Expectations of Persons Accompanying Children for The Physical Environment at Ataköy 5, Kısım Children's Park

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Abstract

This study aims to research the expectations of users who bring their children to a park of the neighbourhood scale. For this purpose, a survey was conducted randomly with 550 people in 2018. The scope of this task encompassed research entailed questions regarding the occupation, educational status, age of the users, their relation to the children, as well as the age and gender of the children they brought to the park. These research questions were tested with the analyses of the survey questions, which included matters such as security, maintenance, and adequacy of green spaces, all of which are thought to affect park quality and convenient utilization. When viewing the research result, it was concluded that the demand for better security, adequate green area, additional activities, and playgrounds was higher amongst the user group with university education.

Introduction

In conjunction with Article 7 of the Declaration of the Rights of the Child of the 1959 United Nations Universal Declaration of Human Rights, the statement, "As with education, children must be given the full opportunity to play, whereas society and public authority must ensure them this right" underscored the necessity of creating livable environments for children [1]. The "Children' Play Rights Malta Declaration" [2] of 1977, which was adopted by the United Nations on 20 November 1989 as Article 31 of Declaration of the Right of the Child [3], states that in addition to proper nutrition and education, children have the right to participate in cultural and artistic activities and spend time, rest and play games with those of their age for social development. The development of playground environments is important for children who have the desire and ability to play anywhere and anytime. Francis'

statement that children prefer unstructured natural areas as playgrounds [4] is still valid today. Nevertheless, with the change in living culture, considering the parents' concerns about security the concepts of playground and space also change, and children tend to spend less time outdoors [5]–[7].

Neighbourhood parks provide a venue for physical activity for young people and access to neighbourhood parks can influence children's participation in physical activity [8]. Playgrounds may be used as meeting places and starting points for play [9]. Playgrounds are important local neighbourhood resources, as users as drawn from the immediate neighbourhood in which the playground is located [10]. As indicated in the works of Ulutaş and Şimşek, children's playgrounds should not be arranged aesthetically, but rather for the development and safety of the child [11]. In the study results of Brown and Burger regarding children's playgrounds,

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Fig. 1. Ataköy 2.5.6 location and park area [31], [32].

the effects of the playgrounds considered to be highly aesthetic are weak in terms of sociality, language and motor development, whereas those considered to be aesthetically weak increase the development of sociability, language and motor skills [12]. There is a strong relationship between playing and social skills such as cognition, language development, word learning, problem solving, gaining perspective, learning the rules, empathy, self-confidence, motivation and physical health [13]–[18]. Physical diversity in playgrounds is bound to be effective in a child's learning, spiritual and physical development process [14], [17]–[20].

In their study regarding pre-school children, conducted in 2008, Maxwell and his colleagues stated that they prefer areas where children can see easily, where there is enough space for 2–4 children to play, gathering points and multiple access points. It has been emphasized in the studies that the existence of different elements, such as loose parts that can be used as a play tool, has a positive effect on the children who use these areas [21]–[24].

Differences are apparent in how adults and children perceive playgrounds [25]–[27]. Adults perceive the landscape as forms, whereas children will interpret the landscape and terrain as functions [26]. As Jayasuriya and colleagues stated in their research results in 2016, parents considered outdoor games as an important part of their time in the care of their children [28], [29]. Considering small children in particular, parents accompanying them can influence their children's choices. In this study, research was conducted on what factors could be effective to create better quality and more comfortable outdoor play environments by considering the expectations of the people accompanying children to the park.

I. Methods

A. Study Setting

Ataköy section 2.5.6 is a neighbourhood of Bakırköy district of Istanbul province. Covering an area of 35 hectares, Section 5 is the centre of the settlement and includes 2993 residences. Its population is 14255. There are 14.255 persons per km². 21 % of the people living in this section are old, 28 % are young, and 51 % are middle-aged. While the rate of women is 54 %, the rate of men is 46 % [30]. There is Yapı Kredi primary school which is in a walking distance of the residences. There are well organized green spaces between buildings. Street arrangements were made in accordance with the pedestrian movement. The data thought to be obtained as a result of the study was compiled at and around the children's playground of Atilla İlhan Park (Google maps coordinates: 40.97834, 28.85830) (Fig.1) in the Ataköy 2.5.6 neighbourhood. There is a big playground, one small playground, three double swings, a seesaw, climbing equipment and mobile equipment (Figs. 2–4). There are many seating elements around the park, especially around the large playground where parents can observe their children. Rubber material was used in the playground as a floor material, and natural stone material was used around the playground. The fact that it appeals to different age groups and that it is a heavily used park was a factor in the selection of the park. The surveys were compiled randomly by face-to-face interview method between March – May 2018. The interviews were performed on weekdays and at weekends with companions who brought the children to the park at different times of the day. Users who did not bring children to the park were excluded from the analysis.

Fig. 2. Views from the edge of the park by authors.

Fig. 3. The large playground, the small playground, swings, the seesaw and the climbing equipment, photographed by authors.

Fig. 4. Pavement, the trash can, illumination, sign board and sitting elements, photographed by authors.

B. Research Questions

Six research questions have been identified to measure the perceptions of accompanying visitors using the park. The research questions included in the survey are as follows.

Q1: Is there a significant relationship between the occupation of those accompanying children and their perception of the physical environment of the park?

Q2: Is there a meaningful relationship between the educational status of those accompanying children and their perception of the physical environment of the park?

Q3: Is there a meaningful relationship between the age of those accompanying children and their perception of the physical environment of the park?

Q4: Is there a meaningful relationship between the degree of kinship of those accompanying children and their perception of the physical environment of the park?

Q5: Is there a meaningful relationship between the age of the children using the park and their perception of the physical environment of the park?

Q6: Is there a meaningful relationship between the gender of the children using the park and their perception of the physical environment of the park?

C. Data management and analysis

Answers to each question were analyzed using the SPSS program. Pearson's Chi square test was used to find answers to the research questions.

II. Results

At this stage, socio-demographic characteristics of the users have been primarily defined (Table I), and research questions prepared to measure the satisfaction with park usage have been measured (Table II).

TABLE I
Socio-Demographic Characteristics of Interview Participants
(N = 550) [by authors]

	N	%
Adults accompanying children		
Mother/father	393	71.5
Grandmother/grandfather	111	20.2
Caretaker	46	8.4
Age of adults accompanying children		
18–29	46	8.4
30–39	251	45.6
40–49	135	24.5
50–59	55	10.0
60 and over	63	11.5
Level of education of adults accompanying children		
Elementary school	35	6.4
Middle school	56	10.2
High School	173	31.5
University	286	52
Occupation of adults accompanying children		
Housewife	195	35.5
Retired	98	17.8
Unemployed	9	1.6
Employee	248	45.1
Age of children		
< 1	9	1.6
1–3	175	31.8
4–6	210	38.2
7–9	102	18.5
10–12	43	7.8
13+	11	2.0
Gender of children		
Girl	287	52.2
Boy	263	47.8

TABLE II
Park Usage Definitions and Satisfaction of Interview Participants [by authors]

	N	%		N	%
PARK USAGE DEFINITIONS OF INTERVIEW					
Which area they came from			How long they stay in the area		
• From Ataköy	411	74.7	• up to 1 hour	90	16.4
• Outside Ataköy	139	25.3	• 1–3 hours	421	76.5
			• 3–5 hours	39	7.1
Purpose of using parks			Which playground equipment do the children use?		
• Only for playground area	432	78.5	• Swing	234	42.5
• Playground and cafe	94	17.1	• All the equipment	48	8.7
• Playground and dog walking	24	4.4	• Big multi-play station	75	13.6
			• Climbing apparatus	73	13.3
			• Seesaw	29	5.3
			• Small multi-play station	61	11.1
			• Merry-go-round	30	5.5
Frequency of visiting parks			What do you think is the most suitable material for playground equipment?		
• Everyday	101	18.4	• Wooden	298	54.2
• A few times a week	367	66.7	• Plastic	221	40.2
• Once a month	64	11.6	• Steel	24	4.4
• A few times a year	18	3.3	• Rubber	7	1.3

SATISFACTION OF INTERVIEW PARTICIPANTS				
How would you assess the park's green spaces? <ul style="list-style-type: none"> • Very nice • Nice • Neither nice nor bad • Bad • Very bad 	51 338 109 46 6	9.3 61.5 19.8 8.4 1.1	Are there any other activities or play equipment you would like be removed from the playground? <ul style="list-style-type: none"> • Yes • No 	73 477 13.3 86.7
Are the activities and play equipment on the playground sufficient? <ul style="list-style-type: none"> • Very good • Good • Neither good nor bad • Bad • Very bad 	36 313 146 51 4	6.5 56.9 26.5 9.3 0.7	There is an activity or other play equipment to be removed from the field <ul style="list-style-type: none"> • Climbing • Merry-go-round • Seesaw • Swings 	39 27 4 3 53.4 37.0 5.5 4.1
Are there any additional activities or other game elements you would like to see added to the playground? <ul style="list-style-type: none"> • Yes • No 	133 417	24.2 75.8	Are the game groups safe? <ul style="list-style-type: none"> • Safe • Unsafe Are the playgrounds safe? <ul style="list-style-type: none"> • Safe • Unsafe What are the reasons for calling them unsafe? <ul style="list-style-type: none"> • No border in the vicinity • No security • Close to the avenue • Undetermined reason • Too crowded • Other (stray animals, homeless, the adjacent creek, ground material, beggars, peddlers) 	491 59 89.3 10.7 457 93 83.1 16.9 20 20 17 13 4 19 21.5 21.5 18.3 14.0 4.3 20.4
An additional activity or another play equipment <ul style="list-style-type: none"> • Trampoline • Sports arena • Swings • Sandbox • Hopscotch • Climbing unit • Large game group • Small game group • Educational games • Tunnel slide 	18 26 11 35 3 12 6 14 4 4	13.5 19.5 8.3 26.3 2.3 9.0 4.5 10.5 3.0 3.0	Are the playgrounds well maintained? <ul style="list-style-type: none"> • Maintained • Unkempt • Reasons for unkemptness • Trash • Worn out play equipment • No reason • Animal feces • Broken play equipment • Creek stench 	473 77 86.0 14.0 37 6 48.7 7.9 24 3 31.6 3.9 3 3 3.9
Your overall appraisal regarding the playground? <ul style="list-style-type: none"> • Very Good • Good • Average • Bad • Very bad 				432 94 24 0 0 78.5 17.1 4.4 0 0

TABLE III

Relationship Between Research Questions and User Perceptions [by authors]

	Where they from	Park usage frequency	Reason for coming	Duration of stay	Which play equipment they used	Play equipment material	Green spaces adequacy	Activity adequacy	Presence of activity or play equipment you would like to be added	Activity and play equipment you would like added	Presence of activity you would like to be removed	Activity you would like to be removed	Game groups safety	Is the playground safe?	Maintenance	Overall appraisal
S1: Occupation	+	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-
S2: Education	+	+	-	+	-	-	+	-	+	-	-	-	+	-	-	-
S3: Age	+	-	-	+	-	-	+	-	+	+	+	-	-	-	-	-
S4: Relation to the child	+	+	+	-	-	-	-	-	+	-	-	-	-	-	-	-
S5: Age of child	+	+	-	+	+	-	-	-	-	+	-	-	-	-	-	-
S6: Gender of child	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-

+ = * 0. 05 differences at the significance level are meaningful.

A total of 550 adults who accompanied children were surveyed during the study period (Table I). The majority of respondents were mother/father (71.5 %), aged 30–39 (45.6 %), having university education (52 %), employees (45.1 %), children in the age of 4–6 (38.2%). Adults and children were local and frequent users of the playground. More than three-quarters of adults (74.7 %) lived in the neighbourhood, and most of the users prefer park only for playground (78.5 %). 52.2 % of the children coming to the park were girls and 47.8 % were boys. The majority of users (76.5%) stay in the park 1–3 hours. The majority of the children preferred to use the swings (42.5 %), large game groups (13.6 %), climbing equipment (13.3 %) and small game groups (11.1 %). They wanted wooden and plastic materials (54.2 %, 40.2 %) to be used in the play equipment (Table II).

As expected, the majority of adults had favourable impressions of playground green areas, activities, safety, maintenance and general satisfaction. In addition, 19.8 % of the participants considered the green areas, and 25 % found the activities and play equipment to be of average sufficiency. In addition to the playground, 26.3 % of the users wanted to have a sandbox, 19.5 % a sports arena and 13.5 % a trampoline, respectively. While 53.4 % of the users wanted the removal of the climbing equipment from the playground, 37 % requested the same for the merry-go-round. 21.5 % of those who considered the park unsafe stated there was no defined border in the vicinity (Fig. 1), 21.5 % stated there was no security, while 18.3 % said it was too close to the avenue. 48.7 % of those who found the park unkempt indicated the presence of garbage (Table II).

The following results were obtained from analyzing the research questions (Table III).

Research question 1: Relationship between the occupation of accompanying persons and their use of the park.

It was determined that most of those coming from Ataköy are housewives and employees, while those coming from outside Ataköy are mostly employed, whereas the percentage of retirees and unemployed from beyond Ataköy is low ($p = 0.000$). The majority of the children they accompany use the swings; it was observed that the majority of children accompanied by housewives use swings, the majority of the children accompanied by retirees use swings, large playgrounds and climbing equipment, and the majority of children accompanied by employees use swings ($p = 0.045$). In all four groups, the percentage of those who find green areas adequate is high; the percentage of those who found them inadequate was found to be higher in the working group ($p = 0.030$).

Research question 2: The relationship between the educational status of the accompanying persons and their use of park.

It was observed that while the majority of those coming from outside Ataköy were university graduates, the proportion of primary / secondary school graduates was low in the same group ($p = 0.035$). While primary and secondary school graduates use the area more frequently, it was determined the percentage of those who came once a year was higher among university graduates ($p = 0.001$). While all 4 groups stayed mostly in the park area between 1–3 hours, the percentage of those who stayed between 3–5 hours was higher for university graduates compared to other groups, while the percentage of those who stayed less than an hour was quite low for primary school graduates ($p = 0.012$). The percentage of those who find green areas inadequate compared to other groups was high amongst the university and high school graduates, whereas primary and secondary school graduates tended to find green areas more adequate ($p = 0.002$). While the percentage of those who did not want new activities and play equipment added in the area was higher among university and high school graduates than other groups ($p = 0.027$), the percentage of those who found the game groups unsafe for university graduates was high ($p = 0.002$).

Research question 3: Relationship between the age of accompanying persons and their use of the park

It was observed that while the majority of users coming from Ataköy and the surrounding community were in the 30–49 age group, the proportion in the 50+ age group was low amongst those coming from outside Ataköy ($p = 0.005$). While the percentage of those who stayed in the park between 1–3 hours was higher in the 30–39 and 40–49 age groups, it was found that the percentage of those who stayed less than 3–5 hours was lower in the 60+ and 18–29 age groups ($p = 0.026$). The percentage of those who found green spaces inadequate was found to be higher in the 30–39 and 40–49 age groups compared to other groups ($p = 0.001$). The percentage of those who wanted to see additional activities and play equipment in the park was higher in the 18–29, 50–59 and 60+ groups than the other groups ($p = 0.028$). It was observed that the 50+ age group wanted less activities and play equipment to be removed from the premises than the other age groups ($p = 0.021$). While 30–39 and 40–49 age groups in particular wanted a sandbox added, most of the parents of the latter age group also wanted a sports arena added ($p = 0.025$).

Research question 4: The relationship between parents' kinship to the children and their use of the park

While the percentage of those visiting the park with caretakers from within Ataköy is low, the percentage of

those coming from beyond Ataköy with their parents is high ($p = 0.024$). It was determined that while caretakers frequented the park more often than the other user groups, the percentage of those who visited the park once a year was very low ($p = 0.002$). It was determined that while caretakers visited the park more frequently than the other user groups, the percentage of grandparents who visited the park once a year was very low ($p = 0.002$). While caretakers prefer only the playground, the percentage of those who came with their dogs was higher in parents' group ($p = 0.026$); it was determined that the percentage of those who did not want additional playground space or equipment was high in all three groups, whereas the percentage of those who wanted additional play equipment in the caretaker group was low ($p = 0.002$).

Research question 5: The relationship between the age of children and their use of the park

It was determined that children under a year of age visited the park from Ataköy, whereas the percentage of those between 10–12 years of age who came from beyond Ataköy was low ($p = 0.013$). It was observed that infants under a year and 10 years old + children visited the park at least once a week ($p = 0.016$). It was determined that while infants under a year old did not stay in the park for more than 3 hours, the percentage of those who stayed for more than 3 hours was higher in the 4–6 age group compared to other age groups, whereas the 10–12 age group mostly spent between 1–3 hours time in the park ($p = 0.000$). It was observed that infants under a year old used the swings, 1–3 years olds used the swings and climbing equipment, the 4–6 years olds used all equipment, whereas the 7–9 and 10–12 years olds used the swings and big play group ($p = 0.000$). Caretakers of infants under a year old said they wanted to see a sand box and swing added, those of between 1–3 years old children – sand box and small playground, those of between 4–6 years olds stated that they wanted to see a sand box, sports arena and trampoline, while those of between 7–9 years old said they wanted to see a trampoline and sports arena ($p = 0.000$).

Research question 6: The relationship between the gender of children and their use of the park

Besides the swings, it was determined that girls mostly used the small play group, whereas in addition to the swings, boys used the climbing equipment and the big play group. It was seen that the majority of those using the swings were girls and the majority of those using the climbing equipment were boys ($p = 0.002$).

Discussion and Conclusions

As Veitch et al. have said, having good quality public open space was perceived by parents to be an important influence on their child's active free-play. In the study, parents reported that if a good quality park was nearby, they would more likely take their child to that park [33]. Proximity remains an important factor in determining the park use [26], [34], [35]. As a result of the study conducted by Bennet and others supporters, people prefer to use the playgrounds nearby, while people who visited the playground from afar tend to spend more time in the park area [36], [37]. In addition, Bennet et al. found that users who come to the park from far away stay in the park longer. The results of the study support this conclusion. This result can also be interpreted as an indicator of the adequacy of the activities and opportunities offered.

In many studies, it is seen that when children look at the playgrounds, they first come with their parents and then in the example of Ataköy, they also come with grandparents. The reason for this may be the excess of working parents in the example of Ataköy. In addition, it was determined that it was in a low percentage in the caretakers group. It was observed that the users' educational level was high school and university, whereas the percentage of those who were unemployed was quite low. It was determined that the park was a play medium for different age groups and used mainly by children in the 4–6 age group.

In a study conducted by Deretarla-Gül [38], it was learned that the parents mostly took their children to the playground 1–2 times a week. However, as stated above, children are also restricted from playing in the playground due to their parents' intense work schedules and changing lifestyles [39], [40]. This study featured a group of users who regularly visited the park and stayed in the area for a certain duration, commensurate with the general level of appreciation about the park. It was an expected result that the group, which stayed for more than 3 hours, would come from mostly outside Ataköy. Considering the time, they spend while coming to the area, those who come from far away both use the playground and stay longer in the park and use the area for resting purposes.

The playground is a place where users are satisfied because it is in a well-designed area. The parents of young children of different age groups who wanted two elements in particular to be removed from the playground due to the high climbing equipment and the possibility of falling during their use. On the other hand, the users desired the addition of a sand box and sports arena, both of which are not currently present in the park. While the park is found rather safe in general, it is considered unsafe especially due to the lack of a border around it and its closeness to the avenue. It was observed that while the park is mostly maintained, there was a slight garbage problem.

Meaningful relationships were determined during the test stage of the hypotheses of the study:

- Between the persons who accompanied the children at the park and where they arrived from, which playground the children play in, and whether they found the green areas around the park adequate.
- Between the education levels of those accompanying the children at the park, and where they arrived from, the frequency of their park visits, the length of their stay in the area; whether they find the green areas around the park to be adequate, whether they want an activity to be added at the park, whether they find the playground safe or not,
- Between the age of those accompanying the children at the park, and where they arrived from, the duration of their stay in the playground, whether they find the green areas around the park to be adequate, whether there was any activity and play equipment they want to be added to the playground, as well as the presence of an activity they want to be removed from the playground.
- Between the relation of those accompanying and the children they bring to the park, and where they arrived from, the frequency of their park visits, the duration of their stay in the playground, which equipment they used at the park, and the presence of activities and play equipment they want to be added at the park.
- Between the gender of the children coming to the park and where they arrived from, the frequency of their park visits, the duration of their stay in the playground, which equipment they used at the park, the presence of an activity and play equipment they want to be added at the park.
- Between the gender of the children coming to the park and the play equipment they used in the park.

In examining the analyses of the questions, it is noteworthy that those coming from beyond Ataköy are mostly university graduates who are employed, whereas the group of retirees from Ataköy was larger than those coming from beyond Ataköy. Parental safety concerns have been identified as one of the major reasons why parents restrict their child's independent mobility [33]. As the study results ascertained by Galaviz and colleagues, parents are going to prefer playgrounds they consider safe for their children [41]. Uncleanliness and inadequate equipment were other themes mentioned by parents as a limitation of their neighbourhood outdoor play spaces [42]. In this study, safety, green area adequacy, high level of activity and playground demands of university graduates can be associated with the level of education and awareness of users. The proportion of young children who come from within Ataköy is higher, and they often visit the playground with caretakers at least once a week. Especially for young children, the presence of a sandbox in the playground is again amongst the desires of the parents. It can be

envisaged that there will be a sports arena for older children, as per their caretakers' requests. While many other studies indicate that girls use the playgrounds and places less than boys [43], the results of this study do not confirm this situation. It was determined that there was only a difference in the playground equipment that girls and boys chose. The result of girls mostly using the swings supports other study results [44]–[46]. In addition to the swings, boys were determined to use the climbing and game groups. The preference for using wooden materials in play equipment can also be associated with users' concerns regarding health and safety issues.

Children's playgrounds can be considered a means for children to be able to achieve creative and productivity skills during their developmental stages. The results of this study will be important in terms of creating data for designing and organizing more comfortable and lively playgrounds geared towards the future by deducing the use of the park by taking into consideration the expectations and satisfaction of parents for a traditional children's playground.

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