

Full Length Research Paper

Needs and preferences of adolescents in open urban spaces

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The aim of this study was to determine the factors to be taken into consideration while planning urban open spaces that are beneficial and appropriate for adolescents. It was targeted to determine the needs and demands of adolescents and the relationship of such needs and demands with open urban spaces. In the scope of the study, it was aimed to determine psycho-social needs of adolescents, which outdoor places they use in their leisure time and which activities they participate in. Behaviors exhibited by adolescents in selected city environments were examined in order to gather evidence regarding place preferences of adolescents and the way in which these places are used by them. In addition, affordances provided for adolescents by different urban environments (home environment, city parks, city centre, school surrounding, etc) were analyzed. These environments are the key environments of adolescents. The relation between the home environment, city parks, city centre and school surrounding preferences of adolescents and the affordances provided by these places was studied. Furthermore, opinions and demands of adolescents related to their own environment were studied so as to determine the kinds of affordances adolescents use in urban open places. Identity descriptions and leisure time preferences of 480 adolescents in 12 - 18 age range were examined. It was concluded that girls define themselves as “calm, active, tidy” while boys as “sportive, social and cool”. Young people who participated in the study generally preferred spending their leisure time with their friends. Among urban environments, city centre was found to be the most-preferred environment by adolescents. Then, different urban places were evaluated by adolescents on the basis of 15 different affordances. It was revealed that city centre is mainly preferred for the affordances of shopping, recreation and being with friends; school environment for the affordances of trying new activities, obtaining new information and hanging out; home environment for the affordances of being alone, being with friends and shopping. City parks, on the other hand, are preferred for the affordances of being alone with close friends, being alone and learning.

Key words: Urban open spaces, adolescents, preference, affordances, leisure time activities.

INTRODUCTION

Designing appropriate open urban places and activities taking into consideration the psychological and social needs of adolescents can considerably facilitate adaptation of adolescents to their environments. Young people feeling happy and comfortable from psychological and social perspectives can develop more positive attitudes and be more motivated towards their environments as well as their social and work life. Therefore, it is necessary

to determine psycho-social needs of adolescents; the kinds of activities that can be carried out in outdoor spaces to meet these needs.

Psycho-social needs and open space preferences of adolescents

In the literature; limited number of studies has been carried out on the places preferred by adolescents. This resulted in the individual experiences (emotional, social and physical) of adolescence years being overlooked

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(Owens, 1994). Studies show that young people differ from the general society in terms of their environmental preferences. This stems from the difference of the environmental preferences of adolescents. These preferences and differences should be reflected in the design of urban spaces. While designing places, the possible benefits of these places for adolescents should also be considered. It is important for adolescents to participate in some activities to improve their relations with the environment, to enjoy the opportunity of socializing with their peers and other groups, to develop their skills and to solve problems (Bredow, 2006).

The number of studies conducted on the interest of adolescents in their environments has increased in the last two decades. Kevin Lynch (1977), Colin Ward (1978) and Roger Hart (1979), important researchers from different academic fields, pioneered the process of observing the urban experiences of adolescents. Firstly, Lynch (1977) studied small adolescent groups from various cities in his work "Growing up in Cities". He worked on how young people use and value their environments and how the urban places affect the identity development of adolescents.

Most of the studies on the use of urban spaces by adolescents are focused on their favorite (van Anel, 1990; Korpela, 1992; Lieberg, 1997), preferred (Malinowski and Thurber, 1996) and valued places (Owens, 1988, 1994). Studies on the favored, valued and preferred places enable young people to identify their environments. However, the relationship between the preferred place and their benefits has not been studied yet. Korpela (1992) and Lieberg (1997) revealed that home environment is a favorite place and that private places are more favorable than the public spaces. Some other findings have shown that young people prefer environments such as shopping centers, commercial places and the green spaces close to their homes.

Woolley and John's (2001) study showed how adolescents' use of environments can lead to some conflicts. In recent years, adolescents' use of public places in city centers and neighborhoods has been increasingly gaining an inappropriate and disruptive nature. The use of public places by the adolescents is considered as a threat to the personal safety of others and to the public order of the street. Moreover, adolescents have also increasingly been 'designed out' of public places. Owens (1988) suggested that places for adolescents to hang out and gather should in fact be 'designed into' environments.

Owens (1994) also examined why environments are valued and found that different environments are valued for different reasons. Mainly parks, commercial areas and school environments are valued. Owens (1994) did not specifically use the word "affordances"; rather, she matched the needs of the adolescent with the amount of support available in the environment for that specific need.

There are many reasons behind considering the development of adolescents while making environmental designs. Two of them can be listed as speeding up the development process of adolescents and to understand the impact of adolescence on personality development (Versteeg, 2003). For this reason, it is important to define the physical places that will facilitate development of adolescents.

Leisure time activities of young people

The literature points out the benefits of the leisure time that increases the participation of adolescents in activities. Leisure time helps young people to socialize, to share their interests, to establish relationships, to develop in-group personalities and to feel as a part of something. Furthermore, many leisure activities serve as an opportunity for learning. It helps learning not in formal but in an informal way (observation, adopting of new skills, etc) (Fine, 2005).

Participation in leisure activities keeps adolescents away from anti-social behaviors. Moreover, Iso-Ahola and Crowley (1991) revealed that these activities prevent adolescents from feeling bored and makes them feel good. Garbarino (1980) explained the reason of illegal acts of adolescents was the lack of sufficient opportunity for activities. Sports activities increase participation. Organization and social content has impacts on the selection of the sports type, psychological condition and personal satisfaction. Positive impact of social environment is related with the results of satisfaction and, sports activities should be carried out with a group under appropriate competition conditions.

Scot and Willist (1998) suggested that participation of adolescents in leisure activities is of great importance since it is a determinant for the adult participation. Csikszentmihalyi and Larson (1984) put forward that adolescents oppose activities proposed by their families. Orthner and Mancini (1990) concluded that leisure time spent with family brings about positive results.

Adolescent environments and Gibson's theory of affordances

Gibson's (1979) theory enables the functional properties of the environment and the psychological/behavioral response to the environment to be examined together. Theory of affordances is an environmental psychology method that helps explain "functional meaning" for adolescent environments and is used to describe the relation between the functional features and the use of the environment.

Gibson's (1979) theory of affordances states that environmental perception is a direct process and that perception is shaped by how the individual perceives the

affordances in the environment; 'The affordances of the environment are what it offers for the animal or human being and what it provides or drives towards good or ill'. Affordance is, therefore, the possibility of action afforded to an observer by an object in the environment. Objects have instantly detectable functions and are perceived in terms of what they afford rather than their features or qualities.

There are two main principles in Gibson's theory of affordances:

1. Individuals and the environment are inseparable.
2. Individuals perceive the environment directly, without going through a mental process.

This theory supports the view that people and the environment are dependent on each other from an ecological perspective (Heft, 2001). Each environmental feature provides certain potential for a certain task, for certain individuals. Affordances correspond to these potentials:

- (i) Stroffgen (2000, 2003) defines affordance as a relationship between an individual and the environment that has implications on the human behavior.
- (ii) Affordances originate from the environment and the relationship between the individuals and the objects in the environment (Heft, 2007).
- (iii) Affordances are the opportunities or dangers perceived by an individual in a certain physical place and environment (Kytta, 2004).
- (iv) Greeno (1994) defines affordances as "prerequisites for activities".

Gibson uses the term "affordance" as a tool for explaining the environment in the context and through the vocabulary of "activities". Among the various features of the environment, the ones that are defined as "affordances" are those that match the needs of individuals and assist them in their tasks (Fajen and Turvey, 2003). In summary, individuals perceive the affordances that have functional importance to them. In other words, the existence of an affordance requires cohesion between the individual and the environment (Withagen and Michaels, 2005).

Gibson (1979) stated that affordances can be physical or social. In fact, Gibson (1979) believed that the richest and most intricate affordances of the environment are those developed due to the presence of other people. These types of affordances are physical affordances having social content.

Gibson's theory has been widely used by both perceptual and environmental psychologists. This theory is an approach that suggests seeking the functional meaning of the environment. Seeking environmental affordances helps understand the different behaviors exhibited. One of the first environmental psychologists

to utilize Gibson's theory to examine functionality was Heft (1988). Heft's aim was to create taxonomy for the significant properties of children's environments. Heft found copious examples of the potential affordances of children's environments and created taxonomy of children's outdoor environments. Heft's taxonomy aimed to classify children's environmental experiences. However, Heft's taxonomy failed to describe the affordances provided by other people in the child's environment; however, according to Gibson the affordances provided by other people are the richest affordances available of the theory. This is the weakness of Heft's work. Kytta (1995) used Heft's taxonomy and also included social interaction as an affordance type in the theory. In her study conducted on the affordances for children of different types of surroundings in Finland, Kytta (1995) found that the highest number of affordances was perceived in villages while the lowest number in cities. Kytta (1995) asked each child "if there were such place, where would you like to do each type of affordance". She was not concerned with the quantitative or qualitative aspects of the activity.

Environmental psychologists have not been able to clearly link the functional features of the environment with its physical features: that is, which physical features comprise which affordances. The affordance study conducted by Woolley and Johns (2001) in Tudor Square (where adolescent skateboard) in 2001 provides some evidences on this issue. Three main categories of affordances (namely; physical features, accessibility and appropriateness for sociable experience) were observed in this square, where the focus group was composed of skateboarders. In their study, Clark and Uzzell (2002) grouped the urban environments as home environment, neighborhood, school environment and city center; and they aimed to develop a scale that would measure the affordances of these environments. Affordances were measured to study two key adolescent needs; namely, need for social interaction and the need for retreat.

In the light of the studies on all of these favored, preferred and valued environments, the starting point of this type of studies has been the question "How can city environments be designed in such a way to be more beneficial and appropriate for the development of adolescents?" Taking into consideration the importance of the meaning attributed by adolescents to open city environments; the opportunities provided by and positive and negative effects of these environments; and the opinions of adolescents about their own environments; study questions were formalized as follows:

- (i) What are the identity definitions made by adolescents, according to their psycho-social development and gender?
- (ii) On the basis of their psycho-social development, in which open urban environments do adolescents spend their time and what kind of activities do they participate in?

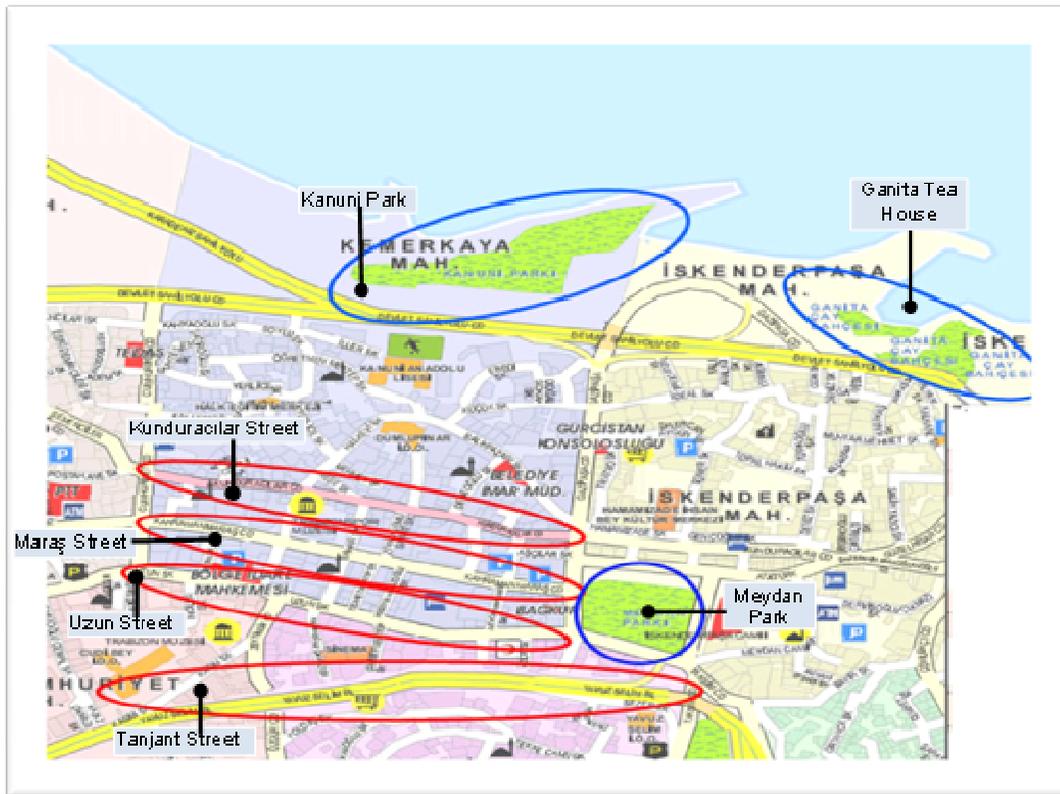


Figure 1. Study fields.

(iii) Which urban environments are associated by adolescents with which affordances?

(iv) What is the relation between the different affordances provided by different environments and the physical features of that environment?

METHOD

Field of study

The study was carried out in Trabzon Province of Turkey. Study field covered Uzun Street, Maraş Street, Kunduracılar Street, Tanjant Street (the most crowded four streets of the city centre), Meydan Park: the most central park of the province; and the coastal area covering Ganita Tea House and Kanuni Park (Figure 1 and Table 1).

Kunduracılar Street is a trade center which is closed to traffic and which mainly hosts clothing stores, jewellers and handcraft shops. It is heavily used for shopping and sightseeing purposes. It has connections with art streets. Maraş Street serves as a trade center with heavy traffic, where the bank branches and business offices are located. The connections of Maraş Street with other streets are appropriate for pedestrian focus. Uzun Street is a street which is closed to traffic and which hosts main bookstores, theatres, cafes and stores of the province and is heavily used by students (Figure 4). Despite its heavy traffic, Tanjant Street has wide pedestrian sidewalks and cafes and restaurants mainly preferred by young people.

Meydan Park is a square-shaped and easy-to-access central park surrounded by streets on four sides. It is full of cedar trees and

hosts a tea house on the south side. Municipality Building is located across the park. With its history of approximately 120 years, Ganita Tea House is the only natural part of the city coast and is highly popular with people. The Ganita Tea House, which rises on the rocks near the sea, is a frequent place to visit for the hundreds of thousands of students that stay in Tranzon for their college education. Due to easy access, Kanuni Park is heavily used by people. In addition, this park carries a symbolic meaning due to a monument it contains. This park also encompasses various activities.

Application of questionnaire

Study participants were selected from adolescents in 12 - 18 age range. For studies that require selecting a sample size, Krejcie and Morgan (1970) suggested a table for determining the right sample size for a given sample space. According to this sample, for a sample space of 100,000 people, a sample size of 382 people is sufficient. In addition, Roscoe (1975) has indicated that the sample set size should be between 30 and 500 for an ideal research study. There are 96,312 young people living in the Trabzon city center. As a result, a sample size of 384 to 500 people is deemed sufficient. Accordingly, the questionnaire was performed with 500 adolescents, but 20 incorrectly filled ones were discarded. Among the 480 adolescents that went through the questionnaire; 250 were girls and 230 were boys; and there were 80 participants from each area (Uzun Street, Maraş Street, Kunduracılar Street, Tanjant Street, Meydan Park and Ganita Tea House- Kanuni Park).

Questionnaires were conducted in face to face interviews in May -weekends. In the first section, adolescents were asked how they would describe themselves and what they like doing in their leisure

Table 1. Cross tabulation of identity descriptions for gender and preferences.

Gender	Preference classification	Identity distributions														
		Sportive	Popular	Calm	Relaxed	Create	Active	Cool	Lazy	Hard Working	Successful	Tidy	Social	Other	Total	
Girls	1 st Preference	No of participants	28	19	62	29	12	20	8	2	34	9	15	10	1	249
		In preference group %	11.2	7.6	24.9	11.6	4.8	8.0	3.2	11.2	7.6	24.9	11.6	4.8	8.0	3.2
		In identity definitions %	51.9	51.4	70.5	39.2	30.0	25.6	33.3	25.0	38.6	11.4	14.3	16.4	50.0	33.7
	2 nd Preference	In total %	3.8	2.6	8.4	3.9	1.6	2.7	1.1	.3	4.6	1.2	2.0	1.4	.1	33.7
		No of participants	17	13	16	30	12	34	13	3	28	32	33	15	1	247
		In preference group %	6.9	5.3	6.5	12.1	4.9	13.8	5.3	1.2	11.3	13.0	13.4	6.1	.4	100.
	3 rd Preference	In identity definitions %	31.5	35.1	18.2	40.5	30.0	43.6	54.2	37.5	31.8	40.5	31.4	24.6	50.0	33.5
		In total %	2.3	1.8	2.2	4.1	1.6	4.6	1.8	.4	3.8	4.3	4.5	2.0	.1	33.5
		No of participants	9	5	10	15	16	24	3	3	26	38	57	36	0	242
Boys	1 st Preference	In preference group %	3.7	2.1	4.1	6.2	6.6	9.9	1.2	1.2	10.7	15.7	23.6	14.9	.0	100.
		In identity definitions %	16.7	13.5	11.4	20.3	40.0	30.8	12.5	37.5	29.5	48.1	54.3	59.0	.0	32.8
		In total %	1.2	.7	1.4	2.0	2.2	3.3	.4	.4	3.5	5.1	7.7	4.9	.0	32.8
	2 nd Preference	No of participants	91	17	32	18	5	14	5	3	13	9	7	12	2	228
		In preference group %	39.9	7.5	14.0	7.9	2.2	6.1	2.2	1.3	5.7	3.9	3.1	5.3	.9	100.
		In identity definitions %	75.2	48.6	64.0	24.0	13.9	18.2	18.5	17.6	22.4	15.0	14.6	15.8	100.	33.4
	3 rd Preference	In total %	13.3	2.5	4.7	2.6	.7	2.1	.7	.4	1.9	1.3	1.0	1.8	.3	33.4
		No of participants	13	13	8	36	22	34	16	3	28	31	9	15	0	228
		In preference group %	5.7	5.7	3.5	15.8	9.6	14.9	7.0	1.3	12.3	13.6	3.9	6.6	.0	100.
Total	In identity definitions %	10.7	37.1	16.0	48.0	61.1	44.2	59.3	17.6	48.3	51.7	18.8	19.7	.0	33.4	
	In total %	1.9	1.9	1.2	5.3	3.2	5.0	2.3	.4	4.1	4.5	1.3	2.2	.0	33.4	
	No of participants	17	5	10	21	9	29	6	11	17	20	32	49	0	226	
Total	In preference group %	7.5	2.2	4.4	9.3	4.0	12.8	2.7	4.9	7.5	8.8	14.2	21.7	.0	100.	
	In identity definitions %	14.0	14.3	20.0	28.0	25.0	37.7	22.2	64.7	29.3	33.3	66.7	64.5	.0	100.	
	In total %	2.5	.7	1.5	3.1	1.3	4.3	.9	1.6	2.5	2.9	4.7	7.2	.0	33.1	

Table 2. Cross-tabulation of leisure time activities for gender.

Gender		Leisure activities						Total
		Sports	Recreation	Spending time with friends	Retreat	Shopping	Other	
Girls	No of participants	15	40	86	51	52	2	246
	In gender %	6.1	16.3	35.0	20.7	21.1	.8	100.0
	In leisure activities %	17.0	54.1	55.8	53.1	88.1	50.0	51.8
	In total %	3.2	8.4	18.1	10.7	10.9	.4%	51.8
	No of participants	73	34	68	45	7	2	229
Boys								100.0
	In gender %	31.9	14.8	29.7	19.7	3.1	.9	
	In leisure activities %	83.0	45.9	44.2	46.9	11.9	50.0	48.2
	In total %	15.4	7.2	14.3	9.5	1.5	.4	48.2
	No of participants	88	74	154	96	59	4	475
Total	In gender %	18.5	15.6	32.4	20.2	12.4	.8	100.0
	In leisure activities %	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	In total %	18.5	15.6	32.4%	20.2	12.4	.8	100.0

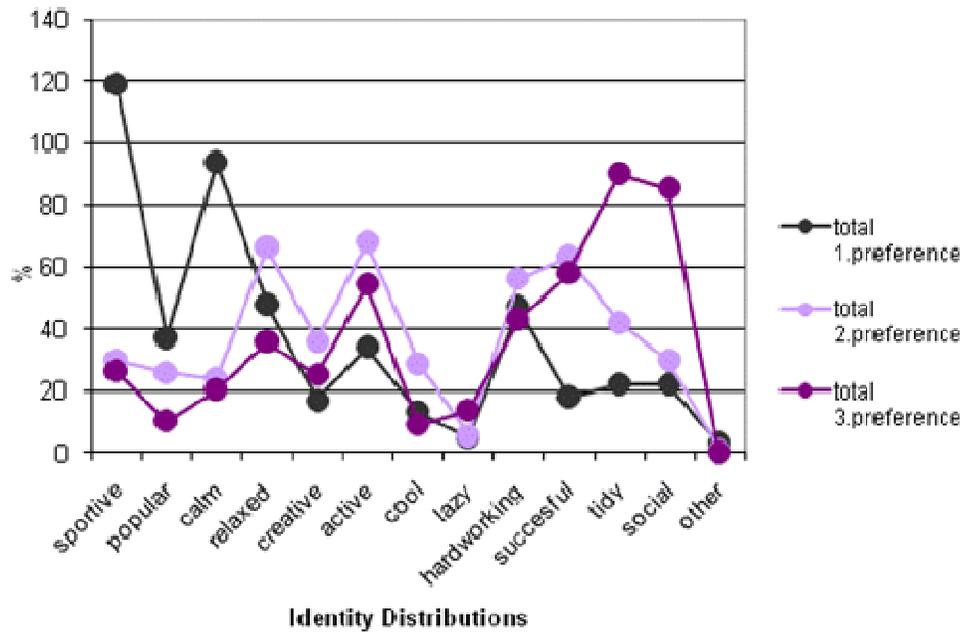


Figure 2. Determination of the identity distributions.

time. Then, the open space where they most frequently spend their leisure time was asked. In the second section, 15 affordances were presented to adolescents so as to define the affordances of city center, school environment, home environment and city parks that is different urban environments which are defined as key environments of adolescents. Then, they were asked to evaluate each environment by using a 5-point scale (1 = never, 2 = almost never, 3 = sometimes, 4 = often, 5 = always), according to how often they use the related environment for these affordances.

RESULTS

Determination of the identity distribution of adolescents

According to the frequency analysis performed on the data, participants identified themselves most as sportive by 24.8%, calm by 19.6%, cool by 10.4%; secondly as active by 14.3%, cool by 13.8%, successful by 13.2%; finally as tidy by 19.1%, social by 18.1% and successful by 12.3%. The most frequently stated identity description overall was "sportive" as seen in Figure 2.

When the distribution of identity description was examined according to gender, cross-table analysis of the identity differences between girls and boys showed that girls identified themselves firstly as calm by 24.9%, secondly as active by 13.8% and thirdly as tidy by 23.6% while boys defined themselves firstly as sportive by 39.9%, secondly as cool by 15.8% and thirdly as social by 21.7%. Chi-square test conducted showed that the difference between the identity distribution of girls ($\chi^2 = 154, 283^a, 24df$) and boys ($\chi^2 = 247, 811^b, 24df$) was smaller than 0.01. This result indicated that gender was

an important factor in the identity definitions as seen in Table 2.

Determination of the leisure activities of adolescents

The results of the frequency analysis carried out on the data showed that 32.4% of adolescents enjoyed spending their leisure time with their friends as seen in Figure 3. When the distribution of leisure activity was analyzed according to gender; the cross-table analysis showed that 35% of girls preferred spending their leisure time with their friends while 31.9% of boys preferred playing sports. Chi-square test conducted showed that the difference between the leisure activities of girls and boys was statistically significant that was smaller than 0.01 ($\chi^2 = 73,200^a, 5df$) as seen in Table 3. While the most popular places for spending time with friends were Uzun Street and Maraş Street, followed by Tanjant Street and thirdly Meydan Park and finally Ganita Tea House, most popular place preferred for sports was found to be school gardens, followed by astro turfs. These areas provide opportunities for adolescents to spend time and socialize with their friends. The most important need of adolescents who define themselves as social, sportive, and active, is to socialize with their friends. These socialization needs can be satisfied in the urban open spaces, be used for the affordances of being alone with an average of 3.46, being with friends with an average of 3.44 and shopping with an average of 3.21. City parks, on the other hand, were revealed to be used for the especially in city streets and parks. The behaviors adolescents exhibit in these areas and the affordances

Table 3. Cross tabulation of leisure time activities for gender.

		Leisure activities						Total	
		Sports	Recreation	Spending time with friends	Retreat	Shopping	Others		
Gender	Girls	No of participants	15	40	86	51	52	2	246
		In gender %	6.1	16.3	35.0	20.7	21.1	.	100.0
		In leisure activities %	17.0	54.1	55.8	53.1	88.1	50.0	51.8
		In total %	3.2	8.4	18.1	10.7	10.9	.4	51.8
			73	34	68	45	7	2	229
	Boys	No of participants							
		In gender %	31.9	14.8	29.7	19.7	3.1	.9	100.0
		In leisure activities %	83.0	45.9	44.2	46.9	11.9	50.0	48.2
		In total %	15.4	7.2	14.3	9.5	1.5	.4	48.2
			88	74	154	96	59	4	475
Total	No of participants								
	In gender %	18.5	15.6	32.4	20.2	12.4	.	100.0	
	In leisure activities %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
	In total %	18.5	15.6	32.4	20.2	12.4	.8	100.0	

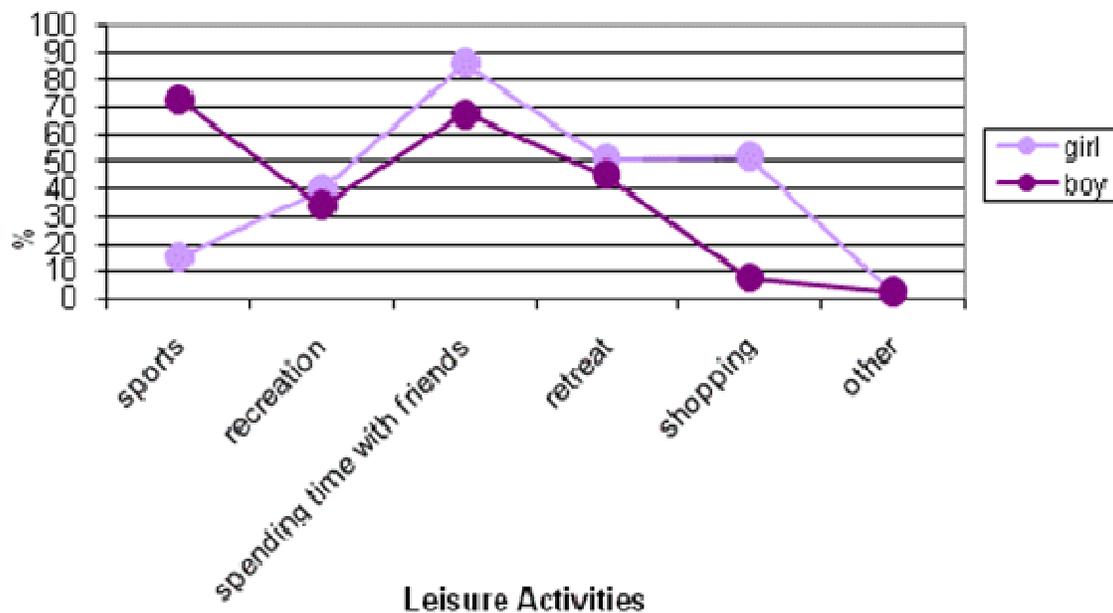


Figure 3. Determination of the leisure activities.

provided by these areas are given in Table 4.

Determination of the relation between identity distribution and leisure time activities

Another question asked in the scope of the study was about the relation between “participation in activities” and “development of identity”. As expected, identity distribution showed some gender-based differences among five activity groups. 32.8% of the girls who defined

themselves as “calm” spent their leisure time on their own. In addition, 17.3% of the girls who described themselves as “active” spent their leisure time by shopping and 8.3% of the girls defining themselves as “tidy” spent their leisure time with their friends. 39.9% of boys defined themselves as “sportive” and 69.9% of them spent their leisure time playing sports. Moreover, 11.9% of the boys defining themselves as “cool” spent their leisure time alone while 11.1% of those describing themselves as “social” spent their leisure time with their friends. These results are shown Figures 4 and 5.

Table 4. The results of the one-way ANOVA test.

Affordances			Sum of squares	df	Mean square	F	Sig.
Learning *	Between groups	(Combined)	750.365	3	250.122	170.797	.000
	Within groups		2716.539	1855	1.464		
	Total		3466.904	1858			
Obtaining new information *	Between groups	(Combined)	437.256	3	145.752	105.537	.000
	Within groups		2546.663	1844	1.381		
	Total		2983.920	1847			
Far away from family	Between groups	(Combined)	119.386	3	39.795	27.180	.000
	Within groups		2714.518	1854	1.464		
	Total		2833.903	1857			
Being alone with close friends *	Between groups	(Combined)	991.536	3	330.512	256.135	.000
	Within groups		2398.821	1859	1.290		
	Total		3390.357	1862			
Being with friends*	Between groups	(Combined)	578.868	3	192.956	131.848	.000
	Within groups		2719.139	1858	1.463		
	Total		3298.007	1861			
Feeling safe *	Between groups	(Combined)	186.547	3	62.182	41.778	.000
	Within groups		2753.546	1850	1.488		
	Total		2940.093	1853			
Hanging out*	Between groups	(Combined)	382.615	3	127.538	83.959	.000
	Within groups		2802.667	1845	1.519		
	Total		3185.282	1848			
Meeting with new people*	Between groups	(Combined)	450.030	3	150.010	102.322	.000
	Within groups		2718.065	1854	1.466		
	Total		3168.095	1857			
Calm down*	Between groups	(Combined)	251.973	3	83.991	57.189	.000
	Within groups		2727.292	1857	1.469		
	Total		2979.265	1860			
Trying new activities *	Between groups	(Combined)	315.863	3	105.288	67.468	.000
	Within groups		2883.931	1848	1.561		
	Total		3199.795	1851			
Playing sports *	Between groups	(Combined)	287.404	3	95.801	60.959	.000
	Within groups		2897.970	1844	1.572		
	Total		3185.374	1847			
Being alone *	Between groups	(Combined)	299.625	3	99.875	51.492	.000
	Within groups		3596.035	1854	1.940		
	Total		3895.660	1857			
Shopping *	Between groups	(Combined)	271.222	3	90.407	65.762	.000
	Within groups		2540.581	1848	1.375		
	Total		2811.803	1851			
Recreation *	Between groups	(Combined)	399.110	3	133.037	74.635	.000
	Within groups		3306.535	1855	1.782		
	Total		3705.645	1858			
Eating*	Between groups	(Combined)	33.860	3	11.287	7.304	.000
	Within groups		2847.964	1843	1.545		
	Total		2881.825	1846			

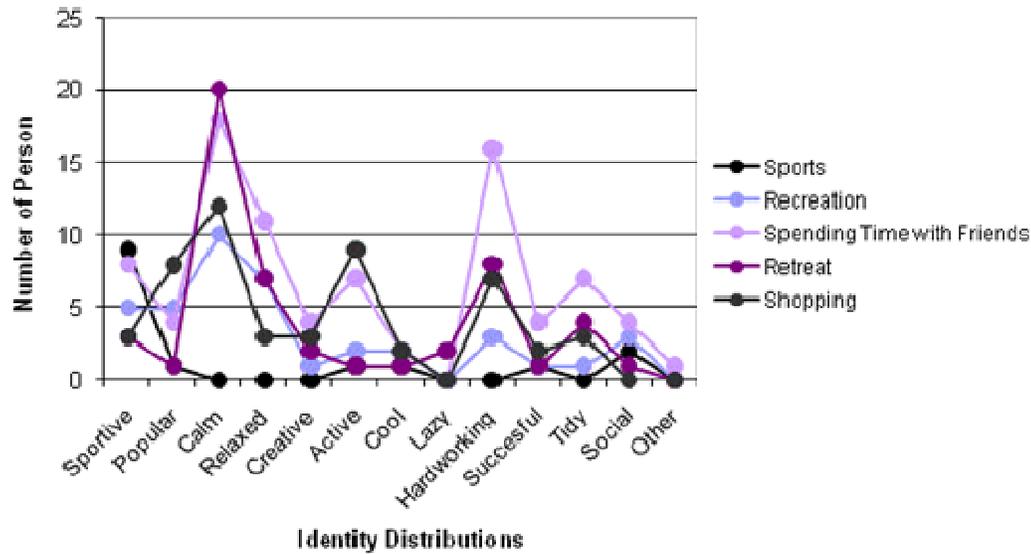


Figure 4. Determination of the relation between identity distribution and leisure time activities for girls.

Determination of the environments preferred by adolescents and relating those environments with demographic characteristics

The main aim of this study was to determine the affordances of city center, school environment, home environment and city parks. The aim of this section was to define the environment where the adolescents most frequently spend their leisure time. At the end of the frequency analysis and cross-tabulation carried out to this end, the environment most preferred by adolescents was found to be the city center (62.1 %) as seen in Figure 6.

The results of the Chi-square test carried out revealed that there was no significant difference in terms of gender ($\chi^2 = 9,046(a), 3df, p>0. 01$). Both girls (66.7%) and boys (57.2%) preferred the city center as seen in Table 5.

The city center is the top preference of adolescents because it provides the best socialization opportunities for them.

Determination of the affordances provided by urban places to adolescents

Averages of the affordances provided by urban places to adolescents were calculated. As a result, it was observed that the city center was mainly used for shopping with an average of 4.01, recreation with an average of 3.87 and being with friends with an average of 3.79. School environment was found to be used for the affordances of trying new activities with an average of 3.77, obtaining new information with an average of 3.41 and hanging out with an average of 3.38. Home environment was found to affordances of being alone with close friends with an average of 4.24, of being alone with an average of 4.00

and of learning with an average of 3.64. These results are shown in Figures 7, 8, 9 and 10.

The results of the one-way ANOVA test, shown in Table 6, indicated significant differences in terms of the use of the environments for the affordances provided.

Adolescents who associate themselves with being active, sportive, social, etc., have needs for engaging in recreational activities, being together with friends, shopping, etc., and socializing in general. These needs can best be served by city centers in urban areas.

DISCUSSION

This study was conducted to determine the factors to be considered while designing urban open places appropriate and beneficial for adolescents; to define identity definitions, requirements, demands and preferences of adolescents and; relationship between such elements with open places. Gibson’s theory of affordances played a guiding role in this study since it enables a systematic approach to be adopted in evaluating the environments of adolescents.

First of all, adolescent identities were defined and their identity definitions were examined. According to Erickson (1959, 1968), identity development is an important part of psycho-social development. 12 - 18 age range is an important period when identity-role confusion is experienced. Identity-role confusion is the process when the individual tries to find positive and consistent answers to the question of “what and who I am”. In other words personality-identity is a dynamic integration of the social, ethical, mental and physical characteristics of the individual. According to Erikson (1959, 1968) adolescents compare “me in the eyes of others” and “me in my eyes”

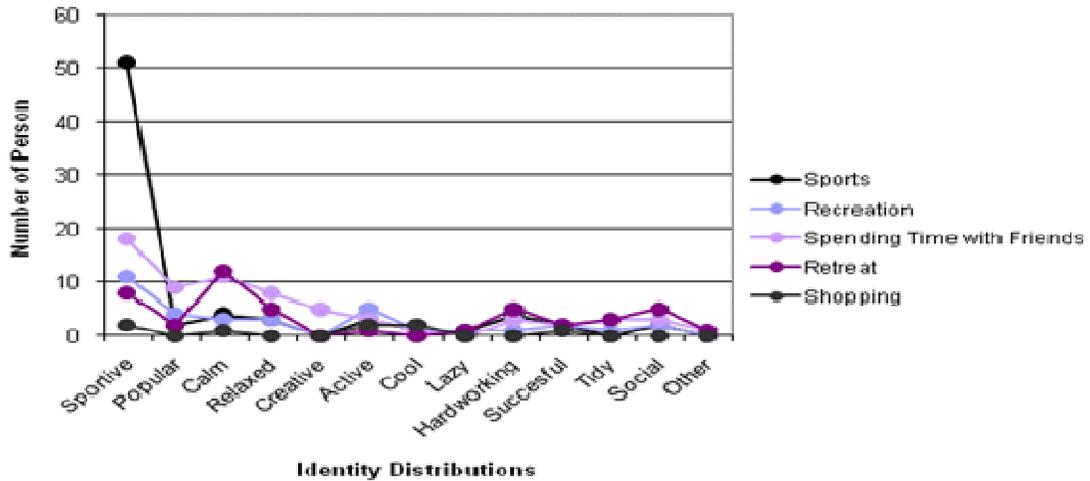


Figure 5. Determination of the relation between identity distribution and leisure time activities for boys.

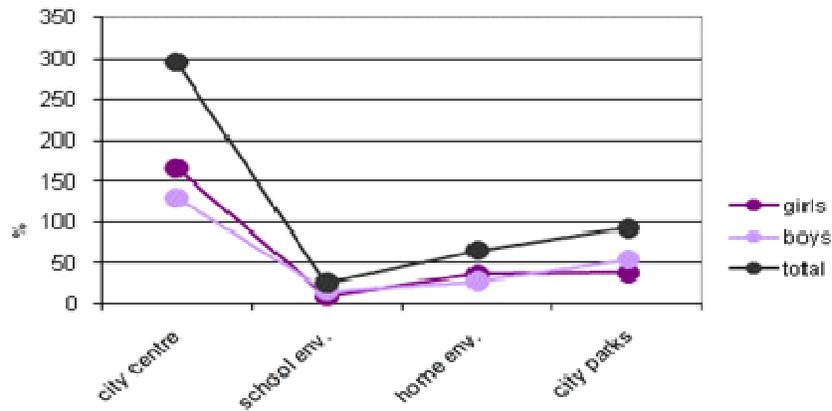


Figure 6. Determination of the environments preferred by adolescents.

Table 5. Cross tabulation of preferred environments for gender.

		Environments				Total	
		City centre	School environment	Home environment	City parks		
Gender	Girls	No of participants	166	9	36	38	249
		In gender %	66.7	3.6	14.5	15.3	100.0
		In environments %	56.1	36.0	56.3	41.3	52.2
		In total %	34.8	1.9	7.5	8.0	52.2
	Boys	No of participants	131	16	28	54	229
		In gender %	57.2	7.0	12.2	23.6	100.0
		In environments %	44.1	64.0	43.8	58.7	47.9
		In total %	27.4	3.3	5.9	11.3	47.9
	Total	No of participants	297	25	64	92	478
		In gender %	62.1	5.2	13.4	19.2	100.0
In environments %		100.0	100.0	100.0	100.0	100.0	
In total %		62.1	5.2	13.4	19.2	100.0	

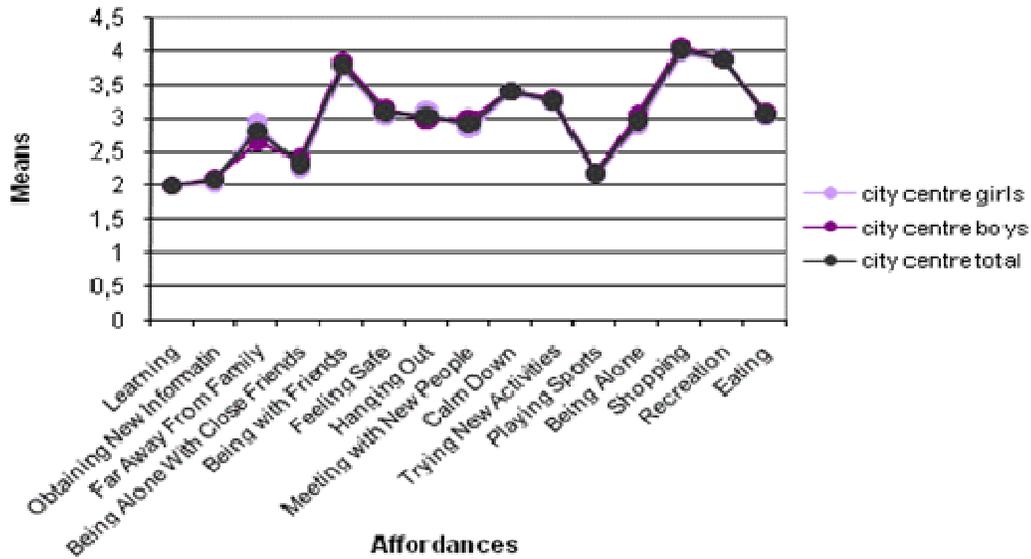


Figure 7. Determination of the affordances for city centre.

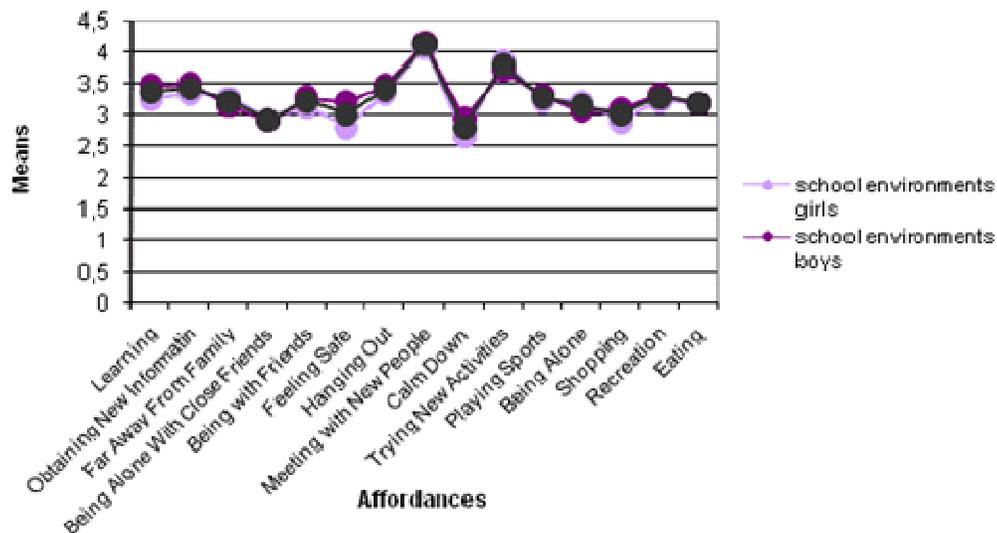


Figure 8. Determination of the affordances for school environments.

in their struggle for developing an identity. Another criterion important for the determination of the needs of adolescents is gender differences. For Caffarella (2002), girls have different methods for growing and learning. Identity for girls is related with establishing relations with others, having close friends and intimacy. Tisdell (2003) suggests that boys socialize particularly for leadership role and adopt an authoritarian style while girls play supporting roles. The present study also produced similar results and girls defined themselves as “calm, active and tidy” while the boys defined themselves as “sportive,

social and cool”. These findings support the idea that girls have a different identity development process from that of boys.

Leisure time preferences of adolescents were also examined in the scope of the present study. According to Piko (2004), leisure time activities and problem behaviors affect the adaptation process in developmental period. Therefore, it is important to determine the leisure time activities of adolescents. Leisure time helps adolescents socialize, share their interests, establish relationships, develop their in-group personalities and feel part of

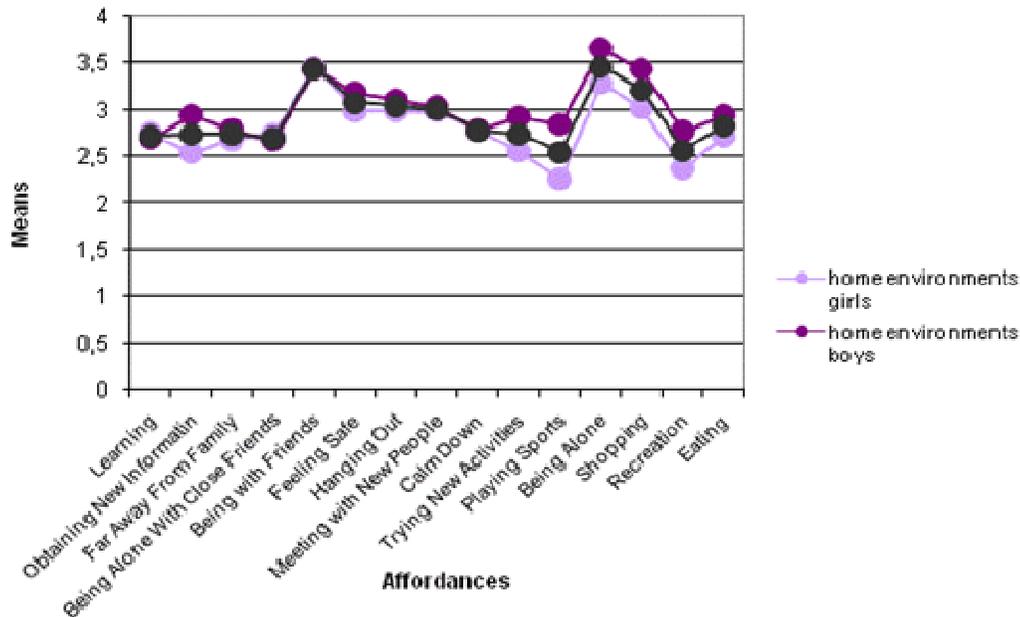


Figure 9. Determination of the affordances for home environments.

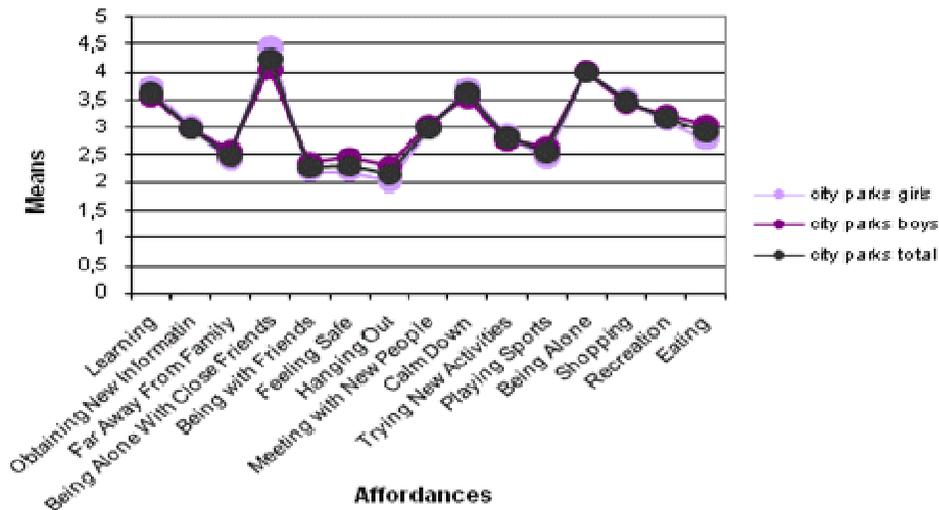


Figure 10. Determination of the affordances for city parks.

something (Iso-Ahola and Crowley, 1991; Hultsman, 1992). Garton and Pratt (1991) studied leisure time activities of Australian adolescents and found that age, gender, socio-economic situation and location of school are determinant and effective on leisure time activities. Culp (1998) suggested that the concept of “gender” is effective on the leisure time preferences of adolescents. Fitzgerald et al., (1995) revealed that adolescents are mainly interested in passive but socializing activities. In the study he conducted on adolescents of 15-16 age

range, Fitzgerald et al., (1995) showed that the most preferred activity is hanging out with friends. In his study on girls of 12-17 age range, Culp (1998) found that “relationships with friends” is quite a strong determinant. It was concluded that the value attributed to a girl increased depending on with whom she hangs out, that the social relationships they establish are important and that an increase is observed in their open space activities. Garton and Pratt (1991) and Fitzgerald et al., (1995) stated that girls are more interested in social

Table 6. The results of the one-way ANOVA test.

Affordances			Sum of squares	df	Mean square	F	Sig.
Learning *	Between groups	(Combined)	750.365	3	250.122	170.797	.000
	Within groups		2716.539	1855	1.464		
	Total		3466.904	1858			
Obtaining new information *	Between groups	(Combined)	437.256	3	145.752	105.537	.000
	Within groups		2546.663	1844	1.381		
	Total		2983.920	1847			
Far away from family	Between groups	(Combined)	119.386	3	39.795	27.180	.000
	Within groups		2714.518	1854	1.464		
	Total		2833.903	1857			
Being alone with close friends *	Between groups	(Combined)	991.536	3	330.512	256.135	.000
	Within groups		2398.821	1859	1.290		
	Total		3390.357	1862			
Being with friends*	Between groups	(Combined)	578.868	3	192.956	131.848	.000
	Within groups		2719.139	1858	1.463		
	Total		3298.007	1861			
Feeling safe *	Between groups	(Combined)	186.547	3	62.182	41.778	.000
	Within groups		2753.546	1850	1.488		
	Total		2940.093	1853			
Hanging out*	Between groups	(Combined)	382.615	3	127.538	83.959	.000
	Within groups		2802.667	1845	1.519		
	Total		3185.282	1848			
Meeting with new people*	Between groups	(Combined)	450.030	3	150.010	102.322	.000
	Within groups		2718.065	1854	1.466		
	Total		3168.095	1857			
Calm Down*	Between groups	(Combined)	251.973	3	83.991	57.189	.000
	Within groups		2727.292	1857	1.469		
	Total		2979.265	1860			
Trying new activities *	Between groups	(Combined)	315.863	3	105.288	67.468	.000
	Within groups		2883.931	1848	1.561		
	Total		3199.795	1851			
Playing sports *	Between groups	(Combined)	287.404	3	95.801	60.959	.000
	Within groups		2897.970	1844	1.572		
	Total		3185.374	1847			

Table 6. Contd.

Affordances			Sum of squares	df	Mean square	F	Sig.
Being ALONE *	Between groups	(Combined)	299.625	3	99.875	51.492	.000
	Within groups		3596.035	1854	1.940		
	Total		3895.660	1857			
Shopping *	Between groups	(Combined)	271.222	3	90.407	65.762	.000
	Within groups		2540.581	1848	1.375		
	Total		2811.803	1851			
Recreation *	Between groups	(Combined)	399.110	3	133.037	74.635	.000
	Within groups		3306.535	1855	1.782		
	Total		3705.645	1858			
Eating*	Between groups	(Combined)	33.860	3	11.287	7.304	.000
	Within groups		2847.964	1843	1.545		
	Total		2881.825	1846			

entertainments than boys. Boys are more interested in social activities. Studies on Australian adolescents of 13-17 age range revealed that the most important activity is social events and spending time with friends. Boys were found to participate in sports and games more than girls. Our study findings also support these findings.

In our study, the most preferred activity of the adolescents was found to be spending time with friends. However, when the preferences of the girls and boys were compared, it was found that girls preferred spending their time with their friends while boys prefer playing sports. A statically meaningful difference was observed in gender comparisons. The most important activity for the adolescents was observed to be spending time with friends; that is socialization. Adolescents need to be with their peers for their social development. During this period, world view of parents and other adults are rejected. Values and world view of the friend groups become important for the adolescent. Being with friends requires establishment of an equitable social relationship. Friends have equal knowledge and authority. In their relationships with their friends, the adolescent learns to establish social relationships, to exhibit reliable behaviors, to express their own idea and to listen to the ideas of others with tolerance.

Then, the environments preferred by adolescents were studied and the environment most popular by adolescents was found to be the city center. This was, in fact, an expected result. Adolescents prefer the environments away from their parents and other adults, where they can meet their friends. Corners of the streets and shopping centers are the places where adolescents meet other adolescents and shape their identity. Adolescents create

their own places in their environments. They use places away from adults. For instance, they meet in front of shopping centers and they talk about their clothes, hair, etc. This preference does not change according to gender or age group. In this study; girls, boys and adolescents of any age group preferred city centers with a statistically significant percentage.

Another issue analyzed in this study was the relationship between "participation in activities" and "development of identity". Activity choices are presumed to be a part of the important psychological and social powers system which has impacts on the development. These powers are linked to commitment to social institutions (such as schools) and relationship with the adults in such institutions as well as to participation in friend groups and development of identity. Knowing what an adolescent does provides sufficient information about with whom they generally hang out. As expected, identity distribution between these five activity groups differed according to gender. Girls who described themselves as "calm" spent their leisure time on their own. Girls who described themselves as "active" spent their leisure time shopping while girls who described themselves as "tidy" spent their leisure time with their friends. Boys describing themselves as mainly "sportive" spent their leisure time playing sports. Boys describing themselves as "cool" spent their leisure times on their own while the ones describing themselves as "social" spent their leisure time with their friends. To summarize, it was concluded that the type of the activities adolescents participate in differs in terms of social identity groups and gender.

In the second phase of the study; affordances of city centers, school environment, home environment and city

parks were examined. Use of Gibson's theory of affordances enabled adoption of a systematic approach in comparing adolescent's environments. Gibson's theory of affordances is a useful method used in studying functional meanings of environments for different user groups. Unlike Clark and Uzzell (2002), affordances provided by city parks were included in the study, and "neighborhoods" are excluded from the study as there is no such concept in Turkey. Affordances were measured to evaluate the needs of adolescents in different urban environments. 480 adolescents of 12-18 age range evaluated their environments in terms of 15 different affordances. City center, school environment, home environment and city parks were separately studied in terms of the affordances. The averages of the affordances provided by environments for the adolescents in urban places were calculated. Accordingly, it was found that city center was used mostly for the affordances of shopping, recreation and being with friends; school environment for the affordances of trying new activities, obtaining information and hanging out; home environment for the affordances of being alone, being with friends and shopping; and city parks for the affordances of being alone with close friends, being alone and learning.

This study aimed to provide guidance for future studies and helping designers with their designs by determining the identity descriptions and leisure time preferences of adolescents and the reasons behind the use of different urban environments by adolescents.

It is important to evaluate the environment from the perspective of adolescent development. To accelerate this development process and to improve its impact on character development, it is essential that we create open spaces with the right characteristics for adolescents to spend their times in. The lack of open urban spaces in which adolescents can spend their free time may steer adolescents to areas and environments that may have negative impacts on their emotional and physical development. Instead, we should ensure that adolescents spend their time in spaces they like, spaces that interest them, and spaces of their own choosing. Accordingly, this study has shown that adolescents prefer urban environments in which they can socialize with their friends and engage in various activities. It was determined that city centers and city parks are spaces that foster friendship relations between adolescents and promote development of social roles.

When designing open city spaces, it is important to pay attention to what these spaces provide for adolescents. In spaces tailored toward adolescents, it is important to strengthen the relationship between the individual and the environment through features that facilitate activities such as shopping, recreation and hanging out with friends. Such spaces should be compatible with the active and social nature of adolescents and should satisfy the socialization needs of adolescents and provide opportunities for them to spend time with their friends. Street benches, walls and parapets, patios in front of

shops and cafés are effective in creating spaces that enable adolescents to spend time with their friends. Such design elements should be preferred when designing open spaces tailored toward adolescents. When designing open city spaces, it is also important to make sure that the designed areas contain secondary design elements such as walls, banisters, steps, rocks, etc. that are suitable for leaning on or sitting on. This way these open city spaces will enable adolescents to express themselves more freely.

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