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Procedia - Social and Behavioral Sciences 201 (2015) 19 – 29

Procedia
Social and Behavioral Sciences

Asian Conference on Environment-Behaviour Studies, AcE-Bs2015, 20-22 February 2015,
Tehran, Iran

Identification of Child-Friendly Environments in Poor Neighborhoods

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Abstract

40 Children 6-12 years of age from a poor neighborhood were asked to draw their favorite play environments and were interviewed individually afterward. The drawings were analyzed by Child Psychologists. Then field studies were conducted in “Farahzad” neighborhood in Tehran as a case study to explore the places with higher attraction for children play. The results showed that children preferred more challenging places, flexible spaces, locations with the chance of finding new friends. They preferred natural elements in their play settings. Alleys, impasses, parks, playgrounds, and surfaces with Gentle slope were among their favorite places.

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Peer-review under responsibility of AMER (Association of Malaysian Environment-Behaviour Researchers) and cE-Bs (Centre for Environment-Behaviour Studies, Faculty of Architecture, Planning & Surveying, Universiti Teknologi MARA, Malaysia).

Keywords: Children; environmental preferences; poor neighborhood; play environment

1. Introduction

Technology has affected all aspects of life today, and children are not excluded. Activities in the modern era are usually based on technology and are distancing more and more from nature (Pergams & Zaradic, 2008). Modern society is moving away from nature-based recreation to activities mainly based on technology. Nowadays children’s play is being restricted to their rooms or even computers, tablets, cell phones, video games, and screen time. They

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have not used outdoor spaces like before. Being away from nature could cause many and psychological and physical problems like obesity that is one of the main physical problems in children (Ozdemir & Yilmaz, 2008). Hence providing outdoor and indoor places with higher quality could lead in encouraging them to try other types of play (Evans, 2004 cited by Castonguay & Jutras, 2009). On the other hand, children in an impoverished neighborhood use outdoor spaces and nature more in comparison to their wealthier counterparts because they usually do not have access to these technologies and their ilk. Also, their parents ask them to play outside; this might be due to the little area and high population of their houses (Dewi, 2012). They usually spend their free time on the alleys and streets not designed for children play. This fact will cause more problems such as lack of security, preventing the growth and development of children's talents and increasing crime rates. In these children's life, the outdoor places play the integral role in their growth and development (Abdul Aziz & Ahmad, 2012). There is not much access to qualified places for them because of deterioration, degradation or disappearing of the former places to play in deprived neighborhoods (Gaster, 1991 cited by Castonguay & Jutras, 2009; Wridt, 2004). The urban spaces in which children are involved are not aligned with the dimensions of child development. Unfortunately, in many cases, neighborhoods especially in metropolises, lack the green space for children play. Therefore, this study looked for a solution to make the children play areas more affording and more compatible with children needs and desires. For this purpose in the first level, it needs to be cognizant of children preferences about their play spaces.

Child psychologists' findings suggest that human intellectual development is not a coincidence, but also is to coordinate with other aspects of human development. Environmental interaction in early childhood is needed for growth of physical and cognitive abilities. Designing spaces for children in residential areas and neighborhoods that fit the physical and psychological needs of children must be considered. To have a neighborhood with high quality to meet the child's needs, it is important to find their perceiving of appropriate places especially outdoor ones (Castonguay & Jutras, 2009). This study aims to recognize the physical space elements in poor neighborhoods as important factors in creating child-friendly environments. Recognition of physical factors affecting the psyche of children, leading to their presence in local areas and neighborhoods, has been the objective of this study. The statistical population is the children of poor families attending Supporting institutions and charities. Childhood has three smaller periods: early childhood (from birth to about two years), middle childhood (from two years to six years) and the final childhood (from six years to eleven and twelve years). 20 girls and 20 boys at the age of 6-12 (middle childhood), were selected for this study. Because Chawla's study revealed that the main affected children are at the age of 6 to 12 when they are most interested in their neighborhood (Chawla, 1992 cited by Castonguay & Jutras, 2009). Then they were asked to draw the places they like the most at homes, schools, parks and even in alleys. Then they were asked to explain it to the research group. After collecting the drawings and explanation of children, they are sent to experts, and their ideas about the paintings were received.

According to the expert analysis, classification, and interpretation, environmental factors were identified, and the design guidelines were proposed to alleviate the problems. Then the field study in "Farahzad" neighborhood was done. The research group went to the area and tried to find the places with higher potential for children play. The findings showed that children preferred the more challenging places, flexible spaces and changeable by the children, locations with the chance of finding new friends and they preferred natural elements in their play settings.

2. Literature review

2.1. Children preferences of place

Children choose their favorite places by their activities affordance and not by their aesthetic design (said, 2005. Cited by Othman & said, 2012). Children value the functional properties of the place where they play (Othman and said, 2012). It is somehow opposite to what people usually think about the children. Children like the objects or places that they feel belonging to, also in some cases, they show interest in their friends' belongings. Besides, children show a tendency to choose where they had a good memory of as their favorite places (Sahimi and said, 2011). As mentioned (Zhang and Li, 2010) safety, amenity, accessibility, sociability, and attractiveness are fundamental characteristics of an environment that should be considered in designing child environment. Hence, the attractiveness is not just the appearance of an environment. On the subject of places that children like, there are different studies with somehow similar results. According to former studies, before 2000's natural setting were

among the most valued places where children preferred (Chawla, 1992). A more recent study presented by Elsey shows a diminution in that along with the degradation of these areas (Elsley, 2004). But still most of the studies conducted in the last two decades found the playgrounds and sport setting among the most likable spaces (Min & Lee, 2006) (Korpela et al., 2002; Min & Lee, 2006; Tandy, 1999 cited by Castonguay and Jutras, 2009). The cul-de-sacs are another type of places that have affordances for children plays. It is said that cul-de-sacs that have a slight slope and different kinds of plants and flowers that are more preferred by children (Othman and said, 2012). When it comes to particular types of place, Children choose smooth surfaces for plays like cycling, running, hopscotch, playing football and, etc. For coasting down and skateboarding, they prefer areas with a soft slope. They also like shelters for playing hide and seek (Kytta, 2002).

But what are the unique characteristics that make a placed child-friendly? Children prefer the places where they can do additional activities besides the available play setting (Korpela et al., 2002 cited by Castonguay & Jutras, 2009; Min & Lee, 2006). Another significant factor for children is the possibility to find new friends (Korpela et al., 2002 cited by Castonguay & Jutras, 2009; Min & Lee, 2006). Moore (1986) claimed that the Diversity of environmental resources and access to play and exploration are two criteria for child-friendly areas (Moore, 1986). Another study conducted by Aziz and Said in 2011 shows that children found the yards and the other places around their home as places with the most positive features for playing (Aziz & Said, 2011). Also, children prefer locations in neighborhoods where they have more mobility licenses (kytta, 2004). Maybe it is the reason most of the children prefer the places near their homes (Min & Lee, 2006). Besides the outdoor environment, Indoor environments also play a principal role in child plays. Space definition, privacy, physical aspects, and furniture arrangement in playrooms are among the factors that affect child's behaviors. For example in spatially defined areas, children play more cooperative games (Abbas and Othman, 2010). It is also related to wall color and ceiling height (Read, et al. (1999), cited by Abbas and Othman, 2010).

2.2. Preferred places in a poor neighborhood

The use of the urban environment when it comes to poor children is somehow different from other wealthier children. The poor community environment has lower quality, less safety and fewer natural elements (Evans, 2004). The lower social class cause more privation of designed play spaces at home for children (Newson & Newson, 1976). Also, the children of poor families do not participate in the organized play as much as children in advantaged areas and because of the small area of their homes their parents usually prefer their children to play outdoors. Thus, the more unfortunate children prefer to play out of their homes (Valentine & McKendrick, 1997 cited by Castonguay & Jutras, 2009) (Elsley, 2004). In Castonguay & Jutras study, based on the photos taken by children in a poor neighborhood in Montreal, children preferred the parks and playgrounds as their first choice. After that the retail places- like outdoor spaces of a school or other communities -were among their choices. Some of them preferred the places like balconies or yards of their homes (Castonguay & Jutras, 2009). Only two recent studies claimed that streets and alleys are among children preferred sites. It is exactly inverse in other recent studies (Chawla & Malone, 2003; O'Brien, 2003; Pain, 2006 cited by Castonguay & Jutras, 2009). The common feature of those two studies is that they both were conducted in deprived neighborhoods (Castonguay & Jutras, 2009) (Elsley, 2004). It could be explained by two reasons: first, Children from poor families prefer to play in environments close to their homes -like home yards and near a relative's home (Fadzila Aziz and Said, 2011). And for poor children, streets and alleys could be the only choice near their homes. Second, Castonguay and Jutras have mentioned that the liked and disliked features usually coexist in the same place in a poor neighborhood (Castonguay & Jutras, 2009). It could partially explain the conflict between the mentioned studies.

This study with a focus on poor neighborhoods has asked the children to draw their preferred places. Then it has tried to find the features that make a favorable place. After that a field study has been done in Farahzad- a poor neighborhood in Tehran- to find the places with high potential for children's plays.

2.3. Play

There are three kinds of plays, "functional, constructive and symbolic" (Othman and said, 2012). In (Castonguay and Jutras, 2009) study, they classified plays into five types of play:

- Play with rules
- Informal motor and creative play
- play with fixed equipment
- unspecified play
- Play with locomotion equipment

In middle childhood, children prefer Formal play and sports settings (Korpela et al., 2002 cited by Castonguay & Jutras, 2009; Min & Lee, 2006). According to Castonguay & Jutras games, with rules were among the activities children do the most in their favorite places. According to Oncu and Unluer, children's creativity has arisen just when they have plenty of time. Also, they cannot play very creative unless they play with "unstructured materials" (Oncu and Unluer, 2010).

2.4. Landscape

On the subject of child's preferences, the places where there are landscape elements manipulated by human- like "Pruning trees in the shape of animals" or a lake with fountains- are more likable than the untouched nature (Mahidin and Maulan, 2012). But what are the effects of nature on child plays? The more vegetation found in children play spaces, the more creative their play is (Faber Taylor, Wiley, Kuo, & Sullivan, 1998 cited by Castonguay & Jutras, 2009). Also, when there are nature nearby children, they can better handle their stresses (Corraliza et al., 2011). In a study carried out by Collado and Corraliza, a better self-discipline (Taylor et al., 2002 cited by Castonguay & Jutras, 2009). According to Flouri et al., in poor neighborhoods, children are more affected by green space. When there is more vegetation around them, they had fewer emotional problems (Flouri et al., 2014). Landscape if designed correctly and in accordance with the children preferences could play an integral part.

2.5. Nuances in sex and age in children preferences

There is no distinctive difference between boys and girls. But boys found more affordance in the places of the neighborhood (kytta, 2002). Also, it is seen that boys have more freedom to play outdoors, and girls usually play in home yards (Aziz and Said, 2011). In another study conducted by Sobkin and Skobeltsina, it is derived that girls often prefer the board games. So girls usually choose their home for playing but boys are more interested in video games and construction plays. However, in general, the interest for outdoor play is reduced in both genders (Sobkin and Skobeltsina, 2014). It is worth mentioning that the boys' behavior are more affected by games, and they often show more hostile reactions while playing. This fact could have a significant impact on the formation of their future actions (Derri et al., 2014).

According to many studies, there is no remarkable variation between children of different ages during middle childhood (Korpela et al., 2002, Malinowski & Thurber, 1996, Schiavo, 1988 cited by Castonguay & Jutras, 2009). However, there are also studies that found some differences (Min & Lee, 2006). To illustrate, according to (Castonguay & Jutras, 2009) older children (10-12) prefer parks and playgrounds, but younger ones prefer places near their home or an acquaintance's home. The reason could be the proximity or familiarity (Harden, 2000 and Morrow, 2001 cited by Castonguay and Jutras, 2009). Hart and Moore suggested that place preferences changed during childhood. In the first phase, it is a "social/interpersonal orientation" and in the second phase it develops into a "land use orientation" and in the third phase, when they are adolescences, it shifts to an "aesthetic/cognitive orientation" (Hart, 1979; Hart & Moore, 1973). It could be another justification for the interest of younger children to places around an acquaintance's home.

3. Methods

3.1. Site study

This study was conducted in Farahzad neighborhood in Tehran, Iran. Farahzad is a region in western north of Tehran. Because of the increase rate of migration to Tehran in the past decades most of the residents of this area are people from different ethnics and nationalities. The population of Farahzad is about 30000 a high percentage of population in this neighborhood are children under ten years old (about 43.3% percent).

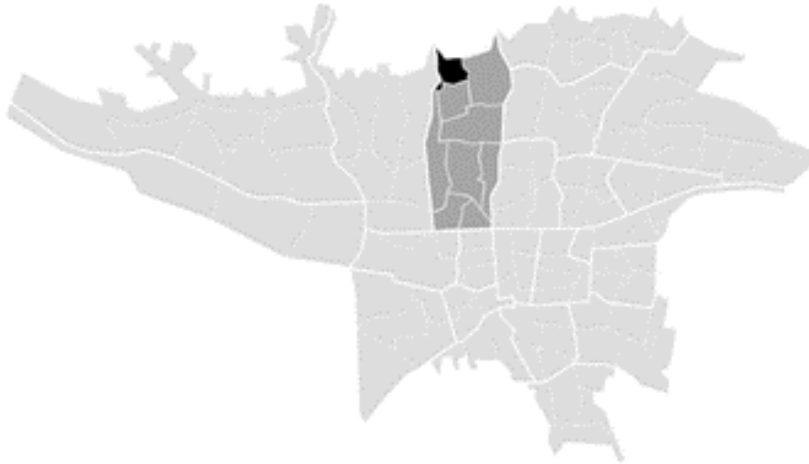


Fig. 1. Farahzad map.

Source: www.tehran.ir, (available on 6/23/2015)

3.2. Subjects

This study focused on children in these neighborhoods aged between 6 and 12-years old. By cluster sampling a charitable institute named “science house” were selected randomly from four existing primary schools and charitable institutes in the neighborhood. Then forty children were selected randomly among children attending Farahzad “science house”.

3.3. Method

Painting and photography are among the most common ways to make children participate in participatory activities. In this case study since the poor neighborhood may not include the ideal characteristic of children preferred places, the painting would be more efficient than taking photos of their poor environment. Children were asked to draw whatever they like about their play environment and whatever or whoever they want to have with themselves while playing there. Individual interviews were also done by researchers to complete the data. In the next step, by using Delphi method the paintings were sent to five child psychologists, and their ideas about the drawings were received. The subjects of the study are selected from three groups of psychologists: Clinical, counseling, and school psychologists, Industrial/organizational and community psychologists and academic psychologists. Then five persons were selected randomly from the first and third groups. Besides, a field study was conducted to find the places in neighborhoods that have the potential for children playing. The results are shown in Fig. 2.



Fig. 2. Map of the area, presenting the children play activities in the neighborhood.

4. Results and discussion

Prior to sending the paintings and interviews texts to psychologists to be analyzed, the elements found in the paintings along with the individual interviews were categorized into six subcategories (see Table 1). The priority in child-friendly spaces to play was the playgrounds and in the paintings, it could be considered that these places and the natural elements like trees, flowers, and their ilk are inseparable. The trees and flowers were found in all paintings. In some cases, the water is also found. In Farahzad neighborhood, all the alleys have a raceway in the middle. (Fig. 3) Also, a Dragon is found in some paintings; in field research, the park (Jurassic Park) with the similar elements was found. These clues showed that children like places with which they are familiar. As the second choice, the houses were the most repeated objects in the paintings. When the children were asked about it, they said sentences like “This is my home”, “This is where I like to be”, “It is a dream house” and “It is my friends home”.

Table 1. Subcategories found in paintings and interviews.

Subcategories	Paintings	Frequency	Interviews
Parks & playgrounds	sports field	18	Golpad Park
	playground settings	33	
	flowers and trees	35	
Houses	Yards	13	children home
	exterior of the house	30	acquaintance’s home
Streets and alleys	Cars	5	slop surfaces
			flat surfaces
People	Playmate	39	friends
			family members
Toys and play things	Marbles	2	video game
	Balls	10	playing cards
	Bicycles	3	bricks
	Dolls	3	tires
Animals	Butterfly	5	
	Horse	1	
	Birds	4	
	Fish	3	
Public places	Parking	1	Baharan bridge



Fig. 3. (a) The raceway in the middle of alleys; (b) The river in the paintings represents familiarity with neighborhood.

For children in a poor neighborhood, safety is the most important factor. Hence, children prefer places near their homes or close to a friend's home. In the field, the study carried out in the neighborhood, the alleys and cul-de-sacs in which two or more doors open, were preferred for plays. One of the boys showed an alley in which they usually play football (Fig.4). He said one of their friends home was in that alley. Meanwhile, the children did not like to play under the direct control of their parents, they preferred to play in a safe place. Something very interesting is that without any exception, all children draw at least one playmate. "I like the roof to be high enough that my parents also can be there," one boy said when he was asked about his preferred location. The other children preferred to play with their friends. Even they wrote their friends' names on the paintings. Most of these 40 children had troubled families, one of the psychologists believed that is why they imagined being with them while playing in a perfect condition.



Fig. 4. (a) Children playing football between two houses; (b) "the alley we play soccer near Ahmad house."



Fig. 5. (a) Playing with friends, diversity, nature, playground, playing near home; (b) The dragon similar to the elements of "Jurassic Park" in the neighborhood.

About the physical characteristic of a child-friendly place, the first thing that all the children agreed about was the floor material. They complained about the stiffness of playground floor that injured them while playing. There were few children mostly the girls who preferred to play inside the house and in indoor places. Most of the girls at the age of 6 to 10 prefer to play with their friends and their dolls inside their home or in a friend's home. The girls between 10 and 12 were not so eager to play; they had more responsibility at home. But boys preferred to play outside. They mentioned a bridge called Baharan as a place to play after school and in the evenings. "We always gather there for playing football and volleyball," the 10-year-old boy said. The alleys in Farahzad have stairs. Children did not like the stairs because it restricted their play. But in field research, some children were found playing cards while sitting on stairs. According to the interviews and the factors identified in children's paintings; the space physics should have the least harm to children. As all the participated psychologists believed, the use of lively colors in most of the paintings showed that children preferred their play spaces to be colorful. Even five of these children who were all

girls preferred to paint their play space by themselves. Another point to mention is that except one, all of the paintings represented daylight that was another clue that showed they needed the safety.

According to the opinions and comments of psychologists participating in the study, Child-friendly environment characteristics were shown in Fig. 6. Accessibility was the first factor. Children like to play near their homes or their friends' home. Multiple doors in the paintings indicated this factor. The presence of parents in the paintings and the children statements about the places in neighborhoods where they play indicated that they like to play where there is indirect control of them. As it was mentioned before, safety is critical to poor children but it does not mean that they do not like risks. Many children declared that they liked scary places and exciting plays. One of the children said that he liked hiding places. Diversity is evident in all the paintings. Using different colors for their paintings was one of the signs. Children like to play in groups or at least with a friend. "I do not hesitate to go to a place where I can find a new," a girl said excitedly. Children like the places in where they can socialize. When the children were asked whether they like to design their play room, 52% of the children were enthusiastic about it. With no exception, all of the paintings include natural elements like trees, flowers and also animals. Three girls and a boy said that they liked planting grains. Most of the children claimed that they always play with animals in the neighborhood. In the study carried out in the area, this was proofed.



Fig. 6. Characteristics of child-friendly environments.

5. Conclusion

Many results of this research confirmed the former studies about child-friendly places, but this study extended the results from recent studies about children preferences in poor neighborhoods. Also, most of the previous studies have focused on identifying child-friendly environments. But more efforts should have been done to find out the characteristics of these spaces. This study added significant information in this field. (Castonguay & Jutras, 2009) And (Elsley, 2004) claimed that in poor neighborhoods, streets and alleys are among children preferences. This study concluded that streets and alleys could be favorable for children provided that they are safe and under indirect monitoring of their parents. Children prefer the flat alleys or the ones with a slow slope, but they do not like the stepped alleys. (Fig.7). A large flexible outdoor space that is located between houses in the neighborhood or has a joint edge with a cultural/educational center can be a place with high potential for designing a child-friendly center. This location must include natural elements to be attracted to children. In a field study carried out in Farahzad, an outdoor public parking was found in which children were dancing and climbing. In each neighborhood according to the physical characteristic of the alleys and streets, some special plays are more prevalent among children as climbing and playing on steps in Farahzad.



Fig. 7. Children playing in alleys.

In designing the play spaces, especially in poor neighborhoods, there is no necessary need to use specific play setting like Swings, slides and so on. Children relying on their imagination, while playing with mere playthings, create a variety of games. This fact will lead to creativity growth. Future studies could concentrate on these elements' features.

Acknowledgements

The authors thank the psychologists participating in this research, the personnel and the children of “Science House” in Farahzad. The first author also appreciates the assistance of Dr. Saeid Noruzian and help of Ms. Elaheh Davoudi and Ms. Azam Madahi-Zadeh.

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