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Towards inclusive urban environments for infants and toddlers: Assessing four urban neighbourhoods in Istanbul with mothers

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Abstract

One of the under-represented groups in participatory urban research is very young children (0–3 years old). Very young children from disadvantaged neighbourhoods, particularly in global cities, such as Istanbul, often have to negotiate unfriendly urban spaces in their daily routines. These routines consist of intertwined events of caregivers and children, as care duties of caregivers frame their joint daily lives. Based on questionnaires and participatory mapping with full-time mothers from Istanbul, we argue that a compact design of neighbourhoods, which merges public spaces relevant to families with young children in combined destinations, is critical towards creating inclusive urban environments.

KEYWORDS

caregivers, children's geographies, inclusive urban environments, participation, young children

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INTRODUCTION

Urban environments have been criticized for being designed for ‘a young, physically fit, and (usually) male adult’ (Hanson, 2004, p. 12). Meanwhile, researchers in many disciplines have tackled the question of how to achieve inclusive environments for all, including spatially marginalized groups in urban environments such as women (Krenichyn, 2006; Listerborn, 2007) older people (Baldwin & Stafford, 2019; Burton & Mitchell, 2006) and children (Haider, 2007; Witten et al., 2015). The solution has been found in looking for common sense that bridges social and environmental justice for all users in the built environments in the form of participatory urban planning (Derr, 2017). Therefore, children’s participation has become an essential topic in participatory urban planning research towards creating urban environments inclusive to children (Carroll et al., 2017; Chawla & Driskell, 2012; Derr et al., 2013; Derr & Tarantini, 2016). However, participatory urban planning seeking environmental justice has failed to represent very young children (0–3 years old) (Ataol et al., 2019) even though very young children are a distinctive group of users in promoting social and environmental justice as there is strong evidence of the positive impact of the built environment on children’s early physical and mental development (Christian et al., 2015, 2017; Ferguson et al., 2013).

Enabling the representation of very young children in urban planning research can be achieved by respecting this group’s distinctive challenges and experiences. The participation of very young children in urban planning research is challenging since their knowledge of their environment is limited (Piaget, 1952), and they cannot purposefully explore their surroundings (Berk, 2003). Their visibility in urban environments is heavily mediated by their caregivers, especially mothers – ‘the major agent socializing the child’ (Nsamenang, 2008, p. 212). This critical role of mothers stems from the interdependency based on caretaking between both parties (Holt, 2017; Lupton, 2013). Furthermore, the daily urban lives of very young children consist of intertwined events of mothers and very young children, as care duties of mothers frame their joint daily lives. Therefore, promoting caregivers’ active participation in decision-making to represent their very young children appears critical (UN, 2005).

In this study, we aim to better understand the needs of mothers with their infants and toddlers (0–3 years old) towards creating inclusive urban environments that embrace very young children. We focus on mothers from low-income backgrounds living in Istanbul. Istanbul is a metropolitan city with a diverse population of different socio-economic backgrounds, presenting many of the urban problems associated with socio-spatial polarization due to the neo-liberal policies implemented since the ‘80s (Ataç, 2015; Keyder & Öncü, 1994). In the given context, low-income communities face the worst urban conditions (Keyder, 2005), referring to car-dependent environments and poor quality public space to live in, and children in those communities are particularly vulnerable. Besides, in Turkey, participatory approach in urban planning and research is scarce (Akıllı, 2019; Çakırer Özservet, 2014), even though newly developed non-governmental organizations and local institutions have started to create awareness on this topic.

Therefore, drawing on questionnaires and the results of a participatory mapping workshop with mothers, we address the following questions: (a) How do mothers use/claim public spaces and services in their neighbourhoods with their infants and toddlers? (b) What are the activities and spaces in the daily living pattern of mothers with their infants and toddlers? (c) How do mothers perceive their participation in life/decision-making? Our paper is structured as follows. Before going over the results, we demonstrate the role of mothers in representing their children based on the concepts of the joint agency and geography and the role of the built environment as an external capability in supporting the joint action of both parties

in urban public spaces on the neighbourhood scale. Later, we present our results revealing that the city of Istanbul fails in supporting very young children and their mothers in three domains: (1) finding a place that affords joint activities of mothers and their children, (2) freedom of mobility (walking and using public transportation), (3) participation in the community. In the end, we discuss that urban spaces that merge young children's and mothers' activities provide both efficiency and peace of mind to mothers and enjoyment to very young children in their daily lives.

Joint agency, joint geography, and spatial projections of joint action

Inclusive urban environments are defined as ones that 'simplify life for everyone' (Vavik & Keitsch, 2010, p. 297); in other words, they are places where all users comfortably, effectively, and safely carry on their daily activities (Hanson, 2004) regardless of age and ability (Burton & Mitchell, 2006; Haider, 2007). The design of inclusive environments is a complex process (Rebernik et al., 2019) that embraces the functional needs of all users without discrimination based on any background information (Lukman et al., 2014; Panke & Harth, 2019). Furthermore, creating inclusive environments relies on situated information about the users' needs through collaboration in which citizens are accepted as 'local experts', who produce the data about how they use the city (Hasler, 2017), by positioning them as part of the decision-making team (Lukman et al., 2014).

The participation of mothers as 'team members' in representing their very young children derives learnings about very young children's daily lives since very young children's daily lives are structured not by individual aims and performance but by joint action with their caregivers, especially mothers as the dominant caregivers (Lupton, 2013; Nsamenang, 2008). This joint action is shaped by mothers' external capabilities; they are context-dependent socio-spatial resources, such as accessibility in public transportation, walkability in urban environments with or without a stroller (Cortes-Morales & Christensen, 2014), and the level of the community network (Dean et al., 2016; Lilius, 2014; Teedon et al., 2014) and safety (Chen et al., 2020). This connectivity between very young children, mothers, and external capabilities is called team agency (Ballet et al., 2011), construing very young children's ability to control and navigate their urban environments, depending on their mothers and the support they receive from the built environment. The team agency delimits joint geographies where the joint action takes place, and exploring the joint geography reveals spatial projections of the daily lives of very young children with their caregivers.

The joint geography of mothers and very young children consists of the places they visit together based on the daily life requirements and desires of both parties. On one side, very young children, by utilizing the team agency, manage their daily lives in which they attach importance to accomplishments (David et al., 2003) as well as outdoor play activities (Clark, 2005) with the people who care for them (Katsiada et al., 2018). Young children like 'playing' over 'everything', as Horton & Kraftl (2011, p. 240) found out with preschool children. The physical urban environment is the site of children's play, and if the site responds to and is shaped by children, then it becomes children's spaces (Gallacher, 2016). These spaces distinguish themselves by being spaces of loose play (Tudge, 2008) from 'proper' spaces designed or imposed for very young children, such as playgrounds or childcare settings. Loose play can happen anywhere in the city. For example, children can start playing whilst stuck in a shopping cart via mobile games (Huh, 2017), around dirt next to a sidewalk, or a place next to the train station (Smith & Kotsanas, 2014).

On the other side, the places chosen by mothers preponderate the spatial projection of the joint geography, as their daily life is jointly scheduled and mothers are ‘the mobilizer of babies in the form of carrying and transporting’ (Murray & Cortés-Morales, 2019, p. 96). The daily life of mothers, particularly full-time mothers, consists of ‘myriad activities’, such as chores related to the house, taking care of their child, and meeting friends (Tudge, 2008, p. 8). Daily life activities of mothers bring a list of places chosen for very young children into view, yet not all these spaces are exclusively designed for them. In general, the daily life of full-time mothers with their very young children takes shape in several places such as early childhood education and care settings, shops (Pickup, 1988), playgrounds and parks with a playground, and houses of relatives and friends (Tivers, 1988). Grocery stores, especially small local businesses instead of shopping malls, are frequently visited places in the day-to-day lives of caregivers (Lilius, 2014) and have been the arena of field studies discussing child-caregiver interaction. For example, based on the fact that mothers with young children with a low-income background (who do not have the chance to visit children’s museums regularly) often use grocery stores, Hassinger-Das et al. (2018) placed an educational intervention in a supermarket in New York City to demonstrate that supermarkets can prompt learning and child-caregiver interaction. Besides, mothers attach importance to other places, such as green spaces that they choose to visit for their very young children’s wellbeing (Andrews & Warner, 2020). More importantly, based on the daily requirements of both parties, these above-mentioned places are usually visited as combined in one efficient journey (Bowlby, 1988).

Additionally, the commuting between the places of joint geography occurs by walking as the daily lives of caregivers with young children shrink to neighbourhoods scale (Lilius, 2014; UNICEF, 2018). This amounts to that besides specific destinations, very young children with their caregivers do exist in in-between spaces, such as streets, regardless of their background and the quality of urban neighbourhoods that they live in. It constitutes a fact of caregivers with very young children from disadvantaged communities (low car ownership) where the quality of public transportation is low (Krishnamurthy & Ataol, 2020) and as well as of caregivers living in wealthy communities (high car ownership) where the access to good public transportation is provided (Lilius, 2014). However, decision-makers in urban planning and design have imagined spaces where very young children exist as places that need to nurture and protect them (Gallacher, 2016), such as nurseries and playgrounds. Through this limited approach, ignoring the other places that very young children exist with their caregivers, only specific places are specialized for young children’s needs, and how these spaces create islands on the city map, with in-between spaces becoming inaccessible for young children is ignored (Zeicher, 2003).

As a result, it can be said that caregivers, especially mothers, mediate the visibility and mobility of very young children in urban environments depending upon support from the built environment as an external capability. Besides, exploring the daily lives of very young children within street and neighbourhood-scale (the scale of walkability), in which they do exist daily, through the representation of mothers, constitutes a step forward towards enhancing knowledge on inclusive socio-spatial indicators of urban environments embracing very young children.

METHODOLOGY

Based on the fact that the joint action of very young children with their caregivers (heavily mediated by caregivers) is carried on in specific places of joint geography that caregivers choose, we conducted participatory research with mothers of infants and toddlers (0–3 years old), aiming to

better understand the socio-spatial needs of the joint action of infants and toddlers and mothers living in Istanbul; so to contribute to the knowledge on urban environments inclusive to very young children. We utilized a collaborative approach, in which we accepted mothers as local experts of their urban neighbourhoods and mobilizers of their infants and toddlers, aiming to reveal situated information about the daily urban lives of infants and toddlers. We collaborated only with mothers because the relationship between young children and mothers instead of fathers is culturally more intimate in Turkey (Okman Fişek, 2005; Tezel Şahin & Cevher, 2007). Especially in low-income communities, fathers are the only financial source of the family whilst mothers take on full responsibility for their children and house, presenting the full-time joint action of both parties, unlike mothers who engage in the paid labour market.

As a quality and ethics criteria, the ethical review protocol of the authors' institution was followed for the design of data collection. After obtaining ethics approval, this research was performed collaboratively amongst four authors whilst the lead author carried the tasks such as data collection, proposing thematic frameworks, conducting and reporting thematic analysis. The results of the analysis were discussed with the other three authors, and adjustments to the themes and report were made based on suggestions.

Neighbourhood and participant selection

We identified Yeniköy, Pınar, Ferahevler and Kocataş neighbourhoods of Sariyer District as the case for this research in collaboration with the Bernard van Leer Foundation's representatives in Istanbul and Istanbul95 project¹ manager in the Sariyer Municipality. Sariyer District, with a population of approximately 350.000 (TUIK, 2020), is located on the European coastline of Istanbul. The district is naturally rich as it has the most significant forestry in the city, and it is geographically challenging as it lies on a hill. We chose four neighbourhoods of Sariyer as low and low-middle-income neighbourhoods with poor access to public space and services. For example, in terms of public services and spaces regarding infants and toddlers (0–3 years old) and their caregivers, the Sariyer Municipality provides only five nurseries, which accepts only preschoolers (3–5 years old) (Erginli, 2018), representing an example of the same trend on the city scale.

Through calls distributed via posters and social media as well as individual phone calls performed by the Istanbul95 project supervisor to invite Parents+ participants to the participatory workshop, we reached potential participants. A week before the workshop, we received a list of 10 participants, but on the day of the workshop, two participants did not show up due to personal reasons. Eight mothers participated in the workshop to assess their neighbourhoods by considering their nine infants and toddlers along with their eight older children (in total, 17 children). Every participant received and read information sheets and filled in and signed consent forms on the event date before the workshop started.

All participants were full-time mothers with a low-income background and limited access to private transportation. They were relatively young mothers (between 27–35 years old), having, on average, two children. One mother had only one child, and two mothers had three children. Mothers who have more than one child ($n = 7$) contributed insights also on the roles of older siblings in the lives of infants and toddlers. Because of the unavailability of daycares accepting infants and toddlers in chosen neighbourhoods, all mothers spent their daily lives in the company of their very young children. Additionally, all mothers lived in single-family households and rarely hosted long visits to their parents living in other cities. Therefore, grandparental care was also not an option for these families.

Data co-generation and analysis

The data generation process was designed to address our research questions: (1) how mothers with infants and toddlers use/claim public spaces and services in their neighbourhoods, (2) the daily living pattern of their joint action in urban neighbourhoods, and (3) the mothers' views on the importance of participation. We performed data generation in two steps on the same day: qualitative questionnaires and a participatory mapping workshop, including a real-time discussion session.

First, we conducted short qualitative questionnaires (mixed type of questions and tasks) (Table 1). In a part of the questionnaire, we encouraged them to imagine an inclusive neighbourhood, convey this image in a written or visual way, and visually compose their typical day with their children. Second, we organized a participatory mapping workshop to map the mapping tasks and discuss what we asked in the questionnaires. The participants placed pins on the neighbourhood maps to identify their house location, places they like or dislike, the place where their children play, and services they use, and their comments next to the pinned locations. Then the participants were asked to draw a route of a regular day around those pinned locations and point out the places or locations that they think are safe and unsafe on the route when they are with their infants and toddlers. A broader discussion amongst participants took place regarding reasons for preferring specific routes and places in the neighbourhood. The lead author took real-time notes of the discussion and summarized these in themes relevant to the daily lives of mothers with their infants and toddlers. Photos of the maps created in the participatory workshop were taken, and the different routes were analysed in light of the mothers' discussions. At the end of the participatory workshop, we carried out a debrief discussion with the mothers to evaluate their experience with the workshop they had just been a part of.

We performed a thematic analysis of the co-generated data, including responses to questionnaires, elaborations on the maps, and real-time notes taken during the discussion session. We followed the approach for thematic analysis proposed by Braun and Clarke (2006) by focusing on the reality of participants at the latent or interpretative level. Therefore, the analysis focused

TABLE 1 The list of questions and tasks of mapping and drawing

Questions	Tasks
<ul style="list-style-type: none"> • Are you employed? If yes, what do you do? • What do you like about your neighbourhood? • What would you like to change about or add to your neighbourhood? • How often do your kids play outside in your neighbourhood? • Where do they play outside in your neighbourhood? • Where do you wish your children could play? • Who takes your child to childcare or school? • How do you take your child to childcare or school? • Do you organize events with your neighbours? If yes, what kind? • Have you ever heard events and organizations focus on child-friendly cities? If yes, which? • How do you imagine a child-friendly neighbourhood? 	<p>Drawing</p> <ul style="list-style-type: none"> • Compose your typical day with your children • Draw your neighbourhood in a way you would like to see <p>Mapping</p> <ul style="list-style-type: none"> • Place the sticker of the house on the approximate location of your house • Place a sticker on the places where your child likes to play outside • Place a sticker on the location of school/childcare/grocery/hospital • Draw the route you and your child walk together the most • Highlight the spaces you consider unsafe • Highlight the spaces you consider safe • Discuss what along the route can be improved

on daily routines, the meanings associated with them, and the motivations for using neighbourhood spaces, including destination spaces and routes in particular ways. ATLAS.ti software was utilized for coding the data. After the first round of coding, codes were collated into potential themes, and authors discussed and refined the themes. Accordingly, adjustments were made, and final themes, which were seen as adequate to convey the “overall story” (Braun & Clarke, 2006, p. 87) were defined.

FINDINGS

A (missing) place for the joint action of playing and socialization

All mothers who participated in our research were aware of the necessity of physical activity and play for infants and toddlers (seven of them take their children outside every day to play) and dreamt about a place for themselves as well as for their children. For themselves, a place to socialize with their friends appeared important. Parks with a playground in close proximity to home, free from cars, clean, and providing urban furniture in age-specific settings were frequently mentioned images. These images were in contrast with the realities of our selected neighbourhoods in Sariyer, where there appears to be an apparent lack of availability and variety of parks with playgrounds providing desired features to infants and toddlers and mothers. This reality led mothers to find alternatives such as streets, schoolyards, parking lots, and front yards. Specifically, if there was no park close by that provided the requested features, mothers visited an alternative play space but tended to call the alternative play space unsafe. This perception affects the overall play experience of infants and toddlers. For example, a mother referred to the streets as a choice of alternative play space due to lack of available playground, and her toddler’s playing time outside was limited to 2 times per week due to her perception of safety. She stated,

My children play in the street in front of our house as an extension of our [public] front yard. If the front yard were spacious, I would not let them play there because of the heavy vehicle traffic on the street.

Another mother stated,

I am grateful that I have a spacious [private] front yard where my kids can play safely and freely. I think this opportunity of them is important for their physical and mental development. So. They can play outside every day.

Mothers’ interdependency with their infants and toddlers dominated their statements on imagining a dedicated space for their joint action with their children. In addressing the lack of a place for play and socialization, mothers imagined a place that had three characteristics: (1) an alternative to playgrounds, (2) infants- and toddlers-specific design, and (3) an inclusive place for all. First, one mother offered a (indoor) play club idea as an alternative to playgrounds. Other mothers appreciated this idea that provides a play network (amongst mothers for their infants and toddlers and a social network for themselves), an environment specifically designed for infants and toddlers, and play opportunities for their very young children with peers regardless of weather conditions. A mother detailed the request for a play club:

In the summertime, they can play in a playground, but in the wintertime, they need a place like a play club where children can spend time with other children of the same age and make friends, [and] encounter physical activities.

Second, the infants- and toddlers-specific design of a play space was discussed in relation to the desire of having access to spaces that are not occupied by teenagers and cars. One mother stated,

I would like to have a play space close to our house, so they [her children] could play freely. That playground would be a place for only small children instead of being a place claimed by teenagers, and it would be secure from any unsafe equipment, design aspect, etc.

Another mother stated,

There is a lack of a place for babies or older children where they can play only two hours a day without any interruption caused by cars. So, I like the play club idea.

Lastly, mothers discussed the community centre (in Turkish: *Semt Evleri*), managed by the local government, as a (existing) potential space for their joint action of playing and socialization. The founding purposes of community centres are to be a place of participation to locally determine citizens' challenges and issues and a hub for courses, seminars, and celebrations. Community centres are most likely the centre of services (health unit, nursery, gathering place for adults, cafeteria). Mothers said that they would prefer to use community centres more for themselves and their infants and toddlers, but not all the functions are readily available because services provided by the community centre contextually depend on local government; the community centre's services differ from one neighbourhood to another in the same district in the context of opening hours, course and activity variety, and so on. Mothers added if it was available, a combination of services provides a good match of a space of playing and socializing and prevents the feeling of being excluded from social life as summed up by one mother to *'living behind bars'*.

I like my neighbourhood because of the community network I have

The community network frequently emerged during the workshop as the reason for their satisfaction with their neighbourhoods. Mothers attached importance to knowing people in the neighbourhood in terms of safety and their visibility in the community. The workshop revealed that the more they knew their neighbours, the more mothers felt safe. Their participation in the community happened through spending time with other residents. Therefore, the community network instils a feeling of safety and directly affected how mothers with their infants and toddlers used the built environment. One mother explained the interrelation of the community network, feeling of safety, and public space usage as:

I like my neighborhood because I know my neighbors well. Most of my neighbors have immigrated from the same city to Istanbul. That is why people know each other, and there are no security issues. So, we let our kids play outside anytime. My neighbors watch my kids, and I do the same in return.

Another mother explained her community network based on living in the same neighbourhood with her parents:

I have been living in the same neighborhood for a long time. Additionally, my extended family also lives in the same neighborhood. Because of this, I know most of the people in the neighborhood, and I feel safe.

Besides the community network enhancing the feeling of safety, it was apparent that knowing people in the neighbourhood promotes both parties' visibility in urban environments. Mothers who live in the same neighbourhood with extended family members ($n = 3$) stated that they feel encouraged to leave the house more often. Mothers also discussed their visibility over a discussion of the lack of infants and toddlers- and caregivers-focused events and places in their neighbourhoods. The role of these events and places was seen as fun reasons to be outside of the house compared to household chores like grocery shopping. Besides infants and toddlers- and caregivers-focused events and places, mothers urged awareness of other neighbourhood residents about the socio-spatial needs of families with infants and toddlers. One mother explained this claim as:

I would like to live in a neighborhood where everything and every detail in the design are devoted to children. In that neighborhood, we (residents) all will be in charge of keeping it in that way.

Combined activities in combined destinations on the neighbourhood scale

As mothers who participated in the study were full-time mothers, house chores dominated their daily activities. Mothers' reasons to leave the house were limited on weekdays and depended on two main destinations: (1) walking the child to school (route 4A, 6A, 7A, and 8 in Figure 1), (2) going to the grocery shop (all routes in Figure 1), and because of their interdependence between both parties, their infants and toddlers kept their mother's company (all routes in Figure 1). If infants and toddlers do not have school-aged siblings or they have siblings who are old enough to go to school by themselves, then grocery shopping remains the main reason to leave the house. Yet, visiting play spaces were always a part of their daily route. Mothers start the day out of the house by visiting playgrounds or alternative play spaces and then grocery shopping or the other way around. The decision-making on the first destination (play space or grocery shop) of the daily route depends on the space's proximity to home. On the way back home, two mothers indicated that they finish their daily tour by visiting neighbours or friends and extended family (route 1A and 4A in Figure 1) as another destination for play and socialization.

Walking is the primary mode of transportation, but in the case of Sarıyer, walking is difficult for mothers and their infants and toddlers because of the location of the district on a hill and the low quality of the built environment. Challenges included narrow sidewalks without ramps, parked cars on the sidewalks, broken streetlights, and dirty streets. Also, public transportation was criticized for vehicles and drivers being not children and family-friendly. One mother added,

I would like to use public transportation, which is punctual and easy to reach and use. I would like minibus [in Turkish: *dolmuş*] drivers to be nice to mothers who have to use a stroller. *Dolmuş* drivers are benefit-oriented, not people-oriented, and prefer to transport more people than mothers with strollers.

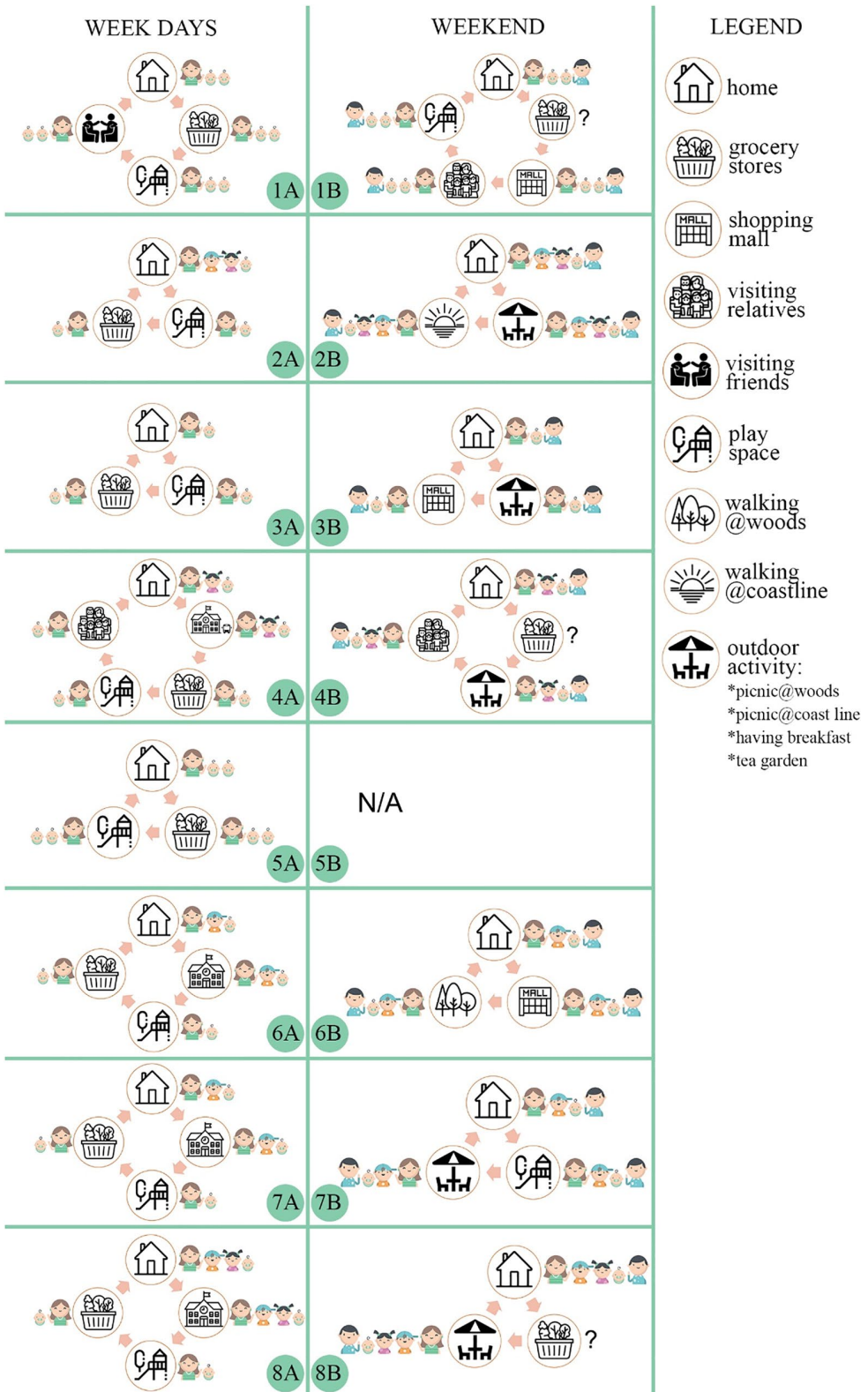


FIGURE 1 Daily living patterns of mothers with their infants and toddlers on weekdays and at the weekends

Because of these challenges, mothers tend to combine their activities with the ones related to their infants and toddlers in one daily trip to be more efficient outside of the house. Their typical daily life structure with specific destinations under challenging walking conditions urges mothers to choose places that provide mix-usage and immediate proximity. However, shopping malls, which combine two of the most visited places (shops and play spaces), were not a destination of their daily routes on weekdays since reaching shopping malls is challenging as shopping malls are not close to their houses. Also, commuting to shopping malls means using unfriendly public transportation or depending on private transport when the father is available to drive them as mothers do not have access to a family car. Yet, visiting a shopping mall emerged as a combined activity for the whole family at the weekends (route 1B, 3B and 6B in Figure 1).

Mothers highlighted freedom of mobility in making their daily trips to public spaces and services more accessible. The discussion of struggles in mobility resulted in a search for combined destinations, an alternative to the activities provided by shopping malls. A combined destination refers to the placement of public spaces and services close to each other. For example, one mother stated that she prefers to visit one specific open market once a week for groceries because when she is busy with shopping, her toddler, accompanied by an older sibling, can play in the playground next to the open market. Another mother explained this urge in her definition of an inclusive neighbourhood:

In my imaginary neighborhood, I want to have a grocery store, a playground, a school, and a park easily accessible within walking distance.

Combined activities and destinations also come into play for leisure activities during weekends. For example, the whole family stops by a playground on the way back home (route 1B in Figure 1), or they combine walking and visiting a cafeteria with a play space for their infants and toddlers at the coast (to have tea or breakfast) (route 2B in Figure 1) or go to the woods for a picnic where there is a substantial free play area for infants and toddlers (route 4B and 8B in Figure 1).

Participation (daily and occasionally) is for enhancing community network

Mothers rarely knew and participated in infants and toddlers- and caregivers-focused events and organizations in Istanbul. Mothers explained the lack of participation in terms of proximity to these events and related transportation challenges, as well as lack of time (connected to taking care of house chores and children by themselves). However, they did participate in casual gatherings towards the creation of a network in the community. In these gatherings, they discuss their daily challenges, exchange information, and have the chance to be in a social environment.

Mothers valued their participation in a workshop dedicated to understanding their daily routines and spatial challenges in their neighbourhoods as a chance of finding common ground with other participants. Interaction between mothers was simultaneously built, and through this, mothers realized the advantages and disadvantages of their neighbourhoods and could compare their experiences with those other mothers. Mothers from the same neighbourhood got to know each other, leading to a wider community network. We received the same comment as an appreciation that the workshop was an environment that mothers have been looking for to discuss their socio-spatial challenges. At the end of the workshop, mothers used the occasion to exchange contact details and plan activities with/for their infants and toddlers.

DISCUSSION

Our research aimed to fill the research gap of representations of very young children in urban planning and better understand their needs towards creating inclusive urban environments. To do so, we applied questionnaires and organized a participatory mapping workshop with mothers by accepting them as 'local experts' (Hasler, 2017) and part of the (possible) decision-making team (Lukman et al., 2014) in representing their very young children. In return, based on the interdependency between both parties (Holt, 2017; Lupton, 2013), the research showed the critical and informative role of caregivers, especially mothers, as the dominant caregivers fundamentally and contextually (Okman Fişek, 2005; Tezel Şahin & Cevher, 2007), in enhancing knowledge on socio-spatial indicators of urban environments inclusive to very young children and their families. Besides, our research results have lent support to many previous research findings and theories on the joint agency and geography of mothers and very young children.

In particular, our research has illustrated the importance of the daily living patterns of mothers with very young children in creating inclusive urban environments in terms of public spaces' affordance as external capabilities and as a part of their team agency (Ballet et al., 2011). The results revealed that the built environment in Istanbul fails to support the daily lives of mothers with their very young children in three domains: a space for their joint action of playing and socialization, freedom of mobility, and participation in the community. The failure of urban environments in Istanbul dictates mothers to be efficient in daily urban life as is a common practice of urban motherhood (Bowlby, 1988; Pickup, 1988; Tivers, 1988) to evade challenges outside the house. The efficiency is ensured through combining activities in one daily route as demonstrated by Bowlby (1988) or preferring places that provide combined activities within neighbourhoods scale as daily lives of caregivers with very young children shrink to neighbourhoods scale (UNICEF, 2018). Yet, shopping malls, which combine desired activities of both parties in one space, were not a destination of their daily route, unlike mothers' choices in wealthy communities of not preferring to go (Lilius, 2014), since reaching the malls is challenging; it requires taking unfriendly public transportation, and it dictates using private transportation when the father is available (only at the weekends due to owning only one car per household and as fathers frequently used them for work on weekdays). This affects the interdependency between mothers and very young children (Holt, 2017; Lupton, 2013) and extends their interdependency to the third parties (in our case, fathers).

The revealed aspects of the joint geography of very young children and mothers manifest a compact design for inclusive urban neighbourhoods combining public spaces relevant to families with very young children in destinations within walking distances and promoting an improved walking experience. Also, our research supports the fact that very young children do exist in in-between spaces (Krishnamurthy & Ataol, 2020; Zeiher, 2003), such as streets. This manifestation carries the possibility of providing easy access to public spaces, cancelling the need for efficiency outside the home, especially in in-between spaces. So, it would deliver a longer and more pleasant time spent in public spaces back to very young children with many possibilities for creating children's spaces by children (Gallacher, 2016) through loose play (Tudge, 2008). Consequently, very young children could enjoy daily accomplishments (David et al., 2003) through outdoor play (Clark, 2005) as they like playing over everything (Horton & Kraftl, 2011). Additionally, this manifestation can promote the socialization of mothers with other community members (caregivers), which improves the community network. As mothers attached importance to knowing people in the neighbourhood to feel safe, the more mothers feel safe through advanced community networks, the higher the visibility of very young

children in urban environments with their mothers. Also, this comprehensive organization of spaces can support the joint agency of both parties by liberating the joint agency from third parties, such as fathers, in accessing desired places. Therefore, the visibility of infants and toddlers within urban environments can be enhanced as mothers with very young children would join public urban life more often.

CONCLUSION

Our exploration of the joint geography of full-time mothers and infants and toddlers has illuminated the need for a compact design of neighbourhoods, which pays attention to the daily life requirements and mobility preferences of families with very young children. Yet, this research encountered several limitations regarding the caregiver profile, representativeness of a small group of participants even though the results appeared consistent, and the one-sided approach of research with only caregivers. Future studies must continue to examine the geographies of very young children and their caregivers through participatory urban planning approaches across different caregiver profiles (fathers, grandparents, or mothers from different socio-economic backgrounds). Especially, the geography of very young children of working mothers might differ depending on shared-care amongst several caregivers and institutions. This would enhance the knowledge towards creating inclusive urban environments for families with very young children. Whilst our research provides knowledge on the joint geography of very young children and mothers in public spaces through adult lenses, future research could also look into the individual agency of very young children to better understand to what extent and where infants and toddlers manipulate the joint geography. This would help to demonstrate a fuller picture of the joint agency and geography of very young children and caregivers.

Revealing the perceptions, daily living patterns, and claims of the mothers of very young children is critical in creating inclusive and child-focused urban environments. Decision-makers and urban planners could utilize revealed aspects of the joint geography of very young children and mothers and their joint needs from the built environment to create urban environments for everyone—starting from very young children and women to older children, people with disabilities, seniors, and so on. This could be achieved through compact and comprehensive organization of spaces looking for common sense that bridges social and environmental justice in the built environment. For spatially and socially marginalized groups, such as very young children, when the participatory approach is utilized in decision-making by respecting this group's unique challenges and experiences, it emerges as an equitable one that empowers this group against desegregation socially and spatially.

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DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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ENDNOTE

- ¹ Urban95 of Bernard van Leer Foundation (Netherlands) is an internationally known project in global cities from India, Brazil, Colombia, Turkey, Israel, Peru, Jordan, and Albania. Urban95 is a partnership between the foundation and local municipalities to create awareness of young children's well-being and inclusion in urban environments. This partnership also aims to coach parents with young children (Parents+), develop model public spaces for young children, and understand more about the status of vulnerable young children in urban environments.

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