Children’s perception and behaviour in using social space of formal and organic/kampung settlement (Case study: Blimbing District in Malang City)

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Abstract. Space is a right for everyone. Not only adults, children also have the same opportunities in using space that created in residential or other social environments. Unfortunately, the use of space is dominated by adult needs such as vehicle circulation, trading activity, interaction among adolescents, and other activities that marginalize the space for children. The purpose of this study is looking the specific use of spaces in the neighbourhood of settlements (formal and organic/kampong) by children based on their social activities with others. The analytical methods using two tools, behaviour and mental maps that produce a decision related to the space between children in the neighbourhood of formal and organic settlements. The differences are caused by the characteristics of the child's family environment, the meaning of the environment that they know, and the adaptation of the environment where they are doing their social activities.

Keyword: space, children, behaviour

1. Introduction

The children as one of the residents in the settlement becomes very concerned. According to Hurlock (1972) childhood is a very important period in the life cycle of human. Hurlock categorizes children's ages in the range 0-13 years for women and 0-14 years for men. This childhood is still divided again in several stages, where each of stages has a specific target in achieving maximum development. Currently, many urban issues have impacts on children. One of them is a rate of population growth that is very influential on the use of existing space, one of which is a space room for children in settlement that are no longer available properly for daily activities, not only in formal settlements, but also in the organic settlements or usually known as urban kampung. Urban kampung settlements is a term for people's settlements in the form of solid housing pockets in every big cities in Indonesia [1], with characteristics of building density and high population density. While the formal settlement is a settlement which is managed by private parties in this case is the developer. Environment in formal settlements are usually located in residential areas that have been arranged neatly and equipped with facilities that are fairly complete.

Increasing the density of buildings used for infrastructures forces children to adapt with these conditions and as possible to perform their activities just like any other child. Therefore, need for
adequate space to accommodate activities undertaken by the children like a public space. Based on its scoping (Carmona, et al: 2003, p.111), public spaces can be divided into several typologies including:

1. External public space. This type are usually shaped outside space that can be accessed by everyone (public) such as parks, squares, pedestrian paths, and etc.
2. Internal public space. This type are public facilities that are government-run and accessible to citizens freely without any restrictions, such as post offices, police stations, hospitals and other citizen service centers.
3. External and internal "quasi" public space. This type of public facilities are usually managed by the private sector and there are limitations or rules that must be obeyed by citizens, such as malls, discos, restaurants and etc.

Based on the function in general can be divided into several typologies (Carmona, et al: 2008, p.62), among:

a. Positive space. This space is a public space that can be utilized for activities that are positive and usually managed by the government. The shape of this space include natural / semi-natural space, public space and public open space.
b. Negative space. This space is a public space that can not be utilized for public activities optimally because it has a function that is not in accordance with the comfort and safety of social activities and conditions that are not managed properly. The shape of this space include space movements, service spaces and abandoned spaces due to poor planning process.
c. Ambiguous space. This space is used for transitional activities of the main activities of residents who usually shaped like a lounge in shops, cafes, houses of worship, recreation room, and etc.
d. Private space. This space is a privately owned space by residents who usually form private open space, home page and space within the building.

The use of existing space is not necessarily able to provide comfort for human inside it, including children who are sensitive with the condition of their surrounding environment, therefore need for a study to find out how the perception of children against the use of space in their settlements to make a direction for the settlement, so it will be more friendly to children in the future. The study conducted using behavior mapping and mental mapping techniques. Behavior setting according to Bechtel (1987) is the relationship between behavior and space. While Haryadi and Setiawan (1995) refers to Rapoport (1977), explaining that behavior setting is the relationship between human activity with a particular place where the activity takes place, the two techniques can illustrate how the movement of children in using space in the settlement.

2. Research Methods
The method of analysis used in this research is behavior mapping and mental mapping.

2.1. Behaviour Map
In the form of behavior maps, two types of approaches are place centered mapping and person centered mapping. The basic considerations of conducting a behavior map survey are:

- Choose the right time, weekday and weekend
- Location determination
- Observe movement and activity
- Sketching
1. Place-centered Mapping

![Figure 1. Illustration Behavior Map for Place-centered](image1.png)

2. Person-centered Mapping

![Figure 2. Illustration Behavior Map for Person-centered](image2.png)

2.2. Mental Mapping

The mental mapping analysis used in this study for interview techniques on several samples which in this case were children living in a settlement. Interviews were conducted for an information on what matters to be reminders when the children were on the road in the settlement.

This research use sampling in determining location and respondent. The location chosen there are 2 which are formal settlements, and organic settlement as usually we know urban kampung. The selected respondents were 6-12 years old. Piaget in Bechtel (1987) explains that perception and cognition of space vary according to age. The development of space cognition by age is divided into 4 main periods: (1) sensorimotor period (infant, 0-2 years); (2) preoperational period (toddlers, 2-6 years); (3) concrete operational period (school age or middle childhood, 6-12 years); And (4) formal operational period (adolescence and adulthood, 13 years and above).

Variables that use for this research are:

| Research Variable | Source | Output |
|-------------------|--------|--------|
| Children Characteristic | Bakti Setiawan (2006) | Children perception in using public space settlement. |
| - Age | | |
| - Education | | |
| - Kind of Gender | | |
| Social Activity | | |
| - Kind of Activity | | |
| - Activity Frequency | | |
| - Space for activity | | |
| - The number of children who have a play | | |
| Variabel            | Sub variabel                                                                 | Source       | Output |
|---------------------|------------------------------------------------------------------------------|--------------|--------|
| Space Perception    | • Space function based on children perception                               |              |        |
|                     | • Opini about space quality                                                 |              |        |
|                     | • Opini about ideal space                                                   |              |        |
| Activity Space      | • Space Location                                                             |              |        |
|                     | • Activity                                                                   |              |        |

### 3. Result and Discussion

#### 3.1 Children Characteristics

Based on survey results we know that the children who lives in urban kampong have differences characteristic with the children who lives in formal settlement.

**Table 2. Comparison of Child Characteristics**

| No | Criteria     | Location of dwelling house                                           |
|----|--------------|---------------------------------------------------------------------|
|    |              | Urban Kampong                                                        |
|    |              | Formal Settlement                                                    |
| 1  | Age          | The survey results show that the age of children who dominate play together at social area are children with 6-10 years. |
|    |              | The results of the survey in the formal settlement shows that the age of children who do a lot of activity are 7-9 years. |
| 2  | Education    | They are children who are not yet available going to school choose to play with their friends in the morning. But in the afternoon, the children who dominate playing and using public space are student after school. |
|    |              | The children who dominate playing and using public space are students in elementary school. |
| 3  | Kind of gender | The survey results show that the sex that dominate play in urban settlement are boys. |
|    |              | Contrast with urban kampong, the formal settlements indicate that the boys and the girls have the same percentage in doing activities at public spaces. |

#### 3.2 Social Activities

Various activities which is played by the children in the settlement such as sports, games, or other physical activity. Some of them are:

1) Playing football
2) Riding bicycle
3) Running
4) Fishing
5) Flying kite

Figure 3 shown that the type of child activities in urban kampong is cycling as much as 50% from all the respondents. It seen also that the children have the tendency to play a traditional games or do an exercise in groups which consists of 4-7 child. They do not use special public spaces like parks, but they make use of the circulation space like a kampong road to play.
3.3 Space Perceptions
The perception of children's space in urban kampong is a space that children remember in their daily activities while playing with friends outside. The spaces include the street, the field (empty land), the schoolyard near the house. They feel they can do anything in various corners of the kampong without needing to have a special space like the park and without fear of the security of the space they are using. Specifically, the space that is often used by the children to do their activities is the road roads that are access to vehicles and even railroad tracks.
While in formal settlements, the spaces that are remembered by the children include the residential parks and street because they also uses that places for playing together. In different, their playground – space location is very safe because it is still under adult supervision and the path is much quit.

3.5 Examples of Behavior and Mental Map: Applied to Public Space of Settlement
Based on mental map results conducted in the Blimbing District, Malang City, a play-space commonly visited by the children in urban kampong or organic settlement is a empty land, on the road, and around railroad tracks. But for the children in formal settlement, the children choose to play at the park and on the road in front of their house.

After knowing the child's play-space, the behavior map is made to see the pattern of movement by the activities of the children in that location. Table 3 showing the pattern of child behavior during play.

**Figure 5.** Diagrams of Children’s Character Shaped by The Urban Kampong

**Figure 6.** Diagrams of Children’s Character Shaped by The Formal Settlement
in the social space of urban kampong and formal settlement with a case study in Blimbing District, Malang City.

Table 3. Behavior Map of Children’s Activities

| Activities Space | Area                              | Urban Kampong/ Organic Settlements | Formal Settlements |
|------------------|-----------------------------------|------------------------------------|--------------------|
| Park             | Types of play activities conducted by children is an active activity such as playing in groups by utilizing game tools that have been available in the park. |
| Field or empty land | Children's activities are diverse. These activities are active activities conducted in groups and individuals. Activities performed in groups like playing soccer. Individual activities such as flying a kite. |
| Road             | Children's activities in this space are playing soccer. They choose to play football on the road because their home away from the field or other play-space. | Types of child activities performed in street spaces in formal settlements are activated activities conducted individually or in small groups such as cycling and playing scooter. |
4. Conclusion

Children's activities in formal residential areas are more diverse and modern compared to urban kampong or organic settlements. Because in the formal settlement has provided a playground for children in the form of playgrounds that have been facilitated to play.

Children's play-space in urban kampong only use negative space near their homes because there is no special playroom facilities such as playground. While in formal settlements, children have utilized the playground that has been provided.

5. References

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