Human Interaction in Urban Open Spaces

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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

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


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 subsessions 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>
<thead>
<tr>
<th>Contact with Nature Domain</th>
<th>Neighbourhood park</th>
<th>Playfield</th>
<th>Local park</th>
<th>Playground</th>
<th>Urban park</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN1 The design of the open</td>
<td>0.0000</td>
<td>0.1448</td>
<td>0.8420</td>
<td>0.0793</td>
<td>0.6119</td>
</tr>
<tr>
<td>spaces allows me to contact</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with nature</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CN2 I like the natural</td>
<td>0.0291</td>
<td>0.0664</td>
<td>0.4124</td>
<td>0.0275</td>
<td>0.9085</td>
</tr>
<tr>
<td>appearance of the open</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>space</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CN3 I feel calm with the</td>
<td>0.0025</td>
<td>0.1146</td>
<td>0.6688</td>
<td>0.0000</td>
<td>0.8369</td>
</tr>
<tr>
<td>nature provided in the</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>open spaces</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CN4 I can pursue many</td>
<td>0.0011</td>
<td>0.1413</td>
<td>0.8490</td>
<td>0.6567</td>
<td>0.0768</td>
</tr>
<tr>
<td>activities with nature in</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the open spaces</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CN5 I can appreciate the</td>
<td>0.0023</td>
<td>0.0782</td>
<td>0.4947</td>
<td>0.5010</td>
<td>0.1223</td>
</tr>
<tr>
<td>nature when I'm in the</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>open space</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CN6 Overall, I would rate</td>
<td>0.5867</td>
<td>0.6556</td>
<td>0.6172</td>
<td>0.3070</td>
<td>0.3931</td>
</tr>
<tr>
<td>the nature in this open</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>space as very</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>satisfying</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Aesthetic Preference Domain</th>
<th>Neighbourhood park</th>
<th>Playfield</th>
<th>Local park</th>
<th>Playground</th>
<th>Urban park</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP1 The open space allows</td>
<td>0.1749</td>
<td>0.9512</td>
<td>0.2187</td>
<td>0.8743</td>
<td>0.1656</td>
</tr>
<tr>
<td>me to value aesthetic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>elements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AP2 I like the natural</td>
<td>0.2517</td>
<td>0.9646</td>
<td>0.0426</td>
<td>0.9267</td>
<td>0.8080</td>
</tr>
<tr>
<td>preference in this open</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>space</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AP3 I feel calm with the</td>
<td>0.4123</td>
<td>0.6396</td>
<td>0.0168</td>
<td>0.5228</td>
<td>0.5362</td>
</tr>
<tr>
<td>aesthetic elements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>provided in the open space</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AP4 I can pursue many</td>
<td>0.8721</td>
<td>0.8439</td>
<td>0.1468</td>
<td>0.6251</td>
<td>0.9159</td>
</tr>
<tr>
<td>activities with the</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aesthetic element in this</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>open space</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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-Ghazaleh, 1996). Table 3 below shows the overall findings on human-human interaction in open spaces.

<table>
<thead>
<tr>
<th>Social Interaction Domain</th>
<th>Neighbourhood park</th>
<th>Playfield</th>
<th>Local park</th>
<th>Playground</th>
<th>Urban park</th>
</tr>
</thead>
<tbody>
<tr>
<td>SI1</td>
<td>I always come here for social interaction with my friends</td>
<td>0.1763</td>
<td>0.6577</td>
<td>0.6617</td>
<td>0.1989</td>
</tr>
<tr>
<td>SI2</td>
<td>The open space is a suitable place for social interaction</td>
<td>0.4501</td>
<td>0.3012</td>
<td>0.8515</td>
<td>0.0899</td>
</tr>
<tr>
<td>SI3</td>
<td>I can pursue many social activities in this open space</td>
<td>0.9208</td>
<td>0.6839</td>
<td>0.6287</td>
<td>0.6912</td>
</tr>
</tbody>
</table>

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

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References


