Children’s Affinity towards Outdoor Environment in Urban Medium and High Cost Housing

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ABSTRACT

This study explored children’s affinity towards outdoor environment in medium and high cost housing in an urban area. Frequency of children using the outdoor environment to play, preference of places and their activities were investigated to understand their affinity towards the outdoor environment. Questionnaires and interviews with 70 parents who have children aged between 6-12 years old found that children still have affinity to play in the outdoor environment but the number is higher in high cost housing. Meanwhile, observations about preference of places and activities revealed that children from medium cost housing are more explorative in using the outdoor environment to play. The differences between children using the outdoor environment for both housing will be discussed. The study highlights the importance of providing options of places with rich natural surroundings that offer a variety of opportunities for children to explore. This will inadvertently increase children’s affinity to play outdoors.

children’s psycho-physical development (Castonguay and Jutras, 2010). Although playground affords the children to play in an outdoor environment (Chawla, 1992), Norshikah Daud (2003) found that children deserted their neighbourhood playgrounds after several months of use because they found that the playground area does not offer new opportunities or challenges for play. It has been further emphasized that children require challenging and exciting play environments where they can explore (Striniste and Moore, 1989). This issue is particularly relevant to children in the middle childhood (between 6-12 years old) as children explore the neighbourhood areas extensively at this age (Chawla, 1992).

Previous studies of children using the outdoor environment mostly focus on urban and rural areas but there is yet a comparative study between them. Studies on urban area rarely focused on children of varying socioeconomic status participating in the outdoor environment within their housing area. Furthermore, most studies on children’s participation in the outdoor environment only pay attention to poor neighbourhood with the assumption that outdoor environment plays a vital role for children from poor neighbourhood because they have limited spaces in their own home garden to play (Castonguay and Jutras, 2009). The focus on this specific area of study, consequently neglects the study on children’s participation in the outdoor environment from other neighbourhood areas or economic status.

It has been argued that play in the outdoor environment contributes to children’s cognitive, social and physical development. Children develop their social, communication and problems solving skills while playing and these acquired skills could be used later in life (Hughes, 1995). According to Castonguay and Jutras (2009), playing in an outdoor environment can reduce children’s stress and develop creativity (Munoz, 2009; Castonguay and Jutras, 2009). Children could engage in many activities in various outdoor environments such as the neighbourhoods, parks, playgrounds and natural environment. According to Loukaitou-Sideris (2003), natural elements in a neighbourhood will have positive effects on children’s development even if the area consists of only one tree. Furthermore, playing outdoors in natural surroundings also develops children’s empathy with the natural world and increases their environmental awareness (Vaselinoska, 2010).

It is crucial to protect the outdoor environment for children to play in order to sustain children’s development and for the sustainability of future generation. Therefore, the study
investigated children’s affinity towards the outdoor environment by investigating the frequency of children using the outdoor environment to play, their preferences of places and their activities in the outdoor environment within an urban area for both medium and high cost housing. The aims of this paper are to understand the usage of outdoor environment for children to play, the selection of outdoor places to play and the types of activities that children could engage in. These aspects will be investigated in relations to the outdoor environment in both housing types.

2. Literature Review

2.1 Learning and Playing in an Outdoor Environment with Natural Environment

As stressed earlier, play contributes towards children’s cognitive, social and physical development. An outdoor environment provides various affordances for children to play that can stimulate their senses (Olds, 1989). Previous studies have also shown that playing in an outdoor environment with natural elements develops children’s creativity (Fjürttoft & Sageie, 2000). In addition, playing in an outdoor environment with existing natural elements in neighbourhood areas can reduce children’s stress (Castonguay and Jutras, 2009). These findings support the argument that green areas in an outdoor environment are crucial for children’s health and development.

An outdoor environment lush with natural elements offers a variety of spaces for physical and social activities. Playing in an outdoor environment gives opportunities for children to meet friends (Min and Lee, 2006). Developing relationships with friends is an important factor in the children’s growth and development (McDevitt and Ormrod, 2002). Research in psychology also found that children’s attachment and bonding are stronger in natural compared to man-made environment (Chawla, 1992; Kellert, 2002; Khan; 2002; Korpela, 2001; Ulrich, 1983). These children perceive that nature has endless diversity and beauty, is cyclic and not man-made (Prescott, 1987).

Chawla (1992) asserts that children become more explorative in an environment that they find safe and comfortable. Natural elements in the outdoor setting of neighbourhood parks can also entice them to be active. They find it is exciting and challenging to have optional areas to play instead of depending on just the playground equipment in their neighbourhood park (Chawla, 1992).
1992). Even though a playground has colour and different textures, children find that it does not offer new opportunities or challenges for future play (Norshikah Daud, 2003).

Children need to be given the opportunity to have a childhood environment enriched with trees to enable them to increase their confidence, heighten their self esteem, create memories for their future and increase their environmental awareness. Children’s interaction with nature begins with childhood experiences (Kellert, 2002) and natural elements are the best resources for children to learn and love nature (Coffey, 2001). Most environmental programs for children try to impart knowledge and responsibility before children develop a loving relationship with the nature (Sobels, 1996). Nowadays, children are losing understanding of the natural domains within their own home yard and neighbourhoods, which further disconnects them from the appreciation of the natural world. This will lead to the lack of environmental knowledge and environmental awareness in future. Thus, it is important to nurture children’s environmental awareness in the early stages of their childhood by engaging them with rich natural resources within their surroundings.

2.2 Children’s Interaction with the Outdoor Environment in Urban Neighbourhood

According to Chawla (2002) and Kytta (2003), children prefer to play in outdoor environment compared to indoor environment. Urban children have been found to prefer to play in an outdoor environment and neighbourhood park in comparison to their home yard because of the sizes of the given space. This claim is supported by Mohd. Suhaizan Shamsuddin and Ismail Said (2008) who assert that children tend to play in open spaces that offer bigger areas for them to explore and in spaces that are far from home where natural elements exist. The above statement is also consistent with the finding from a study by Min and Lee (2006). They noted that in Hanson Village, Korea, children in an urban area prefer to play in an outdoor compared to indoor environment. This is in contrast to claim made by Bixler and Floyd (1997), who in their study found that urban children prefer to play in an indoor environment because they like the comfort of being in an air conditioned indoor space.

Frequency of visiting a place every day also affects their preference of any given places. Children like places that they visit every day (Min and Lee, 2006). Children also tend to visit the place that they find safe and comfortable. Furthermore, children appreciate places that are exciting, challenging and offer them the option and opportunity to engage in many activities. They also
appreciate places where they can meet their peers (Korpela et al., 2002; Min and Lee, 2006).

According to Castonguay and Jutras (2009), participation of children in the outdoor environment in housing areas of different socioeconomic status might be different. Bearing in mind that their focus was limited to poor neighbourhood areas only, there is a need for future studies to look at neighbourhood with different economic status. Children from poor neighbourhood areas might spend more time in the outdoor environment because they live in small houses or apartments. Castonguay and Jutras (2009) also state that the outdoor environment plays a vital role for children from poor neighbourhoods compared to advantaged area. To complement findings made by previous studies on various housing and socio economic types, this study will pay particular attention to neighbourhood types; the medium and high cost housing in an urban area.

3. **Methodology**

The neighbourhood chosen for this study are Taman Bertam Indah and Penang Golf Resort as both are located in Bertam, a new township. The site is located in Seberang Perai Utara District and it is situated near the North-South Highway (PLUS). Both housing areas are located close to each other so it can be safely assumed that the findings are not going to be affected by the differences in social and cultural aspects.

![Site Location Map](image)

**Figure 1:** Site Location Map

For the medium cost housing, Taman Bertam Indah has 6 Phases. The site chosen for this study is restricted to Phase 4A & 4B which comprise of 225 units of houses only. The green areas

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identified in the housing include the neighbourhood park and a green belt covering approximately 7,348m².

Penang Golf Resort (PGR), on the other hand, is a high cost housing which consists of 3 phases: PGR 1, PGR 2A and PGR 2B with an overall number of 152 bungalows units. The area allocated for their neighbourhood park or green area within this housing is 990m².

![Figure 2: Site Layout of Taman Bertam Indah and Penang Golf Resort.](image)

The study focused on children aged between 6-12 years old and investigated the frequency of them using the outdoor environment to play, preferences of places to play in the neighbourhood and the activities that they prefer. The green areas in medium cost housing are the neighbourhood parks (playground and play fields) and the green belt. In contrast, the high cost housing has neighbourhood parks (playground and play fields) only.

The research was conducted using interviews, questionnaires and observation. The interviews and questionnaires dealt with the frequency of children using the outdoor environment to play whereas the observation was used to monitor the children’s preferences of places to play and their preferred activities. Parents were the respondents for interviews and questionnaires on frequency of children using the outdoor environment with the assumptions that the parents are observant of their children’s behaviour and activities. According to Prezza et al; (2005), children’s behaviours are influenced by parents’ perceptions. All the data collection from both housing areas took 6 weeks, 4 weeks for interviews and questionnaires and another 2 weeks for observation.
The researcher had to do field interviews to identify which parents have children aged between 6-12 years old. The total sample for both housing is 70 respondents, 40 respondents from the medium cost housing and 30 respondents from the high cost housing respectively. The entire interviews were conducted during a specific time of between 10 am to 12 pm and 4 pm to 7 pm. The reason for this was because most of the parents usually did outdoor activities in their garden or yard during these hours thus making them more accessible to the researcher.

The observation was intended to understand the children’s preferences of places and activities. What are their preferred places to play and what are their preferred activities? Are they different for each of these housing types? The neighbourhood park and areas for example the green belts, streets, playground and play fields were the focus areas for the observations. To avoid possible biases of observation between the differing time and day, an observation schedule was constructed. The observations took place in the evening on weekdays and weekends.

4. Results and Discussions

4.1 Frequency of Children Using the Outdoor Environment to Play

The frequency of children using the outdoor environment to play was divided into 4 categories every day, often (3-4 times a week), seldom (1-2 times a week) and never. As can be seen in Figure 3, most of the children from both neighbourhood areas seldom (1-2 times a week) played in the outdoor environment. The percentage is 45.0% (18 persons) and 46.7% (14 persons) respectively for medium cost housing and the high cost of housing. The second highest percentage is often where the highest percentage is observed from the high cost housing 40.0% (12 persons) and

![Figure 3: Frequency of Children Use the Outdoor Environment to Play.](image-url)
27.5% (11 persons) for the medium cost housing.

The percentage for the categories of everyday and never is highest among respondents in the medium cost housing. For the category of everyday, the percentage is 10.0% (4 people) and 6.7% (2 people) for medium cost and high cost housing respectively. Meanwhile, for never, children who did not play in neighbourhood park is highest in the medium cost housing which constitutes 17.5% (7 persons) and only 6.7% (2 persons) from the high cost housing.

The results suggest that even though most of the children in both housing areas seldom use the neighbourhood park to play, they are still curious and eager to play in the outdoor environment. Based on the interview with the parents from both housing areas, they seldom play in the outdoor environment because they are kept busy by other activities such as tuition classes, and swimming classes. This finding is consistent with a study by Valentine and McKendrick (1997) that explained children nowadays are involved in organized activities which limit their time to explore the outdoor environment to play.

The difference between both housing areas was the number of children who often plays in the outdoor environment. The number of children who often play in the outdoor environment was higher in the high cost housing compared to the children from medium cost housing. This result is in discord with the study by Karsten (2005) that claims children from medium cost housing always play in outdoor environment because they have limited home yard sizes to play in. Other than that, the main difference between both housing areas was the number of the children who never use the neighbourhood parks and outdoor environment for play. It has been observed that more children from the medium cost housing never use the outdoor environment compared to those in high cost housing. Interviews with the parents in both housing areas revealed that parents’ hesitancy level, due to fears about the possibility of crime, is higher in the medium cost housing compared to high cost housing. Based on the findings and interviews, it could be deduced that children whose parents have lower hesitancy about safety often play in the outdoor environment.

The results indicate that most of the children from the urban areas still access the outdoor environment to play. They still have affinity towards the outdoor environment which will give benefits to the development of their health and well-being. The results of the frequency of children using the outdoor environment to play also support the findings by Evan (2004) that the number of
children using the outdoor environment to play is declining and this situation is worse in poor
neighbourhood and medium cost housing compared to high cost housing or advantaged housing
areas.

4.2 Children’s Preference of Places to Play in Outdoor Environment

Observation found that children from medium cost housing were more explorative in using the
outdoor environment to play. They played at neighbourhood parks, streets and green belt areas.
They found these places offer various opportunities for them to explore and socialize with their
friends. Shaded green belt areas become children’s preferred place especially for girls to gather and
meet friends. They feel safe and comfortable in the shaded green belt areas which connected their
home to the neighbourhood parks. This finding is consistent with a study by Korpela et al. (2002)
and Min and Lee (2006) that show children appreciate places that give them the opportunity to
meet friends. The results are also in accord to the studies by Chawla (1992) and Olds (1987) that
explained children are more explorative and comfortable in the environment that they find safe.

The children observed showed a tendency of being mobile, moving from neighbourhood parks
to neighbourhood surroundings. They found that the neighbourhood park do not offer them
challenging and explorative activities. The study also revealed that children liked to gather under
shaded area. Shaded areas offered them a sense of belonging to the place. This finding is parallel
with a study from Chawla (1992) and Korpela (2002) that show children like environment that
have natural elements. Results are also consistent with a study by Castonguay and Jutras (2009)
that most children relate to nature as their favourite places. They are sensitive to the natural
elements in their surroundings, such as trees, water and other natural elements.

![Figure 4: Children meet friends at green belt and reading under shaded area.](image-url)

In contrast to those in medium cost housing, the children from high cost housing only played at
the neighbourhood parks even though the number of children who often utilised the outdoor

*Corresponding author (Nor Diyana Mustapa). Tel: +6012-4559529 E-mail address: deynadina@gmail.com. ©2014. American Transactions on Engineering & Applied Sciences. Volume 3 No.2 ISSN 2229-1652 eISSN 2229-1660 Online Available at http://TuEngr.com/ATEAS/V03/0149.pdf.*
environment to play was higher. The reason was the neighbourhood surroundings do not offer opportunities for children to explore and play. There are a lack of shaded areas and natural elements in this neighbourhood.

**Figure 5:** Children in High Cost Housing use the neighbourhood park to play.

### 4.3 Children’s Activities in the Outdoor Environment

In medium cost housing, children used playground, play field, green belt and streets to play. Their activities included playing football, reading, running, meeting friends, cycling, laying on the field and playing with the playground equipment. Boys especially 11 to 12 years of age preferred to play football. Meanwhile, girls meet friends, read and played with the playground equipment. They also created their own games such as ‘*baling kasut*’. They liked to gather under the shaded area as they find that trees or shaded area give them some sense of belonging. These findings are in accord with a study by Hart (1979) that asserts place of preferences varies according to gender and age of children. Girls tend to play in green areas and close to their home while boys tend to favour rather remote settings and play field.

**Figure 6:** Children play with playground equipment and cycling on the streets in Medium Cost Housing.

Girls meet friends at green belt areas even though the equipment cannot be used and the rubber mats are not all in place. Results suggest that children are curious to explore and eager to play in the outdoor environment even though the quality of the playground and green belt is not in a good condition in parallel to the study by Chawla (2004). Children perceived playing in the outdoor environments as an opportunity for them to deal with problems and also to visualize and discover
new things. They also found that outdoor environment provide chances for them to explore various exciting and challenging activities.

Results about children’s activities in the high cost housing area are parallel with the findings from the medium cost neighbourhood. Boys liked to play football whereas girls liked to meet friends. Results also found that boys in the high cost neighbourhood preferred to play indoors compared to outdoors. The children appreciated the outdoor environment as a place to play but the lack of natural elements and the bad quality of playground equipment limit the opportunity for them to explore.

In conclusion, children in both housing areas do various activities in any given place but some of them tend to be more mobile, moving from the neighbourhood parks to streets and green belts to meet friends and do other activities. They found that the outdoor environment offer a bigger space for them to play and explore.

![Figure 7: Children meet friends and play football in High Cost Housing.](image)

5. Conclusion

Playing in an outdoor environment is vital for children’s development. Natural elements in the outdoor environment give opportunities for children to explore and become more creative. The design of the outdoor environment in housing area must provide as many opportunities as possible for children to explore. Children engage in many activities in a place which show their efforts to create needed affordances within the place. In fact, providing options of places for children to explore is beneficial for different genders and give varied potentials for children’s use. These options can increase the likelihood for children to play in the outdoor environment and increase the children’s affinity towards outdoor environment.

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The research conducted to understand children’s affinity for outdoor environment is established by investigating the frequency of children using the outdoor environment to play, their preferences of places to play and their preferred activities. Designers are advised to understand the importance of the outdoor environment before the design process takes place to ensure that the design can sustain children’s development. Results of this study also suggest that natural elements in neighbourhood areas give a sense of safety that attracts children to play in the outdoor environment. Apart from the commonalities between the high cost and medium cost housing with regards to children’s activities, the difference that existed between both might be because the outdoor environment setting for both housing areas are different. Further studies should pay attention the same setting applicable to different socioeconomic housing areas. Findings may only be applicable for housing areas which comprise of landed properties and may not be relevant for children in high rise housing areas. Moreover, further study should be done with children rather than on children.

6. Acknowledgements

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7. References


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