Conductive Outdoor Spaces in Residential Neighbourhoods

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Abstract: lack of conductive open spaces in residential neighbourhoods decrease the chance for informal interaction among residents. Isolation, feeling of low confidence and fear are unpleasant effects of such an unfriendly environment. Also, it has negatively contributed to neighborhoods as inhospitable hosts for human to live, build a family, develop a community, and also interact with their natural environment. This study was conducted using questionnaires and interviews with residents and built environment professionals on the types of share-space and activities which are most preferred by urban residents in Kuala Lumpur, Malaysia. The locations selected were several medium density residential complexes in and around Kuala Lumpur. To determine respondents' preferences for outdoor activities and outdoor spaces, two sets of questions were presented to the respondents. One set for outdoor spaces and the other one for outdoor activities. In the first set of items a range of outdoor spaces was addressed and in second set of items different activities were presented. Respondents were asked to answer each set of questions by selecting their preferred outdoor activities and outdoor spaces. Respondents were also interviewed to confirm the result and find out whether they have other particular preference for outdoor spaces and activities. Results indicate that people prefer to have swimming pools, BBQ, gardens, and restaurants in the shared spaces, respectively. They have also expressed their interest for swimming, jogging and gathering as preferred outdoor activities in residential areas.

Key words: landscape, shared-space, semi-public spaces, neighborhoods, urban design, active open space, preference.

INTRODUCTION

Zoning and improper design of residential developments caused lack of semi public and open spaces for people to participate in physical, social, and recreational activities and socialize with neighbours. This has a great effect on residents' mental and physical health. Furthermore, it can bring isolation to the neighbourhood area. As a result sense of safety, surveillance and satisfaction can be affected, especially in suburban and deprived neighbourhoods.

As humans we live in a diverse set of physical spaces from private to public, small to large, provocative to gloomy, safe to dangerous. There are also other sets of spaces that we formulate our own personal meaning for them. This meaning may not always be the same from one person to another and it provides the basis for people to interact with the environment. In a previous study, Lee *et al., 2008* discussed about the importance of interrelationship between people and environment. Based on theories and models of human–environment relationships they suggest that human perception is essential to understand the interlocking relationship between humans and landscapes.

Matsuoka and Kaplan 2008 categorized human needs in urban landscape into two main categories; *nature needs and human interaction needs* and further divided these into three sub categories. The *Nature needs* are more directly linked with the physical features of the environmental settings, while for the *Human-interaction needs*, the role of the environment is less direct. *The Nature needs* were divided into: *contact with nature, aesthetic preference, recreation and play.* The Nature needs designation refers to the wide range of ways in which human needs or purposes are met by the natural environment. *The Human interaction need* was divided into: *social interaction, sense of community and identity, participation in design process.*

Another work (Tress, 2001) explained that people affect the landscape, through their actions, and in turn, the landscape affects people by means of its appearance. People perceive landscapes and reflect upon them.

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What is more, landscapes have a symbolic dimension, and aspects of landscapes can be recognized as familiar or alien, welcoming, or excluding. Landscape architects and planners need to be aware of how places may be interpreted in different ways. To do so, landscape designers and urban planners require to identify public preferences and needs to design and plan pleasant spaces for people to increase human environment interaction and support (Rishbeth, 2001).

One of the important spaces that make up part of people's everyday life is neighbourhood. Neighbourhood is an important key component of a community. Achieving a sustainable neighbourhood is inevitable in order to achieve sustainable community. Neighbourhood is socially defined as 'a natural pedagogic unit reflecting the larger units of human culture, potentially giving children their first insights into human interaction, acting, basic behaviour and the conditions for love, friendship and trust' (Nelischer, 1997).

Sense of community and satisfaction are important social issues in residential communities. Sense of community reflects perceived neighbourliness and feeling of belonging (Kearney, 2006). Neighborhood satisfaction and physical activity is relatively linked to the number of recreational values near residents' houses (Björk, 2008). Residential satisfaction and attachment are predicted by presence and accessibility of commercial facilities, pleasant places and possibility to carry out leisure activities (Aiello, 2010). What is more, people who are very pleased with their habitation would appreciate aesthetic qualities of that environment, whereas people who experienced social or physical problems in such areas would rarely admit any positive sensory impressions (Berg, 2004).

Leyden (2003) suggests that the design of communities and neighbourhoods affects social capital and thus physical and mental health. Results of his study indicate that in walk-able, mixed-use neighbourhoods, which increase unintentional contacts, residents are more likely to know their neighbours, to participate politically, to trust others, and to be involved socially. Separate studies on the role of green environment show that people have strong preference for presence of urban nature. These natural environments in urban housing projects enhance the relations among neighbours, decrease violence, affect mood change and increase overall satisfaction with one's home. Moreover, the strength of neighbourhood social ties and sense of community among older adults can be predicted by the use of green outdoor common areas (Abkar, 2011; Kuo, 1996; Mostyn, 1979; Abkar, 2010). Effectively, communities that promote exercise and activity have healthier residents. In a recent work by Björk *et al.,* 2008, they emphasized that immediate access to natural environment and recreational landscape is expected to reduce obesity and stress by increasing satisfaction about neighborhood and time spent on physical activity.

On the other hand, psychology has an increasing role to play in addressing people-environment congruity. People-environment congruity refers to the interrelation between the individual and his or her environment, considering the match between individual life satisfaction and objective standards of living. This overall view to people and environment leads us to consider the residential environment as the place where people-environment congruity is crucial for social expression of well-being (Moser, 2009).

While awareness about quality of life and pleasantness increase among people, landscape and environment could not be discussed as a physical concept only without addressing interrelationship between people and environment. Humans and landscapes are interactive and understanding their relationship is important to avoid the creation of adverse environments for both humans and landscapes.

In terms of sustainability, Junker and Buchecker 2007 call attention to ecological and aesthetic landscapes and landscapes that evoke approval and enjoyment, which are more sustained by applying appropriate human care over the long term.

Finally, there is a relevant relationship between human attitude and monetary valuation of environmental goods and open spaces. This can emphasize on the need to explore the potentials of these open spaces and natural landscapes to enhance urban social wellbeing (López-Mosquera, 2010).

2.0 Methodology:

This study employed a mix-method approach as described below. The study was conducted quantitatively using survey questionnaires and qualitatively through interviews with residents and built environment professionals. These were carried out at several selected medium density residential complexes in and around Kuala Lumpur. The respondents of two target groups were found through a quota sampling technique. A total of 70 respondents from medium density residential developments in Kuala Lumpur volunteered to participate in this study. Respondents were randomly selected from different ethnic groups in Malaysia. These included Chinese, Malays, Indians and others. The first group consisted of 44 residents of various gender, age, and ethnic groups while the second group were made up of 26 landscape experts working in Kuala Lumpur.

The data collection instrument for this study was the questionnaire. The questionnaire consists of three sections. Section 1 dealt with respondent's demographic information such as gender, race, education and income. Section 2 and 3 are preferences for favoured outdoor spaces followed by preferred outdoor activities. The respondents were asked to mark their preferred outdoor spaces in response to a question posed "*Please indicate your preferred outdoor spaces in your residential area for whatever reasons.*"

Then a range of spaces was offered according to existing outdoor spaces in Malaysia. Outdoor spaces represented different activities such as sport and exercising (swimming pool, tennis court, boating and equestrian park), gathering and eating (BBQ, restaurant and bar) and contact with nature and aesthetic (garden). However swimming pool, boating and equestrian park also had aesthetic value dimension.

The Section 3 consisted of a set of questions about preferred activities in shared-space in response to a question posed "*What is your favourite activity in shared-spaces?*" Then a range of activities from exercising, swimming, jogging, gathering, eating and BBQ were presented to the respondents.

The study was conducted in several medium density residential areas in Kuala Lumpur. The questionnaires were administered by hand to residents of several residential areas .Then a group of landscape architects were also randomly chosen as respondents. This expert group consists of professionals working on landscape related issues on a regular basis such as policy, education, research or management. The inclusion of this latter group was to compare preferences between the public and the experts as some studies point to discrepancies in opinion between expert and the public. Once the respondents were identified, they were administered with a questionnaire based interview and their responses were recorded. Finally the result was analyzed using SPSS-15.

RESULTS AND DISCUSSION

3.1 Background of Respondents:

This section provides a description of the respondents' profile. There were 36 female and 34 male respondents participated in this survey (Figure I.)

Fig. I: Respondents' Gender.

Figure II shows respondents' race. The three major races of Malaysians and some foreign students who were studying in Malaysian universities and living in the residential areas. They consisted of 22 Chinese (31%), 19 Malay (27%), 11 Indians (16%) and 18 respondents of other nationalities including Australians, Persians, Japanese and Arabs which labelled as others (26 %).
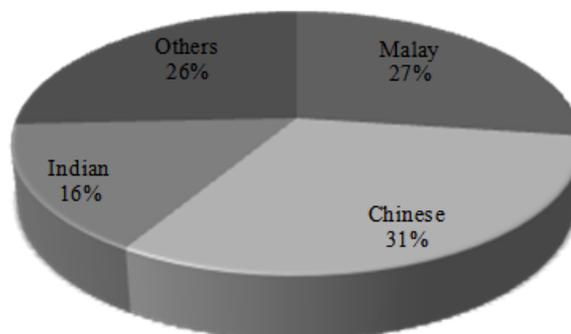

Fig. II: Respondents' Race.

Figure III shows the level of education of respondents. Most of the respondents (84%) had academic qualification with 53% of them possessing a bachelor's degree only, 21% with a master's degree and 10% had a doctoral degree. Others (16%) had a diploma level education.
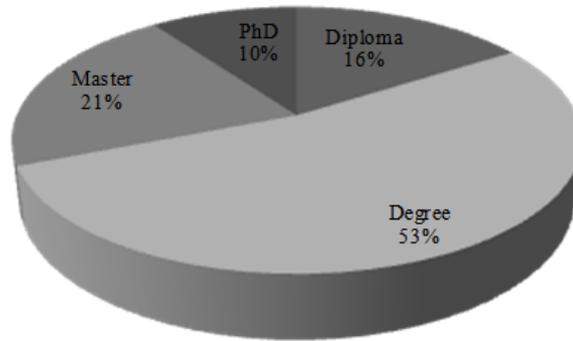

Fig. III: Education of Respondents.

Respondents population consisted of 37% related professionals made up of landscape architects, architects, planners, and interior designers and 63% non related professions (Figure IV).
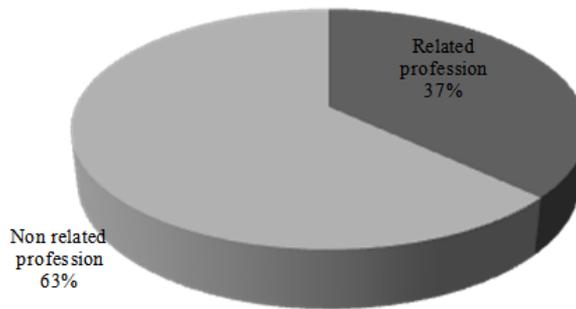

Fig. IV: Respondents Profession.

Figure V demonstrates respondents' monthly income. As can be seen the minority of respondents have more than RM 10,000 (RM: Malaysian Ringgit) incomes. This pie chart also shows around 77% of respondents have less than RM 5000 income, including 40% RM 2001-5000 and 37% less than RM 2000.
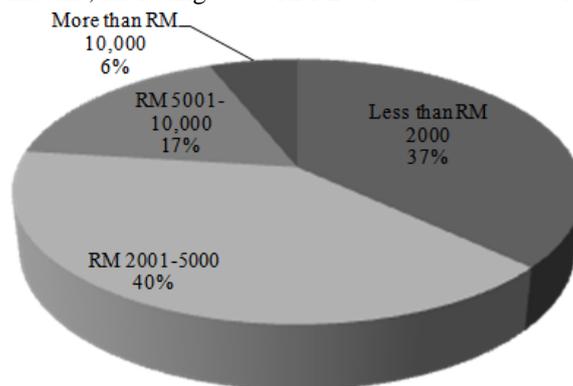
Fig. V: Distribution of Income.

3.2 Preference for Shared-space:

Two questions were posed to respondents to elicit their preferences for shared-space. In the first question 7 types of shared-space were listed. These were swimming pool, equestrian park, tennis court, boating, restaurant and bar, BBQ and garden. Respondents were asked to answer this question by choosing types of outdoor space that they prefer in their residential area.

Table I: Preference Description for Outdoor Space.

TYPE OF OUTDOOR SPACE	N	MEAN	STD. DEVIATION
SWIMMING POOL	70	.76	.60
EQUESTRIAN PARK	70	.23	.42
BBQ	70	.56	.50
TENNIS COURT	70	.27	.45
RESTAURANT & BAR	70	.43	.50
BOATING	70	.10	.30
GARDEN	70	.46	.50
TOTAL	70		

Data was analyzed using descriptive analysis and the mean difference was analyzed using an independent sample t-test. Table I shows respondents preference for shared-space. Swimming pool received the highest mean score among the other presented variable (mean=.76, sd=.60) which indicates that swimming pool is the most preferred space for shared-space. This is followed by presence of BBQ (mean=.56, sd=.50), Garden (mean=.46, sd=.50) and restaurant and bar (mean=.43, sd=.50). Presence of tennis court (mean=.27, sd=.45) and equestrian park (mean=.23, sd=.42) appear to be of lesser importance and boating seems to be the least important (mean=.10, sd=.30) on respondents' mind when dealing with their preferred shared-space.

Table II shows mean comparison for outdoor preferences between ordinary public and professionals.

Table II: Independent Sample T-test Between Professionals and Non-professionals for Shared-space Preference.

Type of Outdoor Space	Group	N	Mean	Std. Deviation	t	df	Pvalue
Swimming pool	Non pro	44	.82	.66			
	Professional	26	.65	.48	1.2	64.49	.24
Equestrian park	Non pro	44	.30	.46	1.75	68	.08
	Professional	26	.12	.33			
BBQ	Non pro	44	.50	.51	-1.25	68	.22
	Professional	26	.65	.48			
Tennis court	Non pro	44	.25	.44			
	Professional	26	.31	.47	-.51	49.58	.61
Restaurant & bar	Non pro	44	.41	.50			
	Professional	26	.46	.51	-.42	51.66	.68
Boating	Non pro	44	.16	.37	2.19	68	.03
	Professional	26	.00	.00			
Garden	Non pro	44	.36	.49			
	Professional	26	.62	.50	-2.07	51.77	.04

The independent t-test reveals that the pattern of differences between professionals and non-professionals is significant for preference of boating and garden. The comparison between professionals and non professionals shows that having garden in residential environment is mainly preferred by professionals. While, having boating facility in shared-space is more preferred by non professionals.

The second question on shared-space preference section listed 5types of activities and respondents were asked to mark their preferred activity in shared-space. Table 3 shows the result for this question.

Table III: Preference Description for Preferred Activity Within the Shared-space.

Type of Activity	N	Mean	Std. Deviation
Gathering	70	.46	.50
Swimming	70	.53	.50
Exercising	70	.21	.41
Jogging	70	.49	.50
Eating & BBQ	70	.29	.45
Total	70		

Results (as shown in Table III) indicate that the most preferred activity in shared-space is swimming (mean=.53, sd=.50). This is followed by jogging (mean=.49, sd=.50) and gathering (mean=.46, sd=50). Respondents show less preference for eating and BBQ and exercising (mean .30<).

An independent sample t-test was conducted to analyse the pattern of preference for activity within the shared-space amongst professionals and ordinary people; table IV. As can be seen the pattern of differences is not significant.

Table IV: Independent Sample T-test Between Professionals and Non-professionals for Preferred Activity Within the Shared-space.

Type of Activity	Group	N	Mean	Std. Deviation	t	df	Pvalue
Gathering	Non pro	44	.45	.50	-.06		
	Professional	26	.46	.51		52.20	.96
Swimming	Non pro	44	.61	.49	1.87		
	Professional	26	.38	.50	-1.47	52.29	.07
Exercising	Non pro	44	.16	.37		68	.15
	Professional	26	.31	.47			
Jogging	Non pro	44	.41	.50	-1.68		
	Professional	26	.62	.50		52.70	.10
Eating & BBQ	Non pro	44	.25	.44	-.83		
	Professional	26	.35	.48		48.36	.41

4.0 Conclusion:

Individuals' interaction with built environment and their relationship is critical to avoid planning and design of unfavourable landscapes. This is particularly essential for residential developments and neighbourhoods which is a key component to achieve a sustainable society.

Use of both types of natural and semi developed areas positively predict sense of community. This effect is likely a function of increased opportunities for social interaction which is the production of these shared areas [6].

The findings of our study, which aimed to identify people's preference for shared-space in tropical urban neighbourhoods, indicate that people prefer to have recreational environment and physical activities within their neighbourhood. Preference for presence of swimming pool can be in response to tropical climate, which make swimming a favourable exercise. Also, take into account the cooling effect of swimming pool on the surrounding environment. Choosing garden and swimming pool as preferred outdoor spaces can be due to preference for having pleasant view within the residential area. The significant difference between professionals and ordinary people in selecting garden as preferred shared-space highlights the fact that professionals are more concern about environmental aspect of the shared-space.

Moreover, this result reveals that people are concern about their health by marking swimming and jogging as their most favoured activities within the shared-space. Meanwhile, preference for having gathering as one of favoured activities and BBQ, restaurant and bar amongst preferred spaces can be a response to the need for increasing social interaction within the residential area.

This result can be a clue in designing residents' friendly shared-space in residential developments. This can increase social interaction and physical activities in public and semi public environments in order to have healthy communities.

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