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

Children's Sense of Attachment to the Residential Common Open Space

Maryam Shabak[*], Nima Norouzi, Aminatuzuhariah Megat Abdullah, Tareef Hayat Khan

Department of Architecture, Faculty of Built Environment, Universiti Teknologi Malaysia

Abstract

Children's separation from the natural environment in an urban area has caused difficulties in their mental and physical development. This study aimed to investigate the children's perception in order to determine a successful residential common open space in high-rise gated communities by stressing on physical characteristics of the place, which enhance the sense of attachment. Result of qualitative data from children drawing and story-telling revealed that the presence of natural features and facilities has more effect on developing children's sense of place attachment than architectural design of surrounding building such as material and colour of façade and access-related features.

1. Introduction

Children in the urban area have isolated from the natural environment. This separation has caused difficulties in mental and physical development process. Providing attractive open spaces in neighborhood level for children become a serious concern of urban residential designers and architects (Hamdan, Yusof, & Marzukhi, 2014; Nasution & Zahrah, 2014). In addition, many researchers stated that residential place attachment is the essential indicator of human well-being and sustainability. This positive emotional bonding to place has been emphasized as one of the most important objectives in children environmental design. Spencer (2005), an environmental

[*] Corresponding author. Tel.: +60127288072.
E-mail address: maryamshabak@gmail.com.

psychologist, emphasized the essential role of place in developing self-identity in children and providing a sense of stability and security. Bonding and rootedness necessary for place attachment are also mandatory for healthy development. For example, a child explores the world around them from a secure and nurturing home base through ever broadening circles. Psychological disturbances are often the result of a lack of place-based support or a secure home base. Building and maintenance of successful relationships in children's life are connected with place, identity, and well-being (Green, 2005; Mohit, 2013). Nurturing children's bond with their environment, especially a residential area, could create a strong and secure self-identity. One of the goals in this study was to explore the characteristic of a residential common open space that facilitate a child's sense of attachment to a place.

Architectural and planning practices focused on the concept of place attachment as the ultimate goal of creating favorite place for children. Therefore, this study tried to find the architectural characteristics of a place that could develop and improve sense of attachment in children to the common open spaces in residential high-rise gated communities.

2. Residential common open space

The term "open space" was probably used for the first time in the year 1833. Open spaces include public parks and recreation grounds, grassed areas as open parks, non-roofed-over urban land and undeveloped natural landscape, neighboring spaces between buildings, and urban space that is open for public access. By form, it refers to the part of the three-dimensional void that is not occupied by man-made features constructed for spatial enclosure. By function, open spaces are considered as an outdoor area that provides an opportunity of spontaneous activity, movement, or visual exploration for a number of people. It is defined as urban space that draws people together for passive recreation. In residential communities, the common open spaces around and between buildings are limited to use by the residents (private space for their residents) and usually classified as semi-private space (Shabak 2014; 2013). However, these kinds of spaces have the characteristics of public spaces because of the large number of users.

2.1. Common open space in Gated Communities (GC)

One the important specification for Gated Communities (GC) developments is that they contain both private housing units and public areas that are places with common benefits and facilities. These spaces are used by all residents of the GC and thus they should be considered to be a type of public space. The term common or public space refers to the streets, sidewalks, parks, and open spaces that are accessible and open to the residents of a GC. There are multiple ideas about what constitutes a residential common open space in a GC, as exhibited in several different studies that all attempt to provide an appropriate definition. Term "privatized public spaces" are used to explore public space but only available to residents of a particular housing estate. These Common open spaces in high-rise GCs with no private open spaces provide opportunities for improving the individual, social, and environmental quality of the area (Chiesura,2004 in Maruani & Amit-Cohen, 2007).

2.2. Architectural characteristics of common open space

The design of common open space is a significant element in its usability and value (Almhafdy, Ibrahim, Ahmad, & Yahya, 2013; Huang, 2010). However, there are various approaches and criteria of planning and designing an open space. Moreover, many studies considered physical design of these spaces as an important predictor of developing a sense of attachment in users.

There are many categorization and classification for physical and architectural characteristics on environmental studies for evaluating open spaces (Bajunid, Abbas, Nawawi, & Rodi, 2014; Jamaludin, Mohamad, & Thani, 2014; Smith, 2003). These classifications have been based on either objective, externally verifiable indices or perceptions of the environment by residents. The architectural characteristics measured in this study were derived from the architectural and urban design literature, and most importantly validated by interviews with an expert panel. It considered six architectural characteristics for residential common open space. These characteristics are counted as below:

- **Site development feature** consist on size of open space, density, overall layout and arrangement of blocks, ordination and location of common open space.
- **Architectural design features** that mainly focuses on architectural style and overall design quality of building in a residential gated community that surrounded common open spaces. Aesthetic aspect, density, shape and volume, height of buildings, façade and materials should be considered in evaluation architectural characteristics of common open space.
- **Natural features**, walkable green spaces, time spent in natural environments, and the presence of Water feature is associated with the use of open space.
- **Cultural features**, relics of traditional architecture and landscape, human artifacts such as statues and fountains, plant and flowers which remembered the cultural background of people and are attached to history, myths and the living conditions of human beings, could attract people to use a space.
- **Access-related features** and well-designed traffic-free or traffic-segregation neighborhood, may cause inhabitants, especially children and elderly adults, have a higher level of use and interaction.
- **Facilities** and provision and access to amenities are the important criteria for the success of open space design and critical for its optimum use and satisfaction. Community gathering space, playgrounds and sports settings, as well as community service have also been commonly found to be among children's preferred facilities.

3. Place attachment

In a seminal study, Relph, (1976) claimed that place attachment develops as a result of the activities and behaviors of people in a particular environment, and with other people in that environment. Similarly, (Tuan, 1977) defined place attachment as the connections people make with their environment. Guthey, Whiteman, & Elmes (2014) defined place attachment in terms of the attachments people make to place as a result of their daily activities, their imaginations, their real live experiences and by what they read about a place. Regardless of the lack of a universal definition for place attachment, most researchers agree that place attachment if required if the place is to be successful.

3.1. Place attachment in children

Positive and negative feelings about an environment begin at a very young age. Direct and recurring experiences and the social meaning given to a place by a child, and the association of a place with other important people in the child's live have a significant influence on the subsequent development of place attachments. Most young children become attached to their homes and places where they feel safe and protected (Zen & Mohamad, 2014). As children grow, they make forays from their home base to play and explore their larger environment. A successful place satisfies a child's need for security, social affiliation, creative expression, and exploration. Children are the happiest in an environment where they have access to playmates and could manipulate their surroundings (Ellis, 2005). Spencer (2005) discovered that children were more likely to use attractive, well maintained and appropriately furnished environments with play equipment that were the result of zoning to create designated areas for activities. Places that allowed children to escape from social pressures where they could express their feeling freely and have a control became their favourite places.

3.2. Different levels of place attachment dimensions

Environmental psychology recognizes the following components of place attachment, cognitive, affective, and conative. The cognitive component is related to an individual's beliefs and perceptions about a place, the effective component is concerned with the emotions an individual feels regarding a place and the conative component contains the individual's behaviours and commitment to a place. Even though the components of place attachment have been identified, researcher are divided over the definition of place attachment as a multi-dimensional (Hammitt, Backlund, & Bixler, 2006; Sakip, Johari, Abdullah, & Salleh, 2013) or a one-dimensional (Fornara, Bonaiuto, & Bonnes, 2006) concept. Shamai (1991) described the different levels of place attachment from the lowest level of familiarity to place to the highest level of rootedness and sacrifice for a place. These first five levels

are considered as dimensions of place attachment in this study based on the validity proof of Hammitt et al. (2006)'s study:

- **Place familiarity:** Level one is the awareness of the surrounding environment. When an individual is familiar with the place, they can identify the symbols of the place without feeling an emotional connection to the place.
- **Place belonging:** Level two occurs when an individual not only identify the symbols associated with a place but they respect those symbols and have an emotional connection to the place.
- **Place dependence:** Level three occurs when an individual experiences a strong emotional connection to a place and they feel that the place is meaningful and significant. The symbols associated with the place reflect its unique identity.
- **Place identity:** Level four is the level of recognition and identification of an individual with the purpose of a place. These individuals feel satisfied and develop a deep attachment to the place.
- **Place rootedness**: Level five occurs when an individual plays an active role in their place and invest their resources into maintaining their place. In other words, they "put down roots".

Last level as sacrifice for a place is recognized by the deep commitment of individuals to their place to the point that they would sacrifice their prosperity, freedom, or life to maintain and protect their place.

4. Methodology

This study aimed to investigate the children's perception in order to determine a successful residential common open space by stressing on physical characteristics of the place, which enhance the sense of attachment. At first, the variables of the study were defined based on the literature review. The next step was choosing the research data collection instrument, case studies and respondents. Visual techniques were considered as an appropriate method in this study. Three high-rise gated communities in the urban neighbourhood were selected as the case study of research. Respondents are forty-five, 9 to 11 years old children that were chosen from residents of those three gated communities. They invited to drawing sessions that were held in their residential gated communities with their parents. Drawings along with story-telling as a visual method were conducted to collect children's perception. Children's responses were collated and summarized. Representative icons for each code derived from the drawings and children's rationale. For each drawing, codes were investigated and written based on the story that was told by each contributor child to identify common features among the submissions. Limitations of working with children and their limit abilities should be considered. Through constant comparison with the written texts of children stories, these selections were validated. The analysis was done through content analysis and the results are tabulated to assist triangulation of findings with other sources.

5. Results and findings

The process of analysing the children's drawing might be ambiguous and very subjective, though, coding and categorizing would help the researcher to analyse the data systematically. Moreover, collaboration with participants as part of the process of creating and analysing visual work, or 'talk and draw' helped researcher to elicit children's ideas about their residential common open spaces. Two main domains of codes were identified. Architectural characteristics of common open space with six sub-themes of site development, architectural design features, natural features, cultural features, access-related features, and facilities and amenities and place attachment with its five dimensions were considered as parent nodes of coding system.

5.1. Architectural characteristics of common open space

Participants were asked to describe their common open space with its physical and architectural characteristics. It directly asked the participant to draw their existing and ideal common open space through two different drawings. The tabulation and frequency analyses of responses illustrates in Table 1. Representative icons for each code derived from the drawings and children's rationale.

Table 1. Coding and content analysing the frequency of responses to architectural characteristics of common open space.

Examples of responses from drawing and interview with children	Meaning Units (free nodes)	Sub-themes	Clustered themes	Total N=45
It is too small; I want a big space to run and play. It just located between block 3 and 4, so we could not see it from our house. There are two separate open spaces that located far from each other.	big enough, too small located in the middle, separated facility Location	Size location Arrangement layout	Site development	11 (24%)
The blocks are too high; so it seems that this place is dominated by them. Could they design a building like Chinese temple; I like their ornaments, sculptures on the roof and color. I do not like the color of blocks. It should be brighter.	concrete texture height design like temple traditional roofs color of blocks	Material Height Architectural Styles Façade color	Architectural design	5 (11%)
I like modern landscape. There are no flowers here, not grass area to lie down and tumble. Do you see the fountains that you could play with them; we should have it instead of this small pool.	curvy pathways modern landscape open view Fountains	landscape style Tree types water elements Proportion of water area	Natural features	36 (80%)
I like sloped roofs. Hari raya is the best time of our complex because of the torches and lightings. Coconut and Mangostin trees remember me my grandpa's house	Wood carving, Slope roofs Hari raya torches Chinese lantern Chinese garden	Traditional motifs Ornamental lighting Traditional planting Religious or ethical symbols	Cultural features	15 (33%)
I like meandering pathways with grass covered Parking location is not good. Every moment a car passes here. The road is very dangerous; every time a car passes.	curvy pathways grass and wood meandering pathways	Pathways Pattern Pathways materials Parking location Surrounding roads	Access-related features	14 (31%)
This place is dark at the night. Furniture is old and not arranged well There is no special facility for children; just a play equipment which is so dirty and old.	enough lighting seating area playground no place for adult	Lighting Furniture , Signs playground Private place	Facilities and amenities	25 (56%)

The results showed that in children's opinion, natural features are the most mentioned dimensions of architectural characteristics as the reason of attachment to the place. The younger children also spoke of how they come to these spaces in their residential complexes to engage with nature. This experience brings them a strong sentiment for the developing bonding with place:

"It would be fantastic for the open space to be surrounded by nature. There should be opened grass areas to run around and kick a football. ...Do you see the fountains that you could play with them? We should have it instead of this small pool."

Having places where you could be active was significant throughout the interview data and the visual data therefore it also became one of the key indicators of a child's attachment to place. Presence of play equipment in drawings was a strong reason for this claim. Children stated they needed a place to create their play area. They want it to be far from others' territory:

"We need more places to ride a bike. ...There is no special facility for children; just a play equipment which is so dirty and old. ...I think it should have more sports area for young people to have fun activities. ....We want something different and unique for this new playground not something we already have."

Cultural features are the third important architectural characteristics in children's mind. The representative icons in their drawings showed that children think about these features as their parents respect them. They love celebrations and activities related to these cultural symbols:

"I like sloped roofs…. It is just like my grandpa's house. ….Hari raya is the best time of our complex because of the torches and lightings. …We celebrate lantern festival in our housing estate. Every child light up the lantern and go around the common space. It is fun. …I think it should have sculpture to make it more interesting."

As it expected, children paid less attention to site development and architectural design features than natural and cultural features of common space. It seems that such as size, location, arrangement, and overall layout as Site development factors and Material, Height, Architectural Styles, and Façade color as architectural design features are not considered much by children. Presence of buildings in drawings with colorful façade, very tall buildings, and traditional architectural detail are the reason of children desire to architectural design features.

Fig. 1. Examples of children drawings illustrated natural features, facilities and architectural design.

Moving around safely using paths has an essential role in children's outdoor usage. The role of pathways as providing access to a common space and the role they would play in order to allow engagement with natural play settings was seen as such a priority by the children. However, access-related feature was found as the least mentioned dimension of architectural characteristics by children. The following are some comments made by children about the importance of pathways:

"I go to the playground near my home; I can ride a bike there. ….I like meandering pathways with grass covered with soft surface like grass and rubber. ….Parking location is not good. Every moment a car passes here. …The road is very dangerous; every time a car passes. …. No sign on pathways"

Fig. 2. Drawing examples which illustrated the children's' desire to access-related features (pathways, paving).

The finding reveals that natural features are the most prominent aspects of common space for children (Fig. 3). They valued the natural features rather than size and location of common open space as site development indicators and architectural design of surrounding buildings. Children were strongly affected by the presence of gardens, trees, fountains, pavement with natural materials. The least effective dimensions as participant voted are access-related features.
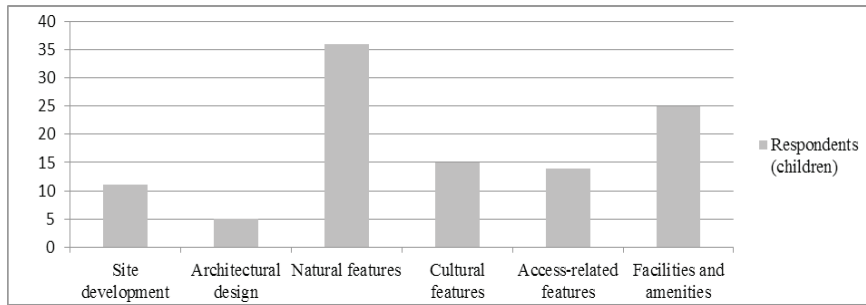
Fig. 3. Summary of the interview responses to architectural characteristics dimensions.

For children, facilities and amenities, such as playground, community space, private space, lighting and furniture are the second most important features. For both age groups, play space represented something of a "meeting point". A place where children could have adventures, dream, and imagine by creating their play opportunities while also being natural also key points of discussion. The recommendations from the group included a combination of natural elements with some structured elements.

This finding is parallel with underlining the significant impact of place characteristics on attachment to place with Scannell (2008) claims which discussed that the most important dimension of place attachment is the place itself. Geography, design or architectural aesthetics, natural feature, certain landscapes and built forms, even artifacts as visual reminders are the main physical properties of place. Moreover, every symbolic property such as painting, replicas, and sculpture could address the culture. These cultural symbols are mentioned as crucial predictors to developing a sense of place.

5.2. Place attachment

Participants were asked to describe their feeling and relation with common open space. It directly asked the participant to identify their level of bonding with place and what makes this relation stronger. participants responses to the questions about their attachment to place were collated and summarized under five principal nodes, place familiarity, place belonging, place dependence, place identity and place rootedness.

Table 2. Coding and content analysing the frequency of responses to architectural characteristics of common open space.

Examples of responses to Place attachment	Meaning Units (free nodes)	Sub-themes	Clustered themes	Total (N=45)
I know this place.	know this place, could draw a map	quite familiar	Place familiarity	11 (24%)
I know the location of each facility	remember pleasant memories	know the location		
I could remember any changes happened for this space.	could imagine	able to remember		
	know the location of each facility	know completely		
I do not like this place.	feel connected	feel connected	Place belonging	18 (40%)
I love this place with beautiful flowers.	fond of the place as a part of life	fond of the place		
I like this place more than others	love this place	feel part of the place		
	like this place more	feel belong to place		
I satisfy with place more than other	quiet satisfy	deeply connected	Place dependence	22 (49%)
It is important for me.	important	wouldn't substitute not comparable willing to invest time		
I just like to play here.	no other place like this			
I like to spend time here.	like to spent time, Never get bored			

This place is very special to me.	very special	very special	Place identity	7 (16%)
I am proud of this space.	says a lot about me	say a great deal about me		
It is an interesting place	interesting and unique	feel like part		
I try to keep this place clean.	worry about this place	only place desire	Place rootedness	5 (11%)
I do not allow others to destroy the play equipment.	participate in the activities	Worry about		
I worry about the change	keep this place clean	Concern about		

Researcher asked children to described their feeling by stressing on their level of knowledge about the space, their sense of being in their home, willingness to spend time, feeling uniqueness and especial, and worry and concern about the place. These expressions could identify the level of bonding between children and common open space with different dimensions of place attachment. The following statements describe the sense of place in children that could be classified from the lowest level of familiarity to highest level of rootedness:

"I know this place. ... I know the location of each facility here. .... I could remember any changes happened for this space. .... I do not like this place. It is not the place that I want to play and spend time."

"I love this place with beautiful flowers. ... I like this place more than any other open space."

"I satisfy with this place more than other parks. ... It is important for me. ...I just like to play here not in any other place. ... I like to spend time here."

"This place is very special to me. .... I am proud of this space. .. I try to keep this place clean. .... I do not allow others to destroy the play equipment. ..I worry about the change in this place."

The result showed that children feel more dependent to place instead of being familiar or feel belonging, identity and rooted.
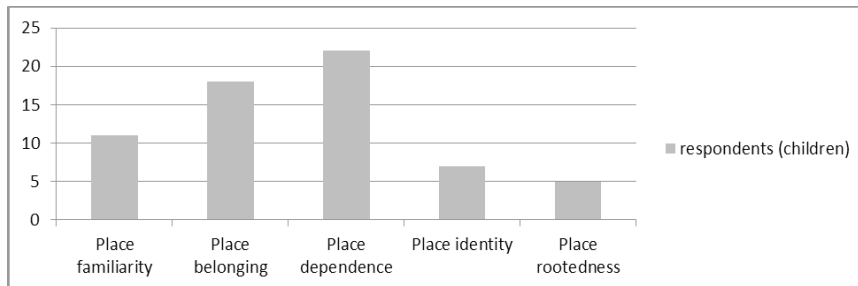

Fig. 4. Summary of interview responses about place attachment dimensions.

As it illustrated in Fig. 4, five different dimensions of place attachment could be found in children's feeling to place. However, It could not prove the level of place attachment that expressed by (Shamai, 1991) and (Hammitt et al., 2006) idea about levels of place attachment construct. The findings showed that children feeling of place have a different level.

6. Discussion

The findings implied that the development of a sense of place is a continual process in which individuals experience spaces on both an interpretive level and an existential level when the environment accommodates certain forms of social interaction. It could be hypothesized that the architectural characteristics of common open space are related to the contrasting set of residential experiences and therefore influence sense of place attachment in people. Specifically, attributes that directed public activities in common open space increased social interaction within the neighborhood and fostered the functional sense of place. Whereas, attributes that directed private activities towards the more private realm of the neighborhood limited interaction and thus conceptually forced the residential sense of

place to be based on aesthetic interpretations of the environmental qualities of the surrounding landscape. A distinction is made here to highlight that a designer can potentially influence both sets of experiences related to the transformation of space into place. This study has demonstrated that when social interaction is limited, residential interpretations of place are more influenced by the aesthetic conditions and the surrounding environment. In this situation, common open space design should address the distinctive architectural style based on the local culture to provide a unique identity for the place.

Table 3. Summary of the relationship between architectural characteristics of the place with dimensions of place attachment.

Study Constructs		Place attachment themes				
		familiarity	belonging	dependence	identity	rootedness
Architectural characteristics themes	Site development	X	XX	X	-	-
	Architectural design	-	-	XX	X	-
	Natural features	-	X	X	XX	XXX
	Cultural features	-	-	XX	XXX	-
	Access-related features	XXX	X	-	-	-
	Facilities and amenities	X	XX	X	X	-
	XXX high level of overlap	X minor level				
	XX moderate level	- no overlap				

Table 3 showed that natural features are the cause of increasing rootedness in children. Cultural features could develop a sense of identity in children and sense of dependence may be influenced by architectural design and cultural features. Children's belonging to a common space should be strengthened by the effects of site development and facilities. The results showed that access-related features are the least important factors which just could effect on familiarity with the place.

The findings of this research is paralleled with some children-environment studies that suggested that designing an open space for children to fulfill their physical and mental needs should be different with existing adult design criteria (Zen & Mohamad, 2014). This study also claims that children prefer natural space, particularly natural features that have ability to increase their physical and creative play. It advocates the Groves and McNish (2008)'s claims about preferring the natural features such as "mud", "grass", and "trees" by children when they play outside. The findings also proved the findings of previous research on effects of cultural features on perception of favorite place (Mohammad, Saruwono, Said, & Hariri, 2013; Wu & Chang, 2013).

7. Conclusion and recommendations

This research project sought to identify the factors that lead to the development of place attachment in residential high-rise gated communities to their common open spaces. This project then proceeded to investigate the relationships that architectural characteristics of the place had to the sense of places. The findings revealed that that the natural features have a crucial effect on sense of place attachment in children. Facilities and cultural features could develop their sense of identity to place and consequently their self-identity. Designers, planners, and developers might consider the findings of this study to design a successful common open space in high-rise gated communities.

The relationships between a sense of place attachment and each specific characteristics of the place can be more studied in the future research. The impact of place attachment in behavior of children could be studied in future research.

Acknowledgements

References

Almhafdy, A., Ibrahim, N., Ahmad, S. S., & Yahya, J. (2013). Courtyard Design Variants and Microclimate Performance. *Procedia - Social and Behavioral Sciences*, *101*, 170–180. doi:10.1016/j.sbspro.2013.07.190

Bajunid, A. F. I., Abbas, M. Y., Nawawi, A. H., & Rodi, W. N. W. (2014). Cul-de-sac Courtyard Physical Environment Evaluation Toolkit (CPEET). *Procedia - Social and Behavioral Sciences*, *153*, 148–158. doi:10.1016/j.sbspro.2014.10.049

Ellis, J. (2005). Classrooms and Schools, *3*(2), 55–74.

Fornara, F., Bonaiuto, M., & Bonnes, M. (2006). Perceived hospital environment quality indicators: A study of orthopaedic units. *Journal of Environmental Psychology*, *26*(4), 321–334. doi:10.1016/j.jenvp.2006.07.003

Green, R. (2005). Community perceptions of environmental and social change and tourism development on the island of Koh Samui, Thailand. *Journal of Environmental Psychology*, *25*(1), 37–56. doi:10.1016/j.jenvp.2004.09.007

Guthey, G. T., Whiteman, G., & Elmes, M. (2014). Place and Sense of Place: Implications for Organizational Studies of Sustainability. *Journal of Management Inquiry*, *23*(3), 254–265. doi:10.1177/1056492613517511

Hamdan, H., Yusof, F., & Marzukhi, M. A. (2014). Social Capital and Quality of Life in Urban Neighborhoods High Density Housing. *Procedia - Social and Behavioral Sciences*, *153*, 169–179. doi:10.1016/j.sbspro.2014.10.051

Hammitt, W. E., Backlund, E. a., & Bixler, R. D. (2006). Place Bonding for Recreation Places: Conceptual and Empirical Development. *Leisure Studies*, *25*(1), 17–41. doi:10.1080/02614360500098100

Huang, S.-C. L. (2010). The Impact of Public Participation on the Effectiveness of, and Users' Attachment to, Urban Neighbourhood Parks. *Landscape Research*, *35*(5), 551–562. doi:10.1080/01426397.2010.504916

Jamaludin, S. N., Mohamad, N. H. N., & Thani, S. K. S. O. (2014). Designing Conducive Residential Outdoor Environment for Community: Klang Valley, Malaysia. *Procedia - Social and Behavioral Sciences*, *153*, 370–383. doi:10.1016/j.sbspro.2014.10.070

Maruani, T., & Amit-Cohen, I. (2007). Open space planning models: A review of approaches and methods. *Landscape and Urban Planning*, *81*(1-2), 1–13. doi:10.1016/j.landurbplan.2007.01.003

Mohammad, N. M. N., Saruwono, M., Said, S. Y., & Hariri, W. A. H. W. (2013). A Sense of Place within the Landscape in Cultural Settings. *Procedia - Social and Behavioral Sciences*, *105*, 506–512. doi:10.1016/j.sbspro.2013.11.054

Mohit, M. A. (2013). Quality of Life in Natural and Built Environment – An Introductory Analysis. *Procedia - Social and Behavioral Sciences*, *101*, 33–43. doi:10.1016/j.sbspro.2013.07.176

Nasution, A. D., & Zahrah, W. (2014). Community Perception on Public Open Space and Quality of Life in Medan, Indonesia. *Procedia - Social and Behavioral Sciences*, *153*, 585–594. doi:10.1016/j.sbspro.2014.10.091

Sakip, S. R. M., Johari, N., Abdullah, A., & Salleh, M. N. M. (2013). Assessing Sense of Community Dimension in Residential Areas in the Malaysian Context. *Procedia - Social and Behavioral Sciences*, *105*, 655–663. doi:10.1016/j.sbspro.2013.11.068

Scannell, L. (2008). *Natural and Civic Place Attachment and the Relation to Pro-Environmental Behaviours in Trail and Nelson, British Columbia*.

Shabak M, Norouzi N, Megat Abdullah A, Khan H.T. Evaluating Common Spaces in residential communities: An Examination of the Relationship between Perceived Environmental Quality of Place and Residents' Satisfaction. Life Sci J 2014;11(11):127-131] (ISSN:1097-8135).

Shabak, M., Norouzi, N., Khan, T. H., & others. (2013). An Attempt to Measure the Success of Residential Common Space: A Case Study in Malaysia. *International Proceedings of Economics Development & Research*, *56*.

Shamai, S. (1991). Sense of place: an empirical measurement. *Geoforum*, *22*(3), 347–358. doi:10.1016/0016-7185(91)90017-K

Smith, P. F. (2003). *The Dynamics of Delight: Architecture and Aesthetics* (p. 240). Routledge. Retrieved from

Spencer, C. (2005). Place Attachment, Place Identity and the Development of the Child's Self-identity: Searching the Literature to Develop an Hypothesis. *International Research in Geographical and Environmental Education*, *14*(4), 305–309. doi:10.1080/10382040508668363

Tanner, J. (2009). *Special Places* , 5–8.

Tuan, Y.-F. (1977). *Space And Place: Humanistic Perspective*. University of Minnesota Press.

Wu, C. T., & Chang, S. E. (2013). Re-searching for the Dragon Landscape: A Case Study of Re-connecting Hakka Cultural Landscape with the New Comers in the Taoyuan Metropolis, Taiwan. *Procedia - Social and Behavioral Sciences*, *101*(1997), 256–267. doi:10.1016/j.sbspro.2013.07.199

Zen, I., & Mohamad, N. A. A. (2014). Adaptation of Defensible Space Theory for the Enhancement of Kindergarten Landscape. *Procedia - Social and Behavioral Sciences*, *153*, 23–35. doi:10.1016/j.sbspro.2014.10.037