TORRENS UNIVERSITY AUSTRALIA | Centre for Healthy Sustainable Development

Exploring children and older adults' perspectives on a purpose-built intergenerational housing environment in South Australia - a photovoice study

Technical Report

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September 2024

The ethical aspects of this study have been approved by the Human Ethics Committee (HREC of Torrens University Australia – reference 0266

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Executive summary

Key Points

This study, using Photovoice, focused on one case of an intergenerational built environment located in South Australia. Twenty-two participants comprising five older adults and seventeen pre-school children were recruited, through convenience sampling, to represent their experiences of the built environment through photographs and sharing their meanings. The findings suggest that such spaces can facilitate positive ongoing relationships, meaningful intergenerational engagement, and a sustainable community with which to live and learn. Other noteworthy points from the study include:

- Both older adults and pre-school children appreciated and connected to green space within the built environment (both inside and outside).
- Large windows, which let the light in, allowed participants to see out into and feel part of the broader community.
- Green space and light can promote social connection among senior adults and young children, through shared activities and views.
- Children demonstrated empathy, caring and acceptance towards the senior adults.
- The senior adults expressed gratitude for having the children in their lives.
- Both groups demonstrated strong social connections to each other, which are known to reduce loneliness and social isolation.
- Purpose built intergenerational residential settings can provide a sustainable environment in which meaningful daily interactions and connections between generations can be fostered, thereby supporting senior adults to age in place and young children to learn, grow and develop.
- Noting the points above, we identify two possible areas for future work.

Theorising possible relationships between the three themes that emerged from the study, namely, (a) how spaces or objects in places facilitate shared activity, (b) how places become associated with a specific grand-friend or grand-friends, and (c) how places elicit thoughts about or contributions to well-being.

Broadening our understanding of the placemaking process, by looking at other stakeholders. Senior adults and children can arguably be seen as “end users” of the shared environment and are actually at the downstream end of a long placemaking process, which began when the site was conceptualised. Conceptualisation, planning, design and construction involve a complex network of actors, all involved in placemaking.

Introduction

Australia's population is ageing, with the number of people over 65 years projected to increase to over 20% of the population by 2066, and those over 80 years old to triple over the next 40 years (AIHW 2024). There are also high levels of loneliness and social isolation in this population group which can be linked to measurable declines in psychological, mental, and social well-being (WHO 2021; AIHW 2021). In recognition of this the World Health Organisation has highlighted the urgent need to address the environment within which older people live, including their housing and social connections to community (WHO, 2021).

Housing, a well-established determinant of health, is embedded within a larger social and spatial system that makes up a community's built environment (Dahlgren & Whitehead 1991). Within the context of an increasingly ageing population and high levels of chronic disease, it is important to rethink housing options for older adults as they age, and whether existing models are adequately meeting the complex physical, social, and psychological needs of this population group.

Incorporating meaningful intergenerational engagement into communities where older adults reside has been shown to build community and break down ageist stereotypes (Lytle et al., 2022). Intergenerational programs bring older people and children together in mutually beneficial activities which promote greater understanding and respect between generations and contribute to building a more cohesive community (Jarrott, et al., 2021).

This study explores how purpose-built intergenerational housing environments facilitate meaningful intergenerational engagement that can contribute to positive mental health and well-being. Specifically, it uses photovoice methods to understand the perspectives of children and older adults engaging in shared spaces within a specific purpose-built intergenerational housing environment in South Australia.

Background

Presently, the mainstream and better-known residential housing options amongst older Australians are owning a home, renting privately, and rent-based social housing. While the home ownership model of housing dominates in Australia (Tually et al., 2022b), the levels of home ownership in general, have been declining (AIHW 2023). For older adults renting privately or living in social housing, there is increasing risk of housing instability and homelessness (AIHW 2021). This, along with previously mentioned concerns about declining well-being and social connectedness, necessitates investigations into alternative affordable and innovative housing arrangements for this population group.

In a recent study addressing this specific issue, Tually and colleagues (2022b) conducted a literature review and presented seven models of housing to a representative sample of older adults to ascertain which might best meet their needs. The models included 'a mixed-use apartment building option; a cooperative housing option; a communal housing option; a transportable home option; a shared equity home ownership option; a dual key property option; [and] a village-style housing option' (p. 2).

These models differed by offering varied options in relation to tenure, construction, location, social composition, shared space and technology characteristics—which might better align with the housing needs and aspirations of the older adults. Concerning social composition, the researchers reported that both mixed-age residential settings as well as age segregated settings were equally liked by study participants with 73% selecting the former and 70%, the latter (Tually et al., 2022b). Mixed-aged communities were desirable to some respondents because they offered diversity and promoted social connection and intergenerational interactions. This finding is reflected in research with older Australians suggesting they want to live in a neighborhood that prioritises 'safety and security, good—often walkable—access to services such as health, shopping, recreational amenities, public open space and proximity to family and friends' (James, 2020, p.35). Given the reported interests that older adults might have in relation to mixed-age communities, this present study explores a purpose-built intergenerational housing environment, to better understand the kind of interaction and engagement opportunities that this kind of built environment affords, to those living within this type of residential setting.

Intergenerational programs within communities have increased in popularity over the past 15 years (Jarrott & Lee 2022; Kamei, et al., 2022). Research on the effectiveness of intergenerational programs has had a resurgence since 2017, with most exploring the impact of the program on satisfaction (Kamei et al., 2022), and social, emotional, and behavioural outcomes (Cohen-Mansfield & Muff, 2021; Lee, et al., 2021; Jarrott, et al., 2021). However, there has been limited research on how a purpose-built intergenerational housing environment facilitates meaningful interactions between older people and (in the case of this study) preschool aged children.

One example of such an arrangement can be found in South Australia, where residents living in a purpose-built independent retirement living environment interact with children attending an early learning centre located on the same site. The community shares a joint aim of 'intergenerational engagement' which is embedded within the early childhood program, allowing children to develop meaningful connections and regular contact with their grand friends who live in the apartments, and vice versa. As the benefits of intergenerational engagement are becoming better understood there are a range of aged care providers taking an interest in this area in Australia. However, there are only a handful of sites in Australia that have incorporated the needs of such engagement into the design of the buildings and outdoor spaces where these interactions take place. To our knowledge there are very few studies that have researched purpose-built intergenerational housing environments, and, sought out the perspectives of the older adults and children living and learning on these sites. Therefore, in this study we explore the research question, "What are the perspectives of children and older adults on engaging within a purpose-built intergenerational housing environment in South Australia?"

Methods

The study adopts a photovoice method which is known to be useful to represent participants' views through pictures rather than relying solely on the words. Developed in the early 1990s, by Caroline Wang and Mary Burris, photovoice has been adopted with a range of research participant profiles including older adults (Novek et al., 2012), children in early years settings (Martin & Buckley, 2020), in fields investigating intergenerational interaction (Pace & Gabel, 2018; Petteway, 2019), and in community-based participatory research (Hergenrather et al., 2009; Nykiforuk 2011). It has also been used in health research to explore complex health issues related to social determinants of health (Nykiforuk, 2021).

Photovoice entails participants taking photographs of salient scenes relevant to them and representing their viewpoints. While geared towards answering the research questions, participants' voices are represented through the photographs that they choose to take and their verbal reflections and explanations.

Context

The intergenerational environment of interest is located in South Australia and was recently established in 2022. There are 77 independent living apartments and older residents live in a purpose-built independent living environment and interact with children learning within an early learning centre located on the same site. The minimum entry age is 65, with the oldest resident being 92. The early learning centre as a whole have capacity for 60 children per day with ages from 6 months onwards, however the 'Nido' (baby room) and 'Bambini' (toddler room) children weren't included in this project. The total enrolment of students in the 'Pre-school' group within the early learning centre is about 48 children with ages ranging from approximately 3 to 6 years old. The average daily number of students in attendance in this class is around 25 as not all the students are enrolled full-time.

The intergenerational interactions take place primarily as drop-in sessions. Senior adults might assist the preschoolers in their learning activities, teach specific skills to them, or lead them in projects that are of special interest to the children. Apart from interacting within the learning spaces, the preschoolers and older adults also encounter and engage with each other in shared community spaces.

Structured learning opportunities and special events also occur to facilitate broad participation in intergenerational experiences.

Research Design

The project comprised 6 phases as illustrated in Table 1. There were 22 participants in total, five older adults and seventeen pre-school children.

Table 1: Project Phases and Contributions

Phase	What	Who
1	Communication about the Project	Non-frontline staff from the retirement village and pre-school
2	Participant Recruitment	Research team
3a	Photovoice Training I	Research team train Pre-school Teachers as Co-Researchers
3b	Photovoice Training II	Pre-school Teachers as Co-Researchers train pre-school children and senior adult participants
4	Data Collection	Pre-school Teachers as Co-Researchers
5	Presentation of Photographs	Pre-school Teachers as Co-Researchers
6	Data Analysis	Research team and Pre-school Teachers as Co-Researchers

The data collection was led by the preschoolers' teachers-as-co-researchers and occurred during the regular drop-in timeslots scheduled for intergenerational interactions. The participants were informed explicitly that photographs of faces could not be included. This exclusion was a requirement for ethics approval and aimed at protecting participant identity. As such, photographs in the final exhibition that included people could only show their legs, feet, arms, hands, the front torso and/or backs.

All participants were encouraged to take photographs of the purpose-built intergenerational environment they live and learn in representing their responses to the research question posed. For children, the teacher-as-co-researchers presented the research question in ways that were developmentally appropriate for children aged 3-5 years old. This shared environment included the space within the early learning centre designed specifically for intergenerational interactions, as well as a range of other spaces such as the classroom, community garden, and workshop. From the photographs taken, participants were asked to select 4 to 6 photographs for the exhibition and to share their reasons for the selection. These reflections were recorded or transcribed by their teachers-as-co-researchers.

Following data collection, a photograph exhibition (phase 5) was held and both senior adults and pre-schoolers (assisted by their teacher when needed) were given the option to present the meanings behind the photographs taken. These presentations were audio recorded and transcribed. All the older adults opted to participate. For the pre-schoolers who preferred to not present during the exhibition, and for those who spoke sparingly, transcriptions and recordings of the meaning behind their photographs, provided to their teacher shortly after the photo-taking activity, were used for analyses. This adaptation is consistent with the literature that suggests the photovoice data collection processes are often adapted to cohorts and contexts in the field (Budig 2018).

Similarly practical modifications were made in the field with respect to logistical matters, one involving the timing of teachers returning to the classroom to upload photos. Our data collection protocol suggested children should (i) take photographs, (ii) select 4 to 6 to be uploaded and saved for the presentation, and (iii) share their reasons and meanings for their selections with the co-researcher teacher (assisting with the upload). However, in the context of the developmental age and stage of the preschool participants, the original protocol was modified to meet the needs of the children. In actual practice, the teacher co-researcher noted as some children were 'tired or hungry' they waited until later in the day (or for a couple of children waited for another day) to upload and select the photos for some children.

Teachers also observed possible social influence, where one child taking a photo of an object may have influenced others to do the same; this influence appears to have been mitigated as children underwent the further step of selecting important photos. As one teacher noted, "we generally found that the first child who took a photo of the plants with intent would enthusiastically select that as one of their images to submit, while the children who took spontaneous secondary snaps tended to exclude them."

There were two levels of thematic analyses. The first-level of analysis involved identifying participant-driven thematic areas, without any reference to theory. This approach is akin to Braun and Clarke's (2006) inductive approach which is not heavily directed by the researchers' theoretical interests. Braun and Clarke (2006) define a theme as capturing 'something important about the data in relation to the research question, and, representing some level of patterned response or meaning within the data set' (p. 82).

At the first level of analyses, we provide a description of the full qualitative data set without prematurely closing down on the data by structuring them to focus on researchers' analytical interests. We elicited explicit and surface meanings of what was presented and explained by participants. The findings comprised mainly descriptions and their meanings. The aim was to provide an overview of the themes emerging from participants' photographs and reflections, and, facilitate representations of the older adult and pre-school participants' views.

The second-level of analysis was driven by researchers' analytical area of interest. This level focused on how the purpose-built intergenerational environment facilitated and afforded interactions between the generations and went beyond the surface-level meanings that the participants shared. The analyses instead theorized about how the built environment facilitated intergenerational interactions.

The research team of four core members first met to discuss the photographs and identify the themes that were apparent. Subsequently, two members of the core theme worked to verify interpretations that emerged from conducting the second level of analysis. The findings for the first and second levels of analyses were then circulated to the rest of the team and teacher-as-co-researchers for member checking, validation and refinement. The findings from both the analyses are reported below.

Findings

Level 1 Analyses - Participant-driven Themes

In total, participants had submitted 124 photographs with two excluded for showing faces. A few participants submitted more than the initially requested 4 to 6 photographs each. These additional submissions were accepted if they excluded identifiable faces. Amongst the pre-schoolers there were a few who opted to submit only photographs, without reflections. A description of the full data-set included in the Level 1 Analysis is shown in Table 2.

Note: in this analysis we identify the 'older adult' participants as 'Senior Adults' (SA) and 'children' as Pre-schoolers (PS)

Table 2
Level 1 Analysis - Dataset Description

Participants	Number	Total Photographs with Transcribed Meanings	Only Photograph	Total Dataset
Senior Adults	5	31	0	
Pre-schoolers	11	57	1	
Pre-schoolers	6	0	33	
		88	34	122

It should be noted that to ensure copyright permissions, after each participant selected the 4-6 photographs and prior to publication we sought additional copyright permission from participants to include these images. However, due to the later nature of this process we did not get responses from 3 participants, and one participant had passed away, so we have included text and not photos from those participants in this publication.

All the photographs were coded, some multiple times (when appropriate) within three broad themes highlighted in Table 2.

Table 3
Level 1 Analysis - Themes

Theme	Description	Number of Photographs representing the Theme
1.1	Photographs and meanings that included grand friends or pre-schoolers highlighting Mixed-generation Engagement in Shared Spaces	30
1.2	Photographs and meanings featuring Spaces	72
1.3	Photographs and meanings featuring Objects	26

Theme 1.1 - Mixed Generation Engagement in Shared Spaces

The unit of analysis adopted to understand participants' perspectives was identifying action words and phrases (group of words) at the sentence level of transcriptions. Pre-schoolers or PS participants described their engagements and interactions with the senior adults or SA using terms like 'fixes', 'play', 'says hi and sings', 'look after', 'meet', 'sit' and 'teach and teaches' (see Figure 1a).

For example, photographs of a grand-friend in the workshop was followed by an explanation of how SA3 fixes the pre-schooler's broken toys (PS19). Teaching as engagement between both generations could happen both ways with PS19 expressing a desire to teach grand-friends to play ping pong. The children used the verbs 'play' with grand-friends to describe what happened around the piano, in the sandpit, or to describe how they liked to spend time. In an early years context, educators use the word 'play' as synonymous with 'learning' based on the recognition that children 'learn through play ' (Australian Government Department of Education [AGDE] (2022). As such, references to 'play' made by children could be taken to also mean 'learning' based on their understanding of how this term is used to describe their own activities. PS16 took a photograph of a grand-friend's balcony pointing out that the grand-friend would greet them whenever they saw the children downstairs. Another described engagement as taking place when they meet in the classroom while PS03 described engagement occurring when they sit by the window watching cars. Taking a photograph of a bench with handles, PS22 conveyed a sense of responsibility when engaging with grand-friends.

Senior adults adopted the following terms when describing their interactions with the pre-schoolers (see Figure 1b): 'would have been thrilled', 'do a lot of maintenance', 'brought a smile', 'likes doing high 5s', and 'love going ... and being'. Reminiscing about a dear departed loved one, SA2 shared that the partner "would have absolutely been thrilled to be here amongst these little ones". SA3 showing a photo of the workshop space available in the intergenerational site, with a smile, described the primary form of his engagement as maintaining the pre-schoolers' toys. Interaction sometimes comprised acknowledging each other with High 5s, and recollections of these interactions with the children evoked smiles from the senior adults (SA4). In general, the type of engagement that occurred in the shared spaces and that seemed to be apparent in the participants' descriptions of their photographs was summed up by SA5's comment that being around the pre-schoolers was heart-warming.

Figure 1

Theme 1.1: Descriptions of Mixed Generation Engagement in Shared Spaces

(1a) Pre-schoolers

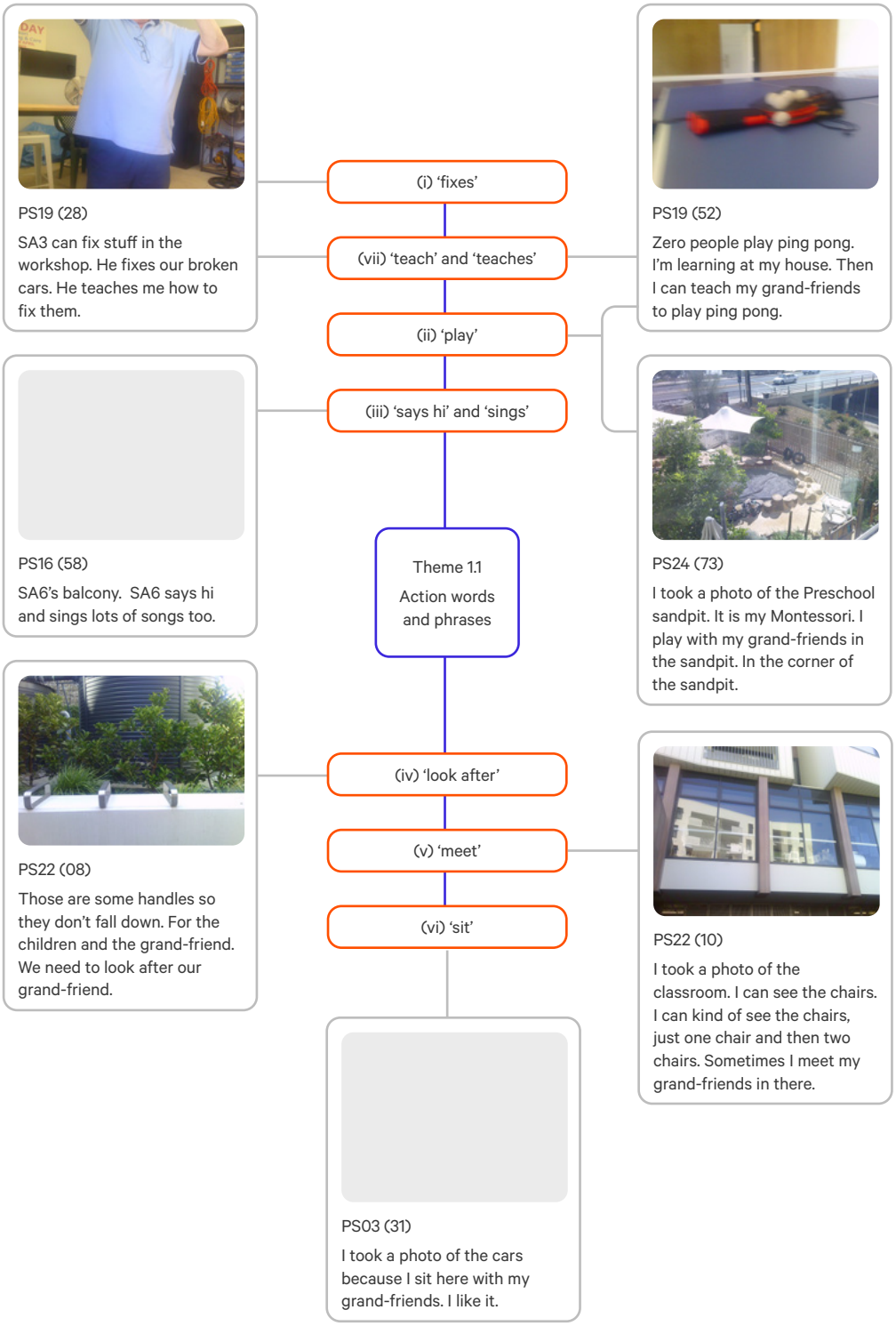
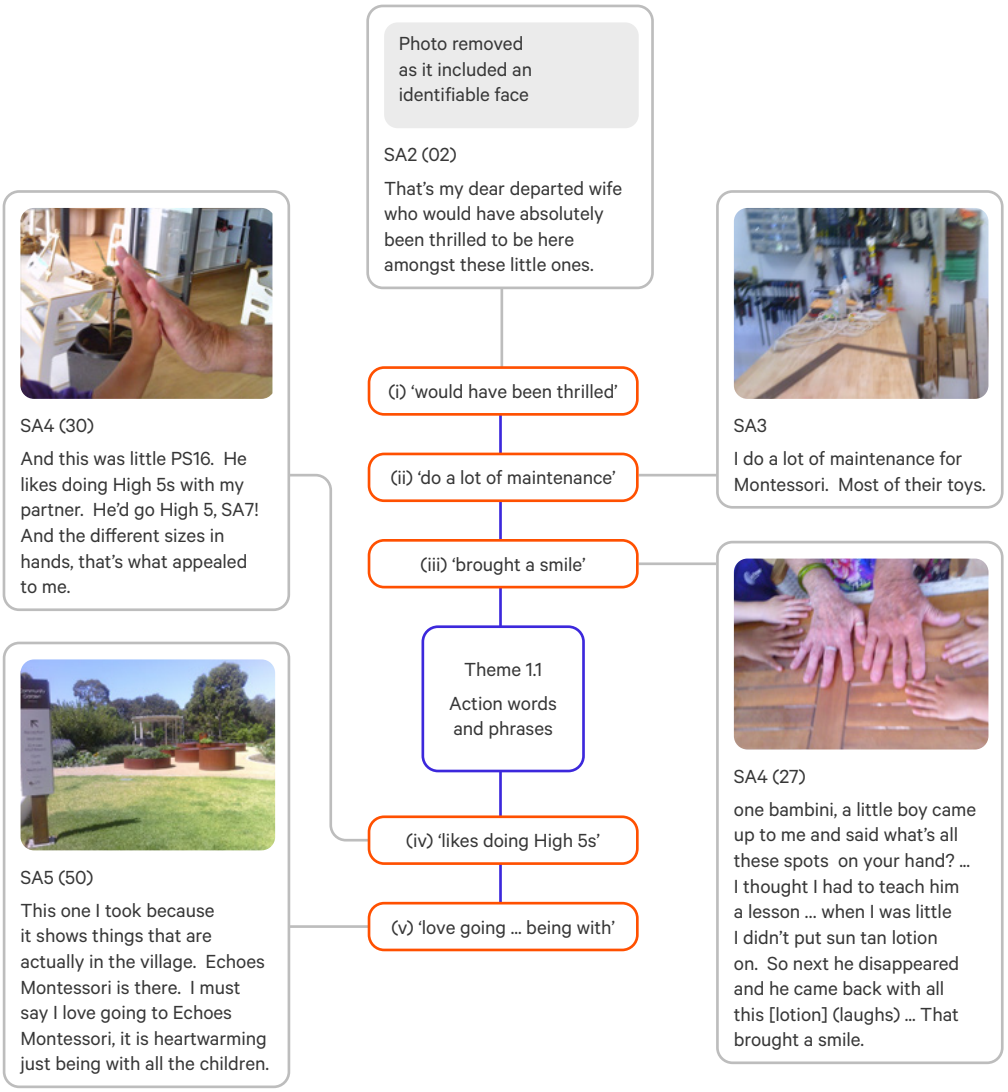


Figure 1

Theme 1.1: Descriptions of Mixed Generation Engagement in Shared Spaces

(1b) Senior adults



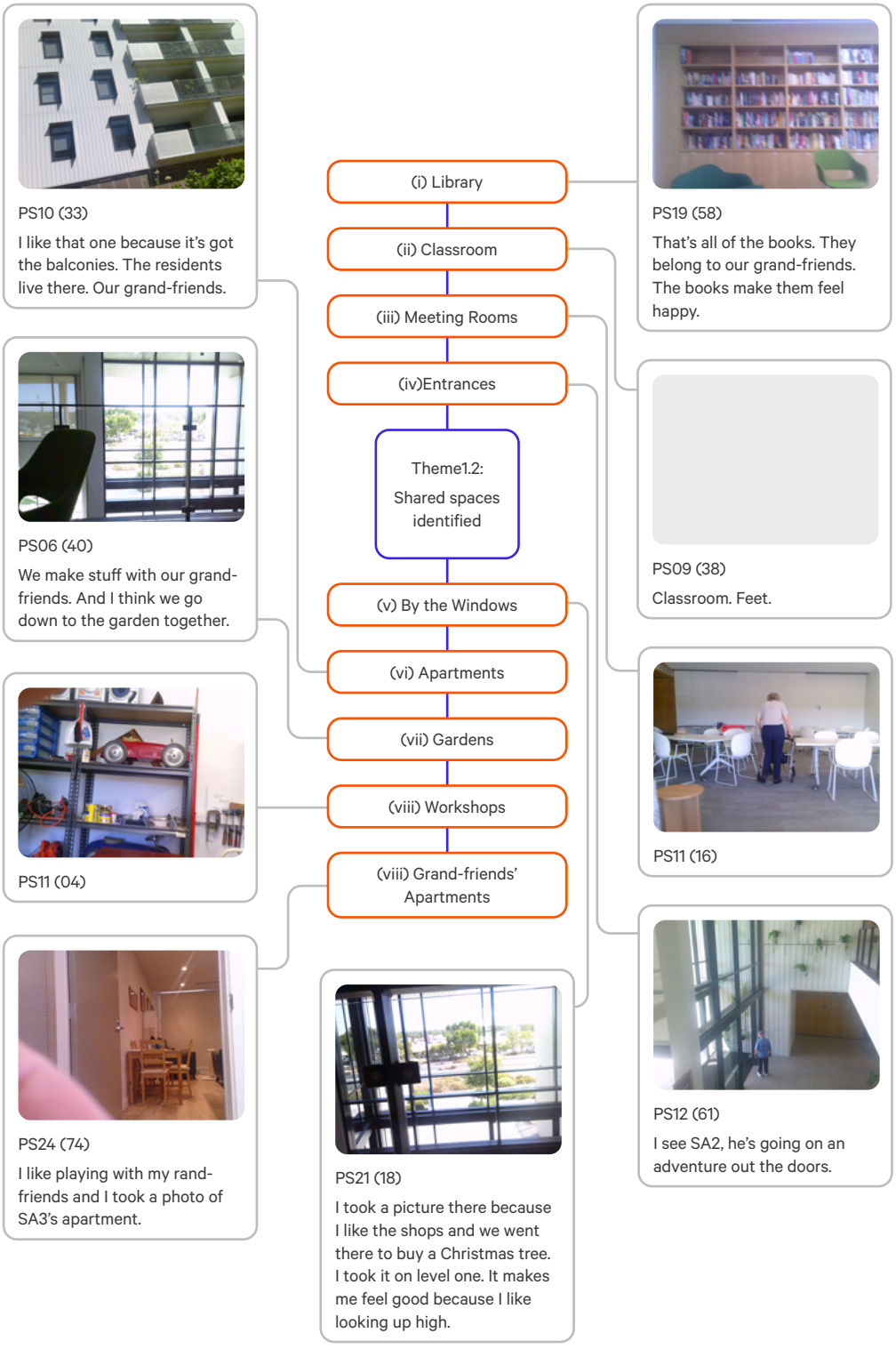
Theme 1.2 – Spaces

The participants were asked to consider the spaces that they were in like the workshop, community garden, the early childhood intergenerational spaces and other areas that might be relevant. Collectively, the photographs taken of spaces included the library, classroom, meeting room, entrances, spaces by large windows, apartments, the community gardens, the workshop, and with permission, the apartment spaces of some of the grand-friends (Figure 2).

The participants collectively took 5 photographs of the designated intergenerational space and classrooms and 6 photographs of the Community Hall and meeting room spaces. Two photographs of the entrance and seven photographs of the ceiling to floor windows, which facilitated looking out into the carpark and streets and connected participants to their larger community, were taken. The garden was popular as a space connecting the children and grand-friends, the apartment buildings and the early learning centre. Thirteen photographs of the community gardens were taken. The participants seemed to appreciate how the gardens beautified their space and brought them in contact with each other and nature. Five photographs of the workshop were taken, two by the pre-school participants and three by an older adult. The space enables creativity and provides tools to produce and repair things. The workshop is particularly valued by the senior adults as a way to support the children through repairing their broken toys. The children seem to recognize that the work going on in there is important. The apartments are recognised as spaces where grand-friends live. There were seven photographs of apartment blocks. Similarly, there were eight photographs of the apartment spaces (inside, outside, on the balcony) of the senior adults.

Figure 2

Theme1.2: Shared spaces identified



Theme 1.3 – "Objects"

The "objects" that both the pre-schoolers and senior adults took photographs of and talked about included the piano, hands, fruits in the community garden, flowers and plants in the community garden and other spaces, and an older adult's cat (Figure 3). There is a sense that the piano provides an engaging way for a more spontaneous, rather than organized, kind of intergenerational engagement to occur, providing a way to communicate that does not need to involve words. As an object for connecting both generations, SA1 shared about the pre-schoolers' fascination with the piano. Children also tended to talk about their interactions around the piano in a very positive light.

Photograph of the hands of senior adults were connected to the piano, that when played, made some of the children dance. Hands of pre-schoolers and senior adults reinforced differences in size and age but also showed connection.

Other 'objects' that facilitated connection between the generations were found in the garden. Fruits, flowers and plants are very popular and important, as is the green space. Both generations comment on how plants and fruits need to be looked after and how they contribute to facilitating intergenerational connection.

An older adult's cat also catches the attention and interest of the pre-schoolers and one expresses happiness from having become friends with the cat.

Summary of Level 1 Analysis

The Level 1 analysis, focusing on participant-driven themes identified 3 patterns in the dataset that provided descriptions of the variety of interactions that participants engaged in, identified spaces and also objects in spaces they encountered within their shared environment. The next section reports on findings from Level 2 analysis.

Figure 3

Theme 1.3: "Objects" identified

PS05 (20 & 21)

I took a photo of her hands. Fuzzy and not fuzzy. The hands are playing the piano and I danced! I try on the piano too and Chase said "you're a great piano player!" I tell my grand-friends "you are a great piano player!"

SA1 (09)

Here we've got a full view of the pianist (laughs). Children are always fascinated by the piano and they gather round and that was just a little walk we had and we got SA5 to play the piano and the children were very fascinated listening to that.

PS19 (42)

Someone is doing the piano. It makes me dance!

PS12 (12)

I help them grow. The roses need water.

SA4 (27)

... one bambini, a little boy came up to me and said what's all these spots on your hand? ... I thought I had to teach him a lesson ... when I was little I didn't put sun tan lotion on. So next he disappeared and he came back with all this [lotion] (laughs) ... That brought a smile

(ii) Hands

(i) Piano

(iii) Fruits in the garden

Theme 1.3: "Objects" identified

(v) Senior adult's cat

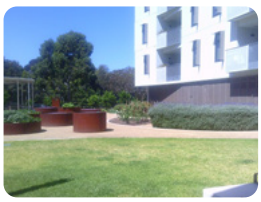
(iv) Flowers and plants in the garden and other spaces

PS21 (20)

This is a plant again – it's SA3's door. I've been there before. It was good. We saw a cat in SA3's house.

SA4 (30)

And this was little PS16. He likes doing High 5s with my partner. He'd go High 5, SA7! And the different sizes in hands, that's what appealed to me.

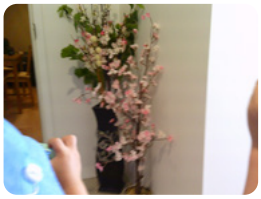


SA1 (05)

That's a general view of the garden. It's nice when the children are outside, we've been outside when the strawberries are available. Picking strawberries out there and walking around with the children.

PS24 (76)

I took a photo of SA3's cat (Cheets)! He licked me! I put my hands down low so he could lick my hands. He made me happy licking my hands. He didn't bite me. He kept walking between my legs.



PS06 (44)

That's one of the resident's flowers.

Level 2 Analyses - Analyst-driven Themes

Analysis at Level 2, was driven by researchers' interests in understanding how the design and functioning of the built environment, within which participants live and co-exist, may contribute to facilitating intergenerational engagement. In order to develop this understanding, the concept of intergenerational contact zones (ICZs) and how spaces become places was adopted.

ICZs are described as 'spatial focal points for different generations to meet, interact, build shared meaning and relationships ...' (Kaplan et al., 2020, p. 3). The ICZ conceptual framework proposes looking at eight dimensions within an environment to help consider how spaces develop over time, their functions and how they are perceived by those using the spaces. The eight dimensions include examining the physical, temporal, psychological (perceptual, cognitive, psychosocial), sociocultural, political, institutional, virtual and ethical. This study explored the Perceptual-Psychological dimension which considers how a space evolves and becomes perceived as a place.

Thang and Kaplan (2013) argue that a 'space' becomes a 'place' once it has meaning for someone. Similarly, Semken & Freeman (2008) describe place as a space 'imbued with meaning by human experience' (p. 1042). The Perceptual-Psychological dimension in the ICZ framework proposes that the shift from 'space' to 'place' may occur from experiencing, remembering or conceiving, and that 'place' has two dimensions. These two dimensions are 'Place identity – where personal meaning and memory comes to be associated with places' and 'intergenerational place' where a perceptual shift from 'my' to 'our' space/place occurs (Kaplan et al., 2020, p. 4).

Level 2 analysis provides a more refined interpretation of the photographs and meanings grouped in Theme 1 (of the Level 1 analysis). Second level analysis was undertaken first by 2 researchers, and assumed that since participants had taken photographs of these interactions/objects/spaces, and selected them for the exhibition, the depiction in the photographs held meaning for them.

Kaplan and colleagues (2020) assert 'shared places can be negotiated and designed to encompass multiple layers of shared meaning and experience' (p. 5). As such, our analyses aimed to discern three things: (i) what common meaning participants might assign to shared spaces, (ii) how the perceptual shift from 'space' to 'place' took place (via experiencing, remembering or conceiving) based on what participants said about their photographs, and (iii) the different dimensions of how 'place' is perceived.

The findings, focusing on the descriptions participants gave of their photographs, highlight three major themes including (a) how spaces or objects in places facilitate shared activity, (b) how places become associated with a specific grand-friend or grand-friends, and (c) how places elicit thoughts about or contributions to well-being. The next sections present each theme (2.1, 2.2 and 2.3) and how each respond to questions (i) – (iii) previously highlighted.

a) Theme 2.1: Places or Objects in Places as Facilitating Shared Activities

The findings suggest 8 spaces or object in a space held meaning as places of shared activities or intergenerational places. These areas were the apartments, the balcony of apartments, the piano, sandpit, large window, the workshop, classroom and garden. This was indicated from the descriptions participants assigned to these areas.

All the descriptions falling within this theme came from pre-schooler participants. The various spaces identified, seem to be given meaning mostly through their experiences in those spaces. The pre-schoolers seemed to give Place Identities to the apartment, balcony and piano as areas where shared activities occur (Figure 4a).

Figure 4

Theme 2.1: Places Identified as Facilitating Shared Activities

(4a) Place Identities

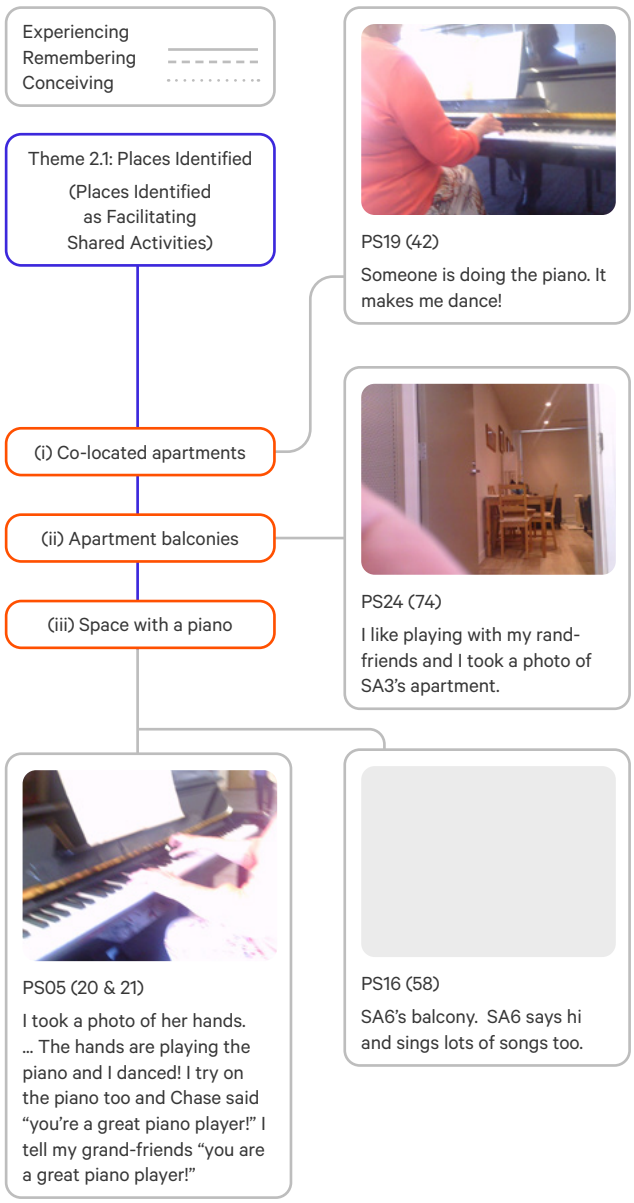
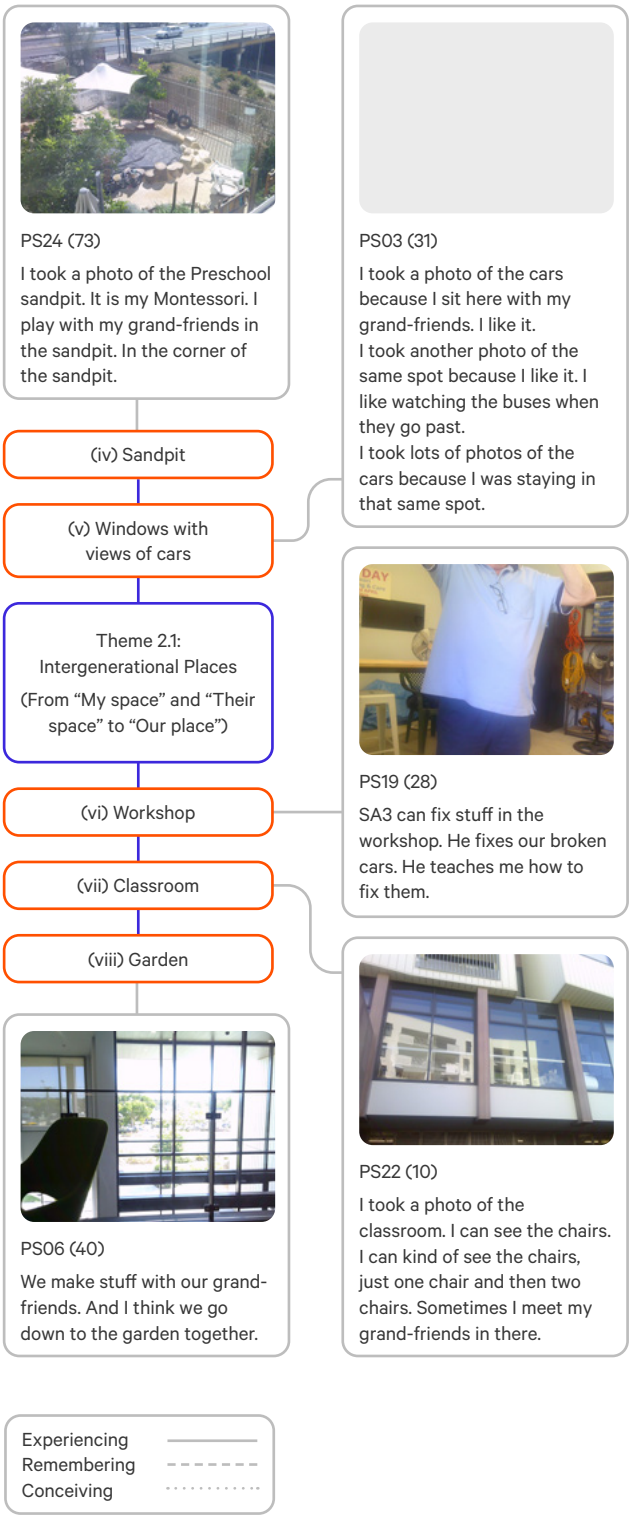


Figure 4b highlights that the sandpit, window, workshop, classroom and garden seem to be given meaning as intergenerational places that both the senior adults and pre-schoolers occupy and carry out various activities ("I play with my grand-friends in the sandpit", "I sit here with my grand-friends", "SA3 can fix stuff in the workshop ...He teaches me how to fix them", "Sometimes I meet my grand-friends in there", "we go down to the garden together").

(4b) Intergenerational Places



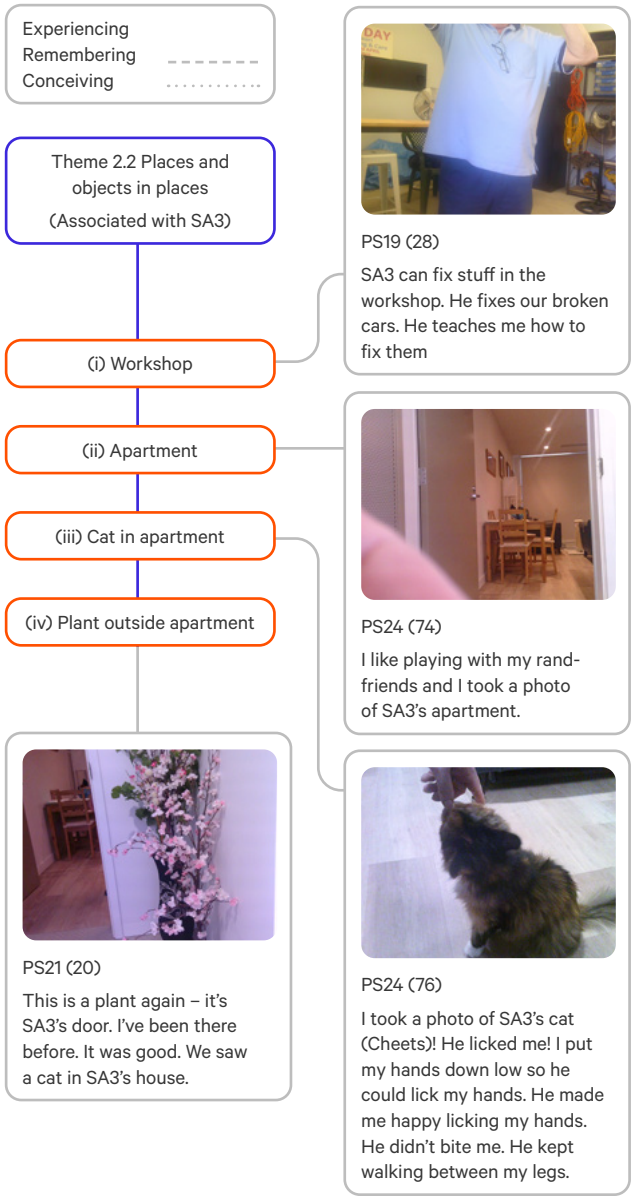
b) Theme 2.2: Places or Objects in Places Associated with a Friend or Friends

In total, there are eleven examples of participants attributing meaning to a place or object in a place because it was linked to a particular friend (grand-friend or child) or grand-friends or children in general. Figures 5a to c show that four places or objects seem to be associated with SA3, one with SA1 and one with PS16 (Figure 5).

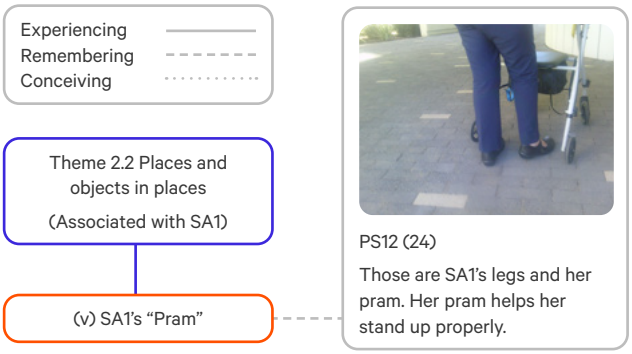
Figure 5

b) Theme 2.2: Places or Objects in Places Associated with a Friend

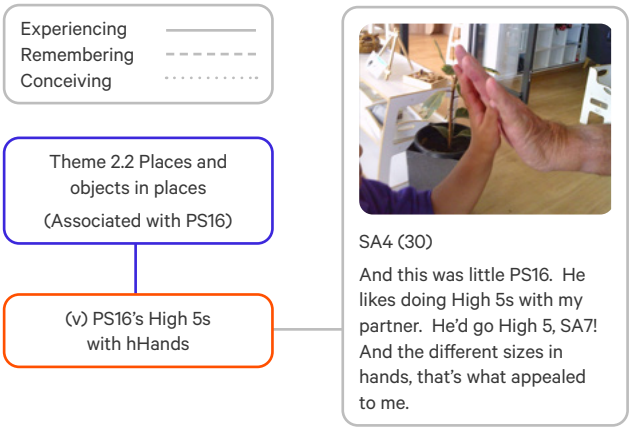
(5a)



(5b)



(5c)



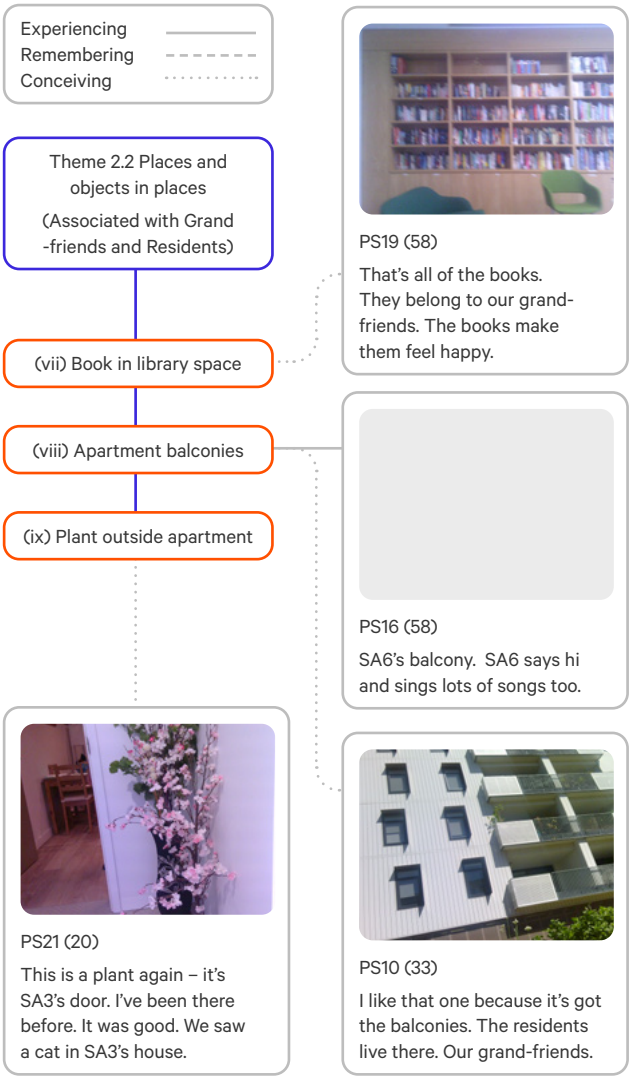
Figures 6a and 6b, indicate that three places or objects were associated with grand-friends and two with pre-schoolers as a group. A balcony was no longer just a balcony, it was grand-friend's balcony. Books, cats, flowers and doors were no longer decontextualised entities, they were the books, cats, flowers and doors of grand-friends.

The senior adults similarly attached deeper meanings to places and certain objects in places that they associated with the children or the early learning centre that shared their residential space. Meanings seem to be assigned primarily through remembering but also experiencing and conceiving. Within this theme, place and object identity derived from personal meaning and memory and associated with a friend (grand-friend/s or child/ren) is foregrounded and the notion of intergenerational place takes a back seat.

Figure 6

Theme 2.2: Places or Objects in Places Associated with grand-friends and with pre-schoolers as a group

(6a)



(6b)

Experiencing
Remembering
Conceiving

Theme 2.2 Places and objects in places

(Associated with Pre-school and Pre-schoolers)

(x) Signs highlighting presence of the Montessori School

(xi) Drawing in Apartment

SA2 (06)

And this one to introduce the idea of Echoes to everyone when they see the pictures.

SA4 (26)

And this is a drawing that I did which interests me. I've got two in my room in frames and there are children and it makes me smile every time I look at it.. It's done with charcoal.

SA5 (50)

This one I took because it shows things that are actually in the village. Echoes Montessori is there. I must say I love going to Echoes Montessori, it is heartwarming just being with all the children.

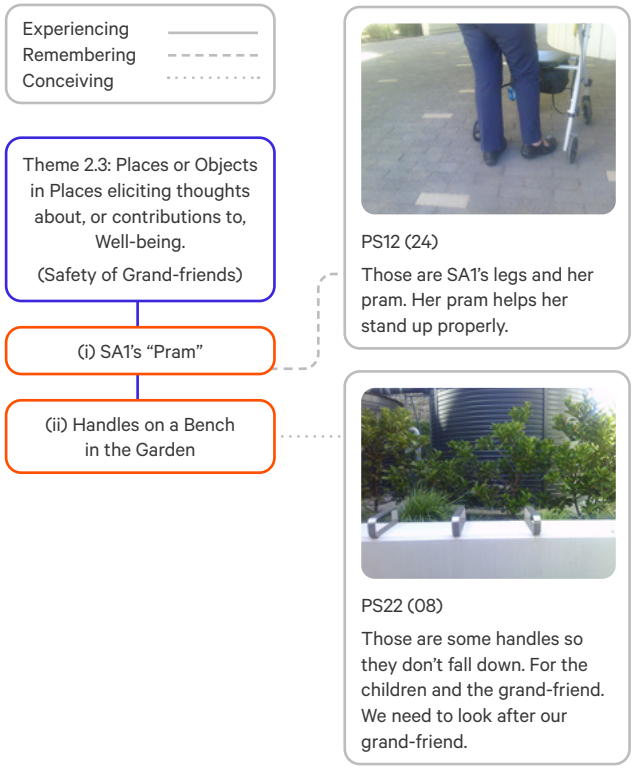
c) Theme 2.3: Places or Objects Eliciting Thoughts about or Contributions to Well-being

A third theme that emerged, exemplified in Figure 7 below, were photographs and descriptions in reference to places or objects and their ability to elicit thoughts or actions related to a friend's well-being. Photographs of a "pram" (medical rehabilitation walker) and handle bars on a garden bench (7a) were directly linked to the safety of grand-friends and also obligations to ensure their safety.

Figure 7

Theme 2.3: Places or Objects Eliciting Thoughts about or Contributions to Well-being

(7a)



(7b)

Experiencing
Remembering
Conceiving

Theme 2.3: Places or Objects in Places eliciting thoughts about, or contributions to, Well-being.

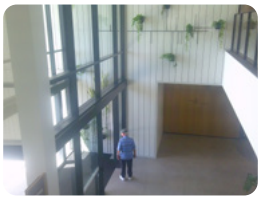
(Leisure and Happiness of grand-friends)

(iii) Ping Pong Table in room upstairs

PS19 (52)

Zero people play ping pong. I'm learning at my house. Then I can teach my grand-friends to play ping pong.

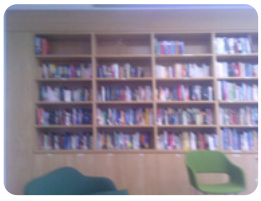
(iv) Doors of the building



PS12 (61)

I see SA2, he's going on an adventure out the doors.

(v) Books in the Library



PS19 (58)

That's all of the books. They belong to our grand-friends. The books make them feel happy.

(7c)

Theme 2.3: Places or Objects in Places eliciting thoughts about, or contributions to, Well-being.

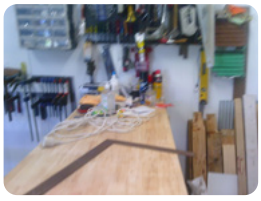
(of Pre-schoolers)

(vi) ******

SA4 (27)

And this one I saw was uhm age myself and my husband SA7 and the children and different skin tonings and different wrinkles and things. And some- one bambini, a little boy came up to me and said what's all these spots on your hand? And I said, I thought I had to teach him a lesson ... when I was little I didn't put sun tan lotion on. So next he disappeared and he came back with all this [lotion] (laughs) . Watch I have a watch, and was covered in sun tan lotion. That brought a smile.

(vii) Workshop



SA3

I do a lot of maintenance for Montessori. Most of their toys.

Other children linked places and objects to leisure (possibility of learning pingpong, going out on an adventure) or to the happiness (books in library) of grand-friends (7b).

The link between places/ objects to another's well-being could also be observed from the senior adults' perspective. One adult, for example, took photos of the workshop, describing it as a space where he carried out the work of repairing broken toys for the early learning centre. Another noted that shared spaces allowed senior adults to share experiences and wisdom with the children (7c).

Interestingly, one older adult participant took a photo of the gym (7d), not because it was a shared space, but because it was a dedicated adult area that promotes the physical stamina associated with meeting the energy and activity levels of younger children

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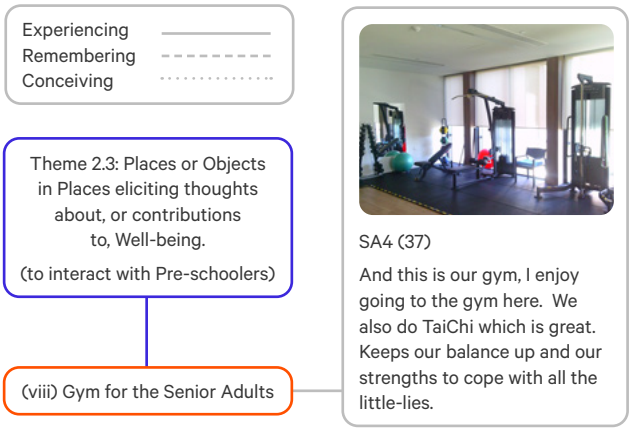
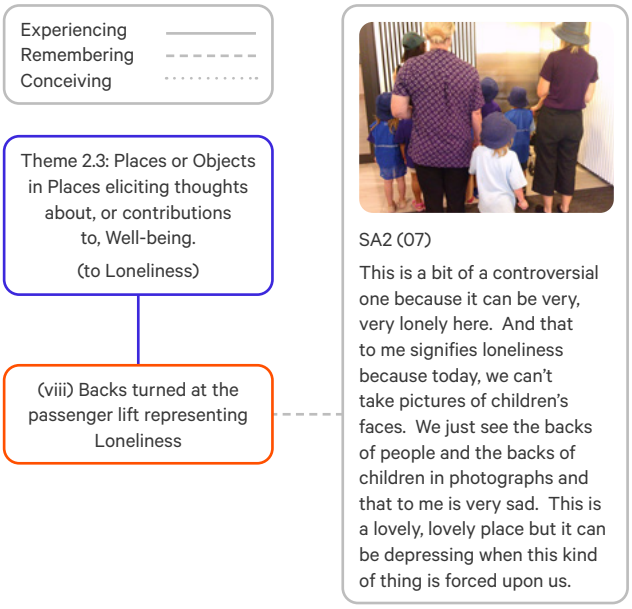
(7d)



(7e)



While shared spaces and objects in this context facilitated intergenerational interactions, one older adult participant shared that "it can be very, very lonely here" (7e). Rules and regulations governing participants' expressions and interactions could also be seen to exacerbate the sense of loneliness (Figure 4e). In this instance an ethical requirement related to acceptable images that could be taken for the Photovoice study, which excluded identifiable photographs of faces – was experienced as isolating.

Discussion

The focus of this study was a purpose-built intergenerational housing environment in South Australia. We adopted photovoice to explore the perspectives of children and senior adults engaging within this environment. Participants took 124 photos that featured physical spaces that they perceived as facilitating intergenerational engagement. This included both shared and separate spaces, and transitional spaces where both generations entered or moved around the building, or, moved to an outdoor space. Participant photos also highlighted the objects that provided a focus within these spaces for intergenerational engagement.

We found that when participants reflected on the photos they took, there was more than a physical dimension to the spaces they captured. We applied Kaplan's Perceptual-Psychological dimension of intergenerational contact zones and were able to better understand how (a) places or objects in places facilitated shared activity (b) how places become associated with a specific grand-friend or grand-friends and (c) how places within this setting elicited thoughts about or contributions to well-being.

There were several interesting findings including the way both generations appreciated and connected to green space within the built environment (both inside and outside) and the importance of 'large windows' which let the light in and allowed participants to see out into the broader community. Green space has been found to contribute to health and wellbeing for both cohorts (Corley et al., 2023; Dockx et al., 2022; Liao et al., 2019). Further, access to quality window views is acknowledged to provide pleasure for the viewer and support eye health, cognitive functioning and overall wellbeing (Altomonte et al., 2020). This study also draws attention to the potential for green space and light to promote social connection among senior adults and young children, through shared activities and views.

Our findings concur with other studies on intergenerational engagement that demonstrate interactions break down ageing stereotypes; foster meaningful relationships and increase interaction, understanding, and support between generations (Sanchez et al 2018). We found that children demonstrated empathy, caring and acceptance towards the senior adults. The senior adults expressed gratitude for having the children in their lives. Both groups demonstrated strong social connections to each other, which are known to reduce loneliness and social isolation, and thus improve positive mental health and wellbeing outcomes (Taylor et al., 2018).

Other studies suggest intergenerational engagement improves the social, emotional, and behavioural outcomes of both generations (Cohen-Mansfield & Muff, 2021; Lee, et al., 2021; Jarrott, et al., 2021). We build on these findings and suggest purpose built intergenerational residential settings can provide a sustainable environment in which meaningful daily interactions and connections between generations can be fostered, hence supporting senior adults to age in place and young children to learn, grow and develop.

Noting the findings above, we identify two possible areas for future work. One area of empirical exploration might be theorising on a possible relationship between the three themes (a, b and c). The three themes could, for example, be interlinked phases signifying deepening stages of child-grandfriend relationships. At (a), interactions are limited in that they are confined to a given time and place: a child and grandfriend sitting together in a room or playing together in a sandpit. It may be argued that if both parties exit from the interaction unchanged (that is, no change takes place in their identities, meaning systems, or their sense of obligation to another at the end of the interaction), then no relationship exists at this stage. Interactions then become strengthened in (b), when places become endowed with meanings linked to a child or a grand friend. In these situations, a child or grand friend may be absent, but a form of interaction nevertheless persists when another individual remembers the child or grand friend, by virtue of association to an object or place. Finally, the shift from interaction to relationship (Hinde 1987) could be signalled by (c), participants going further and redefining themselves, their expectations or their obligations to others in relation to others. 'We should take care of our grand friend' suggests that a child has deeper empathy, or a broadened sense of responsibility, which is a feature of healthy relationships.

A second area that could be explored involves broadening our understanding of the placemaking process, by looking at other stakeholders. Grand friends and children can arguably be seen as "end users" of the shared environment and are actually at the downstream end of a long placemaking process, which began when the site was conceptualised. Conceptualisation, planning, design and construction involve a complex network of actors, all involved in placemaking. The intergenerational space, then, is far from static. While many can see the site as a single 'object', it can also be understood as something 'on-the-move', with dynamic processes that undergo continuous cycles of creation and recreation. As Latour and Yaneva (2017, p. 110) note, a physical object like a building or a site can shapeshift as ongoing developments take place. Place can change because of 'a zoning limit, a new fabric, a change in the financing scheme, a citizen's protest...'. These shifts continue even well after the building has been 'completed' (a term that becomes debated if the processual view of buildings is upheld) and inhabited. Future work, then, can build on this study to explore the perspectives of the planners, architects, project managers, construction managers and early childhood staff, in particular to analyse how they intended intergenerational engagement to take place. Their intentions could then be compared with the actual intergenerational interactions that unfolded in this study.

Conclusion

Our study explores the perspectives of older adults and children living in a purpose-built intergenerational housing environment in South Australia. The findings suggest that the built environment (spaces/places and objects) is an important factor to consider when incorporating intergenerational programs into a residential setting for older adults. However, the design of these spaces should not be static. Rather, the design and use of the building environment should incorporate the potential for action, as well as related objects, that make the physical space meaningful and evoke an emotional response. Within purpose-built intergenerational housing environments, the facilitation of positive ongoing relationships, meaningful intergenerational engagement, and a sustainable community for both generations to live and learn can be realised.

Strengths and Limitations

The strength of this study is that it considers the built environment as an important factor when analysing intergenerational engagement in Australia, an aspect that is under-researched. This study also highlights the perspectives of the 'end-users' including children and older adults, providing an opportunity for their voices to contribute to how future developments such as this as they are improved and sustained.

There are several limitations that need to be considered when interpreting the findings reported in this document. The limitations are as follows:

This study utilises a single case focussing one intergenerational built environment located in South Australia. While we collected rich data where lessons can be learned, the findings are not necessarily generalisable to another to other intergenerational housing sites.

The research data collected also relied on a relatively small group of 22 participants who were recruited through convenience sampling. This means that they are all individuals closely associated, as pre-schoolers or older adult residents, to the intergenerational setting that was being studied. Their experiences as participants cannot be held as being representative of those found in all or other intergenerational settings.

We intentionally designed the methods to be flexible, taking into account the population group, specific cohort, and context (Budig 2018). However, as per Hart's (1992) ladder of participation we reached level 4 out of 9 possible levels. At this level, adults designed the project, and children contributed their perspectives voluntarily and meaningfully. We acknowledge that higher levels of participatory engagement, through co-design and co-production, would be possible.

Finally, while patterns in findings were discernible and aligned with other similar studies reported, the findings need to be interpreted and used with caution, especially for groups who may differ in their socio-economic status and backgrounds.

Acknowledgements

We would like to acknowledge the older adults and children who participated in this study, without which this study would not have been possible.

We also gratefully acknowledges the contributions, both financial and in-kind, of all partners involved in this study including the Centre for Healthy Sustainable Development at Torrens University Australia, ECH Incorporated, Echoes Montessori, Walter Brooke & Associates, and Australian Institute For Intergenerational Practice (AIIP).

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