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A Study on the Efficiency of the Sports Area in the City of Erzurum

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Abstract: In our days, people choose sports not only as an activity to enjoy and spend their free time but also as a job or occupation to survive their lives. Investment on these areas is of a huge amount. In industrialised nations, contributory effects of public and private investments on sports areas to their economies are not at a negligible level. According to this study carried out at the city of Erzurum, a sports area of 0.55 m² is divided for each person. It was determined in the area that to improve this found value to the national sports area standard of 4 m² per person, an area of 1,180,595 m² for sports is required on a whole city scale. It was also determined that in all sports areas equipment elements, parking areas and green areas are not enough and it was suggested that these areas should be increased. The opinion of the people in the city was determined by the questionnaires completed by randomly selected 365 people. Obtained data were statistically analysed to find the relationships between people's sports choices and age, mean income and education level by using MINITAB software.

Key words: Erzurum, Palandöken, sports area, winter sports

INTRODUCTION

Developed technology has directed the extraordinarily increased population to the cities. As one of the most important needs of people, sports areas and play grounds have become one of the major elements of urban tissue in the cities getting larger and larger with their industries and residences. A sport is a game or a competitive free time activity requiring physical energy and skills. As a recreation it is the main component of the life quality, mental and physical health^[1].

The objectives of study was to determine whether or not the present sports areas in the city are efficient and were built in the standard sizes. Utilising opportunities and deficiencies of the Palandöken Winter Sports Centre, which is in a highly important row in the respect of winter sports all over the world, were determined for winter sports and the tendency of the people in Erzurum was detected by completing the questionnaires and with the outcomes from these questionnaires problems were fixed and futuristic proposals about them were suggested.

MATERIALS AND METHODS

The city of Erzurum, in the North-eastern part of the East Anatolia Region is located in the cross-section of the north latitude of 39°55' and the east longitude of 41°16'. Erzurum is bounded by the provinces of Rize and Artvin

in the north, Bayburt and Erzincan in the west, Bingöl and Muş in the south and Kars and Ağrı in the east. Settling has been intensified mainly between and along the railway extending from west to north-east and transit highway (named E-80)^[2].

Materials of the study are the sports areas in the centre of Erzurum, districts of Yenişehir, Yıldızkent, Dadaşkent and Kazım Karabekir and winter-sports centres. Study area includes the site of which boundaries are determined on the 1/25,000 scaled map of entire city and its neighbourhood verse improvement plan. In order to examine the physical dispersion of the city, application plan scaled in 1/1000, the city centre, districts of Yenişehir- Yıldızkent, Dadaşkent and Kazım Karabekir, present situations of the ski-centres in Palandöken, Laleli and Tekederesi and outcomes of the questionnaires were used. As helping materials climatic mean values from Regional Meteorological Service, information about population from the publications of the State Statistics Institution were provided. Information about the utilising conditions and existing facility potentials of the sports areas in Erzurum were provided from the Administration of Youth and Sports and National Education Administration. The study was carried out in two stages, gathering data and analysing them.

Gathering data: Present conditions of the outdoor sports areas were determined by the surveys on areas,

examinations and interviews and on the improvement section maps scaled in 1/1,000. To find the interests and requests of the people in Erzurum toward sports areas, a questionnaire^[3] was completed by 365 people.

Data analysis: Data obtained were divided into the groups by using Excel software.

Age	Interest toward sports
Mean Income	Relation to the interested sports branch
Education Level	The factors constraining the interested sports activity
	Deficiency of the sports areas
	Factors affecting the success in the sports branches

Statistical analysis of the parameters and percent (%), DF (mean value), χ^2 (Chi-square) were performed by using MINITAB software.

RESULTS AND DISCUSSION

The factors affecting the planning in Erzurum city: The factors effective in the sports area planning are the natural (temperatures, rainfall, humidity, wind) and the cultural (population, social life, economical conditions) features. Especially the number of youths performing the active recreation is the most significant factor affecting the planning^[4].

Erzurum is one of the cities that have the lowest annual mean temperature values in Turkey because of its topographic structure and geographical situation. Maximum annual mean temperature recorded in the city is 19.1°C and the minimum is -9.9°C. Prevalent wind direction is south-west. Maximum mean wind speed is in April with the value of 28.1 m s⁻¹ from the direction of west and the minimum wind speed is in September with the value of 19.5 m s⁻¹ from the direction of south-west^[5].

According to the census in the year 2000, the number of people inhabiting in Erzurum is 361,235, 188,851, 52, 3% of which are male, 172,384 (47.7%) are female and the annual population increase rate is 39.9%^[6].

The number of the schools in the city centre is 117, 88 of which are for primary education and 29 are high schools and the number of the students is 70, 250, 53,126 of which are at primary school and 17,124 are at high school. A significant potential participating at the sports activity is university students whose number is 38,268^[6].

The amount of the space for sports areas is important in the urban area use and this area must reach the rate of 4.6% of urban area. According to the Deutsche Olympic Committee, an area of 4 m² sports area should be planned for each person, based on the Bernatzky's value in his study^[7]. The sizes of the sports areas change depending on the individual straining, the sports branches preferred in the society, the promotion and dispersion policy of the

local and central administrations on sports. For this, giving a unique national size or standard scale is incorrect^[1].

Analysis of the planning principles of the sports areas in the city centre: When the quantities of the sports areas in the Erzurum city are overlooked, it is seen that there are 19 sports halls, 4 grass-covered football grounds, 21 soil-covered football grounds, 26 basketball grounds, 20 volleyball grounds, 3 tennis courts, 1 javelin (in Turkish "cirit" a traditional game being played with a stick on the horse) area, 2 handball grounds, 7 carpet (artificial grass covered)-grounds, 1 indoor swimming pool. When the surface area percentage of these areas to that of total sports areas is considered, it can be seen that the highest percentage is included by the soil covered football areas with the percentage of 38 which is followed by the javelin ground (15%), grass covered football grounds (14%), sport halls (13%), swimming pools (7%), basketball grounds (5%) carpet-covered (4%), volleyball grounds (3%) and tennis courts (1%).

A sports area of 201,598 m² was determined by examining the Erzurum city, the study area, dividing it in to 4 sites. From these outcomes a sports area of 0.55 m² for each person in Erzurum was found. It is seen that this area is under the international standard (4 m² per person). In order to reach the standard, an additional sports area of 1,185,595 m² is required.

The number of the licensed sportsmen was 9280, 8124 of which were male and 1156 were female in 28 sports branches in 2002. When this amount is divided by the number of people in the city, a rate as 2% is obtained^[8].

According to the master plan of improving the winter-sports in Palandöken in Erzurum, three sites in the area were found to be the most suitable for the skiing-sport. These three sites are Erzurum Boğazi, Konakli Zone, Namliklar-Gez Plateau^[9].

Determination of the interests and the requirements of the people in Erzurum toward the sports area: The data obtained were analysed statistically by using MINITAP software. Fifty one percent of the people completing questionnaire were included in the age group between 20 and 30, 23% in 31-40, 12% in 10-19, 10% 41-50 and 4% in the group of over 51. Fifty three percent of these age groups were male and 47% were female and 52% of them were married and 48% were single (unmarried). Majority of the questionnaire-completing people were university graduate (53%), which is followed by high school graduate (36%), secondary school graduate (4%) and primary school graduate (7%). Their occupation dispersal was student in the percentage of 36, 30% officer, 10% worker, 10% house-wife and 6% self-employed, 4%

tradesman an 4% pensioner. It was also determined in the study that 10% of the questionnaire completing people had a monthly income less than 250 million Turkish Liras (TL), 31% between 250-500 millions TL, 45% 500 millions-1 billion TL, 14% more than 1 billion TL. The sites where the questionnaires were completed were determined as the city centre with the participant percentage of 22, Kazim Karabekir 38%, Yenişehir 2% and Dadaşkent 8%.

The majority (84%) of the people completing questionnaire are interested in sports. The sports branches interested are football (30%), basketball (16%), volleyball (11%), swimming (12%), tennis (11%), skiing (9%), wrestling (4%), jogging 4% and Far-east sports (3%).

However, the majority (48%) of the questionnaire participants are at the level of audience. The others are making sports to keep fit (26%), as amateur (21%) and professional (5%). The reason why people are uninterested in sports (16%) is lack of free time (30%). Other reasons are having an interest other than sports (24%), having no familiarity to sports (23%), health problems (14%) and familial effects (9%).

Although people are willing to perform sports activities, they cannot do that because of the factors such as inconvenient working-hours (26%), insufficiency of facilities (20%), lacking of facilities (15%), poor economic conditions (15%), familial factors (9%), accessibility to sports facilities problems (8%), health problems (7%).

Sports areas where currently sports activities are performed are considered as insufficient (81%). Among the most demanded facilities in Erzurum are running-tracks (18%), swimming pools (16%), sports halls (13%), tennis courts (10%), football grounds (10%), basketball grounds (10%), volleyball grounds (8%), ice-skating areas (7%), skiing areas (4%), javelin areas (3%) and others (1%).

Twenty one percent of the people completing questionnaire are graded sportsmen. Main factors affecting the success in sport branches are the climate and the physical conditions of the city (32%). Others are insufficient sports areas (20%), customs (18%), absence of sports clubs (17%) and absence of trainers (13%). Sixty seven percent of the people in the city stated that winter sports are not attached importance. They demanded to improve skiing and ice-skating activities (30%), snowboarding and sledding (14%).

To improve the sports areas for the disabled to use, 45% of the people in the city suggested that people should accept that they can attend to sports activities, while 25% of whom stated that sports areas planned for the disabled must be completed, 19% of whom stated that sports clubs should be established for the disabled and

sports competitions should be arranged for them, 11% of whom stated that the disabled in the public services must be given opportunities to attend to sports activities.

It was also determined in the study that education was significantly ($p < 0.01$) associated with some factors such as being interested in sports (Table 1), familiarity to sports (Table 2), the factors constraining the sports activities (Table 3), the success in the sports branches (Table 4).

It was stated that mean income was insignificantly associated with the factors such as being interested in sports (Table 5) and familiarity degrees to sports (Table 6). However, mean income was more significantly ($p < 0.01$) associated with the factors constraining the sports activities (Table 7) and less significantly with the success in sports branches ($p > 0.05$) (Table 8).

It was determined that age was significantly ($p < 0.01$) associated with being interested in sports (Table 9), familiarity degree to sports (Table 10) and the factors constraining the sports activity (Table 11) whereas it was insignificantly associated with the success in sports branches (Table 12).

Outcomes from the questionnaires showed that people in Erzurum are aware of various sports activities. Relationships between some parameters of the questionnaire participants and sports and sports areas were determined through the χ^2 test. Thus, the interest to sports was found to be related with education (χ^2 : 53.78 $p < 0.01$) and age (χ^2 : 37.88 $p < 0.01$) while it was unrelated to mean income (χ^2 : 1.11 $p > 0.05$). As directing people to sports areas, planning process to be performed by considering education and age levels may be more convenient. Familiarity degree to interested sports branches was found to be related to education (χ^2 : 27.16 $p < 0.01$) and age (χ^2 : 21.37 $p < 0.05$) and unrelated to mean income (χ^2 : 10.81 $p > 0.05$). The factors constraining the performance of the interested and familiarised sports branches were related to education (χ^2 : 54.24 $p < 0.05$), mean income (χ^2 : 42.50 $p < 0.05$) and age (χ^2 : 47.33 $p < 0.001$). Whether or not those areas where sports activities take place are sufficient is unrelated to all of these parameters. The factors affecting the success in the sports branches being activated in the district are related only to education (χ^2 : 56.49 $p < 0.05$).

Of all the considered as the least sufficient sports facilities by the people in the city, the first one is running track. Eighteen percent of the people in the city are complaining of the absence of the places constructed for walking activity. In addition, because of the distance of the city from sea, demand of the people in the city to water sports is so high (16%) as can be seen

Table 1: Effects of the education levels on the interest of sports educational level

Interest	Primary	Secondary	High	University	Others	Total
Yes	8.00	18.00	95.00	148.00	25.00	294
	20.10	19.26	94.65	139.04	20.94	
No	16.00	5.00	18.00	18.00	0.00	57
	3.90	3.74	18.35	26.96	4.06	
Total	24.00	23.00	113.00	166.00	25.00	351

$\chi^2= 53.78$, DF = 4, p-value = 0.00

Table 2: Effects of education levels on the degree of familiarity to sports educational level

Degree of familiarity	Primary	Secondary	High	University	Others	Total
Audience	16.00	12.00	63.00	74.00	12.00	177
	11.61	11.61	52.50	88.27	13.01	
Fitness	6.00	5.00	25.00	63.00	7.00	106
	6.96	6.96	31.44	52.86	7.79	
Amateur	2.00	3.00	20.00	43.00	9.00	77
	5.05	5.05	22.84	38.40	5.66	
Professional	1.00	5.00	5.00	10.00	0.00	21
	1.38	1.38	6.23	10.47	1.54	
Total	25.00	25.00	113.00	190.00	28.00	381

$\chi^2= 27.16$ DF = 12, p-value = 0,00

Table 3: Effects of education levels on the factors constraining the sports activities educational level

Factors	Primary	Secondary	High	University	Others	Total
Economic	5.00	4.00	22.00	29.00	0.00	60
	4.44	3.33	19.58	28.61	4.03	
Lack of facilities	7.00	2.00	25.00	34.00	5.00	73
	5.41	4.06	23.83	34.81	4.90	
Insufficiency of facilities	2.00	4.00	28.00	42.00	6.00	82
	6.07	4.56	26.76	39.10	5.50	
Working Time	3.00	4.00	32.00	64.00	11.00	114
	8.44	6.33	37.21	54.36	7.65	
Illness	2.00	3.00	11.00	11.00	2.00	29
	2.15	1.61	9.47	13.83	1.95	
Familial	10.00	6.00	17.00	8.00	1.00	42
	3.11	2.33	13.71	20.03	2.82	
Accessibility	3.00	1.00	6.00	18.00	4.00	02
	2.37	1.78	10.44	15.26	2.15	
Total	32.00	24.00	141.00	206.00	29.00	432

$\chi^2 = 54.24$ DF = 24, p-value = 0,00

Table 4: Effects of education levels on the success in sports branches educational level

Sports branches	Primary	Secondary	High	University	Others	Total
Customs	7.00	15.00	25.00	26.00	4.00	77
	4.76	4.93	23.26	38.76	5.29	
Climate	11.00	3.00	43.00	76.00	11.00	144
	8.90	9.23	43.50	72.49	9.89	
Trainer	2.00	1.00	11.00	35.00	10.00	59
	3.65	3.78	17.82	29.70	4.05	
Club	6.00	5.00	20.00	40.00	2.00	73
	4.51	4.68	22.05	36.75	5.01	
Lack of Facilities	1.00	4.00	33.00	43.00	3.00	84
	5.19	5.38	25.37	42.29	5.77	
Total	27.00	28.00	132.00	220.00	30.00	437

$\chi^2= 56.49$ DF = 16, p-value = 0.00

Table 5: Effects of mean income (TL) on the interest of sports

Interest	<250	250-500	500-1000 >	1000	Total
Yes	31.00	97.00	140.00	46.00	314
	32.34	98.71	138.70	44.25	
No	7.00	19.00	23.00	6.00	55
	5.66	17.29	24.30	7.75	
Total	38.00	116.00	163.00	52.00	369

$\chi^2= 1.11$ DF = 3, p-value = 0.77

Table 6: Effects of mean income (TL) on the degree of familiarity to sports

Degree of familiarity	Mean Income				Total
	<250	250-500	500-1000	>1000	
Audience	18	56	79	23	176
	14.39	55.15	80.57	25.90	
Fitness	4	24	53	14	95
	7.77	29.77	43.49	13.98	
Amateur	7	29	27	15	78
	6.38	24.44	35.71	11.48	
Professional	1	6	9	2	18
	1.47	5.64	8.24	2.65	
Total	30	115	168	54	367

$\chi^2= 10,81$ DF = 9, p-value = 0.28

Table 7: Effects of mean income (TL) on the factors constraining the sports activities

Factors	Mean income				Total
	<250	250-500	500-1000	>1000	
Economic	13.00	25.00	21.00	3.00	62
	6.16	19.87	27.99	7.98	
Lack of facilities	7.00	20.00	36.00	7.00	70
	6.95	22.44	31.60	9.01	
Insufficiency Of Facility	7.00	19.00	42.00	18.00	86
	8.54	27.57	38.83	11.07	
Working Time	10.00	36.00	58.00	16.00	120
	11.92	38.47	54.18	15.44	
Illness	0.00	8.00	16.00	6.00	30
	2.98	9.62	13.54	3.86	
Familial	2.00	21.00	19.00	1.00	43
	4.27	13.78	19.41	5.53	
Accessibility	5.00	13.00	8.00	6.00	32
	3.18	10.26	14.45	4.12	
Total	44.00	142.00	200.00	57.00	443

$\chi^2= 42.50$ DF = 18, p-value = 0.00

Table 8: Effects of mean income (TL) on the success in sports branches

Sports branches	Mean income				Total
	<250	250-500	500-1000	>1000	
Customs	5.00	26.00	31.00	12.00	74
	7.26	21.12	34.47	11.15	
Climate	14.00	45.00	65.00	22.00	146
	14.33	41.67	68.00	22.00	
Trainer	6.00	17.00	31.00	7.00	61
	5.99	17.41	28.41	9.19	
Club	9.00	18.00	36.00	11.00	74
	7.26	21.12	34.47	11.15	
Lack of Facility	9.00	19.00	41.00	14.00	83
	8.15	23.69	38.66	12.51	
Total	43.00	125.00	204.00	66.00	438

$\chi^2= 5,70$ DF = 12, p-value = 0.93

Table 9: Effects of age on the interest of sports

Interest	Age (Years)					Total
	10-19	20-30	31-40	41-51	>51	
Yes	32.00	173.00	76.00	25.00	6.00	312
	30.44	165.72	71.02	32.13	12.68	
No	4.00	23.00	8.00	13.00	9.00	57
	5.56	30.28	12.98	5.87	2.32	
Total	36.00	196.00	84.00	38.00	15.00	369

$\chi^2= 37,88$ DF = 4, p-value = 0,00

in the questionnaires. Existing swimming pool of Cemal Gürsel doesn't meet the demand of the people in the city. For this, the number of the swimming pool in the city should be increased. Twenty seven percent

Table 10: Effects of age on the degree of familiarity to sports

Degree of familiarity	Age (Years)					Total
	10-19	20-30	31-40	41-51	>51	
Audience	17.00	88.00	35.00	22.00	11.00	173
	16.56	92.48	39.11	17.48	7.36	
Fitness	7.00	47.00	31.00	14.00	4.00	103
	9.86	55.06	23.28	10.41	4.38	
Amateur	8.00	56.00	15.00	0.00	1.00	80
	7.66	42.77	18.09	8.09	3.40	
Professional	4.00	10.00	4.00	2.00	0.00	20
	1.91	10.69	4.52	2.02	0.85	
Total	36.00	201.00	85.00	38.00	16.00	376

$\chi^2= 21,37$ DF=4 p-value =0,00

Table 11: Effects of age on the factors constraining the sports activities

Factors	Age (Years)					Total
	10-19	20-30	31-40	41-51	>51	
Economic	6.00	27.00	15.00	8.00	1.00	57
	5.60	30.76	12.71	5.88	2.05	
Lack of Facility	8.00	41.00	8.00	5.00	2.00	64
	6.29	34.53	14.27	6.60	2.30	
Insufficiency of facilities	6.00	48.00	23.00	7.00	2.00	86
	8.46	46.40	19.18	8.87	3.09	
Working time	11.00	62.00	25.00	9.00	0.00	107
	10.52	57.73	23.86	11.03	3.85	
Illness	4.00	5.00	9.00	7.00	4.00	29
	2.85	15.65	6.47	2.99	1.04	
Familial	3.00	24.00	5.00	4.00	5.00	41
	4.03	22.12	9.14	4.23	1.47	
Accessibility	3.00	18.00	8.00	3.00	1.00	33
	3.24	17.81	7.36	3.40	1.19	
Total	41.00	225.00	93.00	43.00	15.00	417

$\chi^2= 47,33$ DF = 24, p-value = 0,00

Table 12: Effects of age on the success in sports branches

Sports branches	Age (Years)					Total
	10-19	20-30	31-40	41-51	>51	
Customs	7.00	34.00	21.00	11.00	2.00	75
	7.59	39.48	17.24	7.76	2.93	
Climate	9.00	83.00	27.00	19.00	7.00	145
	14.67	76.33	33.33	15.00	5.67	
Trainer	14.00	29.00	11.00	3.00	2.00	59
	5.97	31.06	13.56	6.10	2.31	
Club	8.00	40.00	17.00	5.00	3.00	73
	7.38	38.43	16.78	7.55	2.85	
Lack of Facility	6.00	43.00	24.00	7.00	3.00	83
	8.40	43.69	19.08	8.59	3.24	
Total	44	229.00	100.00	45.00	17.00	435

$\chi^2= 24,94$ DF = 16, p-value = 0,07

of the people in the city also complain about the absence of trainers while 23% of whom emphasise on the poor cleaning conditions in the sports facilities and the lack of equipment elements such as shower and car parks.

The disabled often encountering lots of problems in their daily lives have also many problems in sports areas. As can be seen from the questionnaires, 93% of the people in the city pointed out that there is no place for the disabled to perform sports activities. For this, it is necessary that the areas be established and improved. When considering the sports areas in the study area, it can be seen that sports areas are not adequately

distributed, planning process hasn't been completed based on the age, sex, education levels, demands of the people in the city and are not in accordance with the other units in the city.

According to the statistical outcomes, it was determined that there is a very significant relationship between education and interest to sports, closeness to sports, preference of sports branches and blocking reasons of sports. For this, education factor that is important at every stages of life is effective on a healthy social environment as well as it has a very important role on personal success and trends.

According to statistical outcomes again, there is no relationship determined between monthly income and interest to sports, closeness to sports and preference of sports branches but relationship between education and blocking reasons is significant. This proved that either from the communal or personal respect, sport needs are met by the means of material opportunity.

In addition to that, relationship between age and interest to sports, closeness to sport, preference of sports branches and blocking factors of sports activities is statistically very significant. For this, it was determined that in the community people prefer at certain age levels certain sports branches and preference and interest change for the age groups.

It was especially determined that although the city has an extremely suitable climate for winter sports, people don't occupy with these kinds of sports and when considering the profit of winter sports, the area isn't advertised on the whole country scale enough and international competitions are not arranged in the area.

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