

Antalya Konyaaltı Parklarında Otizm Spektrum Bozukluğu İçin Donatı Elemanlarının Uygunluğunun İncelemesi

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Received: February 15, 2018

Accepted: April 24, 2018

Özet

Otizm spektrumu bozukluğu; bir nörogelişimsel bozukluk olup, çok faktörlü bir hastalıktır. Otizm Derneği'ne göre; otizm spektrum bozuklukları en hızlı büyüyen gelişimsel rahatsızlıktır ve günümüzde 68 doğumun 1'inde bu rahatsızlık görülmektedir. Toplumda görülme oranının bu kadar fazla olması, kamusal alan tasarımında dikkate alınmasını gerekli kılar. Bu nedenle, sert peyzaj alanları otistik bireylerin sosyal gelişimi için önemli bir kavramdır. Ayrıca bu alanlar otistik bireylerin sosyal paylaşım ve akran etkileşimini kolaylaştırabilmektedir. Buna karşılık yeterli etkileşim fırsatları, sosyal bilişsel becerilerin gelişimini, akranlarının kabulünü ve kabullenme ile bağlantılı birçok sosyal ve entelektüel faydayı teşvik edebilmektedir. Peyzaj mimarlığı meslek disiplini, her kullanıcının ihtiyaçlarını karşılayan ortamlar oluşturmakla sorumlu olsa da, otizm kavramı peyzaj mimarları tarafından çoğunlukla göz ardı edilmektedir. Bu nedenle çalışma, bu kavrama yönelik profesyonel yetersizliğin belirlenmesi amacıyla yürütülmüştür. Sonuç olarak bu çalışmada Antalya Konyaaltı İlçesi'ndeki 10 parkın donatı elemanları değerlendirilmiştir. Bu sebeple, tasarım ilkeleri ve tasarım öğeleri açısından değerlendirilen donatı elemanlarının, otistik bireyler için uygunluğu incelenmiştir. Çalışma yöntemi gözlem, peyzaj tasarımcıları uzman grubu ile röportaj ve belgelerin analizini içeren "nitel araştırma yöntemi" ile oluşturulmuş ve uygulanmıştır. Anket için 120 fotoğraf çekilmiştir. Uzman grubun her üyesi, bu fotoğrafların otistik çocuklar için olan uygunluğa göre oy kullanmışlardır. Sonuç olarak, her bir park ve her bir donatı elemanı grubu için tasarım ilkeleri ve tasarım öğeleri analiz edilmiştir. Çalışma seçilen parkların bazılarının otizm dostu olarak tasarlanmadığını, özellikle oyun alanlarının, birlik, denge, uyum, renk, malzeme ve doku gibi unsurlarda yetersiz tasarım özelliği içerdiğini göstermiştir.

Anahtar Kelimeler: Otizm, Peyzaj Tasarım İlkeleri, Donatı Elemanları

Hardscape Suitability Analysis for Autism Spectrum Disorder in Case Study of Antalya Konyaaltı Parks

Abstract

Autism spectrum disorder (ASD) is a heterogeneous neurodevelopmental disorder of multi-factorial origin. According to the Autism Society, Autism Spectrum Disorders (ASD) are the fastest growing developmental disorder and nowadays occurs in 1 in 68 births. The fact that so much is seen in the community makes it necessary to be considered in public space design. Therefore the hardscapes are an important context for autistic individual's social development. Also they can facilitate social and peer interaction of many types in urban parks. In turn, opportunities for adequate interaction can foster the development of social cognitive skills, peer acceptance, and the many social and intellectual benefits associated with acceptance. Although landscape architecture, as a profession, is responsible for creating environments that accommodate the needs of all types of users, autism is mostly ignored by the landscape architects. For this reason, the study carried out to indicate the professional inadequacy. Consequently this study evaluates hardscapes of ten parks which are in Antalya Konyaaltı District. Therefore, design principles and design elements of hardscapes analyzed and their suitability has been examined for autistic individuals. The working model was prepared by a "qualitative research method" which included observation, interview with landscape designer's expert group and document analysis. For questionnaire 120 photographs have been used. Each member of the expert group has voted these photographs according to the suitability for autistic children. As a result, design principles and design elements of hardscapes analyzed for each park and each hardscape group. Each park and their suitability for autistic individuals have been discussed. This study shows that some of Antalya, Konyaaltı District parks are not designed as autism friendly, especially playground furniture has insufficient design properties in elements such as unity, balance, harmony, color, material and texture for autistic children.

Keywords: Autism, Landscape Design Principles, Hardscape

INTRODUCTION

Autism is one of the most fascinating disorders to be studied by physicians, psychologists, mental health practitioners, therapists, and educators. This is evident from the relatively large body of research on the topic. Although researchers believe that individuals with autistic characteristics lived well before the twentieth century, the syndrome of Autism was first named and described by a psychiatrist, Leo Kanner, in 1943. In his research, Kanner described eleven children whose condition was different from anything reported at that time. The children had certain characteristics in common which set them apart from others

(Scheuermann, Webber, 2002, p.16); (Grodén, Baron, 1991, p.54). These included the following:

- An inability to relate to others in an ordinary manner,
- An extreme autistic aloneness that seemingly isolated the child from the outside world,
- An apparent resistance to being picked up or held,
- Deficits in language including mutism and echolalia,
- In some cases, an excellent rote memory,
- Early specific food preferences,
- Extreme fear reactions to loud noises,

- Obsessive desire for repetition and maintenance of sameness,
- Few spontaneous activities such as typical play behavior,
- Bizarre and repetitive physical movement such as spinning or perpetual rocking,
- Normal physical appearance.

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that continues social disorders defined in DSM-5 communication and social interaction in more than one context, restricted, repetitive patterns, extractions, or at least two prototypically inflexible behaviors. Estimation of ASD prevalence in school age children approximately 1% to 2% and accepted as internationally increasing. Men are affected by two to four people times are higher than women (Bölte, 2014, p.25). ASD is phenotypically heterogenous, and several attempts have been made to conceptualize more homogenous forms of the disorder by subtyping. The most prominent are those related to level of IQ (low functioning [IQ<70] vs high functioning [IQ>70]), the presence of genetic/neurological syndromes (syndromic ASD vs idiopathic ASD), or abnormality of early morphogenesis in ASD (complex vs essential ASD). ASD is associated with substantial functional impairments in everyday life, lower lifetime outcome, and increased mortality (Magiati et. al, 2013, p.64). Health economic calculations from industrialized countries indicate that societal costs for care, teaching, housing, and loss of productivity are considerable for ASD (Knapp, Romeo, Beecham, 2009, p.45).

Although ASD is viewed as a brain-based disorder of complex origin, it is an exclusively behaviorally defined disorder in the tradition of operationalized diagnostics in psychiatry. ASD is a psychiatric construct (latent) indicated by a range and combination of observable symptoms (manifest) in two domains: (1) social communication and interaction; and (2) repetitive, restricted behaviors and interests (Bölte, 2014, p.25).

The person-environment relationship has long been an integral part of architectural researches. The careful examination of the dynamic between the environment- with its attributes of acoustics, visual character, spatial quality, color, texture, geometry etc- and human behavior can lead to the development of more specific and sensitive design guidelines. Autism, a developmental disorder which is characterized by delayed communication skills, challenged social interaction, and repetitive behavior, has long been excluded from various architectural guidelines and codes of practice for special needs [Mostafa, 2008, p.102].

Access to urban parks can enhance focus and attention, as well as reducing anxiety and boosting self-confidence. Additionally, the parks can be considered as a dynamic environment offering diverse opportunities for learning. When designing any landscape the first question should always be "who is this for?" It becomes a crucial question when designing for people with autism. To the usual general considerations of the user's requirements, landscape designers must add specific consideration of each individual autistic person's needs. Consideration should be given to social interaction, communication, special interests and sensory preferences in an environment that is by nature dynamic and subject to unpredictable elements: weather, wildlife and seasonal change. The design of such spaces needs to actively encourage the pursuit of interests while offering the reassurance of comfort, security and a sense of control (Gaudion, McGinley, 2012, p.36).

Landscape design, which focused on providing benefit for autistic children, must have several design properties such as unity, balance, harmony, rhythm, and scale. Landscape design proposals which focused on order, detail, proportions, limitation, distance, security, orientation, interspace relations, and sound, can help for perceptual problems in terms of voice, image, touch, smell and proprioceptive properties (Benliay, Soydan, 2016, p.456). Thus, landscape design focused on autistic individuals must have several guidelines. Such as 1,5 meters minimum height for a perimeter fence for safety, security, and supervision, avoiding toxic materials and plants, clear sight lines to garden, clear edge along paths, plenty of visual aids and signage, smooth, wide surfaces, provide opportunities to overcome sensory issues, quiet location-mask or screen unwanted noise, provide places for retreat from sensory overload, provide opportunities for exercise and design for emotional and human comfort (Lipscomb, Steward, 2012, p.45).

By preventing the interaction with others and causing the individual to remain in his own inner world, autism negatively affects children's social communication, interaction and behavior. In addition to difficulties in social communication and interaction, they may show limited and repetitive behavior patterns. They are generally characterized by insufficiencies such as difficulty in establishing and maintaining relationships, lack of eye contact, difficulty in expressing emotions, initiating and sustaining interaction, stereotypic and repetitive motor movements, insistence in sameness, routine commitment, limited and intense interest.

It's known that in some developed countries, autistic children are considered primarily in landscape designs. By this, all individuals who are counted as disadvantaged groups could be able to use the public spaces and parks easily. Landscape designs should be made taking into account the inadequacies of not only these individuals but also individuals with disabilities.

Primary objective must be to remedy this exclusion and offer ideas to design hardscapes. The conclusive design should include specific design criteria which may be used to customize urban park equipment for an individual user or a group of autistic users with similar sensory profiles.

MATERIAL and METHOD

Antalya is the fifth most populous city in Turkey and the capital of its eponymous province. Antalya is the largest Turkish city on the Mediterranean coast with over one million people in its metropolitan area which is located on Anatolia's flourishing southwest coast bordered by the Taurus Mountains. Konyaalti is a district of Antalya. It is situated beneath the old city of Antalya extending miles toward the west and has a population of 154.920.

The study evaluates ten parks and their hardscapes which are in Antalya, Konyaalti District. The parks have been selected randomly and these are Akil Demiral Park, Atilla Güngör Park, Cengiz Elbeye Park, Hasan Talşık Park, İstıl Park, Mustafa Karabulut Park, Mustafa Uysal Park, Nato Park, Sporland and 376. Street Park (Figure 1).



Figure 1. Evaluated Parks

The working model was prepared by a “qualitative research method” which included observation, interview and document analysis. For the study a group of experts consisting of 10 landscape architects working on landscape design topics have been formed. Expert group was built on a volunteer basis and have been informed about previous

studies about autism with several meetings. Meetings were focused on identifying integration, perception, and standards that used in landscape design for children with autism. 120 photographs which are indicating the characteristics of each park and their hardscapes have been taken for the study (Figure 2).



Figure 2. Photograph samples.

Hardscapes of the parks has been grouped as;

- playground,
- pergolas & benches,
- pavements,
- sport facilities
- and others (such as wall, garbage cans, lighting equipments, etc...).

The photographs were evaluated by the expert group by their design principles and design elements for the hardscapes groups of the parks. Questionnaire was focused on suitability for autistic children and each member of the expert group has voted all photographs according to the principles and design elements. These principles are;

- Unity (Uni),
- Balance (Bal),
- Harmony (Har),
- Rhythm (Rhy),
- Scale (Sca).

And design elements are;

- Material (Mat),
- Color (Col),
- Proportion (Pro),
- Texture (Tex),
- Shape (Sha).

Evaluation have been created with the values that would be between most appropriate (2) to the most unfavorable (-2) hardscapes group for autistic children. Hardscapes groups considered to have no effect had a value of (0).

The focus of the study is outdoor environments in Antalya, Konyaalti District for autistic children. Also behaviors of children’s outdoor environments and the topic of hardscapes are reviewed as well. The nature of autism and its characteristics are studied to determine the strengths, deficits, and needs of the autistic child as well as current treatment methodologies in use today including whether these treatments would lend themselves to an outdoor environment. As a result, design principles and design elements of hardscapes analyzed for each park and each hardscapes group by expert group’s evaluation. Mean and standard deviation values of expert group’s evaluation were rated on parks, hardscape groups, design principles and design elements with the use of Microsoft Excel software. Values that are higher than 0 considered as a positive effect and values that are lower than 0 considered as negative effect on the behalf of autistic children’s outdoor necessities. Each park and their suitability for autistic individuals have been discussed.

RESULTS and DISCUSSION

The average value (Ave.) and standard deviation (St. Dev.) of the results from the expert group evaluation, which were conducted in order to find the relationship of the parks with design principles and design elements, are given in Table 1. In the table (+) values are given as green and (-) values are given as red.

Table 1. Evaluation of Parks in terms of Design Principles and Design Elements

		Design Principle					Design Elements					AVE.
		Uni	Bal	Har	Rhy	Sca	Mat	Col	Pro	Tex	Sha	
Akil Demiral	Ave.	-0,72	0,08	-0,40	0,12	0,12	0,12	-0,72	0,16	-0,24	-0,12	-0,16
	St. Dev.	0,44	0,61	0,47	0,56	0,50	0,48	0,50	0,38	0,77	0,48	0,348
Atilla Güngör	Ave.	-0,35	-0,10	-0,45	-0,40	0,15	0,00	-0,20	-0,05	-0,35	-0,55	-0,23
	St. Dev.	0,49	0,38	0,21	0,49	0,29	0,40	0,27	0,21	0,34	0,65	0,225
Cengiz Elbeye	Ave.	0,20	-0,12	-0,24	-0,76	-0,12	-0,12	-0,24	-0,20	-0,28	-0,20	-0,21
	St. Dev.	0,14	0,36	0,22	0,26	0,11	0,30	0,54	0,45	0,23	0,49	0,236
Hasan Talşık	Ave.	0,08	0,08	0,16	0,16	0,36	0,08	0,28	0,16	0,16	0,16	0,17
	St. Dev.	0,30	0,23	0,26	0,26	0,09	0,30	0,27	0,26	0,26	0,17	0,090
Istil	Ave.	0,16	0,28	0,16	0,20	0,44	0,48	-0,20	0,36	0,36	0,24	0,25
	St. Dev.	0,61	0,33	0,33	0,32	0,46	0,30	0,24	0,43	0,36	0,38	0,193
Mustafa Karabulut	Ave.	0,28	0,20	0,20	0,16	0,48	0,28	0,08	0,36	0,16	0,44	0,26
	St. Dev.	0,18	0,24	0,37	0,17	0,36	0,46	0,23	0,17	0,22	0,17	0,130
Mustafa Uysal	Ave.	-0,12	-0,16	-0,40	-0,32	0,04	-0,40	-0,52	0,08	-0,12	0,00	-0,19
	St. Dev.	0,39	0,62	0,28	0,39	0,33	0,57	0,36	0,30	0,30	0,24	0,207
Nato	Ave.	0,16	0,24	0,08	0,20	0,48	0,44	-0,24	0,36	0,28	0,32	0,23
	St. Dev.	0,57	0,38	0,30	0,24	0,44	0,33	0,30	0,33	0,30	0,41	0,206
Sporland	Ave.	-0,36	0,08	-0,08	0,40	0,36	0,52	-0,40	0,32	-0,20	0,16	0,08
	St. Dev.	0,46	0,46	0,39	0,37	0,55	0,36	0,24	0,23	0,65	0,38	0,328
376 Street	Ave.	-0,20	-0,20	-0,60	-0,10	0,25	-0,15	-0,15	-0,05	-0,10	-0,40	-0,17
	St. Dev.	0,21	0,11	0,29	0,34	0,25	0,49	0,38	0,27	0,29	0,38	0,221
TOTAL	Ave.	-0,09	0,04	-0,16	-0,03	0,26	0,13	-0,23	0,15	-0,03	0,00	
	St. Dev.	0,304	0,165	0,282	0,338	0,193	0,289	0,268	0,192	0,239	0,304	

Design principle and parks evaluation values are varies between 0,48 and -0,76. The highest values are in Mustafa Karabulut Park, Nato Park and Istil Park in Scale. With this, highest total average value is scale (0,26) in design properties

with a 0,193 standard deviation value. The lowest values are Cengiz Elbeye Park in Rhythm, Akil Demiral Park in Unity and 376. Street Park in Harmony.

Design elements and parks evaluation values are varies

between 0,52 and -0,72. The highest values are in Sporland, Istil Park and Nato Park in Material and Mustafa Karabulut Park in Shape. But, highest total average value is Proportion (0,15) in design elements with a 0,192 standard deviation value. The lowest values are Akil Demiral Park, Atilla Güngör Park in Shape and Mustafa Uysal Park in Color. With this, lowest total average value is Color(-0,23) in design elements with a 0,268 standard deviation value.

Considering both design principles and design elements, Mustafa Karabulut Park (0,26), Istil Park (0,25) and Nato Park (0,23) has the highest total average values by the evaluation of expert group. Also results shows that Mustafa

Karabulut Park has a lower standard deviation value in many aspects which can be regarded as a unity in expert group evaluation. Atilla Güngör Park (-0,23), Cengiz Elbeye Park (-0,21) and Mustafa Uysal Park (-0,19) has the lowest total average values. The average value and standard deviation of the results from the expert group evaluation, which were conducted in order to find the relationship of the hardscapes groups of all parks with design principles and design elements, are given in Table 2. In the table (+) values are given as green and (-) values are given as red. Also standard deviation value that experts usually agree with during the evaluation is marked as red.

Table 2. Evaluation of Hardscapes Groups in Terms of Design Principles and Design Elements

		Design Principle					Design Elements					AVE.
		Uni	Bal	Har	Rhy	Sca	Mat	Col	Pro	Tex	Sha	
Playgrounds	Ave.	-0,38	-0,34	-0,50	0,04	0,26	-0,34	-0,96	0,30	-0,16	0,24	-0,18
	St. Dev.	0,65	0,53	0,60	0,65	0,65	0,63	0,65	0,49	0,68	0,63	0,402
Pergolas & Benches	Ave.	0,48	0,14	0,10	-0,02	0,08	0,50	-0,42	0,10	0,44	0,16	0,16
	St. Dev.	1,02	0,81	0,78	0,96	1,00	0,78	1,09	1,03	0,72	0,94	0,190
Pavements	Ave.	-0,04	0,24	-0,08	0,02	0,22	0,32	0,48	-0,08	0,16	-0,52	0,07
	St. Dev.	0,66	0,59	0,72	0,86	0,83	0,87	0,67	0,84	0,50	0,77	0,278
Sport Facilities	Ave.	0,83	0,38	0,60	0,15	0,63	0,10	0,44	0,16	0,16	0,63	0,52
	St. Dev.	0,64	0,53	0,63	0,32	0,30	1,03	0,72	0,94	0,91	0,30	0,259
Others	Ave.	-0,86	-0,48	-0,60	-0,22	0,16	-0,50	-0,52	-0,04	-0,68	-0,26	-0,40
	St. Dev.	0,58	0,33	0,62	0,49	0,23	0,53	0,43	0,41	0,48	0,41	0,389
TOTAL	Ave.	0,00	-0,01	-0,10	-0,01	0,27	0,02	-0,20	0,09	-0,02	0,05	
	St. Dev.	0,599	0,336	0,434	0,121	0,188	0,381	0,566	0,138	0,382	0,400	

Design principle and hardscape groups evaluation values are varies between 0,83 and -0,86. The highest values are in Sport Facilities in unity, scale and harmony. With this, highest total average value is scale (0,27) in design properties with a 0,188 standard deviation value. The lowest values are others in unity and harmony and playgrounds in harmony.

Design elements and furniture groups evaluation values are varies between 0,63 and -0,96. The highest values are in sport facilities in shape, pergolas & benches in material and pavements in color. The lowest values are playgrounds

in color, pavements in shape, others in texture, color and material. With this, lowest total average value is color (-0,20) in design elements with a 0,566 standard deviation value. Considering both design principles and design elements, sport facilities (0,52) has the highest total average values and others (-0,40) has the lowest total average values by the evaluation of expert group. The average value and standard deviation of parks with the hardscape group values, are given in Table 3.

Table 3. Evaluation of Parks in Terms of Hardscape Group Values

		PLA.	PER.	PAV.	SPO.	OTH.	AVE.
Akil Demiral	Ave.	-0,32	-0,32	0,28	0,24	-0,60	-0,14
	St. Dev.	1,314	1,384	1,275	1,052	0,913	0,386
Atilla Güngör	Ave.	-0,32	-0,32	0,32	0,00	-0,60	-0,18
	St. Dev.	1,069	0,988	0,748	0,000	0,764	0,353
Cengiz Elbeye	Ave.	-0,32	-0,32	-0,64	0,68	-0,68	-0,26
	St. Dev.	0,852	0,965	0,995	0,802	0,690	0,550
Hasan Talşık	Ave.	0,08	0,28	0,24	0,52	-0,28	0,17
	St. Dev.	0,702	0,614	0,663	0,653	0,542	0,296
Istil	Ave.	0,04	0,64	0,04	0,56	-0,04	0,25
	St. Dev.	0,676	1,186	0,935	0,768	0,455	0,324
Mustafa Karabulut	Ave.	-0,40	0,80	0,48	0,80	-0,36	0,26
	St. Dev.	0,866	0,577	0,653	0,577	0,860	0,602
Mustafa Uysal	Ave.	-0,80	0,36	-0,16	0,12	-0,48	-0,19
	St. Dev.	0,707	0,995	0,850	0,726	0,586	0,463
Nato	Ave.	0,08	0,08	0,04	0,72	-0,28	0,13
	St. Dev.	0,759	1,155	0,935	0,792	0,542	0,364
Sporland	Ave.	-0,08	-0,28	0,40	0,48	-0,12	0,08
	St. Dev.	1,077	0,980	0,645	0,586	0,526	0,338
376 Street	Ave.	0,20	-0,04	-0,28	0,00	-0,56	-0,14
	St. Dev.	0,707	0,676	0,891	0,000	0,768	0,292
TOTAL	Ave.	-0,18	0,09	0,07	0,41	-0,40	
	St. Dev.	0,381	0,261	0,264	0,244	0,293	

In the table (+) values are given as green and (-) values are given as red. Atilla Güngör and 376. Street Parks does not have a sport facility. Thus these parks were excluded from parks with the hardscape group evaluation. Parks and hardscape groups evaluation values are varies between 0,80 and -0,80. The highest values are in Mustafa Karabulut Park in pergola & benches and sport facilities and Nato Park in sport facilities. Highest total average value is sport facilities (0,41) in total with a 0,244 standard deviation value. The lowest values are Mustafa Uysal Park in playgrounds, Cengiz Elbeye Park in others and pavement. Also lowest total average value is others (-0,40) in total with a 0,293 standard deviation value. Considering all of the hardscape for parks, Mustafa Karabulut Park (0,26), Istil Park (0,25) and Hasan Talşık Park (0,17) has the highest total average

evaluation values. Cengiz Elbeye Park (-0,26), Mustafa Uysal Park (-0,19) and Atilla Güngör Park (-0,18) has the lowest total average evaluation values.

CONCLUSION

This study shows that some of Antalya, Konyaalti District parks are not designed as autism friendly. Especially playground furniture has insufficient design properties and elements such as unity, balance, harmony, color, material and texture for autistic children. Several features such as garbage cans, retailing walls and lightning equipments in the parks have different properties and material than each other. Some of the parks don't have a wall, and the ones which have are lower than the standards. The hardscape groups evaluation graph is given in Figure 3.

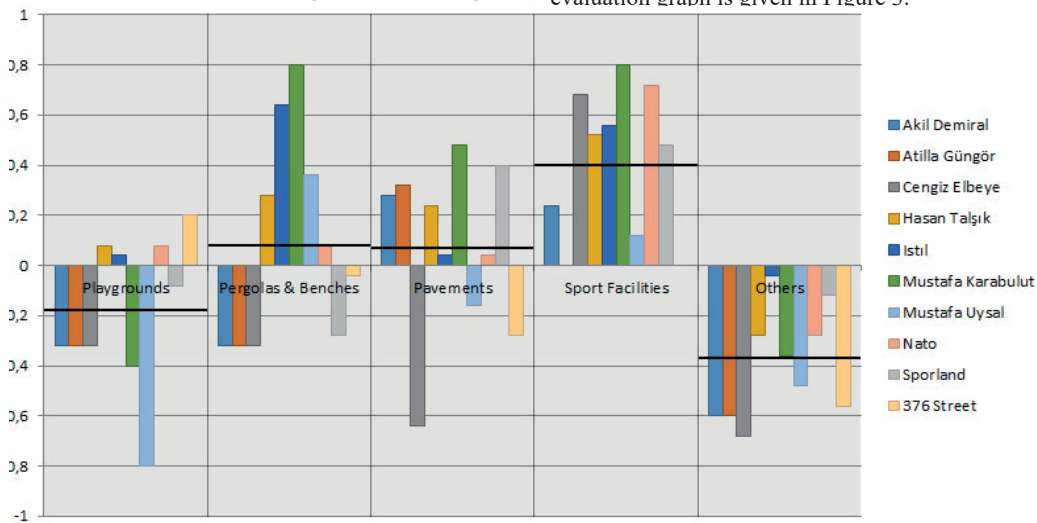


Figure 3. The Furniture Groups Evaluation Graph

The parks have been designed and implemented by the same municipality, but design principles and design elements can be different in each park. Nevertheless the average evaluation values for parks, only differs from 0,26 to -0,26 in total. The values are close to the no effect value which is accepted as 0. As a result, none of the park evaluated as most appropriate or most unfavorable for autistic children's needs by expert group. Hardscape group evaluations were generally classified as positive or negative. In Sport Facilities Group, design principles and design elements of hardscapes

are considered as suitable. But in others and Playgrounds Group, design principles and design elements of hardscape are considered as unsuitable. This can be interpreted as landscape design in these parks focused more on order, detail, proportions, limitation, orientation, interspaced relations in Sport Facilities. Also Mustafa Karabulut, Istil, Hasan Talşık and Nato Park has positive evaluation values more than 3 and they can be considered as parks that much more suitable for the needs of autistic children than other parks (Figure 4). It should be noted that all autistic children are unique and may have different needs and demands.

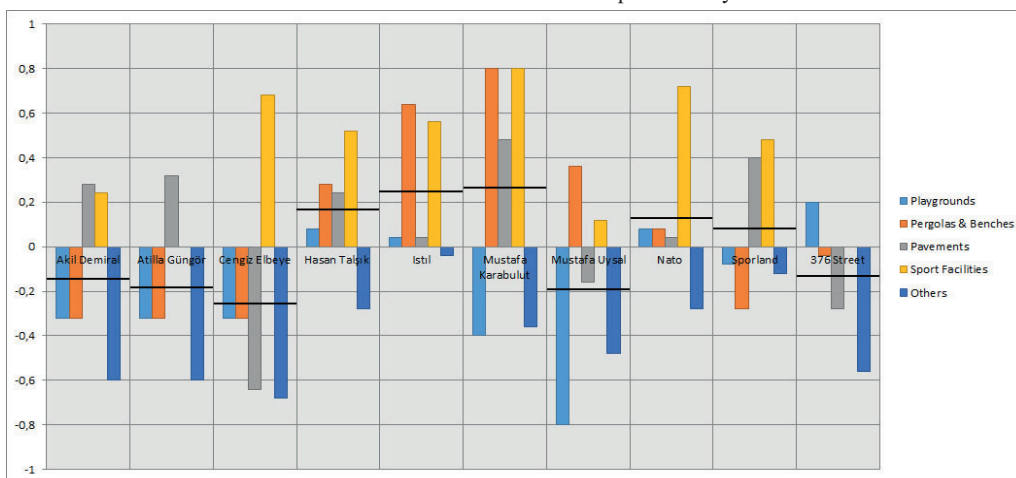


Figure 4. Parks Evaluation Graph

Using different textures and colors in landscape design can disturb the feeling of unity, harmony, balance and rhythm. Choice of non-interrelated materials on hardscapes can create chaos. Sparkling, vivid and mixed colors, unconventional shapes, textures and materials can irritate both his parents and the children. This may cause the child to harm him.

One of the main tasks of the landscape architect is to enrich the lives of individuals. Landscape design can create beneficial green spaces for children with autism to enjoy being out in the garden, while at the same time anticipating and managing the inevitable challenges of the unpredictable outdoors.

However, the autism spectrum disorder topic is so wide, and there is no easy answer for the questions to create the proper design. Negotiations, relevant opinion exchange, and the emergence of solutions with experts such as special education teachers and psychologists, will make the landscape designs more accurate and useful. Each autistic individual is different from another. The observation and examination you make for one will not give the right results on the other.

It should be known that landscape designs which only focused on autistic children can isolate other users and this can set off the possibility of peer interaction. The first principle should be to create a universal and safe design that meets everyone's needs including the parents and support staff which are going to use the same area with the children. By this, designers can provide an equal opportunity to enjoy the landscape and the urban parks for everyone.

Acknowledgements

Special thanks to Ramazan-Hatice Savaş Özel Eğitim Merkezi (Ramazan-Hatice Savaş Special Education Center) and Özel Antalya Özel Melekler Okulu (Private Antalya Special Angels School) teachers and psychologists who shared information and discussed concepts with us. This subject was presented International Conference on Agriculture, Forest, Food Sciences and Technologies (ICAFOF 2017 Cappadocia / Turkey).

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