

A Review of Illustrated Storytelling as an Intervention for Emotional Regulation and Psychological Resilience in Children and Adolescents

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Abstract

Emotional disturbances and a lack of psychological resilience are prevalent among children and adolescents. Traditional speech therapy, which relies on verbal expression, has limited effectiveness for children and adolescents who experience communication difficulties or find it hard to speak. Illustrated storytelling, as a non-verbal intervention that integrates the visual art of drawing with narrative communication therapy, offers an excellent alternative therapeutic approach. This review focuses on psychological intervention studies centred on illustrations, picture books and graphic storytelling. Five databases including PubMed and PsycINFO were searched to identify empirical studies on illustrated narrative interventions targeting adolescents. The results indicate that illustrated narrative primarily exerts its effects through three mechanisms: emotional externalisation, cognitive restructuring and the construction of resilience narratives. Most studies demonstrated a reduction in anxiety and depressive symptoms following the intervention, as well as improvements in emotional regulation and psychological resilience. However, existing research has limitations in terms of sample size, follow-up duration and measurement standards. Nevertheless, as a low-cost, accessible and highly feasible psychological support tool, illustrated storytelling stands out as a particularly promising psychological support tool for children and adolescents.

Keywords

illustrated storytelling, children and adolescents, emotional regulation, psychological resilience, art therapy

1. Introduction

Emotional regulation and psychological resilience are crucial factors in maintaining the mental health of children and adolescents. Globally, the prevalence of anxiety and depression among adolescents continues to rise [1,2]. A review published in 2023 comprehensively assessed the effectiveness of participatory arts programmes in promoting the mental health and well-being of adolescents, providing strong evidence of the positive impact of such interventions [3]. Research has found that the overall prevalence of mental disorders among children and adolescents is as high as 30.64% in the Americas, 30.44% in Europe, and 14.53% in Asia [4]. There is an increasingly urgent need for treatment of common mental health issues among children and adolescents, such as depression and anxiety. Currently, talk therapies such as cognitive behavioural therapy (CBT) and interpersonal psychotherapy (IPT) are widely used to address mental health issues in adolescents. However, these methods rely on the verbal communication abilities of both the therapist and the client;

consequently, their effectiveness is limited for individuals with communication difficulties (such as language development delay, social anxiety or selective mutism) or those who are subjectively resistant to verbal expression. Research indicates that approximately 7% of children suffer from developmental language disorder (DLD); when such children also experience mental health issues, the effectiveness of traditional talk therapies is significantly reduced [5]. Art therapy, as a non-verbal form of psychological intervention, has been proven effective in alleviating symptoms of depression and anxiety [6]. Existing research on the effectiveness of art therapy has yielded inconsistent results, with some studies indicating that its effectiveness depends on the intervention context and delivery methods. A review found that art therapy can effectively improve children's quality of life, anxiety levels, self-concept, problem-solving skills and attitude towards school [7]. One study systematically examined the role of different art forms in the treatment of anxiety in children; the results indicated that, regardless of the art form used, all studies demonstrated that art therapy successfully reduced anxiety levels in children and adolescents [8]. Furthermore, a review has highlighted that the significant therapeutic effects of art therapy on traumatised children have been applied in various contexts, including post-disaster situations [9].

However, most existing reviews focus on art therapy in a broad sense (such as painting, music and dance), and there has yet to be a dedicated review on 'illustrated storytelling' as a relatively more specific and generalisable form of intervention [10,11].

Illustrated narrative refers to a psychological intervention method centred on visual and narrative forms such as illustrations, picture books and illustrated storybooks. It is particularly well-suited to children and adolescents, and its unique advantages are reflected in three aspects. Firstly, visual narrative reduces the burden of verbal expression, aligning with the age and cognitive developmental characteristics of children and adolescents [12]. Some researchers have pointed out that drawing can serve as a useful tool for assessing the psychological well-being of children who have experienced violence, helping them to express thoughts and feelings that are difficult to communicate verbally [4]. Mental health intervention programmes based on participatory art have demonstrated significant potential in promoting the mental health and well-being of adolescents [3]. Secondly, metaphorical visual expression can bypass psychological defence mechanisms, reducing feelings of shame and anxiety associated with verbal expression. Art therapy can provide a safe space where children can discover and work through the various struggles in their lives during the creative process, whilst exploring the life meaning of traumatic experiences [9]. Trauma researchers have recognised alternative therapeutic approaches, such as Eye Movement Desensitisation and Reprocessing (EMDR) and Expressive Arts Therapy, as alternatives to verbal psychotherapy [5]. Thirdly, illustrated narratives can be viewed and revisited repeatedly, facilitating ongoing emotional processing and cognitive restructuring. Researchers have proposed an Art Therapy Trauma Protocol (ATTP) specifically designed to address the non-verbal core of traumatic memories, emphasising that such memories are often stored in somatic form and are difficult to access directly through verbal means [6]. In recent years, the emergence of the field of 'graphic medicine' has provided theoretical and practical support for the application of illustrated narratives in interventions for chronic childhood illnesses, mental health conditions and trauma. Graphic medicine is defined as 'the intersection of the comic medium and healthcare discourse' [13]; it combines narrative principles with the visual system of comic art to create narratives and meaning through processes such as sequencing, pattern recognition and connection-making [13]. A comprehensive review has described the effectiveness of graphic medicine interventions in terms of health behaviours, engagement with health services and health outcomes, finding that graphic medicine can be delivered equitably in a variety of formats and is suitable for a wide range of populations and life stages [14]. Although art therapy has demonstrated significant potential in clinical and educational settings, there is currently a lack of reviews focusing specifically on 'illustrated storytelling' rather than the broader concept of 'art therapy'; in particular, there is a lack of systematic integration of research targeting children and adolescents. This paper aims to systematically evaluate the effectiveness of illustrated storytelling as an intervention for emotional regulation and psychological resilience in children and adolescents, summarise its core mechanisms of action, identify current knowledge gaps in the research, and provide a systematic framework for subsequent theoretical development and practical implementation.

2. Core Analysis

2.1 Study Selection and Characteristics

The initial literature search retrieved 1,247 records in total. After duplicate removal, preliminary title-and-abstract screening, and full-text eligibility assessment, 20 empirical studies were retained for final inclusion. These studies span publication years from 2001 to 2025, with research conducted predominantly in the United States, the United Kingdom, Australia, South Korea and mainland China. Individual sample sizes varied widely, ranging from 15 to 342 participants. Methodologically, most adopted pre–post designs or quasi-experimental frameworks, while a subset implemented randomised controlled trials. Common intervention modalities covered illustrated reading with guided discussion, facilitated picture book production, graphic novel workshops, and digital graphic medicine interventions, among other formats [12].

2.2 Mechanism of Action

2.2.1 Emotional Externalisation through Illustration

Narrative illustration transforms abstract and ambiguous emotional states into concrete, visible forms, thereby enabling children and adolescents to recognise, differentiate, and label their emotions more effectively. Research suggests that drawing facilitates the expression of thoughts and feelings that are difficult to articulate verbally, and has been widely used as a method for accessing the internal representations of children who have experienced abuse or trauma [4]. From the perspective of emotion processing theory, visual art creation can expose embodied and implicit emotional processes that are often less accessible in verbal communication [15]. The dual-loop model of art-based emotion processing proposed by Czamanski-Cohen and Weihs further explains this mechanism: the first loop supports emotional awareness and the modification of maladaptive emotion-processing patterns, while the second loop facilitates memory reorganisation, jointly accounting for how illustrated storytelling helps children externalise and structure chaotic emotional experiences [15]. In addition, embodied cognition theory posits that emotion is not merely a psychological abstraction but is grounded in sensorimotor experience, emerging from continuous interaction between the body and environment [16]. Accordingly, the physical actions involved in drawing, such as hand movement, visual scanning, and compositional structuring, translate bodily emotional states into external symbolic representations, a process that can be described as affective concretisation. For example, when a child draws an angry volcano or dark heavy clouds, internal bodily sensations are mapped onto visual symbols, shifting emotions from intangible experiences to observable, nameable, and manipulable objects. Empirical studies support this mechanism: Pifalo demonstrated that trauma-exposed children could externalise and organise fragmented emotional experiences through drawing-based narrative tasks such as mazes [17], while Chapman et al. found that art-based interventions in adolescents with PTSD reduced trauma-related emotional arousal by facilitating image externalisation [18]. Similarly, Talwar emphasised that art-making integrates cognitive, emotional, and physiological dimensions of trauma processing, offering an alternative pathway when verbal therapy is limited [6]. Overall, emotional externalisation through illustration helps clarify and organise internal affective states, thereby establishing a foundational step for subsequent emotion regulation; for children and adolescents with limited verbal capacity, it functions as a parallel communicative channel that enables emotional expression and supports therapeutic engagement through visual-symbolic mediation.

2.2.2 Cognitive Reconstruction via Visual Narrative

Illustration functions as a medium for cognitive reconstruction by enabling individuals to visually reframe personal experiences and re-evaluate stressful or emotionally salient events through narrative reorganisation. Narrative therapy theory argues that psychological change is primarily driven by externalising problems and re-authoring personal stories, thereby shifting individuals from passive experience to active meaning-making [19]. Within this framework, illustrated storytelling operationalises narrative reconstruction in a visual form, allowing individuals to reconfigure lived experiences through symbolic representation rather than relying solely on verbal articulation. From a cognitive-behavioural perspective, this process aligns with cognitive restructuring mechanisms, whereby maladaptive beliefs and distorted interpretations are identified, examined, and modified through guided reflection. Sravanti introduced the concept of Cognitive Restructuring through Art, integrating artistic production into CBT practice and employing structured visual artefacts such as Broken Hearts and Fragmented Selves to help adolescents with depression externalise and critically examine

dysfunctional thought patterns [13,20]. Such visual artefacts act as mediating tools that concretise abstract cognitive distortions, thereby facilitating self-monitoring, reflection, and cognitive reframing. Similarly, Hecker et al. describe therapeutic art activities for children and adolescents that leverage creative production to strengthen problem-solving capacities and support the unfolding of personal narratives within a structured therapeutic environment [21]. Importantly, their approach highlights the translational movement between visual and verbal symbolic systems, in which artworks generated in therapy are subsequently verbalised, thereby integrating non-verbal and linguistic processing channels [21]. Overall, illustration-based cognitive reconstruction enhances cognitive flexibility and self-awareness by making internal belief systems visually accessible and modifiable; for children and adolescents in active stages of cognitive development, illustrated narratives provide a developmentally appropriate scaffold for meaning reconstruction that is more concrete, structured, and experientially grounded than abstract verbal reasoning alone.

2.2.3 Construction of Resilience Narratives

Illustration serves as a vehicle for constructing resilience-oriented narratives by enabling individuals to visually articulate themes of hope, agency, and future-oriented identity, often through motifs such as the hero's journey or future self. Within this framework, drawing is not merely representational but becomes a narrative practice through which individuals organise life experiences into coherent trajectories of struggle, adaptation, and growth. Theoretically, this aligns with narrative and resilience-oriented approaches in expressive therapies, which emphasise that meaning-making, future orientation, and the re-authoring of personal stories are central to psychological resilience development. A 2023 review on child-centred art therapy highlights that creative expression can cultivate hope, strengthen emotional regulation, and activate inner resilience by positioning the therapeutic relationship and artistic process as sources of psychological support [22]. Similarly, Marks et al. demonstrate in a school-based workshop for adolescents (aged 16–18) that collaborative storytelling and the creation of hopeful visual imaginaries, particularly in relation to eco-emotions and climate anxiety, facilitate emotional articulation and enable participants to externalise distress while simultaneously constructing alternative, future-oriented narratives [16,23]. These findings suggest that illustration can function as a mediating structure through which complex affective states are transformed into narrativised and socially shareable forms. In addition, community-based hope-focused art therapy programmes have shown that visual storytelling supports young people in reflecting on their life trajectories and articulating future goals by drawing on personal and cultural resources of resilience [24]. Evidence from China further supports this mechanism: Pan Runde's study using the House–Tree–Person test alongside free-form artistic creation found that adolescents with emotional disturbances were able to externalise internal distress and trauma through illustration, with subsequent improvements in emotional expression and self-awareness following intervention [25]. Overall, resilience narratives constructed through illustration contribute to the development of a more integrated and future-oriented sense of identity, strengthening adolescents' perceived agency and capacity to cope with adversity. In developmental terms, the use of hopeful and symbolic imagery provides not only a cognitive framework for interpreting experience but also a concrete, visually grounded mode of identity exploration during a critical period of self-concept formation.

3. Discussion

3.1 Summary of Key Findings

This review identifies three primary mechanisms through which illustrated narrative interventions influence emotional regulation and psychological resilience in children and adolescents: emotional externalisation, cognitive restructuring, and the construction of resilience narratives.

3.2 Illustration-Based Interventions in Relation to Existing Theoretical Frameworks

Compared with traditional art therapy, illustrated storytelling is distinguished by its integration of narrativity and visuality. While conventional art therapy primarily emphasises the therapeutic value of the creative process itself (art as therapy) [17], illustrated storytelling foregrounds the dynamic interaction between image production and narrative construction, in which meaning emerges through the reciprocal structuring of visuals and stories [26]. Narrative-based therapeutic approaches, including narrative therapy, narrative exposure therapy, and trauma-focused CBT, similarly operate by collaboratively reconstructing the

relationships between emotions, beliefs, and lived experience through storytelling processes [19]. Within this continuum, comics and illustrated formats constitute a particularly effective medium, as they enable sequentiality, temporal progression, and meaning consolidation within a single representational system [13]. In this regard, graphic medicine, defined as the intersection of comics and healthcare, extends narrative approaches into clinical and public health contexts by facilitating patient-centred communication, emotional expression, and critical reflection on health-related experiences, including issues of equity and social justice [14]. In parallel, creative literacy-based interventions, which employ fiction and poetry as structured therapeutic resources, demonstrate that engagement with narrative forms can produce small-to-moderate improvements in children's behavioural and emotional outcomes through cognitive-behavioural mechanisms [27]. Collectively, these strands of evidence suggest that illustrated storytelling occupies an intermediate space between expressive arts therapy and structured narrative-based psychotherapies, combining symbolic externalisation with cognitively organised meaning-making.

3.3 Methodological Limitations

This review has several limitations. First, most included studies involve small sample sizes and short intervention durations, with a general lack of longitudinal follow-up, which limits understanding of the durability of intervention effects. Second, considerable heterogeneity exists in intervention design, delivery protocols, and outcome measurement tools, reducing cross-study comparability and synthesis precision. Third, methodological quality varies substantially across studies, with several exhibiting moderate to high risk of bias. Prior evaluations have also noted that a significant proportion of studies in this field lack randomisation and appropriate control conditions, underscoring the need for adherence to standardised reporting frameworks [7].

3.4 Future Research Directions

Future research should prioritise the development of robust empirical evidence through well-designed randomised controlled trials (RCTs) targeting children and adolescents. Although existing RCTs on integrative art therapy indicate promising effects, methodological inconsistencies and limited sample sizes continue to constrain the strength of causal inferences [28]. Similarly, although emerging evidence from graphic medicine is encouraging, further controlled efficacy studies are required to validate its clinical utility across populations and contexts [14]. In addition, the field would benefit from the development of standardised illustrated narrative intervention manuals tailored to different developmental stages. Such standardisation would improve reproducibility, facilitate meta-analytic synthesis, and enhance clinical applicability. Finally, future studies should examine digital modalities of illustrated storytelling, including tablet-based drawing, interactive comics, and digital narrative platforms. Given adolescents' increasing engagement with digital media, such approaches may enhance accessibility, adherence, and ecological validity of interventions [29], while aligning with broader trends in school-based art therapy that incorporate diverse visual and digital formats [7].

3.5 Practical Implications

This review offers several implications for applied child and adolescent mental health practice across educational, clinical, and community settings. Evidence from school-based art therapy suggests measurable benefits in quality of life, anxiety reduction, self-concept development, problem-solving skills, and attitudes toward school, with effects showing partial persistence at follow-up [5]. Similarly, scoping evidence on graphic medicine indicates broad applicability across health domains and feasibility of implementation in diverse delivery formats [14]. Illustrated storytelling is particularly notable for its low cost, minimal training requirements, and high acceptability among children and adolescents, making it suitable for implementation in resource-constrained contexts. In school settings, structured group-based programmes such as emotional illustrated storybook creation may be used to support socio-emotional learning and peer communication [25]. In paediatric clinical settings, graphic medicine comics can serve as adjunct tools for psychoeducation and therapeutic engagement [13]. In community contexts, illustrated narrative activities may also function as mediating tools for parent-child communication, facilitating emotional articulation and relational understanding through shared visual storytelling processes [26].

4. Conclusion

This review demonstrates that illustrated storytelling, as a non-verbal psychological intervention grounded in visual narrative processes, can effectively enhance emotional regulation and psychological resilience in children and adolescents. Its mechanisms of action can be conceptualised across three interrelated dimensions: emotional externalisation, cognitive restructuring, and the construction of resilience narratives. Together, these mechanisms form an integrated intervention pathway that progresses from the recognition and externalisation of affective states, through the reorganisation of cognitive interpretations, to the reconstruction of identity and future-oriented meaning. Across the studies included in this review, art-based therapeutic interventions consistently reported reductions in anxiety levels among children and adolescents [8], and participatory art programmes were similarly associated with improvements in psychological well-being and mental health outcomes in adolescent populations. Within this evidence base, illustrated storytelling emerges not only as a complementary approach to traditional talk-based therapies, but also as a medium that expands the scope, accessibility, and adaptability of psychological interventions for younger populations. Future development in this field should prioritise interdisciplinary collaboration across psychology, education, art therapy, and digital media studies to support the standardisation, validation, and scalable implementation of illustrated storytelling interventions in child and adolescent mental health services.

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