

Case Study

# The Dual Role of Children's Creative Expression: Participatory Art as Process and Evidence of Wellbeing in Play Environments

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**Abstract:** Children's wellbeing in urban play environments is shaped not only by physical design but also by the emotional, sensory, and relational meanings they attach to their surroundings. Yet these experiential dimensions remain underrepresented in urban design evidence bases. This study explores the dual role of children's creative expression both as a participatory process that supports wellbeing, and as the affective evidence revealing how children perceive, value, and emotionally engage with their play environments. To support this study, a workshop titled *Invisible Bonds – Places of Play* was conducted with 10 child–parent pairs (ages 4–10), who co-created mixed-media artworks to represent their favourite places of play. Through a multi-modal analysis of observational notes, conversations, and completed artworks, the study identified spatial themes and indicators of wellbeing. Findings show that the children expressed remarkable attunement to micro-landmarks, sensory details, seasonal cues, and natural elements. These features, along with social bonds, and imaginative hideouts, were associated with feelings of autonomy, security, joy, and belonging. The findings demonstrate the capacity of participatory creative methods to access children's lived geographies and to inform design principles for meaningful play environments. This case study shows that children's creative expression offers a powerful dual contribution to both understanding and supporting their wellbeing in urban play environments.

**Implications:** This case study highlights that designing for children's wellbeing requires understanding their emotional and sensory experiences of play spaces. The workshop framework offers a scalable, practical tool for urban designers, planners, educators, community practitioners, and mental-health practitioners to uncover children's spatial experiences, strengthen caregiver–child relationships, and integrate creative expression into wellbeing-oriented planning. Incorporating arts-based methods can facilitate more inclusive, attuned, and psychologically supportive play environments.

**Keywords:** children's wellbeing; play environments; participatory arts-based research; creative expression; place attachment; emotional geographies; people–place relationships; child-friendly urban design

## 1. Introduction

Children form deep emotional bonds with their environments from the earliest stages of life. Their engagement with play spaces is shaped by sensory experience, imagination, creativity, and social relationships—dimensions often overlooked in adult-centric spaces. Understanding child wellbeing requires moving beyond measurable indicators to consider children's lived experiences and emotional connections to place (Steger, et al., 2021). The questions "*Which places matter to children?*" and "*Why?*" remain insufficiently addressed in urban design discourse, especially concerning mental health wellbeing.

Urban planning increasingly relies on quantifiable evidence, such as walkability indices, green-space ratios, playground standards, and safety ratings. While necessary, these metrics privilege physical form over lived experience. Even child-friendly city initiatives often

underrepresent children's own expressions of place meaning (Derr & Tarantini, 2021; Koller & Farley, 2019; Lu & van Ameijde, 2025).

There is a long tradition of involving children in placemaking and environmental design (Sutton & Kemp, 2002), ranging from socio-technical participation frameworks (Peacock, Anderson & Crivellaro, 2020) to child-led play research (Burke, 2005). Yet creative, arts-based approaches remain disproportionately used in healthcare environments (Water et al., 2017) rather than in everyday urban contexts. Furthermore, recent studies have emphasized the need for research to incorporate children's experiential and narrative insights through child-centred methods that move beyond behaviour mapping to capture how children meaningfully experience, interpret, and value play environments (Ramsden et al. 2025).

This article proposes that children's creative expression plays a dual role in child-centred spatial design:

1. As a participatory process, it supports children's wellbeing through sensory engagement, autonomy, imaginative exploration, and social connection.
2. As a product, it functions as affective evidence, revealing children's affective geographies, place attachments, and subtle spatial insights.

Using the workshop *Invisible Bonds – Places of Play* as a case study, this piece argues that children's creative expression enriches urban design practice while offering an overlooked form of experiential evidence essential for designing play environments that nurture wellbeing.

## 2. Children's Psycho-spatial Experience

### 2.1. Childhood Place Attachment, Sense of Place and Emotional Geographies

A child's perspective differs fundamentally from an adult perspective. However, an adult's sense of place is often dependent on their childhood experiences (Derr & Tarantini, 2021; Strand, 2023). Furthermore, Chawla (1992, 2007) demonstrates that experiences of nature, play, and exploration during childhood are closely associated with later environmental stewardship and personal wellbeing. These attachments are built through repeated engagement, sensory experiences, and meaningful interactions within specific spaces, creating a foundation for emotional security, autonomy, and social learning.

Research into children's geographies highlights that play environments are emotionally and sensorially charged landscapes. Moreover, well-designed play spaces support the emotional, social, and cognitive wellbeing of children (Kamal & Gabr, 2024). Children experience place through embodiment, movement, fantasy, and relational encounters (Steger, et al., 2021; Bartos, 2019). A tree may be a hiding place, a lookout tower, or the threshold to an imaginary world. As Burke (2005) notes, when children research their own play environments, their insights reveal micro-geographies of feeling—comfort, excitement, fear, belonging—that are essential to designing environments supportive of wellbeing.

Chawla (1992) describes childhood place attachment as shaped by security, belonging, social affiliation, and opportunities for creativity and exploration (p. 68). Similarly, Koller and Farley (2019) emphasize that emotional responses to place are influenced by autonomy, sensory stimulation, and the freedom to make independent decisions; which are fundamental components of children's self-development.

### 2.2. Children as Spatial Experts

Children navigate their environments with attentiveness, curiosity, and creativity. They often notice details that adults overlook: the exact location of a tree that offers shade, the texture of a riverbed, a small mushroom patch, or a hidden corner suitable for solitary play. Their spatial awareness is deeply intertwined with social dynamics, including knowing where peers tend to gather, how adults move within a space, and which elements of an environment afford play opportunities (Mand, 2012). Observational studies of outdoor play environments also show that children's exploratory behaviours are shaped by prior

experiences and familiarity with specific objects and micro-spaces, which influence how they perceive and engage with their surroundings (Ramsden et al., 2025).

Recognising children as experts in their own spatial experiences challenges traditional hierarchies in planning and design. Allowing their insights to meaningfully inform play environments requires methods that make their perceptual, emotional, and sensory knowledge visible. Creative expression offers precisely such a pathway.

### 3. Children's Creative Expression

#### 3.1. Creative Expression, Psychological Insight, and Wellbeing.

Creative expression allows children to externalise memories, emotions, and spatial experiences. Drawings, collages, and mixed-media artworks offer children a non-linear, open-ended mode of expression that aligns with their imaginative and sensory modes of knowing (Mand, 2012). As Koller & Farley (2019) argue, expressive methods reveal how children feel spaces, not just how they describe them.

The tactile process of working with soil, leaves, twigs, wood, and natural textures activates sensory memory and embodied recollection. As Affandi et al. (2011) note, materials influence how children reconstruct spatial narratives. Sensory engagement can intensify emotional recall, grounding imaginative representation in lived bodily experience.

Creative participation supports mental health by fostering joy, concentration, emotional regulation, and relational bonding (Jean-Berluce, 2018). Corominas et al. (2020) show that subjective wellbeing in play environments is enhanced when children can express autonomy and imagination—qualities inherent to creative making. Expressive arts are not just a process or method; they are a genuine wellbeing-supportive practice.

#### 3.2. Creative Expression as Evidence (“Expressive Evidence”)

Urban design tends to prioritise what can be counted or spatially mapped. But children's wellbeing is deeply shaped by qualities that resist measurement: delight, fear, attachment, belonging, imaginative possibility, sensory comfort, social meaning (Burke, 2005; Watson & Newman, 2022).

Studies on children's subjective wellbeing in play environments (Corominas et al., 2020) reveal that qualitative, affective insights are indispensable to understanding the spaces children value. Scholars argue for clearer distinctions between play and physical activity, and for greater attention to how diverse play spaces support children's emotional development across cultural and spatial contexts. (Lu & van Ameijde, 2025). Yet, these insights rarely inform planning.

Participatory arts-based methods have been shown to produce forms of qualitative evidence that reveal emotional, sensory, and relational dimensions of experience typically absent from conventional urban design data. As Kagan et al. (2018) argue, creative participation generates affective and experiential knowledge that makes visible the “felt” dimensions of wellbeing—connection, imagination, and embodied meaning-making—that quantitative indicators cannot capture. Similarly, Mand (2012) and Koller & Farley (2019) demonstrate that children's artistic expressions provide access to tacit spatial knowledge, enabling researchers and practitioners to interpret the nuances of children's place attachment and lived geographies in ways that spoken accounts or observational methods alone cannot.

### 4. Case Study: *Invisible Bonds – Places of Play*

#### 4.1. Workshop Context

The workshop took place in a public library (*de Bibliotheek*) in Eindhoven. Ten child-parent pairs participated, with age range from 4 to 10 years (primarily 4–6 years) and a gender ratio of 3:7 (3 female and 7 male). Participants were recruited via open community outreach through library flyers and social media; participation was voluntary and free of cost.

The workshop focused on children's favourite outdoor places of play and was designed to engage children in autonomous, sensory-rich creative expression while fostering intergenerational conversation around play memories and everyday spatial experiences. The child–parent pairing was a deliberate methodological choice, recognising the role of intergenerational interaction in children's spatial meaning-making, feelings of security, and relational wellbeing.

The sample size was intentionally small to allow for in-depth observation, conversation, and creative engagement. In line with qualitative and arts-based research traditions, the aim was not statistical generalisation but the generation of insights into children's lived spatial experiences.

#### 4.2. Workshop Framework

The workshop involved three steps:

- **Conversation:** Children and parents discussed favourite places of play. These conversations revolved around the questions: "What is your favourite place of play in the outdoors?", "Why do you love it?," and "With whom do you love to play?"
- **Creative Expression:** Children were encouraged to get creative. They led the creation of artworks representing their chosen play spaces. Parents contributed elements when invited by children, strengthening agency and intergenerational collaboration.
- **Story Sharing:** Children narrated their artworks, describing features, micro-details, and associated memories.

Children were encouraged to create artworks using natural and textured materials, including soil, leaves, flowers, dried petals, twigs and sticks, coloured paints, markers, paper, and wood pieces. The multisensory nature of these materials was chosen to support sensory engagement: touch, texture, smell, and assemblage help children externalise memories and place meanings. The workshop process fostered joy, autonomy, and relational bonding, forming an integral part of the study's dual-role framework.

#### 4.3. Methodology and Analytical Approach

This study adopts a qualitative, theory-informed case study methodology that combines insights from existing literature with qualitative insights generated through the workshop. Rather than treating the workshop data in isolation, analysis was guided by concepts drawn from childhood geographies, participatory arts, place attachment, and wellbeing research, allowing observations to be interpreted in dialogue with established theoretical frameworks.

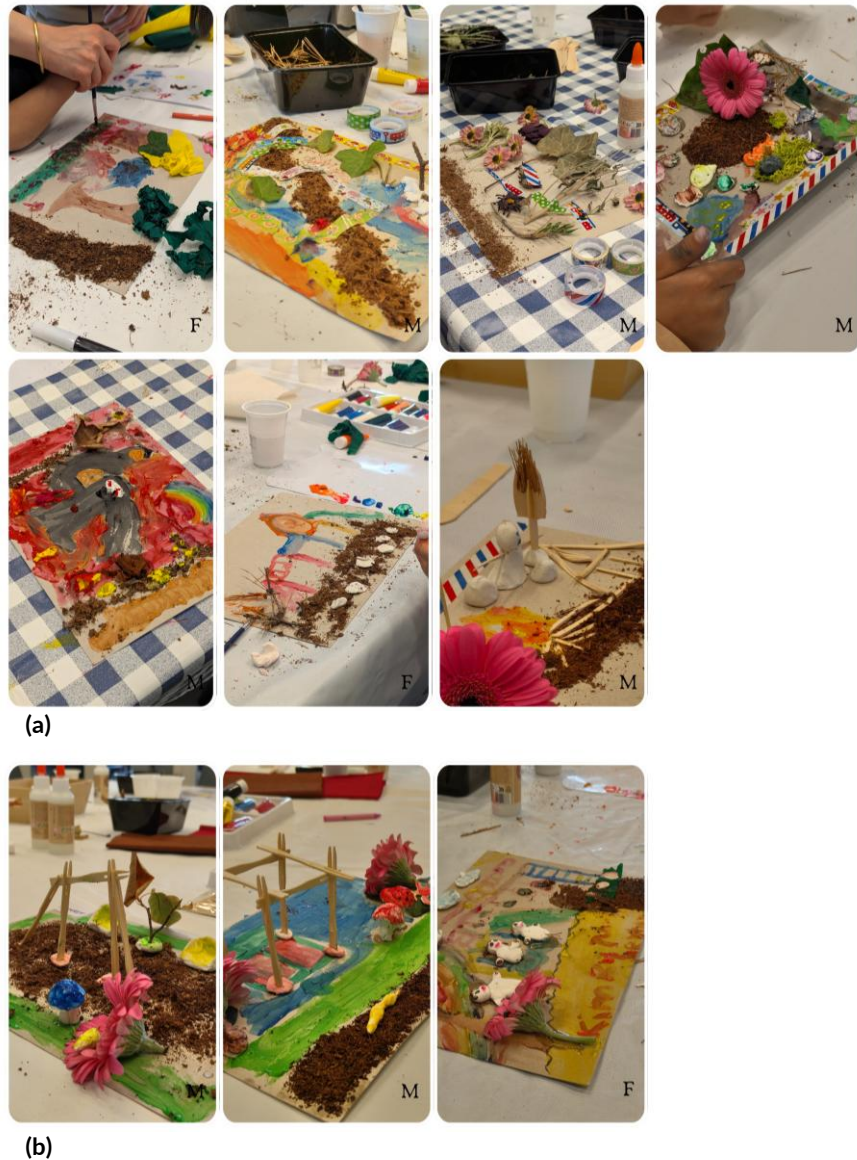
Data sources include observational notes recorded during the workshop, children's verbal narratives and conversations with parents, and the visual, material, and spatial elements present in the completed artworks. These materials were reviewed iteratively alongside relevant literature to identify recurring patterns related to children's spatial experience, sensory engagement, social relationships, and emotional expression.

In this study, children's wellbeing is conceptualised as a relational and experiential construct rather than a clinically measured outcome. Drawing on existing research, wellbeing was operationalised through observable and expressed indicators, including sensory engagement and enjoyment, expressions of autonomy and agency, feelings of security and relational attachment, imaginative playfulness, and verbal or narrative expressions of belonging (Burke, 2005; Chawla, 1992; Watson & Newman, 2022). These indicators emerged through children's storytelling, material choices, spatial representations, and interactions during the creative process.

This hybrid approach acknowledges creative expression not only as a source of data but also as a mode of inquiry in itself, enabling access to children's lived and affective geographies that are often inaccessible through conventional research methods.

#### 4.4. Outcomes

**Figure 1** showcases the creative outcomes of the workshop. The children produced richly layered mixed-media artworks that depict their favourite places of play, combining natural materials, paints, collage elements, and imaginative constructions. These artworks serve not only as visual representations of specific environments but also as emotional and narrative maps of the children's lived and imaginative experiences.



**Figure 1.** Creative outcomes of the workshop by children: (a) Outcomes by children (Ages 4–6); (b) Outcomes by children (Ages 7–10)

Children used soil, leaves, twigs, dried flowers, wood sticks, and natural textures to build landscapes that resembled forests, playgrounds, bridges, football fields, and backyard “secret spots”. Their colour choices also subtly reflected the colour palettes that evoke the essence of their play spaces: the reds of mushrooms, the bright greens of trees, or the warm yellows of fallen leaves.

Alongside the visual compositions, the artworks also embedded stories, routines, and relational moments, linking physical spaces with experiences. Many pieces illustrated shared activities with parents or siblings, reinforcing that place attachment and wellbeing are deeply social as well as spatial. Others highlighted secret hideouts, or symbolic landmarks, offering a glimpse into the psychological landscapes children construct through play.

Collectively, these artworks provide a unique form of evidence by capturing how children feel in their environments, how they move through them, what textures and features they notice, and which relationships they associate with specific places. Furthermore, the outcomes illustrate the potential for creative, participatory methods to produce insights that complement traditional empirical approaches in child-centred spatial design.

#### 4.5. Findings

The artworks and conversations generated during the workshop offered a vivid, emotionally rich understanding of children's relationships to their play spaces. Their storytelling revealed how sensory details, micro-geographies, family relationships, and imaginative elements all contribute to wellbeing. Below are the findings incorporating direct narratives from the workshop.

##### 4.5.1. Attunement to Micro-Spatial and Sensory Details

Children repeatedly attended to fine-grained, sensory features of place—details adults commonly overlook but that animate children's experience of play:

One child mapped the football field as a sequence of entry and exit points, saying: *"Mom, I love the football field... this is the entry gate and this is the exit. I love playing here with my friends."* The child also pointed out nearby landmarks and routes, treating the field as part of a larger network of meaningful places rather than an isolated facility.

A child who played near a canal described the pleasure of discovering mushrooms: *"We have a canal near our house... near the canal there is a tree and lots of mushrooms. I love playing with mushrooms, especially the red ones. Mom, can you help me make the mushroom? I want to paint it red."* The child's insistence on the red mushroom demonstrates sensory preference (colour, texture) and the role of small ecological features as emotional anchors.

*"There is also a swing nearby... I don't know how to make it."* The parent responded: *"Let's use these wood sticks,"* and together they constructed a swing. This exchange shows not only the child's awareness of affordances (a swing as a locus of play) but also the co-creative strategies that turn simple materials into meaningful representations.

##### 4.5.2. Nature as a Dominant Element of Play

Nature consistently emerged as central to children's play experiences. Beyond the mushrooms, children referenced trees, riverbeds, stones, and forest-like playgrounds.

One pair talked about regular family walks and playing fields: *"We go to the forest... there is a river... and Mom, some small footbridges... and the playground."* The child emphasised the route, the crossings, and the awareness of moving through a wooded landscape.

Another child wanted to make an autumn scene: *"I want to make the autumn playground... look, the leaves are brown and yellow."* The use of dried leaves and flowers in the artworks reflected seasonal aesthetics and sensory memory.

Another described a scene of trees surrounding a jungle gym: *"There are so many trees in the playground... I made them green... this is my Mom and my sister. I love playing with them."* Trees were both play objects (climbing, hiding) and social markers (where adults sit, where friends gather).

##### 4.5.3. Social Bonds and Intergenerational Connections

Children consistently framed place through relationships—who they played with, who watched them, and where family members normally sat—underscoring the relational dimension of place attachment.

One child mapped a jungle gym and named companions: *“I love playing on the jungle gym with my Mom and my sister. I love playing with them.”* The social configuration of play with siblings and parents present was central to the place’s meaning.

Another child explicitly located the parent within the landscape: *“This is the playground and this is where you sit, Mom, on this bench.”* This simple spatial notation reveals how parental presence contributes to children’s sense of security in public spaces.

In intergenerational storytelling, a child said: *“I love going camping with you, Dad.”* When asked what they enjoyed, the child replied: *“I like bonfires... we can make the camping hut.”* The father also shared his own memory: *“I used to play on the train tracks,”* and the child included this in the artwork. The joint creation thus united present child experiences and adult memories into a layered family narrative.

#### 4.5.4. Imaginative play and hideout spaces

Children repeatedly indicated the importance of secret, sheltered, or imaginative niche-spaces for autonomy, private play, and small-scale discovery.

One child described: *“This is my hide-out where I hide chestnuts... I love collecting chestnuts. I also have a secret shed in my backyard.”* The emphasis on hiding and collecting reveals the psychological value of small private domains. Several artworks included representations of huts, dens, trees, or improvised fields as places for ritual, role-play, and control over one’s environment.

### 5. Dual Role of Creative Expression

#### 5.1. Creative Expression as Wellbeing-supportive Participatory Process

During the workshop, children’s meaning-making unfolded through sensory exploration, storytelling, and intergenerational collaboration. This form of creative engagement aligns with research showing that participatory arts foster emotional expression, relational bonding, and psychological wellbeing (Kagan et al. 2018). As children manipulated soil, arranged dried flowers, painted mushrooms, or constructed miniature swings and bridges, they engaged in a mode of embodied mindfulness—harmonising with textures, colours, and memories while narrating the significance of their chosen play spaces.

Children’s art-making also emerged as a distinctly sensory and emotional experience. Handling natural materials encouraged sensory grounding, curiosity, and mindful focus, catering to findings that arts-based participation enhances emotional regulation, autonomy, and communication in children (Koller & Farley, 2019; Water et al. 2017). Through tactile experimentation, children translated memories into material forms, blending imagination with embodied recall.

Furthermore, they actively revisited their personal geographies through narrative and shared meaning-making with parents. This intergenerational co-creation strengthened relational bonds and reflects insights from intergenerational placemaking research, which shows that collaborative creative processes foster belonging, empathy, and emotional expression (Peacock et al. 2020, Sutton & Kemp, 2002; Watson & Newman, 2022).

Overall, the arts-making process functioned as a wellbeing intervention in its own right:

- **Sensory engagement** supported calmness, focus, and joy.
- **Storytelling** facilitated emotional processing and memory sharing.
- **Collaboration with parents** strengthened security and relational wellbeing.
- **Autonomy in creation** reinforced children’s agency and spatial identity.

These experiential outcomes demonstrate that participatory art contributes to children’s wellbeing as a *process*, not merely a research method, offering a psychologically supportive framework for exploring and expressing spatial experience.

## 5.2. Creative Expression as Evidence of Children’s Spatial Experiences

At the same time, the artworks themselves provide experiential data that is a form of evidence offering direct insight into how children perceive and evaluate their play environments. **Table 1** outlines how children’s narratives and creative choices map onto spatial characteristics, associated feelings, and implications for child-centred design.

**Table 1.** Children’s narratives and feelings to design implications

CHILDREN’S SPATIAL EXPERIENCE AND INSIGHTS	FEELINGS ASSOCIATED	DESIGN IMPLICATIONS IN PLAY ENVIRONMENTS
Children attend to micro-landmarks and sensory cues; presence of nature, seasons, and aesthetic sensitivity	Sensory delight, curiosity, multi-sensory experience, nature observation	Include textured landscape elements, small-scale planting, sensory landscapes, different tactile materials suitable for seasonal change
Nature as a dominant element of play; integration of nature and play	Nature-based play, creativity and imagination, autonomy	Combine natural feature with play equipment, opportunity for imaginative play with nature
Social bonds; children tracking relational presence in space; intergenerational memory and storytelling	Sense of security, Attachment, and relational well-being	Provide comfortable caregiver nodes with visual connections/sightlines, encourage multi-use spaces for family play
Imaginative play and hideout spaces	Autonomy, sense of ownership, control, and belonging	Combine natural features with play equipment

### 5.2.1. Multisensory Experience

The detailed depictions of mushrooms, trees, riverbeds, entry gates, bridges, and hiding spots reveal the significance of small-scale, sensory, and aesthetic elements. These micro-landmarks evoke curiosity and sensory delight. Natural and customised play features are found to not only provide play opportunities, but also enhance the social and cognitive development skills (Kamal & Gabr, 2024). For designers, such evidence supports the value of textured landscapes, seasonal vegetation, and tactile materials, highlighting the relationship between sensory richness and subjective wellbeing in play.

### 5.2.2. Nature-based Curiosity and Autonomy

Nearly every artwork integrated trees, forests, leaves, or water. Some children recreated autumn scenes, others mapped forest walks with small bridges, and others emphasised the trees around the jungle gym. This reinforces decades of research demonstrating that children’s wellbeing is deeply tied to their nature encounters (Burke, 2005; Chawla, 2007). The evidence suggests that natural features should not merely surround play equipment, but be intertwined with it, offering opportunities for imaginative and open-ended play.

### 5.2.3. Sense of Security and Relational Wellbeing

Children consistently included family members and caregivers in their spatial stories—from sitting on benches, to camping together, to playing football with friends, or joining siblings on the jungle gym. These representations reflect relational wellbeing and attachment, aligning with Watson & Newman’s (2022) view that children conceptualise place through social interactions. The design implication is clear: play spaces must support visibility, comfort, and proximity between caregivers and children, facilitating shared and relational play.

### 5.2.4. Imagination and Autonomy

The child who mapped their hidden chestnut stash, their secret shed, or the child who conceptualised camping huts and bonfires, exemplifies the importance of semi-enclosed, flexible, and imaginative zones. Hideouts, nests, and small-scale structures foster autonomy, belonging, and imaginative freedom—key themes noted in Burke (2005), Chawla (1992), and Sutton & Kemp (2002). This evidence underscores the value of designing child-scaled refuges that support secrecy, exploration, and creativity.

## 6. Conclusion

This case study demonstrates that children's creative expression offers a powerful dual contribution to understanding and supporting child wellbeing in urban play environments. Through the participatory art-making process, children engaged in sensory exploration, storytelling, and spatial experiences that nurtured autonomy, joy, and emotional connection. At the same time, the resulting artworks served as affective evidence, revealing the spatial elements that hold meaning for children: micro-landmarks, natural features, social nodes, and imaginative hideouts.

These insights align with and extend existing research on children's place attachment, emotional geographies of play, and participatory placemaking. The findings reaffirm that children are not passive users of urban space but knowledgeable spatial experts whose experiences are rich, detailed, and deeply relational. Incorporating their creative expressions into planning and design processes can strengthen the psychological, social, and sensory quality of play environments.

While this study is based on a small-scale workshop, the approach is inherently scalable. The framework can be adapted by urban planners, social designers, educators, or community facilitators to support children's wellbeing through creative expression, using structured prompts, material-based making, and facilitated storytelling within schools, libraries, or community centres. Rather than requiring specialised therapeutic expertise, the method relies on multi-sensory material engagement, expression, attentive listening, and thematic synthesis, making it suitable as a complementary tool in participatory planning, community engagement, and child-friendly urban design processes.

Overall, designing child-centred play spaces requires more than meeting safety standards or functional requirements. It calls for embracing the textures, stories, memories, and relationships that shape children's everyday geographies. Creative, arts-based methods such as those used in this workshop offer a meaningful pathway toward more inclusive, empathetic, and wellbeing-oriented urban design.

## 7. Limitations and Future Research

This study is based on a small, qualitative sample and should be interpreted as an exploratory case study rather than a generalisable assessment. The age range of participants (4–10 years) may have influenced the forms of expression and narrative complexity observed. Additionally, participation was through a public library setting and voluntary outreach, and many families appeared comfortable with creative activities, which may have shaped engagement levels.

The workshop primarily elicited positive emotional associations with play spaces, such as joy, security, curiosity, and belonging rather than expressions of fear, aversion, or insecurity. This was influenced by the workshop framing, which invited children to reflect on their favourite places of play, as well as the supportive presence of caregivers. Future research could intentionally explore children's negative or ambivalent spatial experiences by broadening prompts, incorporating creative methods, or engaging with less familiar play environments.

Furthermore, future research could build on this exploratory case study by adapting the workshop framework to larger and more diverse participant groups, including different sociocultural contexts and more narrowly defined age cohorts, allowing for comparative analysis across different groups.

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## References

- Affandi, T. M. I., Said, I., Rasidi, H., & Za'bar, Z. (2011). Place-making a child-friendly urban environment through artworks. *Procedia - Social and Behavioral Sciences*, 38, 275–283. <https://doi.org/10.1016/j.sbspro.2012.03.348>
- Bartos, A. E. (2019). Children sensing place. *Emotion, Space and Society*, 31, 1–8. <https://doi.org/10.1016/j.emospa.2018.11.004>
- Burke, C. (2005). Play in focus: Children researching their own spaces and places for play. *Children, Youth and Environments*, 15(1), 275–291.
- Chawla, L. (1992). Childhood Place Attachments. In: Altman, I., Low, S.M. (Eds), *Place Attachment* (pp. 63–86). Springer, Boston, MA. [https://doi.org/10.1007/978-1-4684-8753-4\\_4](https://doi.org/10.1007/978-1-4684-8753-4_4)
- Chawla, L. (2007). Childhood Experiences Associated with Care for the Natural World: A Theoretical Framework for Empirical Results. *Children, Youth and Environments* 17(4), 144–170. <https://dx.doi.org/10.1353/cye.2007.0010>
- Corominas, M., González-Carrasco, M., & Casas, F. (2020). Analyzing factors for an optimum play environment through children's subjective well-being indicators. *Children and Youth Services Review*, 108, 104606.
- Derr, V., & Tarantini, E. (2021). Because we are all people: Outcomes and reflections from young people's participation in the planning and design of child-friendly public spaces. *Cities & Health*, 5(S1), S85–S99. <https://doi.org/10.1080/23748834.2019.1684825>
- Jean-Berluce, D. (2018). Creative expression and mental health. *The Arts in Psychotherapy*, 58, 10–17.
- Kagan, C., Sixsmith, J., Siddiquee, A., Bol, S., Lawthom, R., & Kilroy, A. (2018). Community psychology meets participatory arts: Well-being and creativity. *Journal of Community & Applied Social Psychology*, 28(6), 449–463.
- Kamal AM, Gabr HS (2024), Enhancing children's social and cognitive development through play space design. *Archnet-IJAR: International Journal of Architectural Research*, 18(4), pp. 796–812, doi: <https://doi.org/10.1108/ARCH-05-2023-0119>
- Koller, D., & Farley, M. (2019). Examining elements of children's place attachment. *Children's Geographies*, 17(6), 705–717.
- Lu, P., & van Ameijde, J. (2025). The impact of high-density urban environments on children's play, a systematic review of current insights. *Cities & Health*, 1–20. <https://doi.org/10.1080/23748834.2024.2441554>
- Mand, K. (2012). Giving children a 'voice': arts-based participatory research activities and representation. *International Journal of Social Research Methodology*, 15(2), 149–160. <https://doi.org/10.1080/13645579.2012.649409>
- Peacock, S., Anderson, R., & Crivellaro, C. (2020). Streets for people: Engaging children in placemaking through a socio-technical process. *Proceedings of the ACM on Human-Computer Interaction*, 4(CSCW), 1–23.
- Ramsden, R., Pike, I., Thorne, S., & Brussoni, M. (2025). Children's outdoor play at early learning and child care centres: Examining the impact of environmental play features on children's play behaviour. *PLoS One* 20(12), Article e0318538. <https://doi.org/10.1371/journal.pone.0318538>
- Steger, A., Evans, E., & Wee, B. (2021). Emotional cartography as a window into children's well-being: Visualizing the felt geographies of place. *Emotion, Space and Society*, 40, 100818.
- Strand, T. (2023). Children's sense of place: What places and aspects are important in generating a sense of place? *Children's Geographies*, 21(4), 523–540
- Sutton, S. & Kemp, Susan. (2002). Children as partners in neighborhood placemaking: Lessons from intergenerational design charrettes. *Journal of Environmental Psychology*. 22. 171–189. <https://doi.org/10.1006/jevp.2001.0251>
- Water, T., Wrapson, J., Tokolahi, E., Payam, S., & Reay, S. (2017). Participatory art-based research with children to gain their perspectives on designing healthcare environments. *Contemporary Nurse*, 53(4), 456–473. <https://doi.org/10.1080/10376178.2017.1339566>
- Watson, K., & Newman, L. (2023). Children's voices: Inclusive early childhood placemaking with children. *International Journal of Early Childhood Research*, 22(3), 89–107. <https://doi.org/10.1177/1476718X23119571>