

Visual narrative as a tool for psychological correction: an empirical study of its impact on the mental states of children aged 5–7 years

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Received: May 15, 2025
Accepted: Aug 5, 2025
Published: Mar 1, 2026

For citation:

Veliyeva SV: Visual narrative as a tool for psychological correction: an empirical study of its impact on the mental states of children aged 5–7 years. *Psychotherapy Science Today*. 2(2):29–35. <https://doi.org/10.64435/hush6011>.



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Abstract

Objective: To investigate the impact of a visual narrative art therapy program on the mental states of older preschool children.

Methods: The study involved 56 children aged 5–7 years; a formative (intervention-based) experiment was conducted with baseline, intervention, and control stages. Methods included theoretical analysis, psychological assessment, qualitative and statistical data analysis. Pearson's χ^2 was applied to a subgroup ($n = 24$), and descriptive analysis was used for a subgroup ($n = 6$). The psychological correction program was based on the creation of a visual narrative using Ebru techniques, drama therapy, collage, sand therapy, work with mandalas and metaphorical cards, aimed at optimizing children's emotional and behavioral reactions.

Results: Within a quasi-experimental pre-post design, positive dynamics in the mental states of preschoolers were revealed (Tables 1–3). The most pronounced changes were observed in the physiological component, the least in the behavioral component.

Conclusions: The narrative art therapy program had a positive impact on the mental states of older preschool children; visual narrative is identified as a clinically significant tool for psychological correction and assessment.

Keywords: narrative art therapy, visual narrative, emotional self-regulation, childhood fears, psychological intervention, older preschoolers.

Introduction

The problem of anxiety states in preschool age has gained particular clinical and social significance in recent decades. According to modern epidemiological studies, the prevalence of anxiety disorders in preschool children shows a steady upward trend, associated both with changing socialization conditions and with increased sensory, informational, and emotional load in early development [1, 2]. Furthermore, childhood anxiety has not only a symptomatic but also a structure-forming character, reflecting the development of the attachment system, affective regulation, and the formation of self-representations [3, 4].

Within modern clinical psychology, anxiety is considered not as an isolated symptom but as a multidimensional mental state, including

cognitive, affective, somatic, and narrative-symbolic components [5]. From the perspective of polyvagal theory, chronic anxiety in children is linked to the dominance of defensive patterns of the autonomic nervous system, manifested in hyperactivation of the sympathetic circuit or dorsal vagal shutdown [6, 7]. This necessitates therapeutic interventions aimed not only at cognitive processing of experiences but also at bodily-sensory processing of affect [6, 8, 9].

Narrative and projective approaches to child psychotherapy are based on the premise that preschool children primarily operate not with abstract concepts, but with images, characters, and metaphorical structures [10, 11]. Externalization of internal experiences through imagery and

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story allows the child to distance themselves from the symptom, reduce its subjective threatening significance, and adopt an observer position towards their own mental states [10, 12]. In this context, anxiety ceases to be a diffuse inner tension and takes the form of a symbolic object with which dialogue, change, and integration become possible.

Art therapy methods, particularly sculpting and visual techniques, possess additional regulatory potential through the involvement of sensorimotor and proprioceptive channels of affect processing [13, 14]. Tactile-kinesthetic activity contributes to reducing physiological arousal, enhances the sense of control, and promotes the integration of emotional experience at a pre-reflective (implicit) level. This is especially important when working with preschoolers, whose verbalization of emotions is not yet fully developed and whose dominant forms of representing experiences remain bodily and imaginal [15].

Recent clinical literature increasingly emphasizes the effectiveness of integrative models combining narrative, art therapy, cognitive-behavioral, and sensory-based techniques in working with childhood anxiety [16]. Such approaches allow simultaneous impact on cognitive interpretations, affective intensity, and bodily response patterns, increasing the stability of therapeutic effects [17, 18].

In this context, visual narrative acts as a key tool for symbolizing anxiety, facilitating the transition from unformed bodily affect to a meaningful and manageable image [19, 20]. Through creating, modifying, and discussing visual images of anxiety, the child gains the ability to integrate emotional experience into the self-structure, aligning with both narrative therapy models and psychophysiological self-regulation mechanisms.

In this regard, the development and empirical testing of programs based on visual narrative art therapy integrated with sensory and cognitive techniques for working with anxiety states in preschool children is of particular interest. This study aims to analyze the clinical and psychological effects of such a program in the context of group correctional work.

Methodology

Hypothesis: It is hypothesized that a) the mental states of children aged 5–7 years are characterized by the presence of negative emotional reactions (anxiety, fears) and an imbalance in autonomic regulation, associated with insufficiently developed mechanisms of emotional self-regulation; b) the use of visual narrative as a tool of narrative art therapy will optimize these states.

To identify the features of mental states and conditions for their optimization in older preschoolers ($n = 56$; 6 ± 1.2 years), a formative art therapy experiment was conducted in preschool educational institutions in Cheboksary, Chuvash Republic (Russia). The sample was formed from children of senior groups in two kindergartens. In this study, mental states are conceptualized as a multi-level system including physiological, affective-personal, cognitive, and behavioral components.

The experimental part consisted of three stages. The baseline stage aimed to identify features of the structural components of mental states in children. The control stage established the dynamics of mental states and the effectiveness of the tested program.

Research methods included theoretical analysis of literature on correcting mental states in preschool children, a formative experiment, quantitative, qualitative, and statistical data analysis (Pearson's χ^2). For the subgroup ($n = 6$), descriptive analysis of mental state dynamics was used.

Psychological assessment employed the following methods: A.I. Zakharov's *Child Fear Susceptibility Questionnaire*, *The Person in the Rain* drawing technique by E.S. Romanova and T.I. Sytko, the projective method *The Little Engine* by S.V. Veliyeva (calculating K. Shiposh's integral coefficient), and *The Anxiety Test* by R. Temple, V. Amen, and M. Dorkey.

To assess mental states, their structural components were analyzed: physiological, affective-personal, cognitive, behavioral. Additionally, socio-communicative situations provoking negative states were recorded: communication with peers and adults, domestic, play, and communicative situations in different conditions. The diagnostic procedure was conducted in the first half of the day, individually with each child, with prior written parental consent.

Correction program

The formative stage involved developing and testing a system of art therapy activities to optimize the mental states of older preschool children. The program consisted of 17 sessions, conducted twice a week for 30–35 minutes in groups of 14 children in a psychologist's office. The office space was organized as a therapeutic environment: immersive elements were used (mobiles, light and projection effects, thematic decorations), creating an atmosphere of safety and engagement.

Each session included three parts:

1. Beginning — reducing autonomic tension, tuning in to work, neuropsychogymnastics, and sensory stimulation.

Examples of questions for working with anxious feelings in children:

- If your anxiety were a character, what would it say?
- What do you feel when you encounter your anxiety?
- How can you take care of yourself so that your anxiety becomes calmer?

2. Main part — individual and collective work with visual narrative and art therapy imagery.
3. Completion — feedback, discussion of results, sharing emotions using stickers.

To enhance the therapeutic effect, the following were used:

- targeted audio stimulation — musical compositions for relaxation, attention activation, and emotional self-regulation;
- structured facilitation — clear instructions, motivational support, flexible adjustment of work;
- personalization of tasks — selection of form, theme, and materials according to age characteristics, interests, and specifics of the child's mental state;
- emotional interaction — stimulating the exchange of emotions, discussions, and evaluations of created images.

During preparatory and concluding stages, children performed individual and collective creative tasks: making and coloring mandalas, simple decorations for further work with visual narrative, preparing joint projects. The main stage (9 sessions) used Ebru, drama therapy, collage, sand therapy, work with photographs, metaphorical cards, textiles, and clay. Instructions were gradually complicated: from working according to the facilitator's model to independent and collective creation of a visual narrative. For example, children create a visual image of anxiety, then transform it into a more positive or safe image. The psychologist does not interpret the child's experiences but supports independent reflection and verbalization. A new visual and verbal self-image is formed in various situations, contributing to the development of emotional regulation and experience processing.

Results

Within a quasi-experimental pre-post design, statistically significant positive dynamics in the mental states of preschoolers across all studied parameters were revealed.

General dynamics of mental states

Based on data from the Little Engine and Person in the Rain methods ($n = 56$) at the control stage compared to the baseline stage, the following changes in the dynamics of mental states were identified (Table 1):

- The number of children with positive states increased from 26 (46.4%) to 35 (62.5%), indicating a significant improvement in emotional background and optimization of adaptive resources after the program.
- The number of children with low-intensity negative states decreased from 24 (42.8%) to 20 (35.7%), indicating partial optimization of the emotional sphere.
- The number of children with moderate-intensity negative states decreased from 6 (10.8%) to 1 (1.8%), indicating pronounced positive dynamics in reducing the severity of negative reactions.

High-degree negative states were not found at any stage (0%), reflecting the absence of profound emotional disturbances in the sample.

Psychophysiological indicators

Autonomic tone coefficient

At the baseline stage, the autonomic tone coefficient was (Table 2):

- High in 33 children (58.9%).
- Medium in 3 children (5.4%).
- Low in 20 children (35.7%).

Mental States	Baseline Stage		Control Stage	
	Absolute number	%	Absolute number	%
Positive (optimism, joy, activity, cheerfulness, vigor, freshness, calm, attention, concentration)	26	46.4	35	62.5
Negative, low intensity (anxiety, fatigue, inhibition)	24	42.8	20	35.7
Negative, moderate intensity (excitement, tension, fear)	6	10.8	1	1.8
Negative, high intensity	0	0	0	0

Table 1. Distribution of preschoolers by levels of expression of mental state components (The Little Engine, The Person in the Rain methods)

Mental States	Baseline Stage						Control Stage					
	Low		Medium		High		Low		Medium		High	
	Abs.*	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Autonomic Tone Coefficient	20	35.7	3	5.4	33	58.9	1	1.8	34	60.7	21	37.5
Tension Coefficient	11	19.6	2	3.6	43	76.8	1	1.8	37	66.1	18	32.1

* Abs. — absolute number.

Table 2. Distribution of preschoolers by level of autonomic tone coefficient and tension level

At the control stage, the distribution changed:

- High level — 21 children (37.5%).
- Medium level — 34 children (60.7%).
- Low level — 1 child (1.8%).

The marked reduction in the proportion of low level (from 35.7% to 1.8%) and the growth of medium level (from 5.4% to 60.7%) indicate normalization of autonomic tone regulation in most children.

Tension (stress) coefficient

The tension coefficient at the baseline stage (Table 2):

- High — 43 children (76.8%).
- Medium — 2 children (3.6%).
- Low — 11 children (19.6%).

At the control stage:

- High — 18 children (32.1%).
- Medium — 37 children (66.1%).
- Low — 1 child (1.8%).

The marked reduction in high tension level (from 76.8% to 32.1%) and growth of medium level (from 3.6% to 66.1%) indicate a decrease in stress load and improvement of adaptation mechanisms.

Dynamics of fears and anxiety

Analysis of data for the entire sample (n = 56) showed positive dynamics on A.I. Zakharov's questionnaire: the proportion of children with a high level of fears decreased from 40.0% to 16.7%, while the low level increased from 16.7% to 43.3%.

For a more detailed understanding of the program's effectiveness, changes were analyzed separately in two subgroups identified at the baseline stage.

- In the subgroup with low-intensity negative states (n = 24), a substantial reduction in high anxiety (according to the R. Temple, V. Amen, and M. Dorkey test) was observed — from 66.7% to 16.7% of children, with a simultaneous increase in the proportion of children with medium anxiety from 8.3% to 75.0%.
- In the subgroup with moderate-intensity states (n = 6), pronounced positive dynamics across all parameters was also recorded.

Statistical verification confirmed the high significance of these changes ($p \leq 0.01$) for both the level of fears and the level of anxiety in both subgroups (Table 3). The most significant shifts occurred in anxiety indicators.

Statistical significance of observed changes

Results of the comparative analysis of mental state indicators before and after correctional measures are presented in Table 3.

1. Integrative indicator of mental states.

- Children with a predominance of low-intensity negative states (n = 24) showed highly reliable dynamics in the structure of mental states ($\chi^2 = 423.88$; $p \leq 0.01$), indicating significant improvement in integrative parameters (emotional background, adaptation, cognitive activity).
- Children with moderate-intensity negative states (n = 6) showed positive dynamics across all mental state components; statistical verification with χ^2 was impossible due to the small sample, results are presented descriptively.

2. Degree of actualization of mental states (positive/negative).

- For subgroup n = 24, a shift in balance towards positive states was noted ($\chi^2 = 9.45$; $p \leq 0.01$).
- For subgroup n = 6, dynamics are descriptive: a decrease in the dominance of negative reactions and activation of emotional regulation resources is observed.

3. Psychophysiological parameters.

- In subgroup n = 24, statistically significant improvement in the autonomic tone coefficient ($\chi^2 = 81.66$; $p \leq 0.01$) and reduction in the tension coefficient ($\chi^2 = 89.20$; $p \leq 0.01$) were found.
- In subgroup n = 6, changes are descriptive: reduction in high levels of tone and tension, growth in medium level.

4. Emotional-affective sphere.

- In children with low-intensity negative states, the severity of fears ($\chi^2 = 21.6$; $p \leq 0.01$) and

Assessment Parameters	Preschoolers with Predominance of Negative Mental	
	Low-Intensity (n = 24), p ≤ 0,01	Moderate-Intensity (n = 6)
	Pearson's χ^2	Descriptive dynamics
Integrative Mental State Indicator	423.9	Positive dynamics across all mental state components
Degree of Actualization (Positive/Negative)	9.5	Shift towards positive states
Autonomic Tone Coefficient	81.7	Decrease in high and increase in medium level
Tension Coefficient	89.2	Decrease in high and increase in medium level
Fear	21.6	Decrease in severity of fears
Anxiety	91.8	Decrease in anxiety and improvement in emotional regulation

Table 3. Comparison of mental state indicators before and after the program

anxiety ($\chi^2 = 91.8$; $p \leq 0.01$) was statistically significantly reduced.

- In the subgroup with moderate-intensity negative states, dynamics are assessed descriptively: reduction in the severity of fears and anxiety, improvement in emotional self-regulation.

Conclusion: The effectiveness of the program is statistically confirmed for children with low-intensity negative states. Children with more pronounced disturbances (moderate intensity) show positive dynamics, confirmed by descriptive analysis.

Discussion

Analysis of the obtained diagnostic data allowed identifying three groups of preschoolers with different levels of actualization of mental states (Tables 1–3). High-degree negative mental states were not identified.

Most children (46.4%) were characterized by positive mental states and moderate levels of tension and autonomic tone coefficients, displaying natural adequate reactions in various life situations. Preschoolers in this group possess balanced states in accordance with age characteristics, ensuring optimal communication, concentration, friendliness, and adaptation in the studied socio-communicative situations. Color choices included yellow, green, and blue hues; even shading and medium pencil pressure were used. Drawings were placed in the middle of the sheet, fairly clear, moderately large, including necessary details. Post-assessment interviews did not cause difficulties; verbalization was free, children easily engaged in dialogue.

In 42.8% of older preschoolers, low-intensity negative mental states were detected. In this group, social, spatial, and fears of natural phenomena, physical discomfort, tension in autonomic tone, and anxiety were recorded. For children in this group, positive and negative non-equilibrium states periodically hinder communication, adaptation, and play activity in different life situations. Color choices contained predominantly red, brown, and blue hues. Shading and pencil pressure were enhanced. Drawings were placed in the middle or top of the sheet. In post-assessment interviewing, children in this group answered monosyllabically, were often distracted, and justified their choice by referencing significant adults.

Moderate-intensity negative mental states were identified in 10.8% of children. This is the most vulnerable group; their mental state palette is represented predominantly by high and low levels of negative non-equilibrium states, tension in autonomic tone, fears, and anxiety. Situations of communication with peers and surrounding adults caused the greatest tension in these children. Children in this group exhibited neurotic manifestations: low mood, increased aggressiveness and fatigue, increased or decreased speed and intensity of emotional and motor reactions, impaired self-esteem and voluntary regulation, autonomic and psychosomatic disorders, obsessive movements, sleep and speech disturbances.

Interpretation, changes in exposition, additional drawing details indicated a predominance of withdrawal reactions, avoidance, activation of defensive psychological mechanisms, dependence on the parental figure, and a need for safety and support from others. Color choices included predominantly

black, gray, red, brown, and purple cards. Shading and pencil pressure were so strong they left an imprint on another sheet; there were many erasures and additional lines. Small or, conversely, oversized drawings were placed at the bottom or top of the sheet. During post-assessment interviewing, children in this group either did not answer or spoke monosyllabically, struggling to define and name experiences, emotions, and feelings.

Conclusion

The narrative art therapy program showed a positive impact on the mental states of older preschool children within a quasi-experimental pre-post design.

- For children with low-intensity negative states, the dynamics are statistically significant (χ^2 ; $p \leq 0.01$).
- For children with moderate-intensity negative states, positive dynamics are observed, reflected in descriptive analysis.

Visual narrative demonstrated high effectiveness as a tool for psychological assessment and intervention. Future research prospects may include in-depth development of a block for correcting behavioral manifestations, studying the program for children with more pronounced negative states and adaptation for inclusive groups, and creating a standardized diagnostic protocol based on the analysis of visual narratives as a supplement to traditional psychodiagnostic methods.

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Appendix

Abridged session protocol “Journey to the planet of anxiety”

Target group: Children aged 5.6–6.5 years.

Goal: To develop adaptive coping strategies for regulating anxiety states through narrative art therapy, sensory stimulation, and cognitive-behavioral techniques.

Session structure

1. Introductory stage: motivation, tuning in, greeting ritual, activating knowledge about emotions.
2. Main stage:
 - Bilateral motor activity to reduce tension.
 - Sensory immersion (music, visual effects).
 - Art therapy task: sculpting the image of anxiety and its transformation.
3. Concluding stage: consolidating results, visual reflection (Ebru technique), discussing the new image of anxiety and its functions.

Example of working with anxiety (abridged)

- The facilitator asks questions for self-expression: “If your anxiety were a character, what would it say?”
- Children sculpt an image of anxiety from plasticine, discuss its properties, and transform it into a safe or positive object.
- New feelings, physiological and emotional reactions are discussed.

Methodological basis

- Narrative therapy — externalization and renaming of emotions.
- Art therapy — visualization and control of emotions through creativity.
- Polyvagal regulation theory — reducing anxiety through sensorimotor techniques.
- Cognitive-behavioral approaches — reframing and identifying triggers.

Key results

- Children successfully personify and transform anxiety.
- They master self-regulation skills and positive group interaction.
- Reduction of physiological and emotional tension occurs.