

Child-friendly integrated public spaces (RPTRA): Uses and sense of attachment

S Prakoso and J Dewi

Architecture Department, Faculty of Design, Universitas Pelita Harapan, Jl. M.H. Thamrin Boulevard, Lippo Karawaci 15811, Tangerang, Banten, Indonesia

E-mail: susinety.prakoso@uph.edu

Abstract. The Jakarta City Provincial Government undertook an extensive citywide initiative to build small public urban green spaces, called child-friendly integrated public spaces (RPTRA). Studies on how citizens, including children, use RPTRA was limited, and questions regarding whether children had become attached to the RPTRA as one of their favorite places remain unanswered. This paper presents a preliminary study on ten RPTRA located in Jakarta. We examine how children and citizens use the spaces, based on data from respondents who completed on-site questionnaires during the course of their visit to the RPTRA. We also measure the degree of children's sense of attachment to RPTRA. The results show that children primarily use RPTRA for playing and learning. Women and girls use RPTRA the most, and elderly citizens use it the least. The results of the study also demonstrate that children had developed a sense of attachment to RPTRA and it had become one of their favorite places. This study may have implications on the existence of small public urban green spaces like RPTRA as valuable assets in the everyday lives of children and citizens. It proposes that RPTRA should be taken into account for future planning of densely populated urban areas.

1. Introduction

Jakarta is the capital of Indonesia, and the second largest megacity by population in the world. One of the most challenging problems in the city is struggling with, is providing public open spaces that are safe for children to play and explore. Today, the ratio of open spaces in Jakarta is only about 9-10% of the total area, far below the Indonesia's minimum requirements of at least 30%. This is notwithstanding the fact that open spaces play an essential role in the daily life of people who live in cities like Jakarta. Open spaces provide many benefits and opportunities for individuals and children in urban areas, including social benefits, health benefits, environmental benefits and economic benefits [1]. Concerned about the situation, in 2015 the Jakarta City Provincial Government published a policy to administer and guide the development of small public urban green spaces in Jakarta. The policy on child-friendly integrated public spaces (RPTRA) is regulated through DKI Jakarta Provincial Government Regulation No. 196/2015.

RPTRA parks are built in densely populated areas, with an aim to help people, particularly women and children, minimize the stressful living conditions of living in such areas. Unlike the common neighborhood parks that exist in Jakarta, the goal of RPTRA is not to only provide places for recreation. It has larger objectives to provide accessible places that integrate various public functions and activities, like playing and learning for children, social interaction for citizens, family consultations and information centers, evacuation areas, and economic activity spaces managed by Family Welfare Movement (PKK) groups. As of July 2017, the City Government has already



developed about 184 RPTRA in Jakarta. The rapid development of RPTRA, since it was launched about two years ago, was made possible by the funds from the Corporate Social Responsibility (CSR) allocation of private sector companies and the City Government.

The criteria for RPTRA are similar to the criteria of "Taman RT" and "Taman RW set by the Ministry of Public Service No 05/PRT/M/2008, that it has to be: a small urban public green space sized about 500-5000m², located within a minimum radius of 300m to a maximum radius of 1000m of a locality, and comprise at least 70%-80% vegetation. This definition of RPTRA is somewhat similar to the definition of small public urban green spaces (SPUGS) [2] by the City of Copenhagen and the definition of small public urban open spaces (SPUOS) by Hong Kong [3].

There are numerous studies on how children use outdoor environments. Many studies report that adults play a significant role in bringing children to park playgrounds [4-7]. Others report that parks with more features and facilities attract children [8, 9]. In general, there are several influential factors on how children use outdoor environments, such as individual factors, physical factors and social factors [7, 10, 11]. However, studies specific to small public urban green spaces and RPTRA are limited. From the study of Peschardt, Schipperijn and Stigsdotter [2], citizens who avail SPUGS in Copenhagen are well-educated, between 30-49 years of age, and primarily use it for socializing, and rest and restitution. In the context of a dense city like Hong Kong, the study by Lau [3] found that SPUOS are mainly used as social hubs and living rooms by senior citizens. The same study also found that the successful use of SPUOS in Hong Kong depended on their locations and networks of connected SPUOS that served the local community better.

A recent study [12], revealed three important aspects affecting children's visit to RPTRA: the availability of facilities, easy access to RPTRA, and the role of parents. Furthermore, the same study found that children use RPTRA mainly for recreation (play), education and sports. However, this study did not extend its exploration to *how* adults and children use RPTRA, and *if* RPTRA had become one of their favorite places. Therefore, we still know very little about how children use RPTRA, whether they develop a sense of attachment to RPTRA, and if RPTRA is considered as their favorite place. These questions remain unanswered. It has been established that, in order to provide children with secure bases from which to explore the world, it is essential for them to have a sense of attachment to a favorite place. Having favorite places also facilitates their emotional and cognitive growth, develops self-reliance and self-esteem, improves academic performance, and enhances social competence among peers [6, 13, 14].

Based on quantitative studies, this paper describes a preliminary study of ten RPTRA, which have been used by children and citizens for at least one year. The objectives of this study are 1) to examine the use of RPTRA by adults and children, and obtain an understanding of how they use RPTRA; 2) to capture portraits related to children's sense of attachment to RPTRA.

2. Method

2.1. Research location

This study chose ten RPTRA, located and distributed in five municipality districts in Jakarta (see Figure 1). The RPTRA were selected because citizens and children had used them for at least one year. This length of time that RPTRA were used was the primary consideration for selection, since the length of time was one of the reported predictors of a positive relationship in the development of children's sense of place attachment [6, 15] and place attachment in general [16]. The list of selected RPTRA can be seen in Table 1, and several pictures of RPTRA can be seen in Figure 2.



Figure 1. Location of 10 RPTRA.

Table 1. List of selected RPTRA.

No	RPTRA	Part of Sub District (Kelurahan)	Sub District (Kecamatan)	District	Area (m ²)	Inauguration date
1	Sungai Bambu	Sungai Bambu	Tanjung Priok	North Jakarta	±3838	May 13, 2015
2	Bahari	Gandaria Selatan	Cilandak	South Jakarta	±770	May 21, 2015
3	Taman Kenanga	Cideng	Gambir	Central Jakarta	±2084	May 30, 2015
4	Kembangan	Kembangan Utara	Kembangan	West Jakarta	±3250	June 10, 2015
5	Cililitan	Cililitan	Kramatjati	East Jakarta	±2642	October 22, 2015
6	Sunter Jaya Berseri	Sunter Jaya	Tanjung Priok	North Jakarta	±3513	December 18, 2015
7	Pulogebang Indah	Pulo Gebang	Cakung	East Jakarta	±3642	December 23, 2015
8	Meruya Utara	Meruya Utara	Kembangan	West Jakarta	±4994	December 29, 2015
9	Karet Tengsin	Karet Tengsin	Tanah Abang	Central Jakarta	±654	December 30, 2015
10	Bintaro Permai	Bintaro	Pesanggrahan	South Jakarta	±540	December 30, 2015



Figure 2. Several pictures of RPTRA.

2.2. Data collection

All data were collected from mid-June 2017 until the end of July 2017. Each RPTRA was visited at least three times for six weeks, and the duration of each visit was about 1-2 hours. The visits were mostly in the evenings and on weekends, as this is the time RPTRA were the most used by adults and children. During each visit, a headcount was taken of all the people who were observed using the RPTRA, and logged into SOPARC, a tool for observing play and recreation in communities [17]. People were grouped by the different types of activities in which they were participating (primary & secondary activities) and by age group (child, teenager, adult and old). Table 2 presents an overview of the total number of people observed, respondents and respondents rate of each RPTRA. In general, the response rate during the six weeks of data collection was quite low. This can be explained by the fact that respondents were not familiar with us, and therefore reluctant to participate in the study. Although, entry to research locations had been granted by the management of each RPTRA and was acknowledged by the municipal representative, this was not the case in RPTRA Bahari and RPTRA Bintaro Permai. The response rate of these two RPTRA was the highest. This was due to the fact that the persons in charge of the management of these RPTRA helped and supported us in convincing people to participate in the study.

Table 2. Total observed, number of respondents and respondent rate per RPTRA.

	RPTRA Taman Kenanga	RPTRA Karet Tengsin	RPTRA Kembangan	RPTRA Meruya Utara	RPTRA Cililitan	RPTRA Pulo Gebang Indah	RPTRA Sungai Bambu	RPTRA Sunter Jaya Berseri	RPTRA Bahari	RPTRA Bintaro Permai	TOTAL
Total observed (n)	80	76	95	64	94	93	167	110	93	84	956
Respondents (n)	21	23	34	13	24	21	72	21	70	69	373
Adults (n)	17	4	16	5	7	4	48	14	40	24	184
Children (n)	4	19	18	8	17	17	24	7	30	45	189
Respondent rate (%)	26	30	36	20	26	23	43	19	75	82	39

During each visit, potential respondents were approached for consent to participate in this study. If they agreed, they were given questionnaires that had to be completed on-site. Based on the purpose of this study, there were two sets of questionnaires. One was designed to gain an understanding of how adults and children use RPTRA. This questionnaire was inspired by the study by Peschardt, Schipperijn and Stigsdotter [2]. Each question had a set of possible answers (see Table 6 and Table 7). The second questionnaire was designed to measure the level of children's sense of place attachment. The questions were inspired by the studies conducted by Lewicka [18] and Williams and Vaske [19]. Children's sense of place attachment was measured using 12 items (See Table 10). Each item was presented in a semi-polar structure adapted from Shamai and Ilatov [20]. Each item was answered by selecting positive attitude "yes," "neutral," and negative attitude "no." Using this simple scale of attitude would enable us to capture children's sense of attachment in a straightforward manner.

3. Results and Discussions

The results will be discussed in three subsections: general use of RPTRA, most frequently used facilities of RPTRA, and children's sense of attachment. The results presented here are preliminary, since data collection was only conducted for about six weeks. This study is still ongoing, and it is expected to generate more data within the next three months of data collection.

3.1. General use of RPTRA

In total, 373 people participated in this study. Of these, 184 adults and 189 children answered the questionnaires on-site. Table 1 displays the number of participants per RPTRA. Table 3 represents the general demographic profile of respondents (adults and children). Table 4 and Table 5 describe the demographic profile of adults and children respectively.

Table 3. General demographic profile of respondents.

Total respondents (n)	373
Males	31%
Females	69%
Education	
Elementary school	42%
Junior school	23%
High school	25%
Diploma certificate	4%
Bachelors degree	3%
Unknown	3%
Age	
0-5	0%
6-11	38%
12-19	13%
20-39	30%
40-60	16%
> 60	2%
Unknown	1%

Table 4. Demographic profile of adults.

Total respondents – adults (n)	184
Men	21%
Women	79%
Education	
Elementary school	8%
Junior school	19%
High school	51%
Diploma certificate	9%
Bachelors degree	7%
Unknown	6%
Age	
0-5	0%
6-11	1%
12-19	13%
20-39	46%
40-60	33%
> 60	3%
Unknown	4%

Table 5. Demographic profile of children.

Children (n)	189
Boys	41%
Girls	59%
Age	
0-5	0%
6-11	74%
12-19	26%

Based on the data above, we found that women (79%) and girls (59%) use RPTRA more than men (21%) and boys (41%). This is not surprising, because more women accompany their children to RPTRA. More women also participate in the programs organized by Family Welfare Movement (PKK) groups. Most organized activities held by the management of RPTRA, such as dancing, drawing and reading, are liked more by girls than boys. Therefore, it was not surprising to learn that more girls use RPTRA than boys. According to our study, boys prefer to use RPTRA for active games such as football on the futsal field. This study also found that the elderly (3%) were least likely to use

RPTRA. There were almost no dedicated facilities for elderly citizens seen in any RPTRA, except for sitting areas, vegetable gardens and reflective paths.

Table 4 also shows the use RPTRA is dominated by less educated adult respondents. We understand that the reason for this might be because most RPTRA are located in high population density areas with a greater proportion of urban kampong and public housing, which are considered low-income settlements.

The general use of RPTRA by adults is shown in Table 6. Most respondents regularly walk to RPTRA (47%) with their families (38%) a few times a week (27%) and have been visiting ever since its development 1-2 years ago (61%). The most popular times to visit RPTRA are mornings (32%) and afternoons (33%), and most respondents spend about 1-2 hours or more (63%). The top five reasons for adults to visit RPTRA were: to accompany their children or families (24%), for food and drinks (17%), for recreation (15%), for exercise (15%), and for rest and restitution (9%).

Table 6. Frequency analysis on general use of RPTRA by adults.

<u>How do you get here? (%)</u>	
Public transport (bus)	5%
Private vehicle/motorcycle	44%
Bicycle	4%
Walk	47%
<u>What is your purpose to come here? (%)</u>	
Meet friends (socialize)	7%
Recreation	15%
Exercise	15%
Play	6%
Rest and restitution	9%
Food and drinks	17%
Accompany family/children	24%
Others	7%
<u>With whom do you come here? (%)</u>	
Alone/single individual	15%
With family	38%
With friends	24%
Small group (2-3 persons)	13%
Large group (5-10 persons)	10%

How often do you come here? (%)	
Few times a day	2%
Every day	15%
Once a week	20%
Few times a week	27%
Once a month	4%
Few times a month	7%
Seldom	10%
This visit is my first time	5%
If there are activities at RPTRA	10%
Since when have you come here? (%)	
Since this place was built (1-2 years ago)	61%
Since a few months ago	27%
Since a few weeks ago	8%
This visit is my first time	4%
When do you prefer to come here? %	
Morning	32%
Late morning/midday	11%
Afternoon	33%
Evening	2%
Weekday	4%
Weekend	15%
Public holiday	3%
How long do you generally stay here? (%)	
Less than 5 minutes	0%
About 15 minutes	3%
About 30 minutes	14%
About 1 hour	19%
1-2 hours	33%
More than 2 hours	31%

Based on the data we collected (not shown here), we found that most adults (57%) report living 0-500m from RPTRA. Therefore, as seen in Table 6, the distance of their home from RPTRA predicts the frequency with which adults visit RPTRA on a weekly basis. We also found that adults report coming directly from home to RPTRA (79%) and returning directly home from RPTRA (89%). Only 21% adults came to RPTRA from other places such as offices, mosques, markets, etc., and only 11% went to destinations other than home after visiting RPTRA. This finding indicates that RPTRA was the primary destination for most adults.

The general usage patterns of children are shown in Table 7. Most children were allowed by their parents to visit RPTRA alone (96%) because it was within home range and considered safe. According to the survey, children walk to RPTRA (74%) together with friends (77%) daily (40%), ever since it

was built 1-2 years ago (71%). The most popular time to visit RPTRA is after school in the afternoons (38%) and children spend about 1-2 hours or more (63%). The top five reasons children gave for visiting RPTRA were: playing in the playground (27%), studying or doing homework (16%), reading at the library (13%), rest and restitution (11%) and, exercise by playing football, running or biking (9%) and meeting friends for socializing (9%).

Table 7. Frequency analysis on general use of RPTRA by children.

Are you allowed to come here alone?	
Yes, because it's close to home, it's safe	96%
No, I'm too young and not allowed to come alone	4%
How do you get here? (%)	
Public transport (bus)	4%
Private vehicle/motorcycle	16%
Bicycle	5%
Walk	75%
With whom do you come here? (%)	
Alone	8%
With family	14%
With friends	78%
What is your purpose to come here? (%)	
Meet friends	9%
Exercise	9%
Play	27%
Recreation	7%
Rest and restitution	11%
Study	16%
Read at the library	13%
Other: dancing, drawing, and other organized activities	8%
How often do you come here? (%)	
Few times a day	11%
Every day	40%
Once a week	6%
Few times a week	15%
Once a month	1%
Few times a month	2%
Seldom	21%
This visit is my first time	1%
If there is an organized activity here	3%
Since when have you come here? (%)	
Since this place was built (1-2 years ago)	71%
Since a few months ago	22%
Since a few weeks ago	7%
When do you prefer to come here? %	

Morning	16%
Late morning/midday	22%
Afternoon	38%
Evening	9%
Weekday	0%
Weekend	7%
Public holiday	8%
How long do you generally stay here? (%)	
Less than 5 minutes	2%
About 15 minutes	13%
About 30 minutes	8%
About 1 hour	14%
1-2 hours	32%
More than 2 hours	31%

Based on the data collected (not shown here), we found that most children (46%) report living 5-10 minutes' walk from RPTRA, 19% live 5-10 minutes' ride away from RPTRA, and 35% declared they did not know how long they had to travel to reach RPTRA. Therefore, as seen in Table 7, the distance of their home to RPTRA influences the frequency of children's visit to RPTRA on a daily basis.

3.2. Most frequently used facilities of RPTRA

We attempted to gain a deeper understanding of the use of RPTRA in relation to the facilities provided. All RPTRA have generic facilities given by the government, including futsal fields or sports fields, playgrounds, vegetable gardens (called "*Taman Toga*"), fish ponds, sitting areas, amphitheaters, green areas, walking paths and multipurpose areas like mini libraries, restrooms, nursing rooms, pantries, PKK Marts, and management offices. All RPTRA are equipped with closed-circuit televisions (CCTVs) for safety, and provide free *Wi-Fi*. We used Community Park Audit Tool [21] to assess the physical conditions of RPTRA. We evaluated the accessibility and the surroundings of each RPTRA, the conditions of all facilities and activity areas, park quality and safety. Based on our assessment, we found that all the RPTRA are easily accessible and equipped with adequate information related to park name, park office hours, park rules, park contact information, and park activities and programs. All parks are located in high-density residential settings, such as urban kampongs and public housing neighborhoods. All parks are in good condition and monitored daily by six people in charge as park officers. All parks are surrounded by fences or walls and have entry gates that are opened and closed according to park hours.

The data shown in Table 8 and Table 9 reveal that the facilities that are most frequently used by adults are playgrounds (35%) and multi purpose areas (32%). This finding is not surprising, since, as seen in Table 7, most adults visit RPTRA to accompany their children. For children, the data shown in Table 9 indicates that libraries (34%) are the areas that children prefer most, followed by playgrounds

(24%) and then multipurpose areas (21%). During our observation, children were most frequently spotted at libraries, reading books, at playgrounds, and at multi purpose areas participating in a variety of organized activities.

Table 8. Frequency analysis on facilities used by adults.

Most frequently used facilities by adults	
Playground	35%
Multipurpose hall	32%
Library	9%
Sports field (football field)	10%
Sitting area	4%
Grass area	2%
Amphitheater	3%
Foot reflection area	1%
Others: restroom, vegetable garden	4%

Table 9. Frequency analysis on facilities used by children.

Most frequently used facilities by children	
Futsal Field	10%
Sitting area	4%
Playground	24%
Library	34%
Multipurpose area	21%
Amphitheatre	2%
Green area	2%
Others: restroom, fish pond	3%

3.3. Children's sense of attachment

Having a sense of place is considered an essential quality of human existence. In general, our study revealed that children demonstrated a sense of attachment to RPTRA. Based on the data shown in Table 10, 79% of children showed a sense of attachment to RPTRA. This finding correlates with the data in Table 7, which shows that children have repetitively visited and experienced RPTRA over the duration of 1-2 years (71%), many on a daily basis (40%). This study confirms that length of time is positively related to development of children's sense of place attachment [6, 15] and place attachment in general [16]. This study also found that children demonstrate a sense of place as discussed by Relph [22], and Shamai [23]. In context of the RPTRA, this sense of place, developed over time for the past 1-2 years and repeated through daily interactions, has manifested into the children's sense of attachment.

Children's sense of attachment, known as long-term affective bond, according to Morgan [24] is the conscious subjective manifestation of the internal working model of attachment relationships. It develops from the pattern of repeated positive experiences during contact with the attachment figure, and the pattern of a child's positively-affected exploration/play/mastery and sensory interaction with the environment. If a child can repeatedly practice his/her joyful experiences with a place, then a bond will develop between the child and the place. General comments collected from our questionnaires (data not shown) confirm that 68% children affirmed that RPTRA had become their favorite place.

This data indicates that children had successfully developed a bond with RPTRA because they valued the place and derived repeated satisfaction or emotional pleasure from being in a favorite place.

Table 10. Children's sense of attachment.

		Yes	Neutral	No
1	I know this place (its people & its facilities) very well	87%	11%	2%
2	I feel safe in this place	95%	5%	0%
3	I like this place	78%	21%	1%
4	I feel this place is a part of me	69%	26%	5%
5	I am proud of this place	87%	13%	0%
6	I am happy being in this place	87%	13%	0%
7	I leave this place with pleasure	66%	16%	18%
8	I miss it when I'm not here	57%	34%	9%
9	I feel sad when I have to leave from here	75%	21%	4%
10	I care about this place	83%	16%	1%
11	This place is the best place for what I like to do	93%	6%	1%
12	No other place in my neighborhood can compare to this place	77%	19%	4%
	Average	79%	17%	4%

4. Conclusions

4.1. Uses of RPTRA and children's sense of attachment

In this study, we found that the primary purpose for adults to visit RPTRA was mainly to accompany their children. This is in contrast to SPUGS in Copenhagen, where the main reasons for adults to visit were socializing, and rest and restitution [2]. However, this might not be surprising in light of the differences in culture and location. In the context of dense cities in Asia, this study found that women used RPTRA the most, and the elderly used it the least, in contrast to the results of a study in Hong Kong, where SPOUS was mainly used by senior citizens [3]. This finding indicates that the usage of RPTRA has not been successfully integrated for all ages. The elderly are the most vulnerable group, needing as much attention as children.

In accordance with a prior study of the neighborhood as a socially shared environment [25], this study found that RPTRA was a place where children shared social experiences with others. For children, RPTRA was not only a place to play and socialize but also a place to learn and exercise. The reason for this was because the park management organizes many activities for children. In addition, the Family Welfare Movement (PKK) group organizes economic activities for women. The findings also showed that children developed a sense of attachment to RPTRA and it has become one of their favorite places. Children's sense of attachment and their attraction to RPTRA can be surmised from their daily encounter with the place over an extended duration of time. Experiencing RPTRA on a regular basis for an extended period of time became the main process to form both their knowledge of the place [26] and their attachment to it.

4.2. Implication for practice

Although the findings of this study are preliminary, there are several exciting outcomes related to the use of RPTRA and children's sense of place. First, this study found that women and girls are the highest users of RPTRA. The elderly use RPTRA the least. This study may have implications for the design of RPTRA, which should take into account the needs of the most vulnerable citizens, such as the elderly. Second, this study found that most children use RPTRA for playing and learning, while

adults use RPTRA mostly to accompany their children. This too may have design implications that the RPTRA should consider, creating facilities not only for children but also for adults. Third, children have a sense of attachment to RPTRA and consider it one of their favorite places. This may imply that the existence of small public urban green spaces like RPTRA are valuable assets in the everyday lives of children and citizens, and the RPTRA initiative should be taken into account for future planning of dense city areas.

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References

- [1] Woolley H 2003 *Urban Open Spaces* (London & New York: Spon Press)
- [2] Peschardt K K, Schipperijn J and Stigsdotter U K, 2012, Use of small public urban green spaces (SPUGS) *Urban forestry & urban greening* **11** 235-44
- [3] Lau H M 2014 Investigating the small public urban open spaces at high-density cities: A case study of Hong Kong. In: *Department of earth science* (Uppsala: Uppsala University)
- [4] Refshaug A D, Stigsdotter U K and Cosco N G 2012 Adults' motivation for bringing their children to park playgrounds *Urban forestry & urban greening* **11** (4) 396-405
- [5] Tranter P 2006 *Creating child-friendly cities: Reinstating kids in the city*, eds B Gleeson and N Sipe (New York: Routledge) pp 121-35
- [6] Jack G 2012 The role of place attachments in wellbeing. In: *Wellbeing and Place*, eds S Atkinson, S Fuller and J Painter (England: Ashgate) pp 89-104
- [7] Faulkner G, Mitra R, Buliung R, Fusco C and Stone M R 2015 Children's outdoor playtime, physical activity, and parental perceptions of the neighbourhood environment *International journal of play* **4** (1) 84-97
- [8] Dali M M 2010 Children's experience of the physical outdoor environment in urban neighborhoods and the implications for planning and policy *Journal of design and built environment* **6** 45-61
- [9] Kaczynski A T, Potwarka L R and Saelens B E 2008 Association of park size, distance, and features with physical activity in neighborhood parks *American journal of public health* **98** (8) 1451-6
- [10] Aziz N F and Said I 2012 The trends and influential factors of children's use of outdoor environments: A review *Procedia - social and behavioral sciences* **38** 204-12
- [11] Veitch J, Salmon J and Ball K 2007 Children's perceptions of the use of public open spaces for active free-play *Children's geographies* **5** 409-22
- [12] Aji H, Budiyantri R and Djaja K 2017 *WIT transactions on ecology and the environment*, pp 13-24
- [13] 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) 305-9
- [14] Sipe N, Buchanan N and Dodson J 2006 *Creating child-friendly cities: Reinstating kids in the city*, eds B Gleeson and N Sipe (New York: Routledge) pp 86-102
- [15] Mathews H 2003 *Children in the city: Home, neighbourhood and community*, eds P Christensen and M O'Brien (London & New York: Routledge) pp 29-45
- [16] Lewicka M 2011 Place attachment: How far have we come in the last 40 Years? *Journal of environmental psychology* **31** (3) 207-30
- [17] McKenzie T L, Cohen D A, Sehgal A, Williamson S and Golinelli D 2006 System for observing play and recreation in communities (SOPARC): Reliability and feasibility measures *Journal of physical activity & health* **3** (Suppl 1) S208-S222
- [18] Lewicka M 2010 What makes neighborhood different from home and city? Effects of place scale on place attachment *Journal of environmental psychology* **30** 35-51

- [19] Williams D R and Vaske J J 2003 The measurement of place attachment: Validity and generalizability of a psychometric approach *Forest science* **49** (6) 830-40
- [20] Shamai S and Ilatov Z 2005 Measuring sense of place: Methodological aspects *Tijdschrift voor economische en sociale geografie* **96** (5) 467-76
- [21] Kaczynski A T, Wilhelm Stanis S A and Besenyi G M 2012 Development and testing of a community stakeholder park audit tool *American Journal of Preventive Medicine* **42** 242-9
- [22] Relph E 1976 *Place and placelessness* (London: Pion)
- [23] Shamai S 1991 Sense of place: An empirical measurement *Geoforum* **22** 347-58
- [24] Morgan P 2010 Towards a developmental theory of place attachment *Journal of environmental psychology* **30** 11-22
- [25] De Visscher S 2014 *Civic learning, democratic citizenship and the public sphere*, eds G Biesta, Maria D B, Danny W (Dordrecht: Springer Netherlands) pp 73-89
- [26] Rasmussen K and Smidt S 2003 *Children in the city: Home, neighborhood and community*, eds P Christensen and M O'Brien (London & New York: Routledge) pp 29-45