a reflective space that allows clients to revisit difficult memories through indirect, symbolic means. Visual expression enables a safe and non-linear engagement with past experiences, allowing each client to represent their inner world without the pressure of chronological or clinical narratives.

Clients respond to each other's artworks by contributing their own imaginative interpretations. This results in layered and shared visuals. These artworks often take on ambiguous and paradoxical forms, with elements that appear partially present or intentionally faded. Visual techniques such as blurred faces, fragmented objects, or faded text are commonly used to express feelings of uncertainty, loss, or incomplete memory. The absence of a fixed meaning allows clients to project their own evolving interpretations onto the image. Figure 5 illustrates an example of such a collaborative artwork, where layered symbols and partial imagery reflect the fragmented nature of memory and the collective effort to reframe it through imagination. This reinforces the idea that recovery is a personal and ongoing process.

**Figure 5.** A collaborative artwork reflecting the deconstruction and reinterpretation of trauma.

Ultimately, the shared visual space becomes a reflective environment in which clients can gradually reconnect with past experiences and regain a sense of agency. By externalizing their trauma into art and witnessing its transformation, clients are able to engage in a process of emotional restructuring. Rather than providing a definitive narrative of healing, the artworks reflect a layered and open-ended journey. This journey prioritizes self-affirmation and individual meaning-making over clinical resolution.

### *3.2.3 Hyperreality, Simulacra, and Simulation*

In the therapeutic sessions, visual simulations were created to present clients with alternative realities that felt emotionally engaging and psychologically safe. These hyperreal visuals allowed clients to interact with imaginative environments that were detached from the pressure of real-life experiences. Instead of reproducing memories as they happened, the visuals blended fragments of memory, personal symbols, and fantasy to construct a new reality one that offered clients freedom to explore their emotions and identity with fewer constraints. Figure 6 presents one example of such an image, where individual archives were merged into a symbolic visual environment designed to support emotional exploration.

**Figure 6.** Hyperreal visual composition created from layered client materials.

The artworks were developed by combining various personal materials provided by the clients, such as old photographs, drawings, handwritten notes, and everyday objects. These elements were digitally manipulated and layered to form images that no longer followed a single storyline. The resulting compositions appeared surreal and ambiguous, often containing overlapping objects, faded figures, or environments that blurred the line between real and imagined. For example, one client's childhood photo was combined with dreamlike colors and altered surroundings, allowing the image to represent both a memory and a wishful reinterpretation of that memory. These visual outputs functioned as a space for personal reflection and emotional integration. Clients who experienced fragmentation in their sense of self reported that these images helped them see different parts of their identity more clearly. By engaging with visuals that were both familiar and transformed, they were able to construct new meanings from their experiences. The process supported emotional release and helped clients gradually build self-acceptance and personal coherence.

### *3.2.4 Psychological Perception in Visual Communication Design (VCD) Visualization*

The integration of psychological perception into visual communication design (VCD) within this therapeutic context emphasizes the importance of each client's subjective experience as the foundation for visual creation. The creative process was not approached solely as an artistic exercise, but as a meaningful therapeutic method. Clients were encouraged to translate their daily routines and personal gestures into visual narratives that reflect their emotional states, cognitive patterns, and lived realities. Rather than focusing on complex or symbolic representations from external references, the visuals were constructed using simple, familiar actions. For instance, a client's routine of sweeping the floor, washing clothes, or painting walls became the central themes of their artwork. These actions, when visualized, served to externalize repetitive thoughts or emotional burdens that were often difficult to verbalize. The artworks created from such mundane activities helped normalize the client's experiences and transformed routine behavior into moments of reflection and emotional processing.

This approach fostered a stronger sense of empathy and agency in clients. By seeing their everyday activities portrayed visually and treated as meaningful subjects, clients began to view themselves and their lives with greater respect and curiosity. The act of visualizing these moments helped reduce anxiety and gave structure to their thoughts. It also gradually

stimulated cognitive engagement, as clients were guided to make choices about color, form, and composition, all of which required attention, decision-making, and reflection. Over time, this contributed to emotional regulation and deeper self-awareness. Figure 7 presents an example of a visual work developed from a client's daily activity, illustrating how ordinary gestures were elevated into emotionally resonant visual forms.


**Figure 7.** Visual composition based on a client's daily routine.

### *3.2.5 Artwork Presentation and Social Interaction*

The presentation of client artworks in a collaborative lab setting marked the culmination of the therapeutic process. Using media such as large LED panels, digital screens, and shared public spaces, each visual piece was displayed not only as an aesthetic product but also as a personal narrative that carried emotional depth and psychological meaning. These public or semi-public exhibitions became powerful moments of visibility. They allowed clients to share their recovery journeys in ways that were both symbolic and socially integrated. Through these presentations, clients experienced a shift in their role. They moved from being passive recipients of care to becoming active contributors within a creative and social framework. Preparing for public display involved active participation. This included selecting which works to present, deciding how to organize them, and expressing their thoughts or intentions behind each piece. The process allowed clients to take ownership of their creative output. It reinforced their sense of agency and self-direction. It also helped them reframe personal struggles into shared experiences, where their stories could be seen, understood, and respected by others.

The exposure to broader audiences, whether among peers, family members, facilitators, or the general public, also served to expand the clients' social networks. These interactions promoted confidence and helped reduce feelings of isolation, especially for those who had previously experienced social withdrawal or disconnection. Clients were encouraged to reinterpret their personal archives not only as isolated memories but also as evolving narratives that contributed to a collective journey of recovery. Figure 8 shows one example of a digital display used during the exhibition. In this setup, client works were projected onto a large LED screen, transforming private reflection into shared dialogue and meaningful social exchange.

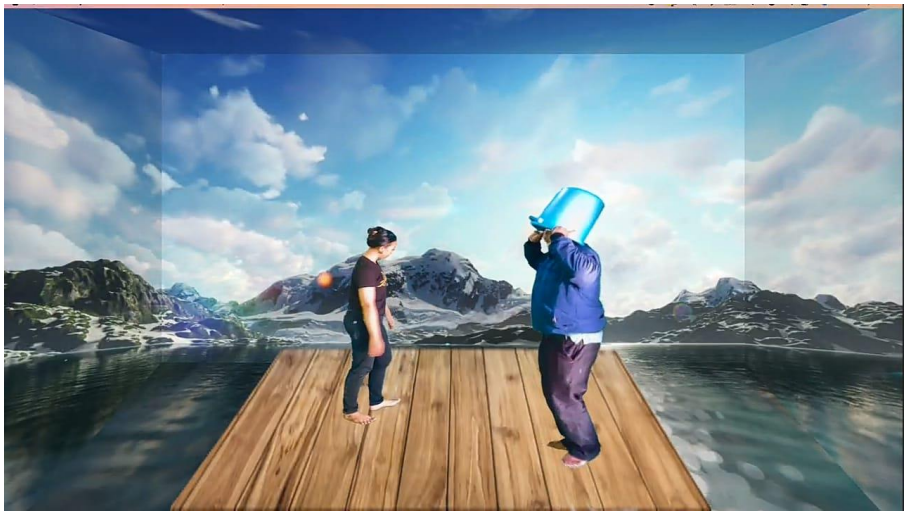

**Figure 8.** Digital presentation of client artworks in a collaborative therapy lab.

## 3.3 PANSS Result

The PANSS (Positive and Negative Syndrome Scale) results showed a consistent decrease in scores across all participants after undergoing imagination therapy through visual art. Prior to the intervention, total PANSS scores ranged from 39 to 71, with most participants already in the mild category and only one participant (S2) classified as moderate in severity. After the therapy, all participants experienced a reduction in scores, with total PANSS scores falling between 34 and 50. The average reduction in total score was approximately 7.9 points, indicating a meaningful clinical impact. The decrease was observed across all three domains. Positive symptom scores declined from an average of 11.2 to 9.2, suggesting improvements in hallucinations, delusions, and disorganized thinking. Negative symptoms decreased from an average of 10.2 to 8.5, indicating enhanced emotional expression and social interaction. Meanwhile, general psychopathology scores showed a reduction from 25.4 to 22.3 on average, reflecting improvements in anxiety, tension, and mood regulation.

Beyond the numeric reductions, a categorical shift in severity classification was also noted. Initially, one participant (S2) was categorized as Moderate, while the other nine were already in the Mild category. After the therapy, S2 improved and was reclassified into the Mild category. As a result, all ten participants were in the Mild category post-intervention, and none remained in the Moderate range. This categorical shift is clinically significant, as it reflects not only numerical improvement but also functional gains in symptom management. The results affirm that imagination-based visual art therapy can contribute positively to emotional regulation, cognitive clarity, and psychosocial functioning in individuals with residual schizophrenia. Detailed changes in each respondent's scores are presented in Table 2, which compares the pre- and post-therapy values across the three PANSS domains.

**Table 2.** Comparison of PANSS Scores Before and After Imagination Therapy through Visual Art

| No | Before Imagination Therapy | | | | | After Imagination Therapy | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | P | N | G | Total | Category | P | N | G | Total | Category |
| S1 | 10 | 7 | 22 | 39 | Mild | 9 | 7 | 21 | 37 | Mild |
| S2 | 12 | 21 | 38 | 71 | Moderate | 9 | 16 | 35 | 50 | Mild |
| S3 | 12 | 16 | 30 | 58 | Mild | 7 | 10 | 22 | 39 | Mild |
| S4 | 10 | 8 | 23 | 41 | Mild | 8 | 7 | 21 | 36 | Mild |
| S5 | 9 | 14 | 28 | 51 | Mild | 9 | 11 | 24 | 44 | Mild |
| S6 | 15 | 7 | 19 | 41 | Mild | 14 | 6 | 19 | 40 | Mild |
| S7 | 10 | 7 | 22 | 39 | Mild | 9 | 7 | 20 | 36 | Mild |
| S8 | 14 | 8 | 26 | 48 | Mild | 11 | 7 | 21 | 39 | Mild |
| S9 | 10 | 7 | 22 | 39 | Mild | 8 | 7 | 19 | 34 | Mild |
| S10 | 10 | 7 | 24 | 41 | Mild | 8 | 7 | 21 | 36 | Mild |

This categorical shift is clinically meaningful, as it demonstrates that the therapeutic process not only reduced numerical PANSS scores but also enhanced participants' functional and symptomatic profiles. The transition to uniformly Mild classifications indicates improvements in emotional regulation, cognitive clarity, and social responsiveness. These outcomes further support the potential of imagination-based visual art therapy as an effective complementary approach in the psychosocial recovery of individuals with residual schizophrenia.

## 3.4 Discussion

Across all ten participants, a consistent trend of improvement was observed in each domain of the PANSS scale positive symptoms, negative symptoms, and general psychopathology. The reduction in scores was not limited to a particular subgroup or severity level; instead, it occurred uniformly, regardless of the participants' initial classification. This suggests that the imagination therapy based on visual art was broadly applicable and effective, even among clients who initially exhibited more severe symptoms (Du, Li, Lo, Hu, Hsu, Cheng, Chen, et al., 2024). Interestingly, the average decrease in the general psychopathology domain (G) was the most pronounced, highlighting that the intervention had a strong influence on reducing internal tension, anxiety, emotional disturbance, and difficulties in insight or judgment. The non-verbal and expressive nature of the therapy may have provided clients with an emotionally safe and creative space to process internal experiences without the pressure of conventional verbal communication (Utas-Akhan et al., 2023). Meanwhile, improvements in positive symptoms, such as reduced hallucinations or delusions, point to the possibility that clients were able to externalize and reframe their psychotic content through symbolic representation in their artwork (Sarandol et al., 2024). Likewise, the decline in negative symptoms indicates a regained interest in social interaction, increased emotional responsiveness, and better engagement in everyday activities. The collaborative and participatory environment encouraged clients to explore narratives beyond their illness identity, and instead, construct personal meaning through visual creation. Altogether, these general trends confirm that the intervention contributed not only to symptom reduction but also to emotional expression, cognitive engagement, and psychosocial recovery (Du, Li, Lo, Hu, Hsu, Cheng, Hung, et al., 2024).

## 4. CONCLUSION

The findings of this study clearly demonstrate that imagination therapy based on visual art has a significant positive impact on the psychological and social recovery of clients with residual schizophrenia. This approach not only provides a safe and supportive space for non-verbal expression but also enables clients to rediscover personal meaning through symbolic representations they create themselves. Within the therapeutic context, the visual artworks serve as reflective surfaces of subjective experience and function as tools to untangle internal conflict, express repressed emotions, and reconstruct fragmented personal narratives. Furthermore, the collaborative model employed in this therapy positions clients as active agents in the creative process rather than passive recipients of care. Collaboration between clients, facilitators, and visual designers creates an inclusive space that values equal participation, where individual experiences are integrated into a shared narrative. The use of personal archives, such as handwritten notes, photos, diaries, and everyday objects transformed into therapeutic visual media, strengthens the role of documentation in healing. These archives become not only a record of the therapeutic journey but also a foundation for constructing a more empowered and cohesive identity. In addition, the integration of hyperreality and trauma deconstruction introduces a powerful reflective dimension into the healing process. The visual outcomes go beyond representing reality. They construct new simulations that are emotionally safe, imaginative, and free from the pressures of the external world. The deconstruction of traumatic experiences allows clients to revisit their past through a creative and nonjudgmental lens. Altogether, this therapeutic method forms an integrative ecosystem that combines aesthetic, psychological, social, and technological elements. It proves to be both effective and relevant for supporting long-term and sustainable recovery.

## RECOMMENDATIONS

Based on the results of this study, it is recommended that mental health institutions, rehabilitation centers, and community-based therapy programs consider integrating imagination therapy through visual art as a complementary intervention in treating individuals with residual schizophrenia. The structured use of personal archives, collaborative art-making, and interactive media tools has been shown to facilitate emotional expression, reduce psychotic symptoms, and enhance social participation. Future researchers are encouraged to explore this model across a larger and more diverse population, as well as to examine its long-term impact using longitudinal studies. In addition, interdisciplinary collaboration between art and mental health professionals should be further developed to enhance therapeutic design and implementation. It is also suggested that digital platforms be optimized to archive, display, and interact with clients' artworks as part of a sustained recovery ecosystem.

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## AUTHOR'S CONTRIBUTIONS

All authors contributed significantly to the completion of this research. The first author was responsible for designing the study, conducting fieldwork, developing the artistic concept, and drafting the manuscript. The second and third authors provided critical input in conceptual development, supervised the artistic and academic components, and offered extensive revisions to the structure and content of the paper. All authors read and approved the final manuscript.

## CONFLICT OF INTEREST

The authors declare that they have no competing interests.

## REFERENCES

Asrullah, M., L'Hoir, M., Paulo, M.-J., Feskens, E., & Melse-Boonstra, A. (2022). Determinants of Common Mental Disorders (CMD) among adolescent girls aged 15-19 years in Indonesia: Analysis of the 2018 National Basic Health Survey Data. PLOS Global Public Health, 2, e0000232. https://doi.org/10.1371/journal.pgph.0000232

Bohlmeijer, E., & Westerhof, G. (2021). The Model for Sustainable Mental Health: Future Directions for Integrating Positive Psychology Into Mental Health Care [Review]. Frontiers in Psychology, Volume 12 - 2021. https://doi.org/10.3389/fpsyg.2021.747999

Branch, R. M., & Varank, İ. (2009). Instructional design: The ADDIE approach (Vol. 722). Springer. https://doi.org/10.1007/978-0-387-09506-6

Bushnell, M. C., Frangos, E., & Madian, N. (2021). Non-pharmacological treatment of pain: grand challenge and future opportunities. 2, 696783. https://doi.org/10.3389/fpain.2021.696783

Coronel-Santos, M. A., & Rodríguez-Macías, J. C. (2022). Integral definition and conceptual model of mental health: Proposal from a systematic review of different paradigms [Systematic Review]. Frontiers in Sociology, Volume 7 - 2022. https://doi.org/10.3389/fsoc.2022.978804

De Pablo, G. S., Radua, J., Pereira, J., Bonoldi, I., Arienti, V., Besana, F.,…Catalan, A. (2021). Probability of transition to psychosis in individuals at clinical high risk: an updated meta-analysis. JAMA psychiatry, 78(9), 970-978. https://doi.org/10.1001/jamapsychiatry.2021.0830

Du, S.-C., Li, C.-Y., Lo, Y.-Y., Hu, Y.-H., Hsu, C.-W., Cheng, C.-Y.,…Chen, C.-R. (2024). Effects of Visual Art Therapy on Positive Symptoms, Negative Symptoms, and Emotions in Individuals with Schizophrenia: A Systematic Review and Meta-Analysis. Healthcare, 12(11), 1156. https://doi.org/10.3390/healthcare12111156

Du, S.-C., Li, C.-Y., Lo, Y.-Y., Hu, Y.-H., Hsu, C.-W., Cheng, C.-Y.,…Chen, C.-R. (2024). Effects of Visual Art Therapy on Positive Symptoms, Negative Symptoms, and Emotions in Individuals with Schizophrenia: A Systematic Review and Meta-Analysis. Healthcare, 12, 1156. https://doi.org/10.3390/healthcare12111156

Fett, A.-K., Velthorst, E., Reichenberg, A., Ruggero, C., Callahan, J., Fochtmann, L.,…Kotov, R. (2019). Long-term Changes in Cognitive Functioning in Individuals With Psychotic Disorders: Findings From the Suffolk County Mental Health Project. JAMA psychiatry, 77. https://doi.org/10.1001/jamapsychiatry.2019.3993

García-López, M., Alonso-Sánchez, M., Leal, I., Martín-Hernández, D., Caso, J. R., Díaz-Caneja, C. M.,…Torio, I. (2022). The relationship between negative symptoms, social cognition, and social functioning in patients with first episode psychosis. Journal of Psychiatric Research, 155, 171-179. https://doi.org/10.1016/j.jpsychires.2022.08.004

Hadjipanayi, C., Banakou, D., & Michael-Grigoriou, D. (2023). Art as therapy in virtual reality: A scoping review [Review]. Frontiers in Virtual Reality, Volume 4 - 2023. https://doi.org/10.3389/frvir.2023.1065863

Hamilton, D., & and Hansen, L. (2024). An artful becoming: the case for a practice-led research approach to open educational practice research. Teaching in Higher Education, 29(7), 1757-1774. https://doi.org/10.1080/13562517.2024.2336159

Hieronymus, F., Correll, C. U., & Østergaard, S. D. (2023). Initial severity of the Positive and Negative Syndrome Scale (PANSS)-30, its main subscales plus the PANSS-6, and the relationship to subsequent improvement and trial dropout: a pooled participant-level analysis of 18 placebo-controlled risperidone and paliperidone trials. Translational Psychiatry, 13(1), 191. https://doi.org/10.1038/s41398-023-02491-6

Holttum, S., Tim, W., & and Wood, C. (2021). Art therapy with people diagnosed with psychosis: therapists' experiences of their work and the journey to their current practice. International Journal of Art Therapy, 26(4), 126-136. https://doi.org/10.1080/17454832.2021.1893370

Hu, J., Zhang, J., Hu, L., Yu, H., & Xu, J. (2021). Art therapy: a complementary treatment for mental disorders. Frontiers in Psychology, 12, 686005. https://doi.org/10.3389/fpsyg.2021.686005

Huang, Z., Chen, S., & Chen, H. (2024). Relationship between emotional awareness and self-acceptance: the mediating role of emotion regulation strategies. Current Psychology, 43(30), 24906-24914. https://doi.org/10.1007/s12144-024-05945-2

Jia, M., & Shahir, S. (2025). Practice as Research Methodology in the Creative Arts: A Systematic Literature Review. PaperASIA, 41(3b), 309-321. https://doi.org/10.59953/paperasia.v41i3b.540

Kaimal, G., Carroll-Haskins, K., Ramakrishnan, A., Magsamen, S., Arslanbek, A., & Herres, J. (2020). Outcomes of Visual Self-Expression in Virtual Reality on Psychosocial Well-Being With the Inclusion of a Fragrance Stimulus: A Pilot Mixed-Methods Study [Original Research]. Frontiers in Psychology, Volume 11 - 2020. https://doi.org/10.3389/fpsyg.2020.589461

Lee, S.-Y., & Lee, H.-J. (2025). The Effects of Group Arts Therapy Based on Emotion Management Training on the Emotional Expression, Alexithymia, Depression and Quality of Life in Patients with Schizophrenia. BJPsych Open, 11(S1), S55-S55. https://doi.org/10.1192/bjo.2025.10172

Luo, X., Zhang, Z., Zheng, Z., Ye, Q., Wang, J., Wu, Q., & Huang, G. (2022). Art therapy as an adjuvant treatment for schizophrenia: A protocol for an updated systematic review and subgroup meta-analysis of randomized clinical trials following the PRISMA guidelines. Medicine, 101(40), e30935. https://doi.org/10.1097/md.0000000000030935

Martinuzzi, L. J., Strassnig, M. T., Depp, C. A., Moore, R. C., Ackerman, R., Pinkham, A. E., & Harvey, P. D. (2022). A closer look at avolition in schizophrenia and bipolar disorder: Persistence of different types of activities over time. Schizophrenia Research, 250, 188-195. https://doi.org/10.1016/j.schres.2022.11.019

McCutcheon, R. A., Keefe, R. S. E., & McGuire, P. K. (2023). Cognitive impairment in schizophrenia: aetiology, pathophysiology, and treatment. Molecular Psychiatry, 28(5), 1902-1918. https://doi.org/10.1038/s41380-023-01949-9

Melvin, K., E., R. C. P., John, C., Jon, C., R., G. J., K., M. G., & and Suckling, J. (2022). Arts-based methods for hallucination research. Cognitive Neuropsychiatry, 27(2-3), 199-218. https://doi.org/10.1080/13546805.2021.1993807

Meshram, D., & Kasturkar, P. (2021). Assessment of Common Mental Health Problems among General Population. Journal of Pharmaceutical Research International, 33(36B), 210-217. https://doi.org/10.9734/jpri/2021/v33i36B31970

Morande, S., & Tewari, V. (2023). Mapping digital ecosystem for competitive advantage using technological advancements. Electronic Journal of Education, Social Economics and Technology, 4(2), 43-48.

Neves, M. M., Ventura, F., & Madeira, N. (2025). Neuromodulation in the treatment of social cognition dysfunction in Schizophrenia: a systematic review. Schizophrenia, 11(1), 87. https://doi.org/10.1038/s41537-025-00629-7

Parkinson, S., Cole, B., & Trevelyan, C. (2024). Art and mentalizing in early intervention psychosis: rationale and therapist insights on a new psychoeducational course [Perspective]. Frontiers in Psychiatry, Volume 15 - 2024. https://doi.org/10.3389/fpsyt.2024.1243990

Richesin, M. T., Baldwin, D. R., & Wicks, L. A. (2021). Art making and virtual reality: A comparison study of physiological and psychological outcomes. The Arts in Psychotherapy, 75, 101823. https://doi.org/10.1016/j.aip.2021.101823

Sapra, J., & Mathur, I. (2020). Effect of Dimensions of Workplace Spiritualism: Meaningful Work, Sense of Community, Organizational Values and Compassion with Reference to Job Satisfaction. Electronic Journal of Education, Social Economics and Technology, 1, 10-17. https://doi.org/10.33122/ejeset.v1i1.5

Sarandol, A., Güllülü, R., Avcı, İ., Türk, E., & Eker, S. (2024). The Effects of Art Therapy and Psychosocial Skills Training on Symptoms and Social Functioning in Patients with Schizophrenia and Their Relatives. Turkish Journal of Psychiatry, 35. https://doi.org/10.5080/u26773

Servidio, R. (2023). Fear of missing out and self-esteem as mediators of the relationship between maximization and problematic smartphone use. Current Psychology, 42(1), 232-242. https://doi.org/10.1007/s12144-020-01341-8

Shafir, T., Orkibi, H., Baker, F. A., Gussak, D., & Kaimal, G. (2020). Editorial: The State of the Art in Creative Arts Therapies [Editorial]. Frontiers in Psychology, Volume 11 - 2020. https://doi.org/10.3389/fpsyg.2020.00068

Shayanpoor, M., & Kolahjooei, F. (2024). Hyperreal Replicas in Julian Barnes'"England, England". English Studies at NBU, 10(2), 292-308. https://doi.org/https://doi.org/10.33919/esnbu.24.2.5

Shukla, A., Choudhari, S. G., Gaidhane, A. M., Syed, Z. Q., & Gaidhane, A. (2022). Role of art therapy in the promotion of mental health: a critical review. Cureus, 14(8). https://doi.org/10.7759/cureus.28026

Suwastini, N., & Dewi, G. (2023). Students' perception on the use of poetry for teaching speaking. Electronic Journal of Education, Social Economics and Technology, 4, 8-15. https://doi.org/10.33122/ejeset.v4i1.57

Ursini, G., & Weinberger, D. R. (2021). Replicating G × E: The Devil and the Details. Schizophrenia Bulletin, 48(1), 4-4. https://doi.org/10.1093/schbul/sbab109

Utas-Akhan, L., Avci, D., & Basak, I. (2023). Art Therapy as a Nursing Intervention for Individuals With Schizophrenia. Journal of psychosocial nursing and mental health services, 62, 1-10. https://doi.org/10.3928/02793695-20231025-02

Yazdanpanah, N., Mojtabavi, H., Ziaei, H., Pirkoohi, Z. R., Rayzan, E., & Rezaei, N. (2022). The Clinical Benefits of Art Therapy: Definition, History, and Outcomes with a Focus on Music Therapy. In N. Rezaei (Ed.), Multidisciplinarity and Interdisciplinarity in Health (pp. 457-482). Springer International Publishing. https://doi.org/10.1007/978-3-030-96814-4_20

Zhang, T., & Li, N. (2025). Strategies for Implementing Practice-Led Research in Education: A Bibliometric Analysis. In Exploring Practice-Led Research for Professional Development (pp. 365-394). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-6376-8.ch014

Zhou, S., Li, H., Yang, Y., Qi, Y., Liu, W., Mo, L., & Wong, C. L. (2025). Effects of art therapy on psychological outcomes among children and adolescents with cancer: a systematic review and meta-analysis. BMC Complementary Medicine and Therapies, 25(1), 149. https://doi.org/10.1186/s12906-025-04866-2