



"When He Feels Cold, He Goes to the Seahorse" — Blending Generative AI into Multimaterial Storymaking for Family Expressive Arts Therapy

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Agenda

- ◆ **Introduction**
- ◆ **Methodology**
- ◆ **Key Findings**
- ◆ **Contribution**
- ◆ **Conclusion**



Why select this research paper

- ✦ A study in **AI for social good**.
- ✦ A study of **AI-in-the-wild** in sensitive settings.
- ✦ Showcase **child-safe, therapeutic AI** use.
- ✦ Shows how **AI** can materialize into therapy.



Goal of this study

To explore how AI blends with traditional materials to enhance family communication and therapy.



Figure 1: (a) Character Making; (b) Scene/Object Making; (c) Story Making and Storytelling; (d) Story Sharing and Reflection; (e) Setup Display of Family Expressive Arts Therapy Activity.



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Introduction

- ✦ **Importance of Family communication**
 - co-constructing and negotiating meanings
 - shaping identity
 - influencing the dynamics of parent-child relationships
 - support children's psychological well-being and overall development
- ✦ **Family expressive arts therapy**
 - facilitated by expressive art therapists
 - break down barriers of family communication via drawing, playing, storytelling, or collage-making
 - few HCI research on “storymaking-based expressive arts therapy”





Research questions

✦ **RQ1:**

how would families engage in AI-infused multimaterial storymaking in expressive arts therapy?

✦ **RQ2:**

how would image-generative AI be leveraged as expressive materials in family expressive arts therapy?

✦ **RQ3:**

how would future design support parents, children and therapists in family expressive arts therapy?



Research design

- ✦ **The family storymaking based expressive arts therapy activities**
 - a professional therapist
 - 7 groups of families with 18 participants (10 parents, 8 children)
 - five-week sessions and interview data with the parents.
- ✦ **Focus group discussion with 4 expert therapists**
- ✦ **the generative AI as expressive materials**



Methodology

- ✦ **Participants:**

7 families (18 participants), 5-week sessions guided by a therapist.

- ✦ **Materials:**

Traditional (clay, LEGO) + AI (Midjourney for image generation).

- ✦ **Process:**

- Families created physical artifacts → AI-generated images → materialized outputs (e.g., printed cutouts).
- Activities: Character-making, scene-making, storytelling, reflection.

- ✦ **Data Analysis:**

Thematic analysis of interviews, videos, and therapist feedback.

- ✦ **Focus group** discussion with 4 expert therapists

The flow of the process

- *AI-generated images were employed as intermediate expressive materials*
- *These AI images were materialized into printed scenes, character paper cutouts, and physical tokens for further co-creation.*

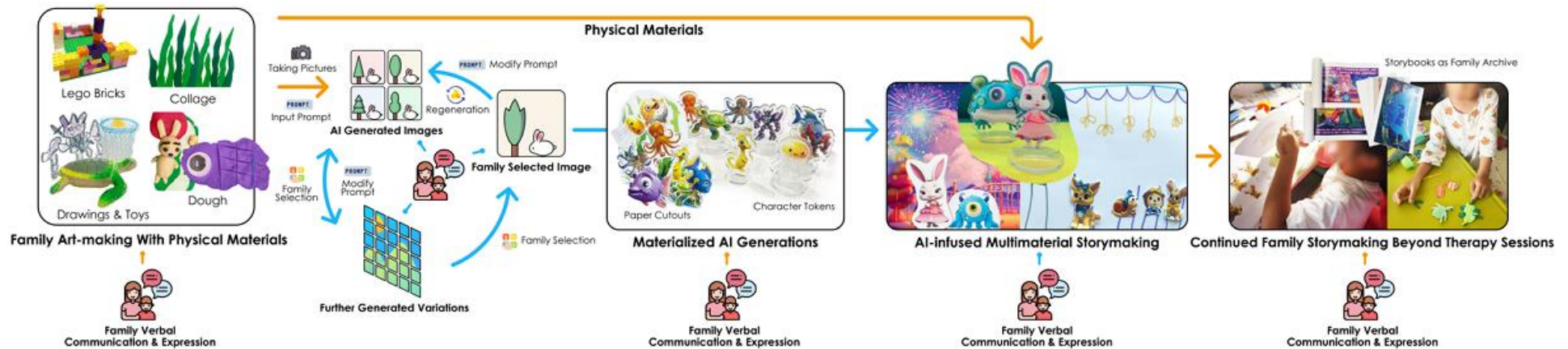


Figure 3: Illustration of how families combined analog materials and generative AI in their creative process.

AI's role in the process



Figure 5: Study setup: (a) overview of the four activities; (b) diverse expressive materials (1-5: LEGO, colored clay, painting mediums, yarn, non-woven fabric; 6: paper cutouts of AI; 7: character tokens); (c) activity participants (mother: left, children and therapist: right).



Process of Generative AI(Midjourney)

- ✦ **Inputs:**
Photos of handmade artifacts (clay figures, drawings) & verbal descriptions from families.
- ✦ **Outputs:**
Multiple AI-generated image variations (e.g., characters, scenes) for families to select and refine.
- ✦ **Style Harmonization:**
Ensured consistency (e.g., blending a child's crayon drawing with a parent's collage into a unified aesthetic).



Data collection

✦ Session Observations

- **Video/Audio Recording: Family interactions, Material use, Therapist guidance**
- **Field Notes**

✦ Interviews

- **Post-Session Mini-Interviews (5 mins)**
- **Intermediate Interviews (30 mins)**
- **Final Interviews (1 hour)**

✦ Home Use Data

- **Families shared photos/comments via messaging apps about how they reused AI materials**



Key findings

- ◆ **RQ1: how would families engage in AI-infused multimaterial storymaking in expressive arts therapy?**
 - Children projected emotions via AI-generated characters (e.g., dinosaur as an obstacle).
 - Role-playing with tokens fostered perspective-taking.
- ◆ **Therapeutic Value: Non-verbal expression, family collaboration.**



Key findings

- ◆ **RQ2: how would image-generative AI be leveraged as expressive materials in family expressive arts therapy?**
 - Expressive Therapies Continuum(ETC) Framework
 - Kinesthetic: Clay manipulation → energy release.
 - Symbolic: AI-generated "seahorse" as a child's self-symbol.
 - AI's Role: Empowerment (lowered creative thresholds), connection (physical-digital fusion).



Key findings

- ◆ **RQ3: how would future design support parents, children and therapists in family expressive arts therapy?**
 - For children: Personal relevance (e.g., toys in stories).
 - For parents: Discovered children's hidden strengths.
 - For therapists: Tools to observe dynamics (e.g., family roles via storytelling).



AI's therapeutic meanings

Table 4: Summary of the Therapeutic Meanings of Generative AI as Expressive Materials.

Themes	Description	Example Quotes
AI as Empowerment for Families	Lowering the creative threshold and increasing creation efficiency; Unconditionally accepting families' imagination and affording endless variations.	<i>"children may become more confident [...] knowing that the quality of their drawing didn't matter since AI can enhance images (P17)";</i> <i>"I can't turn the things in my head into a specific look that I want, but AI can help (P14)".</i>
AI as the Connection between Physical and Digital, Life and Stories	Fusing and harmonizing analog and digital artifacts; Generating symbols that can permeate life and stories.	<i>"once I created an artifact, and P4 crafted another, it allowed us to combine both creations into a unified image (P3)";</i> <i>"she has immersed herself in this role because [...] she relates her current state to the character of the little rabbit (P1)";</i>
AI as Co-creator	Family-AI mutual interpretations; Family-AI comprise and authorship.	<i>"what fascinates me is that he not only selected the AI-image but also interpreted its unexpected part as jeweled bananas (T4)";</i> <i>"initially, we probably had a preconceived notion, but when AI-generated images deviated from our expectations, we found this variation to be acceptable (P17)";</i> <i>"AI provided several images and allowed them to choose one that closely mirrored their own creation. This may be considered as respecting their ideas (P5)".</i>



Contributions

- ✦ **Demonstrated how to study AI-in-the-wild in sensitive settings.**
- ✦ **Demonstrates how AI can augment (not replace) embodied, creative practices in HCI.**
- ✦ **Offers a model for integrating digital tools without losing tactile benefits for therapists.**
- ✦ **Shows how AI can democratize creativity and foster intergenerational bonding.**



Contributions

✦ Guidelines for AI in Therapy

- AI outputs should be tangible (e.g., printed, tokens) to integrate with traditional therapy.
- Hybrid Creation Loop
Family creates clay figure → Photo → AI generates image → Printed cutout → Used in storytelling
- generative AI (Midjourney) blends with traditional materials (clay, drawing) in co-located family therapy.

✦ Therapeutic Benefits of AI

- AI helped children with limited art skills express complex emotions.
- Families projected emotions onto AI-generated characters.
- AI-materialized outputs (e.g., acrylic tokens) became transitional objects, used beyond sessions for ongoing storytelling.



Conclusion

- ✦ **AI + traditional materials enhanced therapeutic storymaking by fostering creativity, connection, and reflection.**
- ✦ **AI's unpredictability turned into creative opportunities (e.g., "diamond banana").**
- ✦ **Generative AI isn't just a tool—it's a co-creator in family healing.**

References

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