



ASLI QoL2019



AicQoL2019Bali

<http://www.amerabra.org>; <https://fspu.uitm.edu.my/cebs>
7th AMER International Conference on Quality of Life
Wina Holiday Villa, Kuta, Bali, Indonesia 16-17 Feb. 2019



Human Interaction in Urban Open Spaces

Filzani Illia Ibrahim ¹, Dasimah Omar ², Nik Hanita Nik Mohamad ³

¹School of Architecture, Building and Design, Faculty of Innovation and Technology,
Taylor's University, Malaysia

² Centre of Studies for Town and Regional Planning,

³ Centre of Studies for Landscape Architecture,
Faculty of Architecture, Planning & Surveying,
Universiti Teknologi Mara (UiTM)

filzanillia@gmail.com; dasimaho@yahoo.com; nhanita62@yahoo.com
Tel: +60136365208

Abstract

The aim of this paper is to evaluate the multi-dimensional human interaction experienced in the open spaces and develop the ranking of human interaction in relation to the typological of open spaces. The analysis in this paper addresses human-human interaction and human-nature interaction in five selected open spaces of Shah Alam, Selangor, Malaysia. The findings show that all four research domains namely socio-demographic domain, the human-human interactions in open spaces domain, the human-nature interactions in open spaces domain and perceived benefits domain significantly influence the human interactions in the Shah Alam open spaces area.

Keywords: open spaces; sustainability; human interaction; landscape

eISSN: 2398-4287 © 2019. The Authors. Published for AMER ABRA cE-Bs by e-International Publishing House, Ltd., UK. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>). Peer-review under responsibility of AMER (Association of Malaysian Environment-Behaviour Researchers), ABRA (Association of Behavioural Researchers on Asians) and cE-Bs (Centre for Environment-Behaviour Studies), Faculty of Architecture, Planning & Surveying, Universiti Teknologi MARA, Malaysia.

DOI: <https://doi.org/10.21834/e-bpj.v4i10.1590>

1.0 Introduction

In the context of Malaysia, the needs for open spaces in cities have become more crucial with rapid urbanisation and constant increase in the urban population. According to the Department of Town and Country Planning Peninsular Malaysia (2013), open spaces act as a 'green lung' for a city, a focal point that breaks up the monotony of our concrete jungle, and most importantly, promote a healthy society by providing spaces for recreational, social and community activities. A well distributed open space can influence the quality of life in urban areas.

According to the Department of Town and Country Planning Peninsular Malaysia (2013), the rivalry between vehicles and pedestrians is growing ever more intense as compared to the needs of the urban dwellers. Hence, it will cause the degradation of the living environment which leads to overcrowding, air and water pollution, and the collapse of the social institution. This also happens to the element of open spaces as it has lost their vitality to the physical development and their provision is either compromised or largely ignored. Apart from that, existing open spaces in the urban areas are not valued as urban heritage, therefore, are constantly being under the threat of land acquisition, changes and modification (Department of Town and Country Planning Peninsular Malaysia, 2013). Roads and highways are constantly being constructed at the expense of garden and parks. Openness and accessibility, the two hallmarks of good open spaces, are also threats that make them attractive to property developers and the unsighted administrators.

Increasingly, however, governments recognise the contribution that open spaces make to the social well-being of different groups living within increasingly cosmopolitan towns and cities (Agency, 2012; Chiesura, 2004; Marzukhi et.al, 2011; Tweed & Sutherland,

eISSN: 2398-4287 © 2019. The Authors. Published for AMER ABRA cE-Bs by e-International Publishing House, Ltd., UK. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>). Peer-review under responsibility of AMER (Association of Malaysian Environment-Behaviour Researchers), ABRA (Association of Behavioural Researchers on Asians) and cE-Bs (Centre for Environment-Behaviour Studies), Faculty of Architecture, Planning & Surveying, Universiti Teknologi MARA, Malaysia.

DOI: <https://doi.org/10.21834/e-bpj.v4i10.1590>

2007). The role of open spaces towards the sustainability of the city is vital as it helps one's social entity enhancement and well-being. Ali and Nawawi (2006) in their study stated that, unlike the West, where many studies have explored how people's needs are fulfilled by urban parks and open spaces, Malaysia has received very little attention from researchers. Hence, this research is done to fulfill the gap. Mansor et.al (2010), also emphasise on the lack of knowledge on the relationship of open spaces in promoting beneficial well-being effects to the urban residents. Thus, it is vital to investigate the basic needs of the urban dwellers towards open spaces as quality open spaces are urgently needed at the present time. In a densely populated urban centre, where high land cost makes it difficult to create new open spaces, the quality of existing open spaces and the smaller scale of open spaces could play a vital role in alleviating urban stress. It is then the purpose of this paper to address the interaction that public had in open spaces which will then lead to the responsibility to recover, replace, retrofit and further enhance these spaces to fit the needs of urban life.

2.0 Literature Review

As time has evolved, and the function of open spaces might differ from time to time, it can be seen that there are several types of open spaces designed in Malaysia. Thus, according to Department of Town and Country Planning Peninsular Malaysia (2013), there are basically seven types of open spaces typologies that area applied in Malaysia. The types of open spaces are characterized by the population, size of the open spaces and the facilities provided for each of the open spaces. It is vital to understand the hierarchy of open spaces for a better understanding of the research area. This is due to the different typology of open spaces might offer different needs and purposes for the urban dwellers in using the open spaces. Hence, Table 1 below shows the hierarchy of open spaces according to the Department of Town and Country Planning Peninsular Malaysia (2013).

Table 1: Hierarchy and Functions of Open Spaces

Hierarchy	Size (Hectares)	Service Distances	Population Size	Function
National Park	No Limit	No limit	Whole Country	Open spaces that have the function for research, nature conservation and national heritage.
Metropolitan Park	100.0	No limit	Whole Region	Open spaces that function as a local attraction for recreational activities and nature appreciation
Urban Park	40.0	Within 5km	>50,000	Open spaces that function as a local attraction for recreational activities and nature appreciation
Local Park	8.0	Within 3km	12,000-50,000	Open spaces that cater for local dwellers for recreational purposes, sport and social community.
Neighbourhood Park	2.0	Within 1.5km	3,000-12,000	Open spaces that cater for local dwellers for recreational purposes, sport and social community.
Playfield	0.6	Within 1km	1,000-3,000	Open spaces that cater for 3 division of neighbourhood which functions as recreational activities for children, teenagers and adults.
Playground	0.2	Within 1km	300-1,000	Active open spaces in suburban areas for primary school children.
Playlot	0.1	Within 0.5km	<300	Small passive recreational areas for children and citizen social interaction.

Source: JPBD (2013).



Figure 1: Maslow Hierarchy of Human Interaction Needs (Maslow, 1943)

According to Dewey (2005), in general there are two levels of human interaction. The first one is symbolic interaction, which is uniquely human and second, non-symbolic interaction, which is shared with infrahuman. The basic reason for human interaction according to Dewey (2005), which is associated with moral conduct was the active connectedness of human beings with one another, which is characterized by their "mutual intertwined activities" such as desire, beliefs, judgement, satisfaction and dissatisfaction. Human interaction then is influenced by individual need towards the environment and how the perceived benefits might influence negatively or positively are based on the self-judgement. Thus, it is vital to know about the society and the people needs and preferences. Maslow (1954) provide a good example for identification of the basic needs and create a foundation. In Figure 1 below shows the Maslow hierarchy of needs of human interaction.

3.0 Research Methodology

A total of 1000 of survey questionnaires were distributed within the study areas in Selangor. It was distributed randomly regardless of the users' age, race and ethnicity. However, only 861 reliable respondents were taken for further analysis as the other 139 respondents left the questionnaires blank. The unanswered survey form considered as incomprehensible, undecided and ignored. In this survey, the respondents also were asked their main purposes of coming to the open spaces that are divided into two subsections that are the human-nature interaction or human-human interaction. Various useable items from human needs pattern studies were integrated to develop further the methods. Every measurement was structured using a 5-level Likert Scale that is 1: Strongly Disagree; 2: Disagree; 3: Neutral, 4: Agree and 5: Strongly Agree.

3.1 Study Area

In the very beginning, this research intended to focus on the whole hierarchy of open space as outlined by Department of Town and Country Planning of Peninsular Malaysia. However, after conducting the pilot study, analysing the data and looking at the results, the result should be focusing on open spaces that attract the surrounding residential users. Hence, it is further decided to focus on only five types of open spaces in Shah Alam Zone A. The five sites involved in this research as listed below:

- i. Urban Park: Shah Alam Lake Garden
- ii. Local Park: Section 7 Local Park
- iii. Neighbourhood Park: Section 18 Neighbourhood Park
- iv. Playing Field: Section 8 Playing Field
- v. Playground: Section 4 Playground

4.0 Results and Findings

The data from survey questionnaires coded into SPSS software for statistical analysis. The main focused this analysis is to understand the relationship of human-human interactions and human-nature interactions that took place in the open spaces area.

4.1 Findings on Human-Nature Interaction

Hence, from the exploratory survey conducted suggest that the human-nature interaction in open spaces domain can be divided into three which are in contact with nature, aesthetic preference, recreation and play. For Contact with Nature domains, Neighbourhood Park shows the highest significant numbers in terms of design, natural appearance, sense of calmness, activities provided and sense of nature appreciation. In comparison, playground also shows the significant number on natural appearance and sense of calmness. As for the other types of open spaces, none shows the significant value in the open spaces in relation to contact with nature. This is then contrast with Chiesura (2004) whereby stated that the vitality of contact with nature is shown to hold across a wide range of urban context which includes greenways and parks. However contact with nature could promoting stress reduction, relaxation and restoration rely to a large extent upon the provision of open space (Green Space Scotland, 2008). Moreover, Ulrich et al. (1991) report that natural settings restore positive effects and reduce fear, anger and aggression based on the attention restoration theory and stress reduction theory. Hence, contact with nature interaction should be considered in the design stages of open spaces. In this study, the design of these typologies of open spaces should be improved and relate to the contact with nature domain as it not only promotes physical but also mental wellbeing. In comparison with aesthetic preference domain, Local Park shows the highest number of significant values in terms of natural appearances, a sense of calmness, sense of appreciation and overall satisfaction. However, Neighbourhood Park also shows the significant value on a sense of appreciation towards aesthetic preference domain in the open spaces. Hence, aesthetical preference could be improved in all of the typological of open spaces as stated by Jim and Chen (2006) as aesthetic preference can be seen as a range of topics related to the bases for preference, including several issues such as scenic beauty, the degree of cleanliness, and pleasant sounds.

Table 2: Overall Findings on Human-Nature Interaction in Open Spaces

Contact with Nature Domain		Neighbourhood park	Playfield	Local park	Playground	Urban park
CN1	The design of the open spaces allows me to contact with nature	0.0000	0.1448	0.8420	0.0793	0.6119
CN2	I like the natural appearance of the open space	0.0391	0.0664	0.4124	0.0275	0.9085
CN3	I feel calm with the nature provided in the open spaces	0.0025	0.1146	0.6688	0.0000	0.8369
CN4	I can pursue many activities with nature in this open spaces	0.0001	0.1413	0.8490	0.6567	0.0768
CN5	I can appreciate the nature when I'm in the open space	0.0023	0.0782	0.4947	0.5010	0.1223
CN6	Overall, I would rate the nature in this open space as very satisfying.	0.5867	0.6556	0.6172	0.3070	0.3931
Aesthetic Preference Domain						
AP1	The open space allows me to value aesthetic elements	0.1749	0.9512	0.2187	0.8743	0.1656
AP2	I like the natural preference in this open space	0.2517	0.9646	0.0426	0.9267	0.8080
AP3	I feel calm with the aesthetic elements provided in the open space	0.4123	0.6396	0.0168	0.5228	0.5362
AP4	I can pursue many activities in relation with the aesthetic element in this open space	0.8721	0.8439	0.1468	0.6251	0.9159

AP5	I can appreciate the aesthetic elements when I'm in the open space	0.0019	0.7161	0.0441	0.6492	0.0562
AP6	Overall, I would rate the aesthetic preference in this open space as very satisfying.	0.4010	0.0611	0.0152	0.5186	0.1717
Recreational and Play Domain						
RP1	The open spaces allows me to have recreational activities	0.3629	0.0031	0.0199	0.4505	0.2513
RP2	The open spaces provides various activities for recreational purposes	0.6393	0.0079	0.0005	0.9463	0.4982
RP3	I feel calm when doing recreational activities here	0.7070	0.3338	0.0016	0.5816	0.4377
RP4	I can pursue many physical activities in this open spaces	0.1176	0.0136	0.0000	0.2005	0.6688
RP5	There are various facilities provided in the open spaces for recreational activities	0.0311	0.2663	0.0089	0.5784	0.4008
RP6	I normally do recreational activities here alone	0.0546	0.1271	0.0053	0.4970	0.3873
RP7	I normally do recreational activities here with my partner/group	0.7422	0.7491	0.0054	0.7715	0.4960
RP8	Overall, I would rate the recreational activities provided in the open space as very satisfying	0.5120	0.9788	0.0004	0.0207	0.3212

Note:

	Items of significant difference on dependence variable= p-value equal or less than 0.05
	Items of no significant difference on dependence variable= p-value above 0.05

As for recreational activities and play domain, the Local Park shows the most significant numbers for the domain. In comparison, Neighbourhood Park, Playfield and Playground also shows a significant value towards recreational activity and play domain. This is in tandem with the socio-ecological framework proposed by Sallis and Owen (2002) which suggest that users of open spaces would be more physically active if these offer an accessible, safe and attractive place for exercise, which is observed in some walkways used by residents. Moreover, other findings by Merom et al. (2003) and Gies (2006) suggest that close access to open spaces does encourage greater use by local people that contributes to greater physical activity. In relation to this study, all types of open spaces are successfully provided interaction for the recreational activities except for Urban Park. However, in relation to the behaviour mapping analysis, urban park shows among the significant numbers of physical activities in the area. Giles-Corti et al. (2005) argue that attractiveness, size and specific amenities are factors that determine the use of public open spaces, which could be measured to determine the association between physical activity and public space access. Hence, specific amenities could be improved in the urban park to ensure the users' satisfaction towards recreational activities at the open spaces. Table 2 shows the overall findings on human-nature interaction in open spaces.

4.2 Findings on Human-Human Interaction

For this research objective, the findings from this are used to answer the research question. The research question is: "What are the types of human-human interactions do the urban dwellers get from visiting the open space?". Hence, from the exploratory survey conducted suggest that the human-human interaction in open spaces domain can be divided into three which are social interaction, citizen participation and lastly, sense of community. For the social interaction domain, playfield shows that the open spaces give a significant value of 0.0054 compared to the other open spaces. Moreover, the design of the playfield also allows the majority of the users to socially interact with their friends. According to Philips (1996), a good design of open spaces should take consider the needs of the public in regard to their interactions and activities. Moreover, a good design of open spaces also should comprise all range of people and link it to their own human need. In the context of the playfield, the area is sole functions for the football activity. This is then in tandem with Morris (2003) which stated that social interaction may be enhanced by outdoor recreational activities.

However, in terms of happiness, the users in the neighbourhood park tend to have more significant value in comparison to the other types of open spaces. Saleh (1999) stated that several studies expressed great optimism that improved social interactions can be promoted through properly designed urban spaces. These improvements include interactions among and neighbourhood residents as a whole. Hence, open spaces should be clearly designed for the purpose needed. In this study, the playfield and neighbourhood park have successfully fulfilled the function and design for the users for the purpose of social interaction.

As for citizen participation domain, Urban Park has the most significant value in terms of strengthening the relationship among the citizen and concern of what is happening to surround the open spaces. It shows the vitality of promoting citizen participation to achieve a superior design and to foster community support for urban landscapes (Matsuoka & Kaplan, 2008). In comparison with the sense of community domain, Local Park shows the most significant values in terms of the design of the spaces, relationship among users and safety. Stewart et al., (2004) revealed that the presence of public or semi-public outdoor gathering places promotes community identity. In this study, it only shows that the local park is the only typology of open spaces that successfully promotes community identity. Thus it is in tandem improper designs that concentrate on community economics rather than residents' needs (Abu-Ghazze, 1996). Table 3 below shows the overall findings on human-human interaction in open spaces.

Table 3: Overall Findings on Human-human Interaction in Open Spaces

Social Interaction Domain		Neighbourhood park	Playfield	Local park	Playground	Urban park
SI1	I always come here for social interaction with my friends	0.1763	0.6577	0.6617	0.1989	0.2076
SI2	The open space is a suitable place for social interaction	0.4501	0.3012	0.6515	0.0899	0.4986
SI3	I can pursue many social activities in this open space	0.9208	0.6839	0.6287	0.6912	0.4410

SI4	I feel happy doing social interaction in this open space	0.0065	0.2708	0.5198	0.6563	0.7036
SI5	The design of the open space allow me to have social interaction easily with my friends	0.4104	0.0192	0.6784	0.6441	0.8017
SI6	Overall, I would rate the open space with social interaction activities as very satisfying	0.1585	0.0054	0.7232	0.4377	0.6679
Citizen Participation Domain						
CP1	The open space allows me to socialize with other citizens	0.5512	0.1333	0.9863	0.2410	0.3157
CP2	The open space is suitable for citizen participation in the community	0.7787	0.9260	0.7129	0.3910	0.9153
CP3	The open space strengthen the citizen participation regardless of activities and events held here	0.3722	0.8807	0.7789	0.7405	0.0498
CP4	The citizens here concern on what is happening in the open space area	0.5657	0.8085	0.9242	0.7693	0.0291
CP5	Overall, I would rate the citizen participation in this open space as very satisfying.	0.3599	0.7262	0.5009	0.8517	0.1701
The Sense of Community Domain						
SC1	The open space allows me to have community events	0.5304	0.2592	0.1941	0.7157	0.5899
SC2	The open space allows me to know the surrounding citizens of the area	0.5030	0.2840	0.0043	0.2746	0.8914
SC3	The open space strengthen the relationship between the citizens here	0.0001	0.1407	0.0026	0.2893	0.6336
SC4	I feel safe while using the open space	0.7244	0.4615	0.0463	0.6015	0.6488
SC5	I know well other people who are using the open space	0.6276	0.1279	0.1622	0.0016	0.6744
SC6	The community here know and fully utilized the open space	0.3480	0.1359	0.0979	0.1795	0.9285
SC7	Overall, I would rate the sense of community in relation to open space here as very satisfying.	0.2113	0.8285	0.0565	0.2893	0.9424

Note:

 Items of significant difference on dependance variable= p-value equal or less than 0.05
 Items of no significant difference on dependance variable= p-value above 0.05

5.0 Conclusion

The research found that human interactions in open spaces are influenced by the research domain in different ways. There are many factors that affect the human interaction in open spaces such as the neighbourhood area, size of a population, facilities provided and others. Therefore, the influences of each research domain in each study areas are different. Moreover, socio-demographic and users profile variable that contribute to the visit to the open spaces are also being identified. Thus, the results and findings gathered to form the accomplishment of this research objectives can point towards the proposing of research recommendations and further research.

Acknowledgements

The authors would like to thank all officers of Taylors University and Research Management Institute of Universiti Teknologi MARA particularly whom in charge of this research grant. Special acknowledgements to the co-researchers in supporting the success of this research.

References

- Abu-Ghazzeah, T.M., (1996). Reclaiming public space: the ecology of neighborhood open spaces in the town of Abu-Nuseir, Jordan. *Landscape Urban Plan.*36, 197–216.
- Agency, C. I. D. (2012). *Indicators for Sustainability: How Cities are Monitoring and Evaluating Their Success* (84). Canada.
- Ali, S. M., & Nawawi, A. H. (2006). *Factors That Influence User's Satisfaction on Urban Park: Comparison Between KLCC Park and Subang Recreational Park*. Universiti Teknologi Mara.
- Chiesura, A. (2004). The role of urban parks for the sustainable city. *Landscape and Urban Planning*, 68(1), 129–138. doi:10.1016/j.landurbplan.2003.08.003
- Department of Town and Country Planning of Peninsular Malaysia (2013). *Planning guidelines of open spaces and recreation areas*. Ministry of Housing and Local Government.
- Gobster, P.H., (2001). Visions of nature: conflict and compatibility in urban park restoration. *Landscape Urban Plan.* 56, 35–51.
- Ilia, F., Omar, D., & Hanita, N. (2013). Human Interaction in Open Spaces, (December), 17–18.
- Ilia, F., Omar, D., & Hanita, N. (2014). Theoretical Review on Sustainable City Indicators in Malaysia, 04.
- Jim, C.Y., Chen, W.Y., (2006a). Recreation-amenity use and contingent valuation of urban greenspaces in Guangzhou. China. *Landscape Urban Plan.* 75, 81–96.
- Jim, C.Y., Chen, W.Y., (2006b). Impacts of urban environmental elements on residential housing prices in Guangzhou (China). *Landscape Urban Plan.* 78, 422–434.

- Mamaghani, N. K., Asadollahi, A. P., & Mortezaei, S.-R. (2015). Designing for Improving Social Relationship with Interaction Design Approach. *Procedia - Social and Behavioral Sciences*, 201(February), 377–385. <https://doi.org/10.1016/j.sbspro.2015.08.190>
- Mansor, M., Said, I., & Mohamad, I. (2010). Experintal Contacts with Green Infrastructure's Diversity and Well Being of Urban Community. *Asian Journal of Environment-Behaviour Studies*, 31-47
- Marzukhi, M. A., Karim, H. A., & Latfi, M. F. (2012). Evaluating the Shah Alam City Council Policy and Guidelines on the Hierarchy of Neighborhood Open Space. *Procedia - Social and Behavioral Sciences*, 36(June 2011), 456–465. doi:10.1016/j.sbspro.2012.03.050
- Marzukhi, M. A., Omar, D., Oliver, L. H. L., Hamir, M. S., & Barghchi, M. (2011). Malaysian Urban Indicators Network : A Sustainable Development Initiative in Malaysia, 25(1), 77–84.
- Matsuoka, R. H. (2008). High school landscapes and student performance, 121
- Matsuoka, R. H., & Kaplan, R. (2008). People needs in the urban landscape : Analysis of Landscape And Urban Planning contributions, 84, 7–19. doi:10.1016/j.landurbplan.2007.09.009
- Omar, D., Illia, F., & Hanita, N. (2015). Human Interaction in Open Spaces, 01, 1–9.
- Philips, L.E., (1996). *Parks: design and management*, United States of America: McGrawHill.
- Saleh, M.A.E., (1999). Reviving traditional design in modern Saudi Arabia for social cohesion and crime prevention purposes. *Landscape Urban Plan.* 44, 43–62.
- Sas-Bojarska, A., & Rembeza, M. (2016). Planning the City Against Barriers. Enhancing the Role of Public Spaces. *Procedia Engineering*, 161, 1556–1562. <https://doi.org/10.1016/j.proeng.2016.08.626>
- Sekaran, U. (2013). *Research methods for business. Research methods for business* (Vol. 65). <https://doi.org/10.1017/CBO9781107415324.004>
- Stewart, W.P., Liebert, D., Larkin, K.W., (2004). Community identities as visions for landscape change. *Landscape Urban Plan.* 69, 315–334.
- Wu, J. (2014). Public open-space conservation under a budget constraint. *Journal of Public Economics*, 111, 96–101. doi:10.1016/j.jpubeco.2013.12.008
- Xu, L., You, H., Li, D., & Yu, K. (2016). Urban green spaces, their spatial pattern, and ecosystem service value: The case of Beijing. *Habitat International*, 56, 84–95. <https://doi.org/10.1016/j.habitatint.2016.04.00>
- Yung, E. H. K., Conejos, S., & Chan, E. H. W. (2016a). Public open spaces planning for the elderly: The case of dense urban renewal districts in Hong Kong. *Land Use Policy*, 59, 1–11. <https://doi.org/10.1016/j.landusepol.2016.08.022>