

Formation of children's neighborhood interaction space: Between everyday life and freedom

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ARTICLE INFO	ABSTRACT
<p><i>Article history:</i> Received February 02, 2023 Received in revised form March 21, 2023 Accepted May 25, 2023 Available online August 01, 2023</p> <p><i>Keywords:</i> Children's interaction space Everyday life Neighborhood Space for freedom</p> <p>*Corresponding author: Erza Rahma Hajaty Department of Architecture, Faculty of Engineering, Universitas Indonesia Email: erzarahma43@gmail.com</p>	<p><i>Ideally, children interact in spaces which have been provided with physical conditions that are comfortable and safe for children. However, children are able to possess the will to determine the interaction spaces they like. Thus, it is necessary to conduct research to investigate the position of the interaction space which is liked by children and the things behind the formation of the preferred interaction space. This study employs a qualitative method with a grounded theory approach located in one of the settlements in Bogor Regency, West Java, Indonesia. The results demonstrated that the positions of the interaction spaces that were liked by children were around the badminton court and along the edge of the park, namely on the sloping garden terrace, the sloping retaining wall, the space under the basketball hoop and the space under the badminton hoop. Children form a preferred interaction space position against a background of everyday life which incorporates responsibilities, favorite activities, gathering activities; and freedom which employs the freedom to consume space and time. This research is useful for settlement architects as it allows them to design each side of the space as a potential interaction space that is in accordance with children's thoughts and desires. This research is also beneficial to raising the standard of living in the children's neighborhood.</i></p>

Introduction

Childhood is a time for physical activity and play (Valentine-French et al. 2022; Samad and Haron 2023). Thus, when children interact socially, they are doing more than just chatting; they are also playing or exercising (Veitch et al. 2021). Most children do not play just one game in their daily lives, but rather a variety of different games, both videogames and traditional games (Yilmaz, Yel, and Griffiths 2022). Children can interact in places that are provided and designed as gathering places, such as parks or playgrounds (Marquet et al. 2019; Tantarto and Hertoery 2020), as well as in places that appear unsafe to play, such as roads, sidewalks, gutters (Bobby Saragih and Tedja 2017), bushes, and streams (Veitch et al. 2006).

It is because children own the ability to express various needs for green space, both in the form of designed parks and wild nature (Shu et al. 2022), and illustrates that children possess free will to determine where they feel comfortable with their version. Hence, parents can feel worried when their children interact and play in unsafe spaces such as nature (Truong, Nakabayashi, and Hosaka 2022). As a result, it is necessary to identify what is on children's minds, and consequently, they select a specific room to be a space for interaction, either for chatting with their friends or for playing and doing physical activities (Thung and Ahmad 2022). However, research which discusses the factors that encourage or underpin children's formation of preferred interaction spaces and positions is still scarce.



The majority of research continues to focus on the relationship between the characteristics and quality of park space and the intensity of park visits and interaction activities (Jamila 2018; Raney, Hendry, and Yee 2019; Olsen, Kennedy, and Vanos 2019; Pitsikali and Parnell 2020; Cohen et al. 2020; Kabisch and Kraemer 2020; Pérez del Pulgar, Anguelovski, and Connolly 2020; Huang et al. 2021; Knobel et al. 2021; Putra et al. 2021; Talal and Santelmann 2021; Veitch et al. 2021; Yang et al. 2021; Zhang et al. 2022). Aside from that, most research concentrates solely on the objective aspects of children's behavior, such as testing the intensity of physical activity on the playground or the time children spend doing physical activity and playing while outside (Aggio et al. 2017; Ilvonen, Niemistö, and Sääkslahti 2019; Moreno et al. 2019; Benjamin-Neelon et al. 2019); research exploring the physical activity of boys and girls on the playground (Stanton-Chapman et al. 2018; Amholt et al. 2022; Arlinkasari, Cushing, and Miller 2023); studies looking at interactive activities between children and with play equipment (Amouzegar, Naeini, and Jafari 2010); research exploring children's play with water in urban green spaces (Bozkurt and Woolley 2020). Therefore, this study aims to identify the things behind the formation of the preferred interaction space based on the ideas and wishes of children. This research owns a novelty in that it examines the subjective side of children, specifically the things that form the background of children's interaction space and their preferred position in the interaction space. This research is very useful for residential architects because it allows them to plan and design spaces that are safe and comfortable for children to interact in accordance with their thoughts and desires, and it is useful for raising the level of neighborhoods for children.

A neighborhood is a psychological relationship between residents who live in a residential environment (Hajaty, Sihombing, and Ellisa 2021). When referring to a spatial scale, a neighborhood has a smaller scope or scope compared to a community or group. Communities have the characteristics of a group of individuals in a territorial unit, whether small in scope such as RT, RW or village to a very broad scope such as a country with a sense of community identity; whereas a group can be a group of individuals who can or cannot point to a specific location and have a sense of identity (Koentjaraningrat 2015). Hence, the community or group may include

people who do not live in the same residential environment. Therefore, the focus of this study is on the neighborhood of children, specifically a group of children who have a psychological relationship with one another because they live permanently in the same residential environment.

Methods

This study employs qualitative methods and a grounded theory approach to examine a single neighborhood group of children. This approach is appropriate for determining and exploring the factors that contribute to the formation of the interaction space and the preferred position in the interaction space. Furthermore, in the grounded theory method, researchers immediately enter the field without bringing specific propositions or theories (Budiasih 2014), allowing the discovery of a pure theory to be based on data (Glaser and Strauss 2017) derived from children's minds and observations. The research begins with conducting interviews using unstructured and open-ended questions and making observations to obtain complete information; then the results of the interviews and observations are written in the form of a memo; finally, understanding and interpreting the meaning of the data as a basis for conducting coding analysis (Charmaz 2006), which includes: determining the initial code based on the data; filtering data on the initial code; causally connecting codes that form categorical groups; and coding analysis.

The formation of interaction space focuses on outdoor interaction activities such as chatting, playing, and physical activities. The address is in one of the blocks of the Bukit Golf settlement in Bogor Regency, Indonesia. Respondents are neighborhood children in small groups of five who interact with one another every day. The age selected is late childhood, which is 6-12 years at the elementary school level, because children at this age have a strong desire to socialize with their peers (Kurniawati, Solehuddin, and Ifiandra 2019). The initials Ab, An, Ct, Dt, and Ay are employed to explain the discussion of analysis results and excerpts from interviews with each respondent. The discussion will begin by explaining the study's findings regarding children's preferred position in the interaction space, followed by a discussion of the reasons for the formation of the children's interaction space.

Result and discussion

Position preferred by children in the interaction space

Based on the results of observations and interviews conducted with neighborhood children, interaction activities generally occur in

street spaces, yards, parks, playgrounds and badminton courts, as presented in [figure 1](#). However, children do not use all of these interaction spaces on a regular basis. [Figure 2](#) depicts interaction spaces that are commonly used (i) around a badminton court and (ii) on the edge of a sloping park.



Figure 1. Children's interaction spaces

The badminton court is located at the back of the housing block which is directly adjacent to a small river and sloping garden, as presented in

[figure 2](#). This badminton court is used frequently by residents of the housing, including children, youth, and adults.

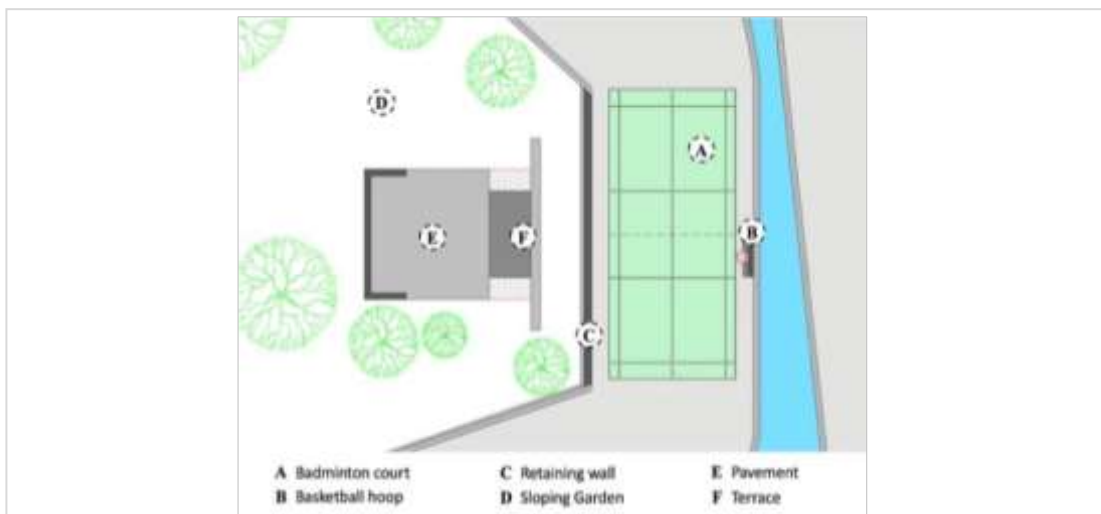


Figure 2. Children's interaction space between the badminton court and sloping garden

As illustrated in figure 3, there are several positions on the badminton court that children prefer. The first position that children prefer is beneath the badminton ring, as stated by Ab, “suka duduk di bawah batas ring badminton” (“likes to sit under the boundary of the badminton ring”). Meanwhile, the second most preferred position is under the basketball hoop, as expressed by Ct, “Sukanya kalo disini duduk di bawah ring

basket. Jarang duduk di taman ini” (“I like sitting here under the basketball hoop. It's rare to sit in this park”) and also expressed by An “...kalo dipanggil aku duduk di bawah, trus di bawah ring basket, biasanya suka disitu kalo ga ada orang...” (“...when called upon I sit downstairs, then under the basketball hoop, I usually like it there when there's no one around...”).

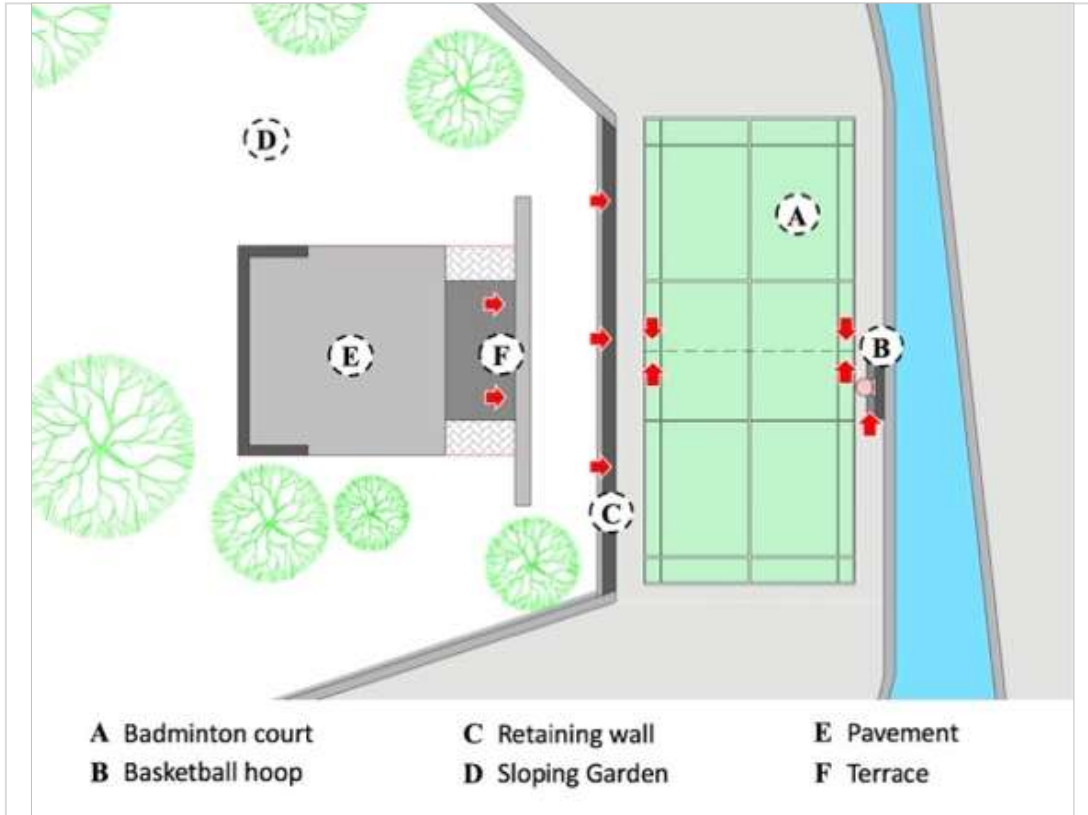


Figure 3. Children's preferred position in the interaction space (shown by red arrows)



Figure 4. Children interact around the badminton court

Figure 4 depicts the children's seating arrangements around the badminton court and beneath the basketball hoop. The basketball ring is right next to the badminton court and has never been used.

A sloping garden, as the name suggests, is one that is built on a sloping contour. There are only trees, pavement, and terraces in this park. Children do occasionally use sloping garden areas to interact. The first favorite spot for children is near a retaining wall at the edge of a sloping garden. The retaining wall is 45 cm tall. This retaining wall can be employed as a sitting area by adding thickness. Because of its proximity to the badminton court, the wall is the preferred location

for children to interact and watch their friends play badminton, as illustrated in [figure 5](#). The second most preferred position is on a sloping garden terrace, as Ay said, “*Kalo disini posisi yang paling suka di teras ngadep ke lapangan badminton*” (“If here the most preferred position

is on the terrace facing the badminton court”), and also expressed by Dt, “*Area favorit disini (teras pada pinggir taman miring)*” [“My favorite area is here (terrace on the edge of a sloping garden)”].



Figure 5. Children interact between the badminton court and the sloping garden

[Figure 5](#) demonstrates the position of the children interacting watching their friends play badminton sitting on the terrace and along the retaining wall of the sloping garden. Because the children's eyes are fixed on the badminton court, it appears as if the park is just a backdrop when they are in this position. As demonstrated in [figure 6](#), the position of the children in the interaction space, specifically around the badminton court and on the outskirts of the sloping garden, appears to form a sphere in which the badminton court is the center point. This is consistent with several studies that show that interactions in children are more focused on physical activities such as games or sports than on

chatting ([Veitch et al. 2021](#); [Valentine-French et al. 2022](#)).

Formation of interaction space

The results of the analysis show that the interaction space is formed due to the background of (i) daily life which includes categories of responsibility, favorite activities, gathering activities; and (ii) freedom which includes the categories of freedom to consume time and freedom to consume space. [Table 1](#) shows some excerpts from the interview results and the formation of the categories that form the background for the formation of children's interaction spaces.

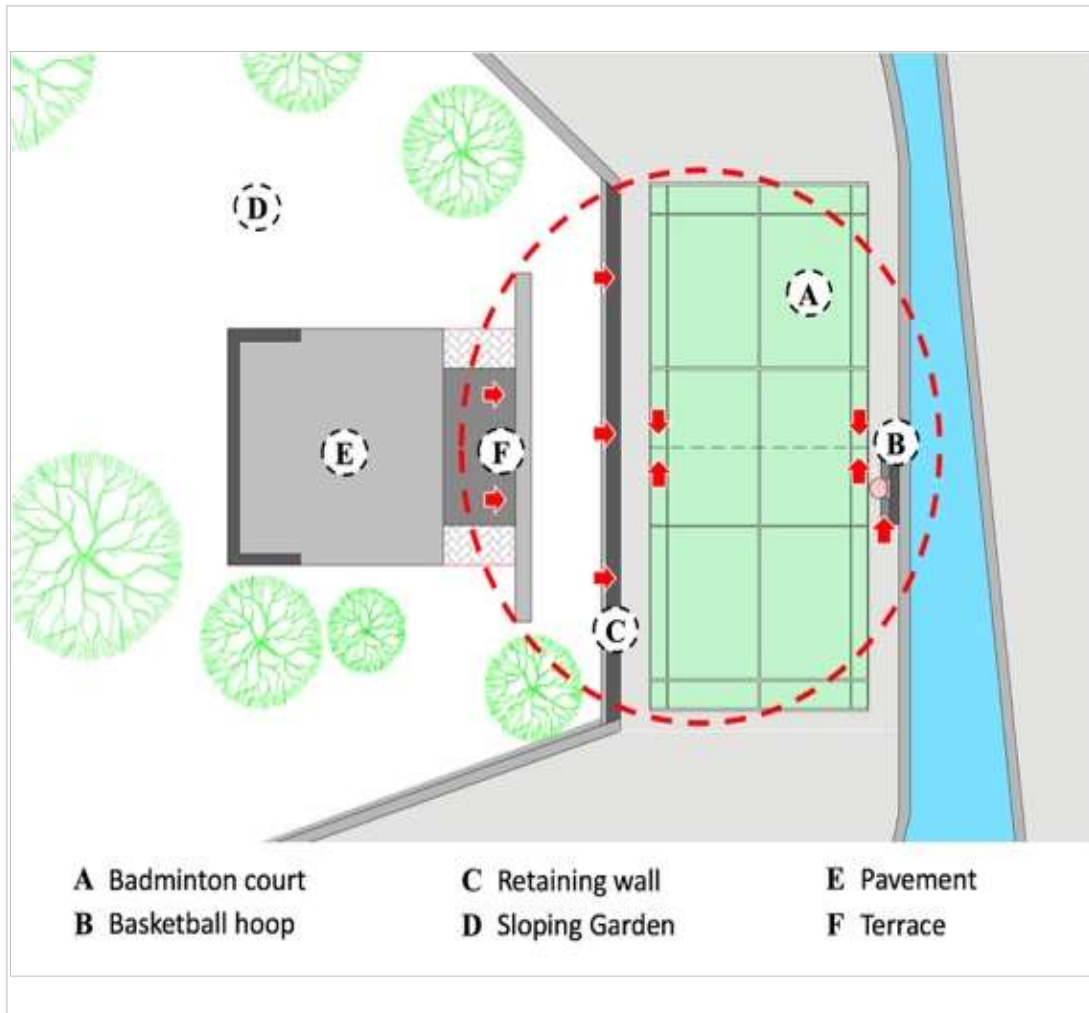


Figure 6. The interaction of the children forms a sphere on the badminton court

Everyday life: responsibility

Responsibility is defined as a personality trait reflected in the awareness and emotional experience of the need to do meaningful work for everyone, as well as the willingness to demonstrate responsible behavior (Dementiy and Grogoleva 2016). As a result, all five children are aware of their responsibilities and must carry them out.

Overall, children have several responsibilities in their daily lives, including following school routines and completing school assignments. Other responsibilities include extra tutoring and assisting parents at home. Just as Ab believes he has a responsibility to complete his schoolwork before playing, “*main kalo tugas udah kelar lah, jam 1 an, jam 2 kelar*” (“play if the assignment is over, it’s 1 o’clock, 2 o’clock”), as well as completing other responsibilities, “*Kalo hari*

biasa kan aku les ngaji, berarti main jam 5 lewat atau jam 5 kurang” (“If I’m tutoring the Koran on a normal day, that means playing at 5 o’clock late or less than 5 o’clock”). It is the same with Ab, both An, Ct, Dt and Ay before playing in the afternoon finish their school assignments first. School for them lasts from morning until noon and is supplemented by other tasks that are part of what they must do. Therefore, the afternoon free time is best employed to interact by chatting, playing badminton, or playing online games together.

Everyday life: favorite activity

Small groups of children have the same interests, encompassing playing online games, particularly Mobile Legends and playing badminton. As stated by An, “*aku sih main gamenya cuma mobile legend doang sih*” (“I only

play the mobile legend game anyway"). However, apart from playing badminton, An also likes other physical activities as he expressed, "*aku lebih pingin berkuda; suka petualangan gitu.*" ("I prefer horse riding; like adventure like that. "). Meanwhile Ct besides playing badminton also likes to play bicycle. Apart from playing badminton and soccer, Ab also enjoys playing

online games, as he said, "*sukanya mobile legend...*" ("I like mobile legends..."). Whereas, Ay prefers playing mobile legends, playing badminton and watching movies, as he expressed, "*aku suka nonton drama Korea...*" ("I like watching Korean dramas..."). Dt's favorite activity is playing sports such as playing badminton and also likes online games.



Figure 7. Formation of children's interaction space because of the activities they like

Based on the explanation above, neighborhood children possess the same preferences, which are playing together online games and playing badminton. This is one of the reasons why the children in this small group prefer the interaction space around the badminton court. Moreover, this same preference causes children to play badminton together in excess of the amount that should be seen in [figure 7](#).

Everyday life: Gathering activities

Almost every day, the children in the neighborhood participate in activities together. Gathering activities are designed to fill the time left over after completing daily responsibilities. During gatherings, people discuss online games and YouTube. Meanwhile, gathering activities include chatting, playing badminton, and playing online games together, as stated by Ct "*ke taman*

miring pingin main badminton, habis itu ngobrol sama temen, habis itu kan rame jadi bisa main bareng" ("go to the tilted garden wanting to play badminton, after that talk with friends, after that it's crowded so we can play together"). Thus, children require an interaction space that allows them to chat, play modern online games, and engage in physical activity. Similarly, traditional games that children play together require open spaces, roads, and play areas that can accommodate their wants and needs ([Tantarto and Hertoery 2020](#)).

The results of the interviews also illustrate that when children play indoors, they are frequently bored. Thus, outside of the home, free time is more frequently used to gather, interact, and play with their peers. As Ab said, "*main cuma buat refreshing, karna kan sekolahku kayak gugur bunga, mati satu tumbuh seribu, tugas kelar satu*

ada lagi disuruh" ("playing is just for refreshing, because my school is like a flower fall, one death grows a thousand, one task is completed and one more is ordered"), and also An, who frequently feels bored when only watching television at home, "*karena nonton sejam gitu kan, jadi udah kayak pingin main gitu*" ("because watching for an hour right, so it's like wanting to play like that"). Likewise, with Ay, "*Cuma kalo sore ga usah ngajak atau kita sama sama bosan pasti juga keluar kan*" ("Only in the afternoon you don't have to invite us or we're both bored, we'll definitely come out right"). Therefore, without planning, the children frequently gather around the badminton court.

Freedom: Consuming time

Freedom is a person's ability to do everything and make decisions without interference from other people, the limits of norms and rules, or it can be the other way around, which is the ability to do everything but with certain limitations (Berlin 1969). Every member of the small group of children formed at a specific time, that is in the afternoon, feels the freedom to consume time. This freedom is formed as a result of the previous responsibilities they must fulfill, as well as the

subsequent responsibilities they must fulfill. It was as stated by Ab, "*main kalo tugas udah kelarah*" ("play when the task is finished"), and also expressed by An, "*biasanya sih (main) kalo sore sampe maghrib trus nanti pada bubar semua trus pulang*" ("usually (play) in the afternoon until maghrib then later everyone disbands and then go home"), and expressed by Dt, "*memang udah biasa kesitu, iya rutin tiap sore habis ashar*" ("it's already common to go there, yes routinely every evening after ashar").

Some children feel a lack of time to interact, as revealed by Ab, "*karena aku senin sampai jumat kan ya gitulah mainnya jam 5 ga seru, kadang-kadang jam 5.30 aku main 30 menit doang*" ("because I'm Monday to Friday, right? That's why playing at 5 is not fun, sometimes at 5.30 I just play 30 minutes"). It allows them to make use of the time for activities they really enjoy. Likewise, Ay has limitations in watching her favorite films, as she expressed, "*aku suka nonton drama Korea...ada batasannya sama mamah*" ("I like watching Korean dramas...there are limits with mom"). Hence, the freedom to spend time outside the home is administered to interact with peers around the badminton court, as shown in figure 8.

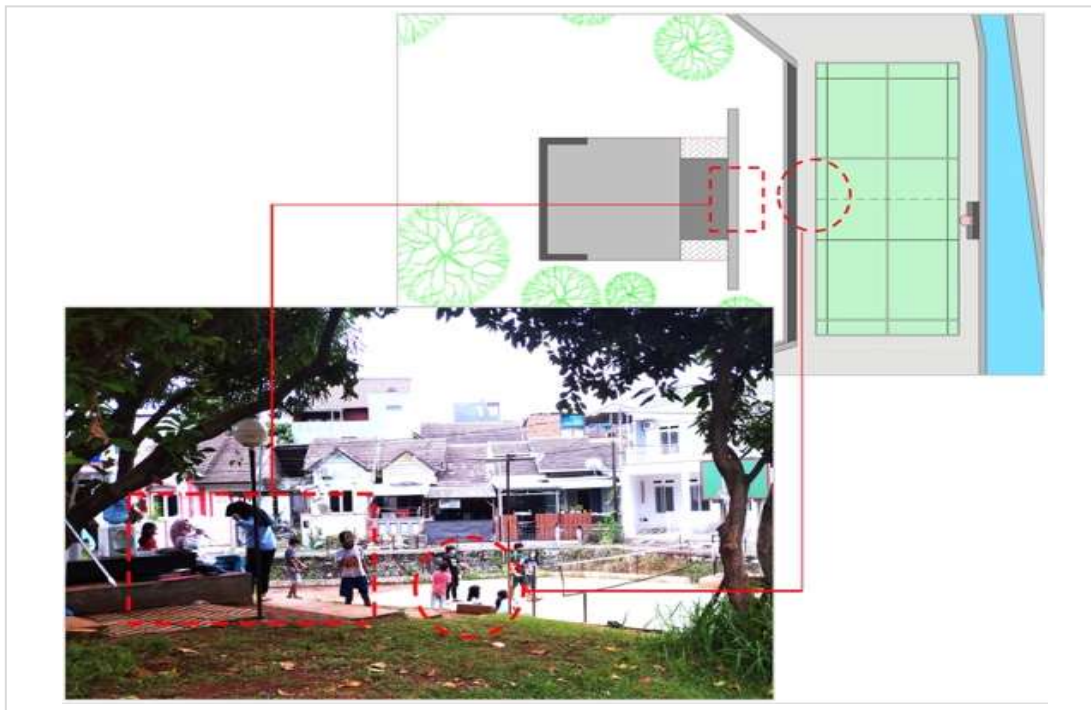


Figure 8. Formation of an interaction space between the badminton court and the sloping park due to the short playing time

Freedom: Consuming space

Space for self-freedom for small group members of children is when they can consume space to interact with friends while doing activities they like. The freedom to consume space is the reason why children are frequently present around the badminton court to chat, play badminton and play online games together. Around the badminton court, children can freely choose the position they like. Physically, in several positions, it looks uncomfortable and safe because they are tremendously close to playing badminton. Hence, it can interfere with the movement of players or children who are watching and can potentially be hit by a ball or racket. However, children still feel comfortable and safe with their version.

The freedom to consume space is also felt by the children even though they have to take turns playing badminton. They spend their time waiting for their turn to play chatting, watching, and playing online games together. Late childhood social development demonstrates an expansion of relationships, the formation of new bonds with peers, and the attainment of social maturity (Ahyani and Astuti 2018). Therefore, a sense of acceptance to share space illustrates that children have social maturity, as stated by Ct, “*setiap datang tunggu dulu kalo ada yang main, kalo ga ada yang main baru main*” (“every time you come, wait if someone is playing, if no one is playing, then play”). It also causes children to be constantly present around the badminton court because they feel free in determining the position of the room, doing the activities they enjoy, and sharing space.

Table 1. The background is the formation of an interaction space that is liked by children

Children	Expressions	Emotions	Reason Factors
Ab	"Play when the assignment is finished, it's 1 o'clock, it's 2 o'clock"...Playing is just for refreshing, because my school is like a flower fall, one death grows by a thousand, when one task is finished, there are others who are ordered"	Have a sense of responsibility	Responsibility
		Will to play	Gathering activity
		Feel free to play if the task is completed	Freedom consumes time
		Feeling burdened by the task	Freedom consumes space

Children	Expressions	Emotions	Reason Factors
An	"Usually (play) in the afternoon until maghrib then later everyone disbands then go home"	Know the playing time limit	Freedom consumes time
		Feel in charge of time	Responsibility
Ct	"Go to the slanted garden wanting to play badminton, after that talk with friends, after that it's crowded so we can play together"	Want to play badminton	Favorite activity
		Want to interact with friends	Gathering activity
		Make the most of your time	Freedom consumes time
Dt	"If you don't have to invite us in the afternoon or we'll both, be bored, we'll definitely come out right"	Desire to meet friends	Gathering activity
		Like to feel bored with activities at home	Favorite activity
		Feel free to go outside when free time comes	Freedom consumes space and time
Ay	"I like watching Korean dramas... there are limits with mom"	Enjoy watching movies (drama)	Favorite activity
		Given restrictions on watching movies so they choose other activities outside the home	Freedom consumes space and time

Conclusion

The findings revealed that the interaction spaces most frequently used by neighborhood children are those located around the badminton court and along the sloping park edge. The children preferred positions in the interaction room on the sloping garden terrace, the retaining wall of the sloping garden, the space under the basketball hoop, and the space under the badminton hoop. The preferred position in the interaction room demonstrates that the park is only a background because the children's eyes are focused on the

badminton court when interacting. As a result, the children's positions in the interaction space appear to form a sphere, with the badminton court as the center point. The children's neighborhood interaction space is formed against a background of everyday life and freedom. Everyday life includes responsibilities, favorite activities and gathering activities, while freedom incorporates freedom to consume space and time.

Formation of interaction spaces and preferred positions in accordance with the children's wishes, but potentially dangerous, particularly in the area around the badminton court, whether sitting in a very close position or playing badminton together in excess of what should be. Therefore, the preferred position in the interaction space and the factors that contribute to the formation of the children's neighborhood interaction space can be used as a starting point for designing a comfortable and safe interaction space based on the children's thought and desires.

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Author(s) contribution

Erza Rahma Hajaty contributed to the research concepts preparation, methodologies, investigations, data analysis, visualization, articles drafting and revisions.

Antony Sihombing contribute to the research concepts preparation and literature reviews, data analysis, of article drafts preparation and validation.

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