



Evaluation of Fitness Equipment in Parks: Case of Antalya City

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Abstract Throughout the centuries, humankind used to use own body to work. Today with the technologic development and its opportunities, people become inactive. Because of that most of the countries consider “supporting activeness” as a government policy.

Exercise is the basic component of healthy life. Today people exercise for healthy life, losing weight, to feel energetic etc. Even some people exercise in private gymnasiums, huge amount of people exercise by using fitness equipment in public parks. Fitness equipment is preferred due to easy access, being free and can be used any time of the day. Fitness equipment is placed in landscape projects these days and highly demanded in public parks. On the other hand, even fitness equipment is aimed for healthy life; several health problems can be occurred due to unconscious and wrong use of them such as physical injury and disablement. These problems open fitness equipment for discussion.

This study includes the evaluation of fitness equipment by using experts’ and users’ preferences. A questionnaire form is used to get users preferences and several discussions are organized with the experts. At the end of the study, it’s revealed that people consider fitness equipment to be beneficial to human health by the rate of %84. Also it’s found that some problems can be occurred due to wrong and unconscious use of fitness equipment.

Keywords landscape, public parks, fitness equipment, Antalya, public health

Introduction

Landscape architects make decisions affecting the environment and public health and safety in many aspects of their practices [1]. These decisions are also relevant to lifestyle of individuals. As the nature deficit grows, new studies demonstrate just how important direct contact with the outdoors is to healthy human development [2].

People's lifestyle began to change with the evolving technology. This process has affected community life both positive and negative aspects. The most important negative affect can be described as physical inactivity. Physical inactivity is an important health risk factor that could be addressed at the community level. Today people become inactive day by day with the use of technologic tools and opportunities.

There is overwhelming evidence that regular physical activity has important and wide-ranging health benefits. These range from reduced risk of chronic diseases such as heart disease, type 2 diabetes, and some cancers to enhanced function and preservation of function with age [3] and because of that most of the countries consider “supporting activeness” as a government policy. There are a lot of different ways to support activities such as walking, cycling, sport etc.

Sport can be defined as a set of activities that supports people's physical and mental health, helps to socialize and eliminates the stress of daily life [4].

Sports, performed individually or in groups, is one of the most indispensable components of a healthy life. People can sport in all age if they consider proper branch, time and equipment. Otherwise several problems may be occurred that damage the body's health.

Exercise is the basic component of sports and supports a healthy life. Today people exercise for healthy life, losing weight, to feel energetic etc. Fitness, unlike all other sports, aims tightening and strengthening the muscles singly by



using with or without equipment [5]. Even some people exercise in private gymnasiums, huge amount of people exercise by using fitness equipment in public parks.

One of the main functions and benefits of green infrastructure is to create opportunities for exercise, sport, recreation and quiet contemplation [1]. Parks have a large, untapped potential to increase physical activity [6]. They offer the potential for multiple health benefits including mental health, stress reduction, and physical activity [7]. Parks provide places for people to experience nature, engage in physical activity, and relax. Also they encourage people to exercise with the fields, walking paths, fitness equipment etc. According to the study of Cohen *et al.* (2007) interviewees identified the park as the most common place they exercised. Facilitating larger numbers of people being physically active is critical for improving overall population health. Public parks are critical resources for physical activity in minority communities [6].

People are using parks to exercise due to easy access and several different types of sporting activities. The main part of these activities includes fitness equipment. Fitness equipment is preferred due to easy to access, being free and can be used any time of the day. Municipal corporations stress that there is a significant demand for fitness equipment in public parks. In recent years, outdoor fitness equipment in parks has become very popular in Antalya City.

On the other hand, even fitness equipment is aimed for healthy life; several health problems can be occurred due to unconscious and wrong use of them such as physical injury and disablement. These problems open fitness equipment for discussion.

This study includes the evaluation of fitness equipment by using experts' and users' preferences. A questionnaire form is used to get users preferences and several discussions are organized with the experts.

Experimental

This study was exercised in different parks in Antalya city center. Parks were selected similar to each other in terms of the size, type and materials of fitness equipment. The main material of the study consists of the results of the questionnaire survey and experts opinions.

A questionnaire survey was conducted in the Parks in Antalya city center to obtain data about the user's thoughts and use habits on fitness equipment. Questionnaire forms were completed using face to face method in all neighborhoods of the city in order to include almost all the views from all parts of the city.

According to information obtained from address-based population registration system, the population of Antalya city centre is 2.158.265 people [8] and so the sample was defined as minimum 384 [9].

After the survey, frequency analyze is completed by using the SPSS software. The results of the analyses are evaluated with the expert opinions.

Results and Discussion

Today, inactivity has been characterized as an illness and it has considered significant underlie of malignant diseases. Nevertheless exercise is a useful activity only if it is taken consciously. All kind of sports taken unconsciously may be harmful to people. In this context a questionnaire form was applied to the participants in order to reveal their thoughts and habits on sports and fitness equipment.

Socio-demographic characteristics of the participants can be seen in Table 1.

Table 1: Socio-demographic characteristics of the participants

Socio-demographic characteristics	Name of characteristics	Number	%
Gender	Female (1)	198	51.4
	Male (2)	187	48.6
	<i>Total</i>	385	100
Age	15-25 (1)	188	48.8
	26-35 (2)	64	16.6
	36-45 (3)	53	13.8
	46-55 (4)	34	8.8
	56≤ (5)	46	11.9
	<i>Total</i>	385	100

It can be understood from Table1 that 51.4% of the participants are female and the biggest age group is consist of the people who is 15-25 years old.



Table 2 presents the reason of using fitness equipment. Results show that the first three reasons for participants on using fitness equipment are; to be healthy (32.1%), to sport in outdoor (15.8%) and to recreation (12.4%). Otherwise, the reason “to be resistant to disease” has the lowest value in reasons to exercise by the rate of 0.9%.

Previous studies showed that the best time period to prevent injuries is mid-afternoon and physiologically the best productive time period to sport is 16:00-18:00 pm. In this period, muscles are more flexible, body heat and muscle strength is the highest level¹³.

According to the results of questionnaire, it is revealed that 49.1% of the participants use fitness equipment only at weekends and 28.1% of them use between 18:00-20:00 pm. The second highest use rate was determined between 08:00-10:00 am and after 20:00 pm. These results are consonant with the climate of Antalya city.

Antalya has a hot Mediterranean / dry-summer subtropical climate that is mild with moderate seasonality. Summers are dry and hot due to the domination of subtropical high pressure systems while winters experience moderate temperatures and changeable, rainy weather due to the polar front. The average temperature is 18.4 degrees Celsius (65.1 degrees Fahrenheit). During summer average high temperatures are 32.6°C (90.7°F) and average low temperatures are 21.1°C (70°F) [10]. In line with this information there is very little use in midday. Also 60.3% of the participants state that there should be shading where fitness equipment placed.

Table 2: Reasons and use frequencies of participants

Questions	Propositions	N	%
Reasons to exercise	be healthy	75	32.1
	have a good looking	26	11,1
	be resistant to disease	2	0.9
	feel happy and peace	3	1.3
	be in fine fettle	20	8.5
	doctor's suggest	7	3.0
	recreation	29	12.4
	have new friends	3	1.3
	sports in outdoor	37	15.8
	reduce stress	7	3.0
	lose weight	11	4.7
	others	14	6.0
		<i>Total</i>	234
When do you use fitness equipment?	Weekend	115	49.1
	Weekdays	40	17.1
	Both weekend and weekdays	79	33.8
	<i>Total</i>	234	100.0
What time do you use fitness equipment?	08:00-10:00	50	21.4
	10:01-12:00	10	4.3
	12:01-14:00	8	3.4
	14:01-16:00	8	3.4
	16:01-18:00	40	17.1
	18:01-20:00	67	28.6
	After 20:01	51	21.8
	<i>Total</i>	234	100.0

It can be understood from the results of the questionnaire, most of the users state by the rate of 84.2% that the fitness equipment are useful for people (Table 3). Also users agree that the fitness equipment are placed proper size and type in parks (68.1%). When considered the response of the participants about the knowledge of the fitness equipment, it can be seen that users are conscious. They stated that they know which equipment can be used for different muscles. On the other hand it's revealed that they don't go through physical examinations before they exercise (82.5%) and even if they state the importance of exercise with the experts (53.8%), they don't exercise under expert supervision by the rate of 97.9%.

Experts state that warm-up is essential for all kind of sports [11] but from the result of the study, it can be seen that almost half of the users (52.2%) warm-up before exercise.



Table 3: Thoughts and use habits of the participants

Questions	Yes(%)	No(%)	No Opinion (%)	Total
Do you think that fitness equipment are useful for human health?	324 (84.2)	31(8.1)	30(7.8)	385
Do you know which equipment can be used for each muscle	131 (56)	65 (27.8)	38 (16.2)	234*
Do you go through physical examinations before exercise	41 (17.5)	193 (82.5)	-	234*
Have you had any health problem while using fitness equipment	34 (14.5)	200 (87.5)	-	234*
Do you exercise under expert supervision	-	229 (97.9)	5 (2.1)	234*
Materials of fitness equipment have any negative affect on human health?	115 (29.9)	161 (41.8)	109 (28.3)	385
Do you think that fitness equipment serve for sports	262 (68.1)	68 (17.7)	55 (14.3)	385
Do you agree that people fitness equipment should be used under expert supervision	207 (53.8)	81 (21.0)	97 (25.2)	385
Do you think that fitness equipment are harmful for children?	183 (47.5)	124 (32.2)	78 (20.3)	385
Do you warm up before exercise	122 (52.1)	78 (33.3)	34 (14.5)	234*
Do you wear sportswear while exercise	131 (56.0)	64 (27.4)	39 (16.7)	234*
Do you prefer shading where exercise?	232 (60.3)	99 (25.7)	54 (14.0)	385

*Evaluations were completed with the 234 questionnaire forms. 151 participants, who stated they hadn't used any fitness equipment before, were excluded from calculations.

While the question "Do you think that fitness equipment serve for sports?" has positive answers from the participants by the rate of 68.1%, 47.5% of the participants claimed that fitness equipment are not suitable for childrens. According to the result of the questionnaire most of the participants warm up before exercise and they wear sportswear while using fitness equipment.

Table 4: Problms stated by participants

Questions	Options	N	%
Health problems while exercise with fitness equipment	muscle pain	5	15.2
	Chest pain	2	6.1
	Back pain	3	9.1
	arthralgia	3	9.1
	be winded	3	9.1
	Torsio	4	12.1
	Shoulder pain	1	3.0
	Leg pain	8	24.2
	Lumbar pain	3	9.1
	Faint	1	3.0
	<i>Total</i>	<i>33</i>	<i>100.0</i>
Negative effects of materials used in fitness equipment on health.	rust out of material	29	25.0
	Misshape of plastik quipment	16	13.8
	insanitary of equipment	25	21.6
	Injuries due to hard materials	17	14.7
	abrasion	21	18.1
	Other	8	6.9
<i>Total</i>	<i>116</i>	<i>100.0</i>	

Only 14.5% of the participants state that they had some health problems while using fitness equipment (Table 4). Results showed that the first 3 health problems are; leg pain (24.2%), muscle pain (15.2%) and torsio (12.1%).



Experts state that people should take into consideration some matters while using fitness equipment [12];

- People should walk, warm up and stretch before exercise
- Rhythms of the movements should be slow and muscles should be felt while exercise
- Breath shouldn't be hold while exercise, after every movement people should breathe periodically.
- Same equipment shouldn't be used perpetual
- Shouldn't be exercised every day, equipment should be used every other day
- Exercise must be interrupted in case feeling pain
- After exercise, shouldn't be stopped suddenly; exercise should be finalized with jogging.

According to the results, while 41.8% of participants don't believe, 29.9 % of the participants believe that the materials used in fitness equipment have some negative effects on human health. The first three effects are come into prominence; rust out of material (25%), insanitary of equipment (21.6%) and abrasion (18.1%). The rest of the participants don't express an opinion on this question.

Conclusions

Exercise areas support the community health in case well designed and consciously use.

At the end of the study, it is revealed that people are using fitness equipment in order to be healthy and sport at outdoor. Also most of the users state that the fitness equipment is useful for people. Even if the benefits of exercise are specified by the experts, it can be harmful due to unconscious and wrong use. Experts stress the importance of warm up, exercise in under supervision and choosing proper time to exercise. Results of the study corroborate these propositions. Participants have several problems such as leg pain, muscle pain, torsio, back pain, arthralgia, be winded, lumbar pain, chest pain, shoulder pain and faint.

Most of the participants state that the importance of exercising under supervision but results show that almost none of them exercise under supervision. Otherwise it is revealed that participants don't go through physical examinations before they exercise

Beside the usage, design features of fitness equipment also should be taking into consideration. In this context the proposals below should be considered by designers.

- Fitness equipment should be design ergonomically for everyone
- Fitness equipment should be design as adjustable for children and adults
- Climate should be consider in site selection and design process
- Instructions should be placed for each equipment
- Materials of equipment should be selected durable as well as not harmful to the users
- Equipment must be carried out maintenance periodically and replace when needed.

The fact remains that; community should be raised awareness about using fitness equipment and possible injuries in order to create sustainable and healthy landscapes.

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