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**Research Article**

# THE SERVICE QUALITY OF RECREATIONAL SPORTS CENTERS ON UNIVERSITY CAMPUSES: PERCEPTIONS OF STUDENTS

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**ABSTRACT**

The aim of this study was to determine the students' service quality perceptions on university campuses in both public and private universities. A total of 535 voluntary students (383 male and 152 female) were participated in the study that was included 269 (208 male, 61 female) from the three private universities and 266 (175 male, 91 female) from the three public universities. In the study, the Scale of Service Quality in Recreational Sports: SSQRS developed by Ko and Pastore (2005) was used as data collection tool. Turkish version of the scale (SSQRS-38) was conducted by Köşker Demir and Çimen (2012). According to the university type, participants' general demographic variables, facility use per year, participation frequency per week and time spend per day were examined.

In the data analysis; descriptive statistics was used to investigate the frequency and percentage distribution of the participants' demographic information. After the analysis of normality and homogeneity (Levene's test), for parametric distribution T-Test and one-way analysis of variance (ANOVA), for nonparametric distribution Kruskal Wallis tests were used to determine the differences in the perception of service quality level. Tukey HSD test and Mann Whitney U test were used to determine the differences between groups. The findings of the research show that there is a statistically significant difference was seen in the SSQRS-38 total score according to the university type ($p<0.05$). Additionally, a significant difference was found in the sub-dimensions of "program quality" and "physical environment quality" ($p <0.05$).

As a result, the service quality perception of students who participating in the recreational sports centers on campuses in private universities is higher than students in public universities.



## INTRODUCTION

In todays' the business world, service quality is a decisive factor for the development of the organizations (Parasuman *et al*., 2005). Over than the two decades, this importance of the service quality in economy and increasing competition for more consumers has led organizations to produce high-quality service. Therefore, they can differentiate themselves from their rivals (Uyguç, 1998; Tsitskari *et al*., 2006). The pioneer studies about the service quality started with Nordic scholars by Lehtinen&Lehtinen (1982), Grönroos (1983), and American scholars followed them by Parasuraman, Zeithalm and Berry (1985-88). Afterwards, service quality term was defined in different studies by many researchers. In the most general sense, service quality is the direction and degree of difference between customer service perceptions and expectations. For this reason, service providers attached importance to enhance the service quality and to provide the continuity for decreasing the difference between customers' expectations and perceptions (Prasuman *et al*. 1985). Additionally, researchers have agreed that, the service cost and the general expenses decrease in the successful organizations regarding this issue (Gürbüz, 2003).

In this situation "sevice quality" has become a popular concept in the area of business management (Gürbüz, Lam, Koçak, 2012). A similar tendency is also evident in the sport-related literature in all over the world and Turkey, which was prominently manifested by the European Association for Sport Management to devote its sixth annual congress to 'service quality in sports' (Tsitskari *et al*., 2006). The number of organizations providing sports services due to growing consumer demand has increased day by day (Bakır, 2011). In this context, virtually every market under extreme competition amongst enterprises in today's society is rapidly transforming itself into a consumer-centred market (Çimen and Gürbüz, 2007; Kim *et al*., 2008; Perez, *et al*., 2010).

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Although the most of the organizations generally seek to make a profit in order to survive in a competitive environment, for some organizations social objectives are more important. These organizations basically operate to produce services and goods for meeting the social needs of the community (Ekenci and İmamoğlu, 2006). Universities are one of the good examples to these type organizations that produce sport and other services for their students and staffs.

Nowadays, these services are becoming an important issue for student's decision-making process for selecting the university. This process has gained greater importance for students and universities as well. Since students' university choosing process mostly based on different social services, offered by universities and increasing number of universities make them marked-oriented in this competitive environment (Sabir, 2013). Because of these reasons, many universities take note of students' interests, expectations and clearly declare to the public. These main services are generally included campus food services, social responsibility projects, music and arts activities, student counseling services and recreational sports facilities and activities (Ay, 2012). Particularly, recreational sports activities are the most important activity that effect students' life allover (Soleymani *et al*., 2012) and shape the future of country. Sports activities help students to use leisure time more effectively, to improve their education and to deter them from negative behaviors. For example, a recreation program directed by universities can increase self-esteem, reduce the use of alcohol, build family bonds, and promote volunteerism, all at the same time (SCRA, 2005). Therefore, students must have satisfied by higher education institutions whether public or private and this satisfaction should be made permanent (Tayyar and Dilşeker, 2012).

In recent years, in parallel with the increase in the number of universities and the importance of service quality, competition between universities has also increased. Therefore, it becomes more important to be able to meet students' needs and provide quality service in universities. Universities should understand well students' expectations and services should be designed to meet these expectations (Papadimitriou and Karteroliotis, 2000). In the literature, it seems that researchers has done much more study towards private health and fitness club than organizations such as universities. Even if there are similar studies in the world, it is very limited particularly in Turkey. On this purpose this study was designed to determine the service quality perceptions of students participate in recreational sports services in public and private universities.

## MATERIALS AND METHODS

### *Participants*

In this study simple random sampling method was used. The participants were selected randomly from 3 public and 3 private universities' students in Ankara. Students in the sample were participating recreational activities in their universities' recreational sports centers. Randomly selected 266 student participants (175 male and 91 female) from public universities and 269 student participants (208 male and 61 female) from the private university students were constituted the participants of this study.

### *Instrument*

In this study the "Scale of Service Quality in Recreational Sports: SSQRS" developed by Ko and Pastore (2005) was used as data collection tool. Turkish version of the scale (SSQRS-38) was conducted by KöşkerDemir and Çimen (2012). SSQRS-38 consists of 4 dimensions with 38 items. The dimensions of scale titled as: (a) program quality (9 items), (b) interaction quality (8 items), (c) output quality (12 items), and physical environment quality (9 items). Participants were asked to rate each item on a 7-point Likert scale ranging from the least important (1) to the most important (7). Each of the dimensions was found to be internally consistent. Cronbach's alpha coefficients ranged from .90 to .96 for this study.

### *Data Analysis*

In data analysis, descriptive statistics was used to investigate the frequency and percentage distribution of the participants' demographic variables. Homogeneity of the data's were analyzed by Levene's test and for parametric distributions T-Test and one-way analysis of variance (ANOVA), for nonparametric distribution Kruskal Wallis tests were used to determine the differences in the perception of service quality level. Tukey HSD test (for ANOVA) and Mann Whitney U test (for Kruskal Wallis) were used to determine the differences between groups. Statistical Package for Social Sciences (SPSS) was used for all these statistical procedures.

## RESULTS

The participants of this study consisted of 266 (%49,7) from public universities and 269 (%50,3) from private universities. The majority of participants were 383 male (%72) while female accounted for 152 (%38). In terms of age groups, the participants were predominantly aged '20-21' (%38). The participants' length of membership to recreation sport center in years was '1≥ year' (%45), '2 years' (%24), '3 years' (%18), '4≤ years' (%13). The participants' weekly participation frequency was '1-2 times' per week (%18), '3-4 times' per week (%45), '5≤ times' per week (%15) and 'not regular' (%21). Most of the participants' spend time between 'one and half hour' (%49) daily and %31 of the participants spend 'one and half hour' daily for their recreational activities.

**Table 1** T-Test results according to the university type

| | University Type | N | MR | Sd | t | P |
|---|---|---|---|---|---|---|
| | Public | 266 | 4,02 | 1,27 | -8,46 | **,011*** |
| | Private | 269 | 5,01 | 1,40 | | |
| Program Quality | Public | 266 | 4,22 | 1,47 | -9,13 | ,708 |
| Interaction Quality | Private | 269 | 5,36 | 1,41 | | |
| Output Quality | Public | 266 | 4,92 | 1,21 | -4,26 | ,070 |
| Physical Environment | Private | 268 | 5,38 | 1,27 | | |
| Quality | Public | 266 | 4,11 | 1,29 | -4,88 | **,000*** |
| Total | Private | 269 | 4,73 | 1,61 | | |
| | Public | 266 | 4,37 | 1,10 | -7,52 | **,003*** |
| | Private | 268 | 5,13 | 1,23 | | |

*p<0,05

Table 1 illustrated that there is a statistically significant difference between university type and students' service quality perception ($t_{0,05:532}$=-7,52,). According to the result, the service quality perception of private universities students (Mean=5,13) is higher than students in public universities students (Mean=4,37). Additionally, there was a statistically significant

difference in the sub-dimensions of PQ ($t_{0,05:533}$=-8,46) and PEQ ($t_{0,05:533}$=-4,88). The service quality perception of private universities students is higher than public universities students in these sub-dimensions. Considering the mean rank, the score of OQ is higher than the other sub-dimensions in both university-type.

In the Tukey HSD test that conducted to determine which group causes this difference, the participants' scores of the group '3 years' (Mean=5,38) are higher than '1≥year' (Mean=4,75).

**Table 2** F-Test (ANOVA) results according to membership in years

| | | PUBLIC | | | | | PRIVATE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Membership in Year | | N | MR | Sd | F | p | N | MR | Sd | F | P |
| | 1 ≥ | 149 | 4,11 | 1,38 | | | 93 | 5,15 | 1,40 | | |
| | 2 years | 62 | 3,90 | 1,12 | | | 66 | 5,00 | 1,58 | | |
| PQ | 3 years | 48 | 4,01 | ,85 | 3-262 | ,339 | 48 | 5,04 | 1,20 | 3-264 | ,436 |
| | 4 ≤ | 7 | 3,33 | 2,16 | | | 62 | 4,77 | 1,34 | | |
| | Total | 266 | 4,02 | 1,27 | | | 269 | 5,01 | 1,40 | | |
| | 1 ≥ | 149 | 4,12 | 1,46 | | | 93 | 5,33 | 1,32 | | |
| | 2 years | 62 | 4,11 | 1,35 | | | 66 | 5,42 | 1,43 | | |
| IQ | 3 years | 48 | 4,56 | 1,62 | 3-262 | ,152 | 48 | 5,09 | 1,55 | 3-264 | ,440 |
| | 4 ≤ | 7 | 4,92 | 1,10 | | | 62 | 5,53 | 1,41 | | |
| | Total | 266 | 4,22 | 1,47 | | | 269 | 5,36 | 1,41 | | |
| | 1 ≥ | 149 | 4,75 [b] | 1,22 | | | 93 | 5,40 | 1,19 | | |
| | 2 years | 62 | 4,91 [a,b] | 1,26 | | | 66 | 5,26 | 1,28 | | |
| OQ | 3 years | 48 | 5,38 [a] | 1,00 | 3-262 | **0,007*** | 48 | 5,47 | 1,22 | 3-264 | ,839 |
| | 4 ≤ | 7 | 5,57 [a,b] | ,69 | | | 62 | 5,42 | 1,41 | | |
| | Total | 266 | 4,92 | 1,21 | | | 269 | 5,38 | 1,27 | | |
| | 1 ≥ | 149 | 4,12 | 1,27 | | | 93 | 4,75 | 1,48 | | |
| | 2 years | 62 | 4,06 | 1,47 | | | 66 | 4,85 | 1,67 | | |
| PEQ | 3 years | 48 | 4,15 | 1,07 | 3-262 | ,988 | 48 | 4,84 | 1,61 | 3-264 | ,584 |
| | 4 ≤ | 7 | 4,11 | 1,81 | | | 62 | 4,49 | 1,75 | | |
| | Total | 266 | 4,11 | 1,29 | | | 269 | 4,73 | 1,61 | | |
| | 1 ≥ | 149 | 4,32 | 1,15 | | | 93 | 5,17 | 1,17 | | |
| | 2 years | 62 | 4,30 | 1,13 | | | 66 | 5,14 | 1,34 | | |
| Total P | 3 years | 48 | 4,59 | ,87 | | ,441 | 48 | 5,14 | 1,22 | | |
| | 4 ≤ | 7 | 4,56 | 1,15 | 3-262 | | 62 | 5,07 | 1,24 | 3-264 | ,969 |
| | Total | 266 | 4,37 | 1,10 | | | 269 | 5,13 | 1,23 | | |

PQ: Program Quality, IQ: Interaction Quality, OQ: Output Quality, PEQ: Physical Environment Quality*p<0,05 a>b

**Table 3** Kuruskal-Wallis test results according to weekly participation frequency

| | | PUBLIC | | | | | PRIVATE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Weekly Participation** | **Frequency** | **N** | **MR** | **sd** | **$X^2$** | **p** | **N** | **MR** | **sd** | **$X^2$** | **P** |
| | 1-2 times | 56 | 3,94 | | | | 54 | 4,68 | | | |
| | 3-4 times | 111 | 4,06 | | | | 131 | 5,15 | | | |
| PQ | 5 ≤ | 8 | 3,86 | 3 | ,338 | ,953 | 61 | 4,90 | 3 | 5,739 | ,125 |
| | Not regular | 91 | 4,05 | | | | 24 | 5,25 | | | |
| | Total | 266 | | | | | 269 | | | | |
| | 1-2 times | 56 | 4,06 | | | | 54 | 4,51[b] | | | |
| | 3-4 times | 111 | 4,45 | | | | 131 | 5,66[a] | | | |
| IQ | 5 ≤ | 8 | 4,00 | 3 | 4,043 | ,257 | 61 | 5,39[a] | 3 | 19,948 | **,000*** |
| | Not regular | 91 | 4,05 | | | | 24 | 5,56[a] | | | |
| | Total | 266 | | | | | 269 | | | | |
| | 1-2 times | 56 | 4,72[b] | | | | 54 | 4,79[b] | | | |
| | 3-4 times | 111 | 5,27[a] | | | | 131 | 5,63[a] | | | |
| OQ | 5 ≤ | 8 | 5,33[a,b] | 3 | 21,488 | **,000*** | 61 | 5,31[a,b] | 3 | 11,494 | **,009*** |
| | Not regular | 91 | 4,59[b] | | | | 24 | 5,55[a] | | | |
| | Total | 266 | | | | | 269 | | | | |
| | 1-2 times | 56 | 4,52[a] | | | | 54 | 4,27 | | | |
| | 3-4 times | 111 | 3,95[b] | | | | 131 | 4,93 | | | |
| PEQ | 5 ≤ | 8 | 4,00[a,b] | 3 | 10,475 | **,015*** | 61 | 4,70 | 3 | 5,255 | ,154 |
| | Not regular | 91 | 4,07[b] | | | | 24 | 4,73 | | | |
| | Total | 266 | | | | | 269 | | | | |
| | 1-2 times | 56 | 4,35 | | | | 54 | 4,58[b] | | | |
| Total | 3-4 times | 111 | 4,50 | | | | 131 | 5,36[a] | | | |
| | 5 ≤ | 8 | 4,38 | 3 | 3,075 | ,380 | 61 | 5,09[a] | 3 | 13,065 | **,004*** |
| | Not regular | 91 | 4,22 | | | | 24 | 5,29[a] | | | |
| | Total | 266 | | | | | 269 | | | | |

PQ: Program Quality, IQ: Interaction Quality, OQ: Output Quality, PEQ: Physical Environment Quality*p<0,05 a>b

Table 2 illustrated that there is no statistically significant difference between membership in year and students' service quality perception ($F_{(3-262)}$=,900, p>,01) in public universities. However, there is statistically significant difference in the sub-dimension of OQ ($F_{(3-262)}$=4,081, p<,01).

According to the private universities, there is also no statistically significant difference between membership in year and students' service quality perception in total score of SSQRS-38 ($F_{(3-264)}$=,084, p>0,01)and in any of sub-dimensions as well.

Table 3 illustrated that there is no statistically significant difference between weekly participation frequency and students' service quality perception [$x^2$ (3)=3,07, p>0,05]. However, there is statistically significant difference in the sub-dimensions of OQ [$x^2$ (3)=21,48, p<0,05] and PEQ [$x^2$ (3)=10,47, p<0,05]. According to the Mann Whitney Utest results, in the OQ sub-dimension, the participants' scores of the group '3-4 times' per week (Mean=5,27) are higher than the group of '1-2 times' per week (Mean=4,72) and 'not regular' (Mean=4,59).In the PEQ sub-dimension, the participants' score of group '1-2 times' per week (Mean=4,52) are higher than the group of '3-4times' per week (Mean=3,95) and 'not regular' (Mean=4,07).

In the private universities, there is statistically significant difference between weekly participation frequency and students' service quality perception [$x^2$ (3)=13,06, p<,05]. According to the Mann Whitney U test results, the participants' score of the group '1-2 times' per week (Mean=4,58) are lower than the other groups[('3-4 times' (Mean=5,36), '5 ≤ times' (Mean=5,09), 'not regular' (Mean=5,29)].

Additionally, there is no significant difference in the sub-dimension of PQ [$x^2$ (3)=5,73,p<,05] and PEQ[$x^2$ (3)=5,25, p<,05] while there is statistically significant difference in the sub-dimension of IQ [$x^2$ (3)=19,94,p<,05] and OQ[$x^2$ (3)=11,49,p<,05]. According to the Mann Whitney U test results, in the IQ sub-dimension, the participants' score of the group '1-2 times' per week (Mean=4,51) are lower than the other groups ['3-4 times' (Mean=5,66), '5 ≤ times' (Mean=5,39), 'not regular' (Mean=5,56)]. In the OQ sub-dimension, the participants' score of the group '3-4 times' per week (Mean=5,63) and 'not regular' (Mean=5,55) are higher than the group of '1-2 times' per week (Mean=4,79).

dimension analysis, there is statistically significant difference only in the sub-dimension of OQ [$x^2$ (2)=17,12, p<0,05]. Considering the mean rank of groups, it seems that the highest level of service quality perception belongs to the group of '1 hour and half<' per day (Mean=5,34). The lowest mean rank score belongs to the group of '1 > hour' per day (Mean=4,39).
In the private universities, there is statistically significant difference between daily time spend and students' service quality perception [$x^2$ (2)=29,05, p<0,05]. According to the Mann Whitney U test results, the participants' score of the group '1> hour' per day (Mean=4,20) are lower than the other two groups. Additionally, the group of '1> hour' (Mean=5,40) per day has the highest service quality perception.In the sub-dimension analysis, there is significant difference in all the sub-dimensions (PQ [$x^2$ (2)=21,38, p<0,05], IQ [$x^2$ (2)=32,45, p<0,05], OQ [$x^2$ (2)=23,56, p<0,05], PEQ [$x^2$ (2)=13,2, p<0,05]). In the all sub-dimensions, the participants' scores of the group '1 hour and half <' per day are higher than the other groups.

## DISCUSSION AND CONCLUSION

### *Descriptive Statistics*

The proportion of students participating in this research was almost equal from both public (%49,7) and private (%50,3) universities. The findings show that; the most of the students who use the recreational sports centers on university campuses are male (%72). This situation is similar with many researches' participant proportion (Mullin *et al*., 2000; Aslan, 2006; Uçan, 2007; Tüfekçi, 2010). Unfortunately, this situation is true in all over the world that girls and women are less likely than boys and men to participate in sport, and sport continues to be dominated by males (UNESCO, 2015; Larkin *et al*., 2007).

**Table 4** Kuruskal-Wallis test results according to daily time spend

| | | Public | | | | | Private | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Daily Time Spend | N | MR | Sd | $X^2$ | p | N | MR | Sd | $X^2$ | P |
| PQ | 1 > | 53 | 3,64 | 2 | 3,743 | ,154 | 48 | 4,17[b] | 2 | 21,385 | **,000*** |
| | 1 hour – 1 hour and half | 134 | 4,12 | | | | 132 | 5,15[a] | | | |
| | 1 hour and half < | 79 | 4,13 | | | | 89 | 5,25[a] | | | |
| | Total | 266 | | | | | 269 | | | | |
| IQ | 1 > | 53 | 3,90 | 2 | 4,309 | ,116 | 48 | 4,19[b] | 2 | 32,453 | **,000*** |
| | 1 hour – 1 hour and half | 134 | 4,21 | | | | 132 | 5,52[a] | | | |
| | 1 hour and half < | 79 | 4,44 | | | | 89 | 5,75[a] | | | |
| | Total | 266 | | | | | 269 | | | | |
| OQ | 1 > | 53 | 4,39[c] | 2 | 17,123 | **,000*** | 48 | 4,46[b] | 2 | 23,560 | **,000*** |
| | 1 hour – 1 hour and half | 134 | 4,89[b] | | | | 132 | 5,57[a] | | | |
| | 1 hour and half < | 79 | 5,34[a] | | | | 89 | 5,60[a] | | | |
| | Total | 266 | | | | | 269 | | | | |
| PEQ | 1 > | 53 | 3,75 | 2 | 4,766 | ,092 | 48 | 3,91[b] | 2 | 13,220 | **,001*** |
| | 1 hour – 1 hour and half | 134 | 4,16 | | | | 132 | 4,85[a] | | | |
| | 1 hour and half < | 79 | 4,28 | | | | 89 | 4,99[a] | | | |
| | Total | 266 | | | | | 269 | | | | |
| Total | 1 > | 53 | 3,96[b] | 2 | 7,388 | **,025*** | 48 | 4,20[b] | 2 | 29,057 | **,000*** |
| | 1 hour – 1 hour and half | 134 | 4,39[a,b] | | | | 132 | 5,29[a] | | | |
| | 1 hour and half < | 79 | 4,09[b] | | | | 89 | 5,40[a] | | | |
| | Total | 266 | | | | | 269 | | | | |

PQ: Program Quality, IQ: Interaction Quality, OQ: Output Quality, PEQ: Physical Environment Quality*p<0,05 a>b

Table 4 illustrated that there is statistically significant difference between times spend daily and students' service quality perception [$x^2$ (2)=7,38, p<0,05]. According to the Mann Whitney U test result, the participants' score of the group '1 hour and half <' per day (Mean=4, 09) are higher than the group of '1> hour' per day (Mean=3,96).In the sub-

The same situation is seen in official data of Turkish Youth and Sport Ministry; only 35% athletes are women out of the total athletes (GSB, 2016). It is a mistake, however, to assume that this is because girls and women do not wish to participate. There are many reason like poverty, heavy domestic demands, safety concerns, lack of accessible transportation, inadequate

sport and recreation facilities, and few opportunities for physical education and skill development frequently prevent women's participation in physical activity and sport. As well, socio-cultural norms and constraints preventing girls and women from being physically active, leaving home unaccompanied, or being seen by men outside their family, are additional barriers preventing girls and women from becoming involved in sport and physical activity (Larkin, 2007).

Meanwhile, many international organizations, notably United Nations give support women's participation in sport. United Nations set out a framework of rights and duties related to equal access and opportunities for females (UN, 2015; Larking, 2007). Women should increase their interest to sport in order to spread to the general community. Moreover, effort should be made to ensure that women actively involved in sports (SPORBİLİM).

***The comparison of service quality perceptions according to the university type***

According to the university type, there is a statistically significant difference in total score in terms of the students' quality perception between private universities and public universities. By this difference, the service quality perceptions of private university students are higher than public university students' perceptions. The main reason for this result is competitive environment between the private universities because of increasing number, their efforts to catch the potential new students' attention and to keep the interest of present students. Therefore, private universities give more importance to recreational sports services than public universities (Tayyar and Dilşeker, 2012).

In the analysis of the sub-dimensions, there is statistically significance difference in the sub-dimensions of PQ and PEQ. Hereunder, the students' service quality perceptions in private universities campuses are higher than students in public universities. According to study conducted by Salamat *et al*. (2013), customers' quality perception and satisfaction levels in private fitness center were higher than public fitness centers'. As it is expressed in this study, the main reason is that private universities have much better financial resources when comparing the public universities. Therefore, they have more opportunity to provide the proper physical conditions, which includes physical environment and physical materials (facility, design, equipmentetc.) that are used during the service. Beside of this reason, private university students are regarded as a customer and their demands are taken into consideration from the university managers to provide excellent service conditions. In the literature, there are also studies that do not support this research results. For example, in Aslan and Koçak (2011)'s study there were no statistically significant difference in terms of students' quality perceptions related to recreational sport service quality between private and public university as same as Kim and Kim (1995)' study.

***The students' service quality perception according to the membership in year***

According to facility membership in year, there is no statistically significant difference in the total score in terms of the students' quality perception between private universities and public universities. In other words, although the facility membership in year differs, students' service quality perception does not change. Similarly, according to the studies conducted by Demirel (2013) and Yüzgenç (2010), there were no statistically significant difference between membership period and service quality.

In the analysis of the sub-dimensions, there is a statistically significant difference in the dimensions of OQ in public universities. Hereunder, the service quality perceptions of students who use the facility for '3 years' are higher than the group of '1 ≥ year'in public universities. It may be cause that students who use facility less time (in year) have less expectation. On the other hand, in the analysis of the sub-dimensions related to membership, there is no statistically significant difference in private universities

In the literature, there are studies that do not support the research results. According to these studies, the new members' expectations in the sports centers are met more than the old members. For example, in the research conducted by Demirel (2013), there is statistically significant difference in terms of the perceived service quality between the facility sub-dimension and the membership period ($p<0,05$). According to the result, the service quality score of members who use the facility 'less than a year' is significantly higher than members who use the facility '3-4 years'.

It seems that when the facility membership duration increase, they may have more information about how they can benefits better from the facility. Thus, members' expectation may reduce in direct proportion to the period of facility use. According to Demirel (2013), the reason is that members understand better the deficiencies and defect in facility due to extension of the use period. Hence, their service quality score decreases. In the research conducted by Ceyhun (2008), members find the sports centers more inadequate in terms of service quality when they use the facility longer. The results indicate that the positive opinion of members who use facility a year or more decrease in progress of time (Memiş and Ekenci, 2007).

***The students' service quality perception according to the weekly participation frequency***

According as the findings obtained based on the weekly participation frequency, there is no statistically significant difference in the total score of the students' quality perception in public universities. However, there is a statistically significance difference in the sub-dimensions of OQ and PEQ in public universities. In the sub-dimension of OQ, the service quality perceptions of students who use the facility '3-4 times' per week is higher than the students who use '1-2 times' per week in public universities. On the contrary, in the sub-dimension of PEQ, the service quality perceptions of students who use the facility '1-2 times' per week is higher than students who use '3-4 times' or 'irregular' per week in public universities.

In private universities, there is a statistically significant difference between the students' service quality perception and weekly participation frequency. In addition, there is a statistically significance difference in the sub-dimensions of OQ and IQ in private universities. According to the sub-dimension of OQ, the service quality perceptions of students

who use the facility '3-4 times' and 'irregular' per week is higher than students who use '1-2 times' per week in public universities. In the sub-dimension of IQ, the students who use the facility '1-2 times' per week have less service quality perception than the other groups ('3-4 times', '4 times and more' and 'irregular' per week) in public universities.

The results obtained by the participants in the sports services are an important factor for the understanding of perceived quality (Ko and Pastore, 2005). More clearly, output quality is the evaluation by customer as the result of the production use (Lehtinen and Lehtinen, 1991) and the indicating at what level of benefits gained from the service (Ko and Pastore, 2004). In general, the output quality for participants in the sports services is being better related to physical fitness, valence and socializes. (Ko and Pastore, 2005). Therefore, the weekly participation frequency affects directly the scores of output quality.

In both type of universities, the students who use the facility more frequently has more positively service quality perception than the students use the facility less. The reason can be explained as that the demands and expectations of students use the facilities more often are better to understand and meet by the service providers. In parallel with this study, according to the study conducted by Ergin (2010), when the participation frequency decreases, the positive perception of the facility physical appearance that is one of the factor affecting the quality of services also decreases. According to Ceyhun (2008), when the weekly participation frequency increases, it seems that the students' quality perception increases in the sub-dimensions of facilities, staff and locker rooms. In addition, Ergin (2010) reported that increasing of the weekly participation frequency and decreasing of the perceived service quality can be explained with the service quality's characteristic of intangibility provided by sport centers.

***The students' service quality perception according to the daily time spend***

According to the results obtained, there is no statistically significant difference in the total score between daily time spend and the students' quality perception in private universities as well as public universities. However, in the analysis of the sub-dimensions, there is statistically a significant difference in the OQ in public universities. As for that this difference, the service quality perceptions of students stayed in the facility for '1 hour and half <' is the highest and followed respectively by students stayed in the facility '1 hour and half' and '1 > hour' per day in public universities. In the private universities, there is statistically a significant difference in all the sub-dimensions. Accordingly, the service quality perceptions of students stayed in the facility for '1 hour – 1 hour and half' and '1 hour and half <' are higher than the students stayed in the facility '1> hour' per day for all the sub-dimensions, According to the scores of sub-dimensions in both types of universities, it seems that when time spend per day increases, the score of the service quality perception decreases. Thus, the students' service quality perception that use the facility more time is higher than the students stayed less time. Similarly to the weekly participation frequency, the reason can be explained as that the expectations of students stayed in the facilities more time are better met by the service providers.

***Practical Implications***

Meeting the needs and expectations of students is one of the most important factors for an organization with regard to costumer retention and competitive advantage. In this context, determining the priorities of students is necessary for the improvement of service quality perception in universities' recreational sport centers. For this purpose, students' ideas, complaints and suggestions in terms of service quality should be taken into account and the necessary procedures should be performed. Universities should give advisory information to students about using the recreational sports centers to increase weekly participation frequency and daily time spends. In addition, university administration should take necessary actions to increase students' interest related to recreational sports center, which play an important role in their life.

The students' service quality perception in public universities is less than private universities' in all service quality sub-dimensions. Therefore, public universities should make investigations towards service quality to know their deficiencies in the recreational sports center and make considered necessary improvement.

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