

## FACTORS AFFECTING YOUNG PEOPLE'S TO USE PUBLIC OPEN SPACE AT DATARAN CENTRIO SEREMBAN 2, NEGERI SEMBILAN

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### ABSTRACT

*Public open space is a main component of urban space that caters the urban public life daily. In Malaysia, the number of open spaces that are gazetted by the local authority is increasing in line with the rapid development of new areas. Indeed, public open spaces, such as parks and green spaces appear to be key built environment settings that provide opportunities for a variety of physical activity. However, not all public open spaces are equally effective in promoting physical activities. The existing public open space is still lacking of appropriate space for young people to do physical activities. This area is given less emphasis on young people because it was designed for various type of people. Young people as they are energetic and eager to explore new experience, they need some space to spend their leisure time and to express themselves with the activities. This study attempts to answer these questions by carrying out survey using questionnaire to explore factors that affect the use of public open space as place for physical activities and to recommend measures for improving the use of public open space for physical activities. In order to answer these objectives, survey was conducted among a random sample of young people (n=100) who visited Dataran Centrio, Seremban 2. Data collected was analysed using SPSS 19 and the result showed the activities the young people that are engaged in and factors that influenced them to use the space for physical activities. The study found that most of the respondents preferred to do physical activities because of the facilities provided.*

**Keywords:** *Public Open Space; Physical Activities; Urban Area, Young People, Attracting Places*

### ABSTRAK

*Ruang terbuka awam adalah komponen utama ruang bandar yang memenuhi keperluan kehidupan harian bandar. Di Malaysia, jumlah ruang terbuka yang diwartakan oleh pihak berkuasa tempatan meningkat sejajar dengan perkembangan pesat kawasan-kawasan baru. Malah, ruang terbuka awam, seperti taman dan ruang hijau menjadi kunci kepada pembangunan alam bina yang memberi peluang kepada pelbagai aktiviti fizikal. Walau bagaimanapun, tidak semua ruang terbuka awam berkesan dalam mempromosikan aktiviti fizikal. Ruang terbuka awam sedia ada tidak mempunyai ruang yang sesuai untuk golongan muda melakukan aktiviti fizikal. Kawasan ini kurang memberi penekanan kepada golongan muda kerana ia direka untuk semua golongan. Golongan muda merupakan golongan yang bertenaga dan bersemangat untuk mencuba perkara baru, mereka memerlukan*

ruang yang bersesuaian untuk menghabiskan masa lapang dan melakukan aktiviti-aktiviti mereka. Kaji selidik telah dijalankan terhadap responden untuk mengkaji faktor yang mempengaruhi penggunaan ruang terbuka awam sebagai tempat untuk aktiviti fizikal dan mencadangkan langkah-langkah bagi meningkatkan penggunaan ruang terbuka awam untuk aktiviti fizikal. Bagi mencapai objektif ini, satu tinjauan menggunakan soal selidik telah dijalankan di kalangan responden golongan muda ( $n = 100$ ) yang melawat Dataran Centrio, Seremban 2. Data yang dikumpul dianalisis dengan menggunakan SPSS 19 dan dapatan menunjukkan aktiviti yang terlibat dan faktor yang mempengaruhi mereka untuk menggunakan ruang untuk aktiviti fizikal. Kajian mendapati kebanyakan responden lebih suka melakukan aktiviti fizikal kerana kemudahan yang disediakan.

**Kata Kunci:** Ruang Terbuka Awam, Aktiviti Fizikal, Kawasan Perbandaran, Golongan Muda, Tempat Menarik

## INTRODUCTION

Public open space is a main component of urban space that caters to the urban public life daily. The amount of green space in a neighbourhood is significantly correlated with the health of its residents (Maas, Verheij, Groenewegen, De Vries, & Spreeuwenberg, 2006); (Villanueva *et al.*, 2015). Public open spaces give more benefits in promoting health by relieving mental fatigue (Kaplan, 2001), reducing mortality rate (Mitchell & Popham, 2008), promoting physical activities (Koohsari *et al.*, 2015) and decreasing stress levels (Nielsen & Hansen, 2007). Therefore, providing high-quality public open space should become priority in urban planning (Schipperijn *et al.*, 2010). In Malaysia, the number of open spaces that are gazetted by the local authority increase in line with the rapid development of new areas. It will continue to increase as the guidelines of open spaces development are finalized. These guidelines required that is necessary for any development of new areas to allocate ten percent of the development as open space and should handed over to local authority (Planning, 2013).

Indeed, Bedimo-Rung, Mowen, and Cohen, (2005) reported that various of physical activities such as recreational walking and playing sports will appear in consequences of public open spaces, such as parks and green spaces, which becomes a key-environment setting. Findings from Planning (2011) showed that public open space may increase recreational activities of users. Tzoulas, *et al.* (2007) also reported a similar finding in North America and other parts of the world that more activities in public open spaces bring health benefits to urban residents.

However, not all public open spaces are equally effective in promoting physical activities. Similarly, Marzuki, Karim & Latfi (2012) also found that the existing public open space does not meet the young

people's need. A thorough understanding of the key characteristics that encourage urban residents to use urban public open space is important for planning and managing these spaces. Surveys of people who use public open spaces revealed a wide range of influencing factors, including the quality of shade and vegetation (Chen, Liu, & Liu, 2016), adequacy of facilities (Shi, Gou, & Chen, 2014), accessibility of public spaces (Abbasi, Alalouch, & Bramley, 2016), safety concerns (Yung, Conejos, & Chan, 2016), and maintenance and management (Abbasi, Alalouch, & Bramley, 2016b). Surveys also showed that the social context determined by demographic factors (Sugiyama, Francis, Middleton, Owen, & Giles-Corti, 2010) and the socio-economic backgrounds of users (Low, Taplin, & Scheld, 2009) had a strong influence on the use of public open spaces.

Currently in Malaysia, the existing public open space is still lacking of appropriate public open space for young people to do physical activities. Young people in this paper are defined as "that person between the ages from 15 to 24 years" (Lim, W., 2011). This area is given less emphasis on young people because public open space was designed for various types of people. The young people are energetic and eager to explore new experience; they need some space or place to spend their leisure time and to express themselves with the activities. Rapid development for public open space has been increasing, but the design preferred by several of user groups is still vaguely uneven. For instance, young people found a large group of public open space, yet are largely ignored. Many open space areas today are not well designed to meet the needs and preference of young people's behaviour. This study focussed on the basic understanding of the relationship between public open spaces feature and their usage. Nevertheless, due to limited time and resource the survey has been conducted on a selected site including a small number of participants which affected may affect the generalization of findings.

The objectives of this study are 1) to determine the type of physical activities in which young urban in Seremban 2 normally engaged in at public open space; 2) to explore the factors that affect the use of public open space as place for physical activities.

## LITERATURE REVIEW

### **Public Open Space Definition**

There are various definitions of open space although the word is used widely in everyday life. A variety of terms such as streets, green areas, parks, plaza and many more can be listed under this part of space. In addition, diverse terms are found in literature, policies and legislations that are used to define public open space.

Several authors for instance Oldenburg (1989), Carr, Rivline, & Stone, (1992) and Beck (2009) had define public open space based on their perspectives. The Town and Country Planning Act (Amendment) 1995, Act (A933) in Section 2 (f) defined open space as: “whichever land that is either bordered or not that has been specialized or reserved fully or only a fraction as a public botanical garden, public park, sport field and public recreational”. In addition, Marzuki *et al.* (2012) in her study defined public open space as “a pavement or public park or public open space to carry out distinctive or collective activities” (pg. 458).

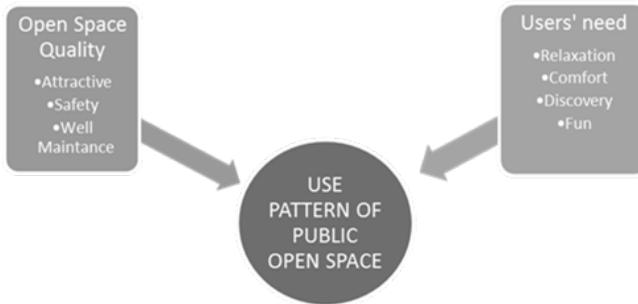
### **Use pattern of Public Open Space**

In designing public open space, a major problem is to understand users’ needs and expectations. Francis, (2003) in his book said that there are four categories of users’ needs in public open space which are passive & active engagement, comfort, relaxation, discovery and fun. In addition, Project for Public Space (2000) reported that accessibility, comfort and sociability may influence user to visit public open space. Gehl (2007) in his study found that high-quality, safety and functionality are the important factors that need for well-design open space.

Another major issue in designing public open space is quality of public open space. Gehl (2007) reported that outdoor activities can be categorised into three types which are necessary, optional and social activities. Necessary activities occur when people do them nevertheless the environmental condition of public open space. Optional activities are generally related to pleasure and self-fulfillment; physical condition of open space that attract them to do. Meanwhile social activities are those activities that required interaction between people. Recently nevertheless people have changed their lifestyle into optional activities from necessary activities. Gehl (2007) found that quality open space become priority to communities in assisting interaction between them. In addition, positive impact on social, economic and environmental value will be achieved in consequences of high quality and well managed open space. CABE (2005) added that well design public open space benefit users whereas poorly managed and maintained would affect the surrounding area negatively. Gehl (2007) in other hand argue that necessary activities occur when public open space in poor condition. Nonetheless, positive activities such as busking or playing music will occur when public open space in good quality.

Beside the users’ needs and quality of open space, there is related literature which is focuses on relation between people behaviour and spatial structure of built environment. This idea introduced by Hillier and Hanson (1984) known as Space Syntax theory. Several quantitative measures of how spaces are connected to each other have been developed with space

“Integration” being the most important one. Hiller (1985), Hillier (1993) and Ozer and Kobart (2007) reported that strong relationship between open space integration value and density of people in the space with more visible and more accessible spaces encourages more movement and activities, whereas segregated spaces are less inviting. In fact, Alalouch and Aspinall (2007) found that space syntax measure are related not only people behaviour but also perception. In summary, the three main components that influence use pattern which has discussed above are shown in Figure (1).



**Figure 1: A framework measuring public open space and physical activities**

### Measuring public open space related physical activity

Impact of public open space toward physical activities can be categorised into three ways. First, public open space can be a venue for physical activities where people engage. Second, public open space can be a place to which people actively travel either to be active or simply to socialise. Finally, public open space can be used as part of a route to pass through to reach another destination (e.g., passing through a greenway to reach a shop) or as part of a recreational walk or running route. Hence public open space can contribute to various type of physical activities behaviour. For example, public open space as a thoroughfare is related to active travel, as a destination to either active travel or recreational physical activity, or public open space as a setting might be related to recreational walking or cycling, running, formal or informal sport, or children’s active play. To date, few studies have attempted to understand the variety of ways public open space influence physical activity, or used context- and behavior-specific physical activity measures to examine relationships between public open space attributes and physical activity (Coombes *et al.*, 2013; Dunton *et al.*, 2014).. Exploring physical activity related to public open space will help strengthen the evidence about the variety of ways public open space influences specific types of physical activity, thereby enabling urban designers and landscape architects to design public open space that target specific physical activity behaviors.

## METHOD

### The Case Study

The case study in this research is Dataran Centrio Seremban 2, Negeri Sembilan. It is a public open space surrounded with commercial and residential area. A 6.5 acre public open space was selected because the area becomes attraction for young people to spend their time with physical activities. The development of Seremban 2 consist of multiple range of developments such as affordable apartment, super-link houses and semi-detached houses also exclusive gated bungalows. Now, Seremban 2 become home to state government and local authorities which comprises residential communities, schools, park and many more.



**Figure 2:** Dataran Centrio (Point A) at the center surrounded by commercial and residential area

(Source: Urban and Regional Planning Department, Seremban Municipal Council)

### Questionnaire Survey

In addition to theories and precedents from literature review, this study used a questionnaire survey to discover the factors influence use of public open space in urban area for physical activities. The data collection was conducted by administering a questionnaire which consists of structured and open ended questions with approximately 16 questions. The questionnaire consisted of three sections as follow: (1) users' profile; (2) the type of activities engaged in the public open space; and (3) the perception about public open space for physical activities. The measurement of the perception of the use of public open space for physical activities used a 3 point Likert scale ranging from "1" for disagree "2" for neither agree

or disagree and “3” for strongly agree. Using the mean value of the scale “1.5” is considered midpoint. Thus any value above “1.5” is considered as “agree”. Similarly, any value below “1.5” is considered to disagree. Three-point Likert scale used because this kind of scale can make a compromise between the conflicting goals of offering enough choice and making things manageable for respondents. In addition, it is mostly recommended from previous studies (Zhang, Yang, Ma, & Huang, 2015).

The responses to this questionnaire will be rated in percentages and showed in charts. Descriptive analysis has been chosen to analyse percentage of each components in this survey. SPSS 19 software was used to analyse data and the result are presented in a form of percentage.

The combination of the user’s responses with the observation of their activities provided a more developed picture of the lived experience of the young people using Dataran Centrio for physical activities. The methodology of this survey summarized in demographic information background (see table 1).

## **ANALYSIS AND RESULTS**

This analysis is primarily descriptive. This paper discussed and described result obtains from the field survey factor influences the use of open space. A total of 100 participant (n=100) took part in the survey. The study was conducted from 30th April 2016 to 3rd May 2016 at Dataran Centrio Seremban 2.

### **Young People Demography**

The respondent consisted of 53.0% male (n=53) and 47.0% female (n=47) with a total of 100 participants. Among those participants the results show (table 1) that age group range between 20-24 years is the highest numbers of respondent with 41% (n=41) involved in this study. This is possible because young people in this range of age are very active. In term of races, Malay dominated the total number of participants with 68.0% (n=68) compared to Chinese 10.0% (n=10) and Indian 21.0% (n=21). This is because the public open space is located in the middle of Malay majority residential area.

**Table 1: Demographic background of survey participant's information**

Item	Sub Item		
	Descriptions	Frequency	Percentage %
Gender	Male	53	53.0
	Female	47	47.0
	TOTAL	100	100
Age	15-19 years	23	23.0
	20-24 years	41	41.0
	25-30 years	30	30.0
	31-40 years	6	6.0
	TOTAL	100	100
Race	Malay	68	68.0
	Chinese	10	10.0
	Indian	21	21.0
	Others	1	1.0
	TOTAL	100	100
Occupation	Student	54	54.0
	Employee	34	34.0
	Unemployed	16	16.0
	TOTAL	100	100

### Accessibility to Public Open Space

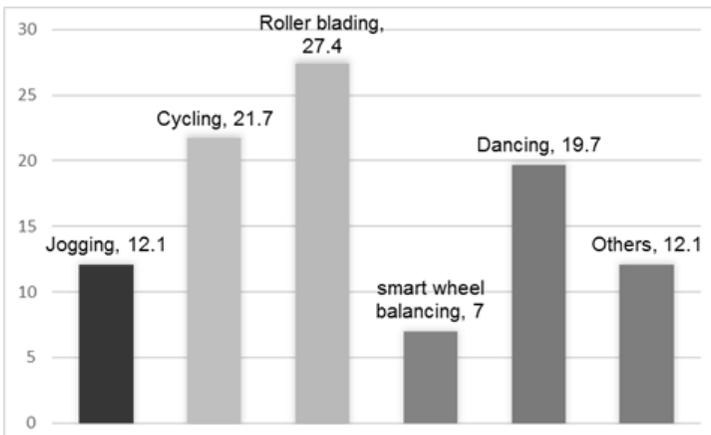
Table 2 showed that the frequency of the use of public open space are on monthly basis 31.0% (n=31). This could be influenced by the time that participants visit the Dataran Centrio are on weekend. This area is a commercial area and usually they come to get entertainment after their hard work on weekdays. From the feedback, the participants preferred to visit the public open space on weekend because of the activities that attract them to come such as roller blading and cycling. This is proven by the result of interesting activities that provide at the public open space. This also supported by easy accessibility to the public open space because the space is located near to the residential area.

**Table 2: Pattern of Young People accessibility**

Item	Sub Item		
	Descriptions	Frequency	Percentage %
Often of Use	Daily	7	7.0
	2-3 times a week	17	17.0
	Weekly	19	19.0
	Monthly	31	31.0
	More than a month	26	26.0
	TOTAL	100	100

**Young people activities engaged to the public open space**

Figure 5 shows young people in Seremban 2 did various type of activities, both the active and passive activities. Most of the participants enjoyed and preferred roller blading consist of 27.4% follow by cycling 21.7% and outdoor dancing (zumba and poco-poco) consist of 19.7%. The lowest preference is smart wheel balancing consist of 7.0%. This is possible because of this activity is a new to them and required certain skill to handle it. Other activities that respondents figure out were talking and chatting with others or just spending their leisure time by sitting enjoying the environment. Based on observation during distributed the questionnaire the peak hour of visitor’s activities occurred at 4.00 pm until midnight. Most of young people spent their holiday and weekend in public open space.

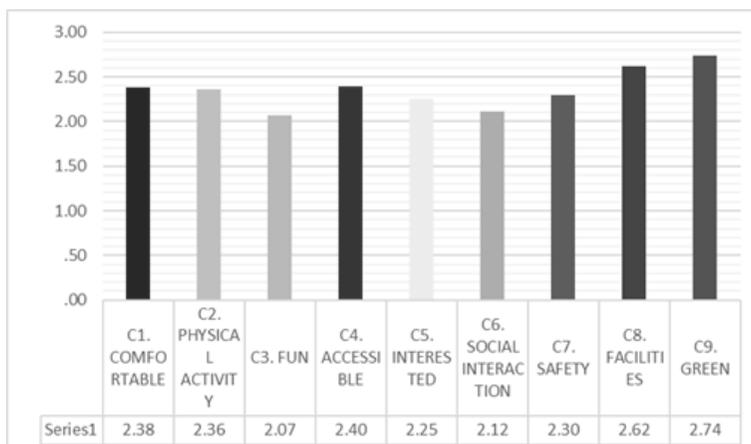


**Figure 5: Type of activities engaged**

**Descriptive statistic of perception on factor affecting the use of public open space for physical activities**

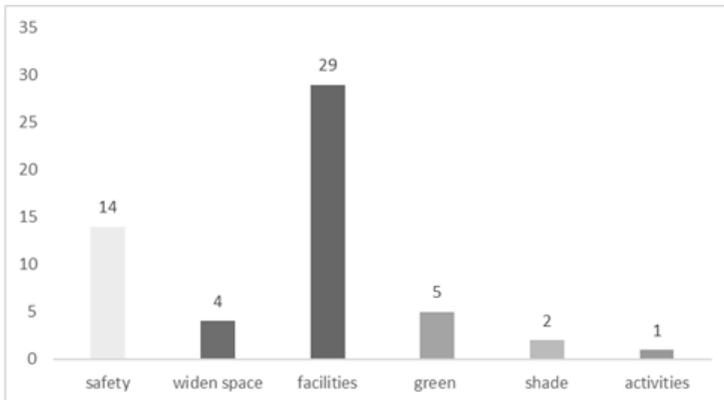
The respondent was asked several questions regarding their perception towards the factor that influence them to use public open space for

physical activities. All the answer were categorised into 3 categories of strongly agree, neither agree or disagree and disagree. From the Figure 6 below, the mean for green space is 2.74 which is the highest follow by facilities factor 2.62 and accessibility factor 2.40. However, the lowest is fun factor 2.07. Most of the respondents agreed that green space will give them healthy environment thus will increase their quality of life. This finding is parallel to previous study for example Aspinall, Mavros, Coyne, and Roe, (2013), Hartig, (2007) and Catharine, (2011) which reported the impact of green space on users.



**Figure 6:** Factors influence the use of public open space for physical activities

In this survey, participants were asked in open ended question regarding the others perception factor that bring them to use public open space for physical activities. All answer was sorted into 6 categories which are safety, widen space, facilities, green, activities and shaded. There are 60 respondent answers that question and the result are as below. Facilities factor is the highest number that young people consider in using public open space for physical activities. Most of the respondents answer that the facilities of the public open space should consider their need for example exercise equipment should be providing at the area. Similar finding from Francis (2003) indicated the implication of providing facilities attracted user to use the space and encouraged them to spend more time when undertaking these activities.



**Figure 7: Factors that young people consider in using public open space for physical activities**

### CONCLUSION AND IMPLICATIONS

Overall, this study found that young people in Seremban 2 significantly used Dataran Centrio for physical and leisure activities during weekend and weekdays. Through the survey conducted at the area mostly the young people used public open space because of the facilities that is provided. Along these lines, in the urban territory like Seremban 2, improvement of the open space elements will improve impression of open space in offering great personal satisfaction through physical exercises.

Moreover, these finding may also be used to improve current guideline in developing public open space based on users' perception and needs. As this study is confined to the case study of Dataran Centrio, Seremban 2, it is proposed that future exploration ought to include more overview of open space across the nation. The further research ought to study open space to get likeness and distinction of how youngsters perceived public open space to do physical exercises.

Finally, the respond from participants are overwhelming. Ultimately, based on the study conducted, it is duly reflected that the major user preference is the greenery that contributes to serene experience in the public open space.

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