Investigating **Children's School Journeys** in Singapore: A Child-Centred Approach

Motorised travel has increased globally. This not only has implications on the environment, but also decreases children's independent and active travel to school. Walking, cycling, and outdoor activities in general have well-studied benefits to children's physical health.

Less-studied benefits of independent and active travel include psychological, cognitive, and social well-being, such as improved mood, opportunities to socialise with friends and the community, spatial knowledge, agency, and confidence (Eisenlohr et al., 2023).

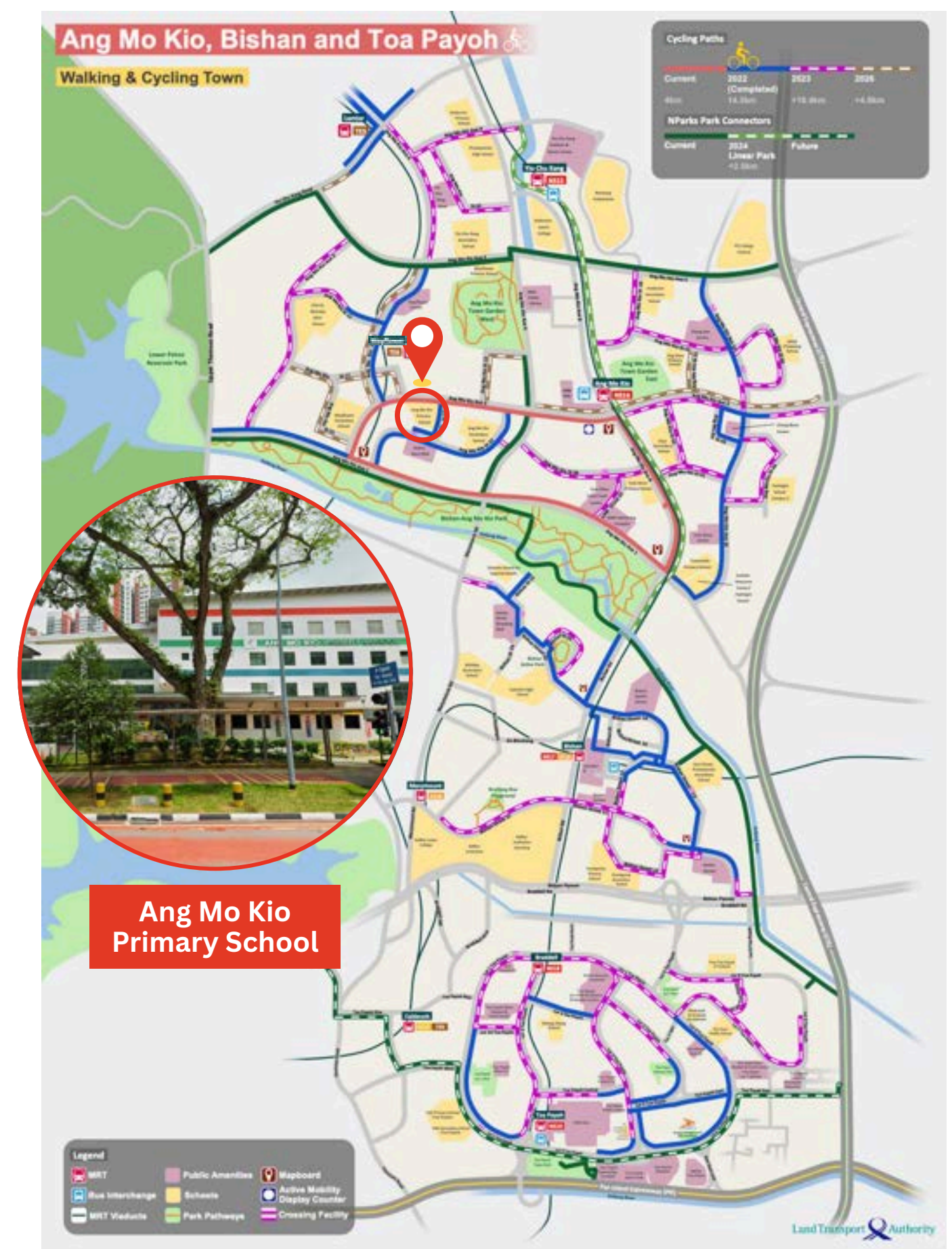


Figure 1. Location of this study's collaborating school, Ang Mo Kio Primary School, within the Ang Mo Kio (Walking & Cycling Town), Bishan and Toa Payoh region. [Source: Land Transport Authority]

The Context in Singapore

Island-wide promotion of walking, cycling and public transport

Walk Cycle Ride SG and Walking & Cycling Towns (Land Transport Authority, n.d.)

Primary schools prioritise admission of students residing nearby

in the following order: within 1 km, between 1-2km, and beyond 2km (Ministry of Education, 2024)

There is however a dearth of research on children's active travel to school in tropical environments (Rojas Lopez & Wong, 2017). Most studies found on children's travel to school in Singapore are quantitative studies on:

- physical health (Wang et al., 2014; Chong et al., 2017; Tan et al., 2018)
- mode choice (Benita et al., 2023; Leong et al., 2024).

Gaps in the Literature

Given Singapore's active travel-conducive policies and infrastructure in its tropical urban environment, how do children experience their journey home after school?

Specifically, recognising children as co-producers of their school journeys:

RQ1 **RQ2** What are their lived experiences? Where do these take place?

RQ3 How do the physical and social aspects of these places shape—and become shaped by—children's experiences?

RQ4 Finally, how might these inform urban policy and planning in Singapore?

Methodology: Inductive, Qualitative & Child-Centred

Considering the school journey as a 'third place' in itself, i.e. an everyday transitional space between home and school, this study explores how children behave, perceive, feel, and make meaning in the different places in their journey—as told from their perspective.

The conceptual framework (Figure 2) is operationalised through a **child-centred worksheet** (Figure 3). It combines cognitive mapping and the draw-and-write method to allow multi-modal expression and elicit rich responses from children.

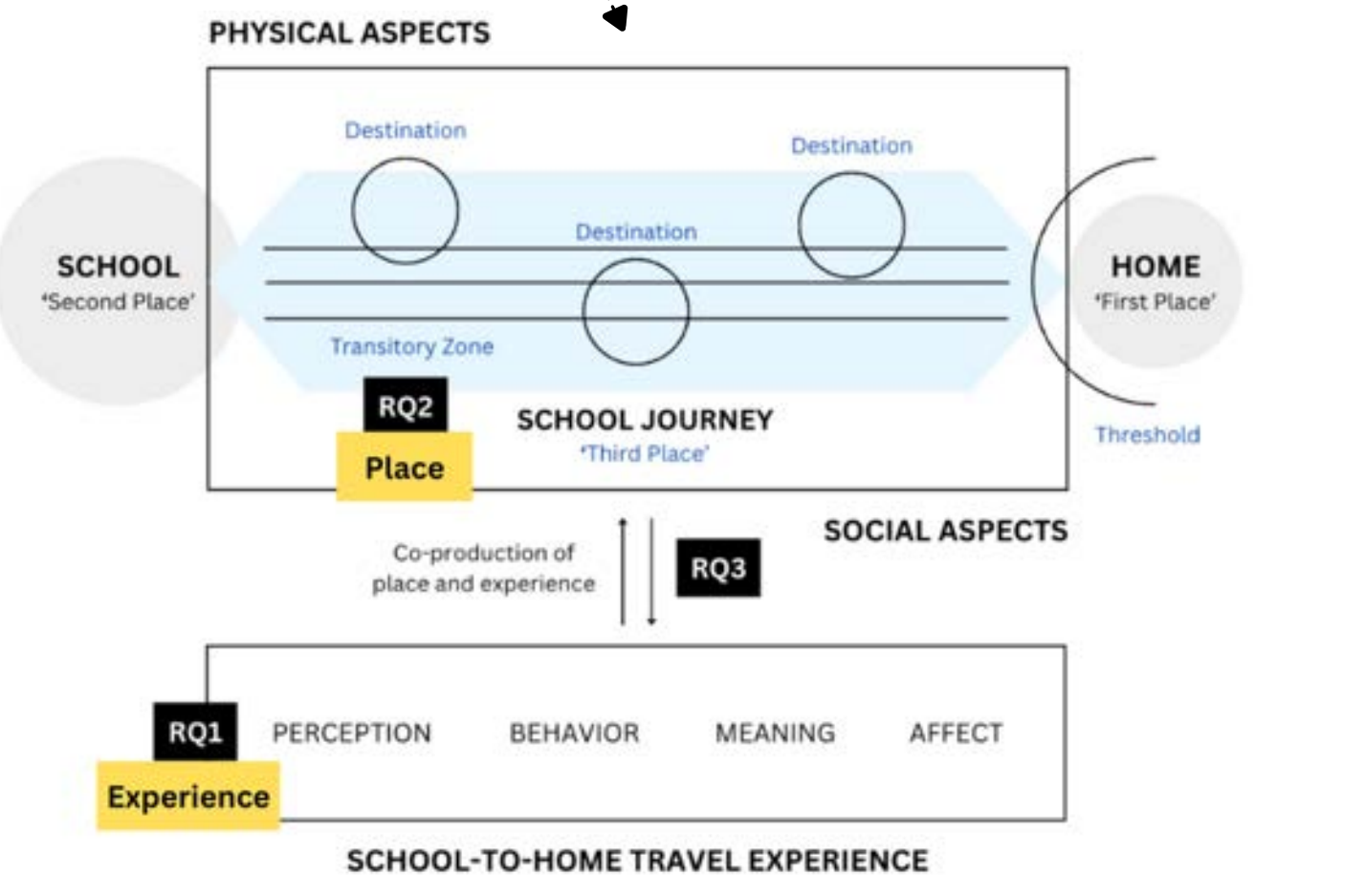


Figure 2. Conceptual framework integrating the 'third place' framework (Carroll & Witten, 2023; Gardner, 2011) into Eisenlohr et al.'s (2023) socio-ecological framework.

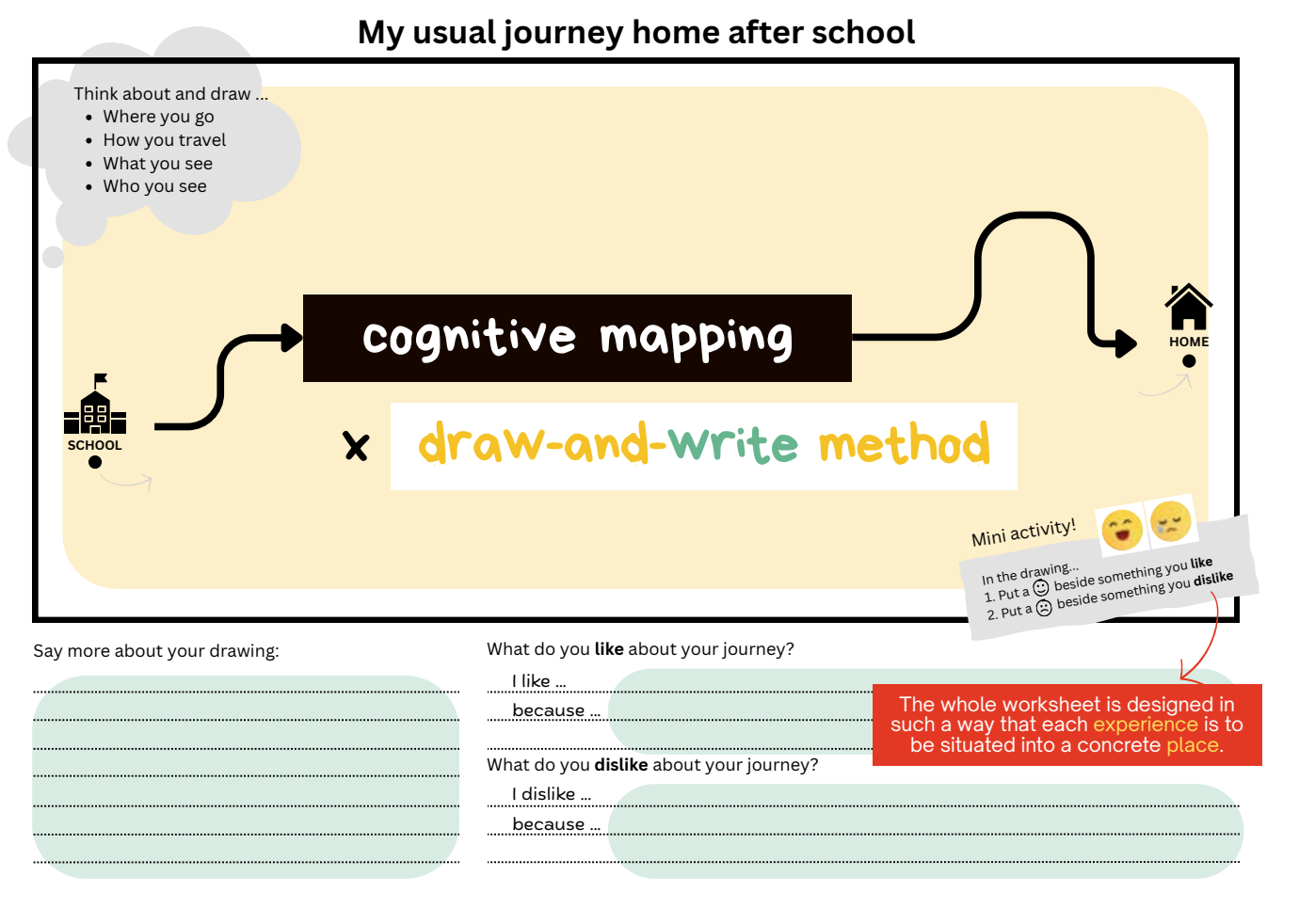


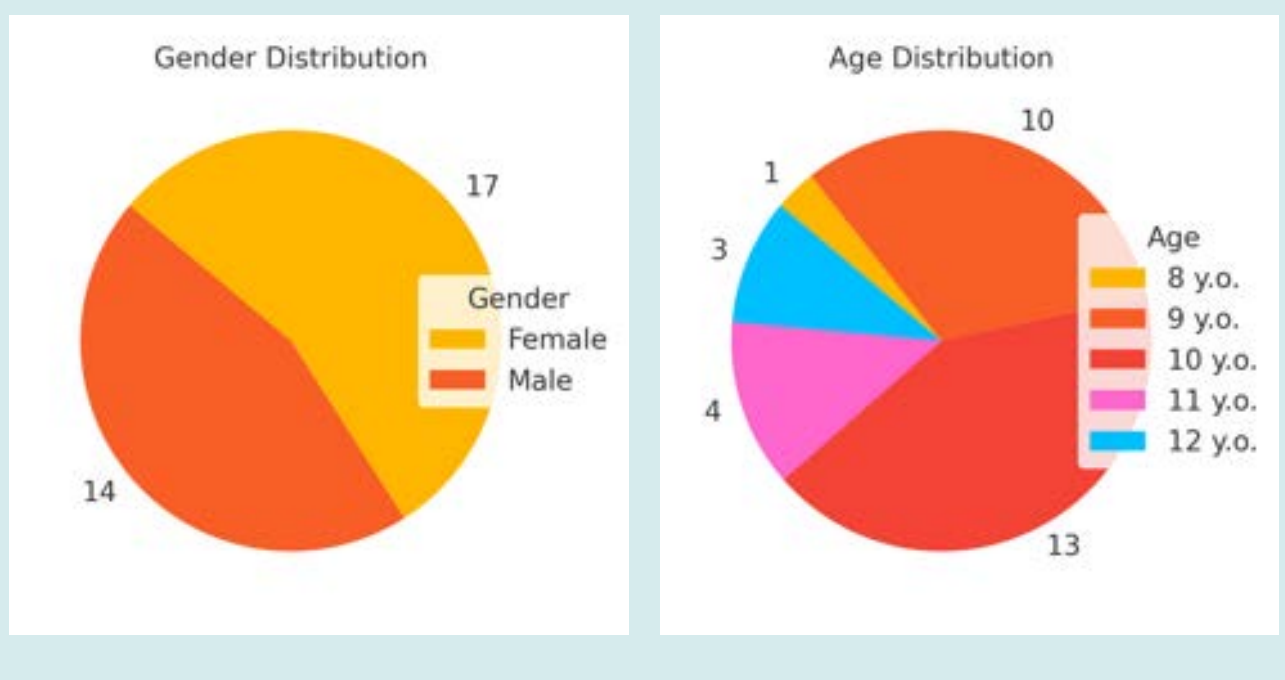
Figure 3. Portion of the iteratively designed child-centred worksheet that combines cognitive mapping (Halseth & Doddridge, 2000) and draw-and-write (Sewell, 2011) methods.

Ethical considerations for child-centred approach at every stage of the study

- **Research design.** Developing the worksheet with child-friendliness, agency, and access at the core.
- **Data collection.** Establishing and maintaining safe space for the sharing of personal experiences. Moderating cognitive load and minimising any emotional discomforts.
- **Data analysis.** Reviewing interpretations with rigour and care in the thematic analysis, especially guarding against over-interpretation and pathologisation of children's expressions.

Figure 4. Left to right: Participant filling in worksheet; the standard materials provided: a pencil, an eraser and a set of coloured pencils; simple stretching exercises for a health break.

Participant recruitment & data collection through Ang Mo Kio Primary School

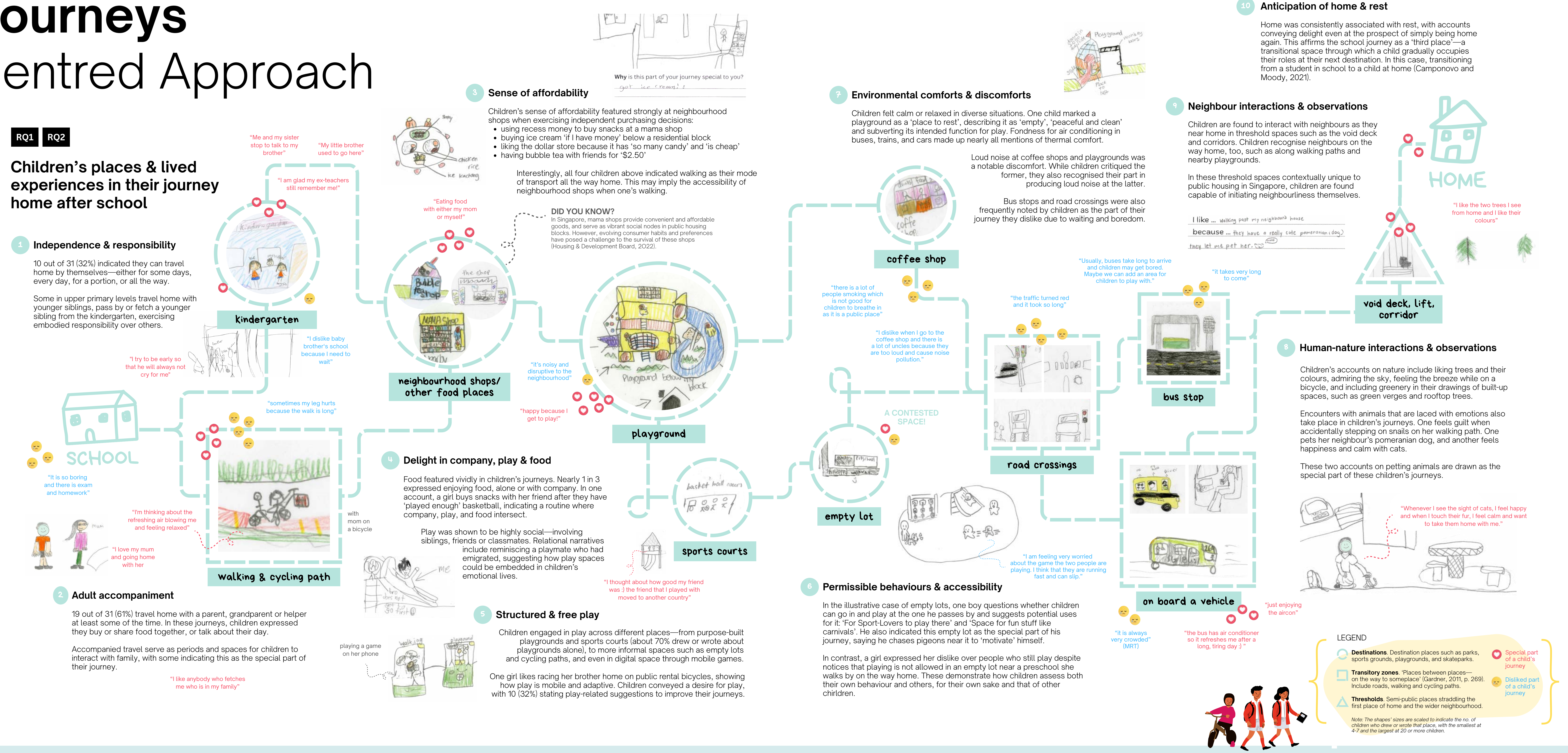


Sample group: 31 students from school-based Student Care Centre (SCC)

Age group: 8–12 years old (Primary 3–6)

RQ1 **RQ2**

Children's places & lived experiences in their journey home after school



① Independence & responsibility

10 out of 31 (32%) indicated they can travel home by themselves—either for some days, every day, for a portion, or all the way.

Some in upper primary levels travel home with younger siblings, pass by or fetch a younger sibling from the kindergarten, exercising embodied responsibility over others.

"Me and my sister stop to talk to my brother"

"My little brother used to go here"

"I am glad my ex-teachers still remember me!"

"I try to be early so that he will always not cry for me"

"I dislike baby brother's school because I need to wait"

"It is so boring and there is exam and homework"

"sometimes my leg hurts because the walk is long"

"I'm thinking about the refreshing air blowing me and feeling relaxed"

"I love my mum and going home with her"

② Adult accompaniment

19 out of 31 (61%) travel home with a parent, grandparent or helper at least some of the time. In these journeys, children expressed they buy or share food together, or talk about their day.

Accompanied travel serve as periods and spaces for children to interact with family, with some indicating this as the special part of their journey.

"I like anybody who fetches me who is in my family"

③ Sense of affordability

Why is this part of your journey special to you?
got ice cream! :)

Children's sense of affordability featured strongly at neighbourhood shops when exercising independent purchasing decisions:

- using recess money to buy snacks at a mama shop
- buying ice cream 'if I have money' below a residential block
- liking the dollar store because it has 'so many candy' and 'is cheap'
- having bubble tea with friends for '$2.50'

Interestingly, all four children above indicated walking as their mode of transport all the way home. This may imply the accessibility of neighbourhood shops when one's walking.

"Eating food with either my mom or myself"

DID YOU KNOW?
In Singapore, mama shops provide convenient and affordable goods, and serve as vibrant social nodes in public housing blocks. However, evolving consumer habits and preferences have posed a challenge to the survival of these shops (Housing & Development Board, 2022).

"it's noisy and disruptive to the neighbourhood"

"happy because I get to play!"

④ Delight in company, play & food

Food featured vividly in children's journeys. Nearly 1 in 3 expressed enjoying food, alone or with company. In one account, a girl buys snacks with her friend after they have 'played enough' basketball, indicating a routine where company, play, and food intersect.

Play was shown to be highly social—involving siblings, friends or classmates. Relational narratives include reminiscing a playmate who had emigrated, suggesting how play spaces could be embedded in children's emotional lives.

"I thought about how good my friend was :) the friend that I played with moved to another country"

⑤ Structured & free play

Children engaged in play across different places—from purpose-built playgrounds and sports courts (about 70% drew or wrote about playgrounds alone), to more informal spaces such as empty lots and cycling paths, and even in digital space through mobile games.

One girl likes racing her brother home on public rental bicycles, showing how play is mobile and adaptive. Children conveyed a desire for play, with 10 (32%) stating play-related suggestions to improve their journeys.

⑥ Permissible behaviours & accessibility

In the illustrative case of empty lots, one boy questions whether children can go in and play at the one he passes by and suggests potential uses for it: 'For Sport-Lovers to play there' and 'Space for fun stuff like carnivals'. He also indicated this empty lot as the special part of his journey, saying he chases pigeons near it to 'motivate' himself.

In contrast, a girl expressed her dislike over people who still play despite notices that playing is not allowed in an empty lot near a preschool she walks by on the way home. These demonstrate how children assess both their own behaviour and others, for their own sake and that of other chirldren.

"I am feeling very worried about the game the two people are playing. I think that they are running fast and can slip."

⑦ Environmental comforts & discomforts

Children felt calm or relaxed in diverse situations. One child marked a playground as a 'place to rest', describing it as 'empty', 'peaceful and clean' and subverting its intended function for play. Fondness for air conditioning in buses, trains, and cars made up nearly all mentions of thermal comfort.

Loud noise at coffee shops and playgrounds was a notable discomfort. While children critiqued the former, they also recognised their part in producing loud noise at the latter.

Bus stops and road crossings were also frequently noted by children as the part of their journey they dislike due to waiting and boredom.

"there is a lot of people smoking which is not good for children to breathe in as it is a public place"

"I dislike when I go to the coffee shop and there is a lot of uncles because they are too loud and cause noise pollution."

"the traffic turned red and it took so long"

"Usually, buses take long to arrive and children may get bored. Maybe we can add an area for children to play with."

"it takes very long to come"

"it is always very crowded" (MRT)

"the bus has air conditioner so it refreshes me after a long, tiring day :)"

"just enjoying the aircon"

⑧ Human-nature interactions & observations

Children's accounts on nature include liking trees and their colours, admiring the sky, feeling the breeze while on a bicycle, and including greenery in their drawings of built-up spaces, such as green verges and rooftop trees.

Encounters with animals that are laced with emotions also take place in children's journeys. One feels guilt when accidentally stepping on snails on her walking path. One pets her neighbour's pomeranian dog, and another feels happiness and calm with cats.

These two accounts on petting animals are drawn as the special part of these children's journeys.

"Whenever I see the sight of cats, I feel happy and when I touch their fur, I feel calm and want to take them home with me."

⑨ Neighbour interactions & observations

Children are found to interact with neighbours as they near home in threshold spaces such as the void deck and corridors. Children recognise neighbours on the way home, too, such as along walking paths and nearby playgrounds.

In these threshold spaces contextually unique to public housing in Singapore, children are found capable of initiating neighbourliness themselves.

I like ... walking past my neighbour's house
because ... they have a really cute pomeranian (dog)
they let me pet her.

"I like the two trees I see from home and I like their colours"

⑩ Anticipation of home & rest

Home was consistently associated with rest, with accounts conveying delight even at the prospect of simply being home again. This affirms the school journey as a 'third place'—a transitional space through which a child gradually occupies their roles at their next destination. In this case, transitioning from a student in school to a child at home (Camponovo and Moody, 2021).

LEGEND

Destinations. Destination places such as parks, sports grounds, playgrounds, and skateparks.

Transitory zones. 'Places between places—on the way to someplace' (Gardner, 2011, p. 269). Include roads, walking and cycling paths.

Thresholds. Semi-public places straddling the first place of home and the wider neighbourhood.

♥ Special part of a child's journey

☹ Disliked part of a child's journey

Note: The shapes' sizes are scaled to indicate the no. of children who drew or wrote that place, with the smallest at 4-7 and the largest at 20 or more children.

RQ3 Co-production of place & experience in children's journeys

Diverse perspectives of children illuminate the bi-directional relationship between physical and social aspects of third places and children's experiences. The role of affective, perceptive, behavioural and meaning-making experiences are emphasised in shaping place, recognising children as co-producers of place and experience.

Travel mode and agency

Children's travel is shaped by the availability, accessibility, and navigability of different travel modes (walking, cycling, riding the bus/MRT) to them. These are enabled by the transport infrastructure and proximity of children's homes to their school.

In turn, children are shown to actively shape the way they travel, such as when:

- making shortcuts,
- choosing a route depending on the weather, or
- stopping over destinations en route.

They also shape their travel companion's experiences, especially those responsible over siblings.

Play and creativity

Children's narratives reveal how they reinterpret and reshape spaces not primarily designed for play, demonstrating children as imaginative actors and stakeholders.

There are suggestions on:

- using an empty lot for sports or carnivals, and
- augmenting bus stops into playful waiting spaces.

Beyond imagination, actual play is narrated in non-play areas, such as racing a brother home on a cycling path, or inversely, using a playground for rest—subverting these places' prescribed functions.

Moral and sensory evaluations in public spaces

Public spaces such as coffee shops, where people smoke or are loud, become sites of contestation where children's moral and sensory evaluations intersect.

Children are seen to evaluate behaviours of adults and how these might put themselves and others at risk. An account of feeling guilt when accidentally stepping on snails suggest similar moral negotiations and understandings of risk expanding beyond human relations.

Natural neighbourhood networks and comfort

In places near home, anticipation and comfort backdrop children's natural neighbourhood networks, evidenced by familiar faces in the neighbourhood and more porous shared corridors supporting the development of an identity within the space near home.

Further, these accounts begin to illuminate how proximity to the 'first place' can influence the experience within this 'threshold' of the third place.

Social urban memories

Kindergartens serve as highly socialised spaces where children engage with younger siblings and former teachers. One child who returned to her kindergarten to see her former teachers and take photos with them shows intentional capturing and creation of new memories.

Further, returning to one's kindergarten informs the grounding of a physical marker of urban memory in past experiences. This is supported by one child's drawing of a playground as the special part of her journey on account of memories with her friend who has since moved abroad, attributing significance to a place based on reminiscing on the social memory of past experiences.

RQ4 Informing urban policy & planning through a qualitative and child-centred approach

This study demonstrates how children are perceptive, reflective and imaginative actors, who are not just shaped by, but also actively shape their neighbourhoods. Their perspectives can help urban policy and planning better attend to their unique needs, while offering fresh insights and challenging adult assumptions about how urban spaces should be used or valued. The following are some **areas of opportunities** made visible by this study:

1. Enhance active travel affordances

Reflections on walking, cycling or taking public transport revealed affordances for a diverse range of experiences which can support holistic child development.

2. Support neighbourhood shops as everyday anchors

As part of child-friendly neighbourhood ecosystems, these shops allow young children to negotiate independence, sociality, affordability and access at the child's scale.

3. Activate transitory and in-between spaces

Spaces like bus stops, crossings and void decks may hold untapped potential for playful, restful or reflective experiences, even in brief engagements.

4. Celebrate flexible and informal spaces

In the absence of formalised functions, spaces like public corridors or empty lots can foster joy and vibrancy by inviting everyday improvisations and connections.

5. Promote multi-sensory and relational planning approaches

Considering children's perspectives, framing planning outcomes in terms of our senses, emotion and relationships may be aligned with how neighbourhoods are experienced and evaluated in day-to-day living.

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Master Research Project
MSc in Urban Science, Policy and Planning

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