

Assessing the Quality of Physical Fitness Instructional Service and Its Relationship with Contextual Factors in Bahir Dar University

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Abstract: In recent years, there is continuous promotion and implementation of physical fitness and related activities around the globe. However, a few pieces of research have been done on quality physical fitness instructional service and its perception across contextual groups of students. The purpose of this study was to examine the quality of physical fitness instructional service and compare its perception across contextual groups of 1st-year students at Bahir Dar University. The cross-sectional research design used for the study consisted of 323 students sampled from the total population of 1860. The age of the majority of students ($n=216$, 66.9%) was 20. The quality of physical fitness instructional service and the perception of contextual groups towards the same were assessed using the adapted Service Quality Assessment Scale (SQAS) and analyzed descriptively. Findings showed that the overall mean quality of physical fitness instructional service was below the average (2.62). This implies that the quality of the service was not up to the standard and could negatively affect the activity and personal goals of the students. This could lead to dissatisfaction, reduced sense of well-being and performance, and also influence their lifestyles. It could also result in loss of goodwill, image, and market shares of the university. The mean scores of most quality variables did not show significant statistical differences across age, gender, educational stream, residence area, and sports experience of students as a player ($p<.05$). However, there was a statistically significant quality perception difference between male and female students in two quality variables: dressing room and workout facility ($p<.01$). Similarly, there was also a statistically significant difference between students who come from families living in big cities and those living in *woreda* towns in only one quality variable: workouts facility ($p<.01$). As far as experience of students as a player was concerned, there was a statistically significant quality perception difference in only one quality variable: instructor performance ($p<.01$). The university under discussion and other higher educational institutes of the country have the opportunity to implement quality physical fitness instructional service. Yet, much more effort is needed from the concerned bodies. Future studies also need to investigate situations in other universities and include the influence of some other contextual factors.

Keywords: Quality, Physical fitness, Instructional Service, Contextual factors, Ethiopia

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Introduction

Physical fitness exercises serve numerous uses for student participants including development of physical fitness, health, well-being, socialization, participation, motivation, performance and also enhancing the quality of life (Ballantine & Hammack, 2015; Lucy,2015). It is also an important means to improve academic performance, prevention of cardiovascular-related diseases and decreasing death from some chronic illnesses including cancer (Baxter et al., 2011; Lee et al.,2012; Rezende et al., 2018). Additionally, it is specifically linked with better physical, social, and spiritual well-being, satisfaction in life, and treatment of dementia and depression (Iker et al., 2021; Ribeiro & Milanez, 2011; Larson,2006; and NIMH,2019).

Studies also link superior intellectual ability, physical competency, emotional regulation, and psychological wellness with regular physical fitness experiences (Naci & Ioannidis, 2015; Eime et al., 2013; Lee et al.,2012). This implies that the exercise is cost-effective to have healthy, sociable, energetic and productive citizens.

Given the comprehensive values of physical fitness exercise (Lee et al., 2012), it is considered as part of a healthy lifestyle that requires special attention (Lucy,2015). For physical fitness exercise to be effective and achieve its aims, then high-quality physical fitness instructional services are very important.

Nowadays, the issue of quality physical fitness instructional service is very important particularly for higher educational institutes (Gómez-Tafalla,& Mestre, 2005). In this regard, universities, colleges, and fitness-related organizations are encouraged to adapt situation and context to provide better quality fitness instructional services (Cheung, & Woo, 2016; Clavel et al., 2018). Students might have the possibility to compare high educational institution services in order to choose the one that best meets their needs. Therefore, universities and colleges should continuously evaluate and improve their instructional services,

particularly those related to physical fitness, sports, and other related activities (Neill, & Palmer, 2003).

Researchers have also been attracted to assessing quality physical fitness instructional service (Decristan et al., 2017; Fauth et al., 2014; Panayiotou et al., 2014; Haney & Beltyukova, 2012; Lagrosen & Lagrosen, 2007). However, there is a clear gap in the literature regarding its service in higher education of Ethiopia. As far as the knowledge of the researcher is concerned, the subject is the least studied issues in Ethiopia and in the sub-Saharan context. Particularly, the quality of fitness instructional service in Bahir Dar University is unknown.

It is essential to consider the different contextual factors that affect the perception of quality physical fitness instruction service (Zagalaz, Moreno, & Cachón, 2001, as cited in Iker et al., 2021; Lewis et al., 2016). In line with this, previous studies assessed the quality of physical fitness service with limited consideration of the contextual factors. Results, however, showed that there were no statistically significant quality perception differences between male and female students (Jasinskas et al., 2013). In contrast, some other studies yielded results opposed to this (Afthinos et al., (2015). Thus, it is important to consider other contextual variables and make further investigations in the area (Bodet, 2006; Clerfeuille, & Poubanne, 2003).

In the literature, it is shown that contextual variables, particularly the perception of quality physical fitness instructional service, across educational stream, area of residence, and sports team experience of students as a player were understudied issues. In this study, the author compares the perception of physical fitness instructional service across four contextual groups of first year students at Bahir Dar University. This provides valuable information for those interested in the area particularly for higher educational institutes and the Ministry of Education in Ethiopia and beyond, to develop suitable intervention

plans to improve quality physical fitness instructional services (Sutisna et al., 2023).

The findings of this study are valuable in identifying the service quality level from different perspectives and dimensions in order to identify the gaps and meet students' satisfaction, personal goals and well-being, and build the image of higher education institutes so they become desirable and sustain themselves in the market (Mestrovic, 2017; Tsitskari, Tzetzis, & Konsoulas, 2017). It also will help Bahir Dar University and beyond to provide a broader understanding of quality physical fitness instructional service issues and situations surrounding its implementation (Assan et al., 2019). The purpose of this study was to assess the quality of physical fitness instructional service and how it is perceived across contextual groups of first year students at Bahir Dar University. More specifically, the study aims to answer the following basic research questions.

- (1) what is the quality of physical fitness instructional service at Bahir Dar University like?
- (2) Is there a statistically significant difference in quality perception across contextual groups of first year students at Bahir Dar University?

Theoretical framework

There are various models used to describe quality service. According to the Quality Expectations of Consumers (QUESC) framework developed by Kim & Kim (1995), quality service is defined as a measure of how physical fitness centers satisfy their participants' needs in relation to price, privileges, stimulation, information, employee attitude, personal considerations and other variables. The other model, (SERQUAL), designed by Jasinskas, Reklaitiene & Svagzdiene, (2013) measures quality service based on the appearance of subjects and objects, promises, willingness of the staff, skills, knowledge, ease of communication, friendliness, and approach of availability.

The framework developed by Lam, Zhang, and Jensen (2005) provides dimensions aligned with the study settings and context. From a theoretical perspective, contextual quality service refers to the measure of how suitable the service matches the physical fitness participants demand and pleasure (Lam et al., 2005). Consistent with this conceptual definition of quality service, quality physical fitness instructional service is defined as a measure of how well the physical fitness instructional service meets the expectations and needs of their students based on instructor’s performance, program operation, dressing room, physical facility function, and workout facility in the context of individual differences (Stipek, 2012; Perez et al., 2010 Ramya, Kowsalya., & Dharanipriya, 2019). Due to this reason, the author takes this framework as a base. Fig. 1 presents the components of the conceptual model.

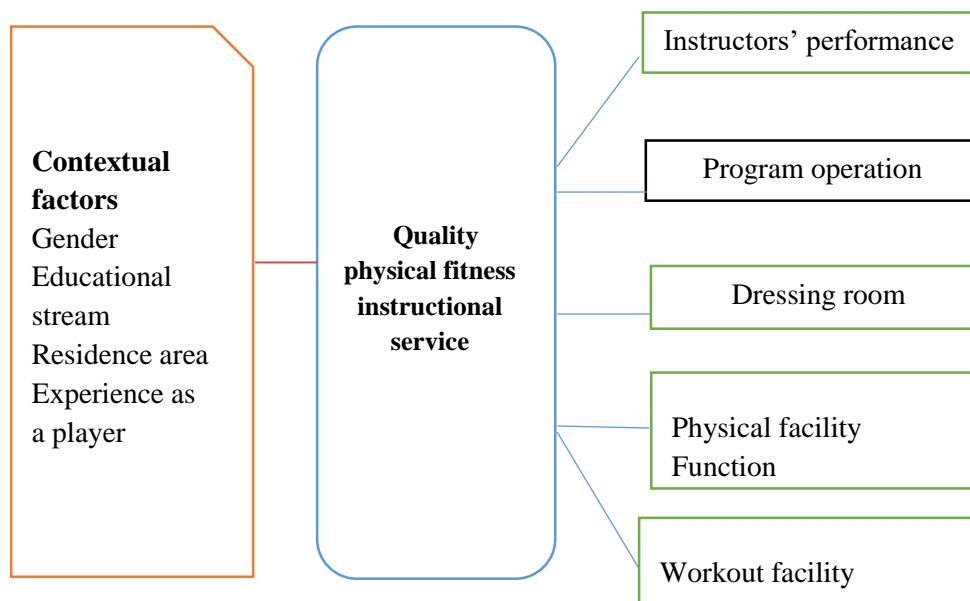


Figure 1: Conceptual model of the study

As shown in Figure 1, each element of the model addresses specific aspects of the study. The first component of the model, the contextual factors of students, include gender, educational stream, residence area

of students before joining university and sports team experience as a player. The second component of the model is quality fitness instructional service. The variable includes five domains: instructor's performance, program operation, dressing room, physical facility function, and workout facility dealing with the given contextual factors.

Methods

Study design and procedures

The study employed a cross-sectional survey design as it was found suitable to achieve its purposes. It allowed the researcher to examine and compare many different variables at the same time with little or no additional cost (Rakesh & Priya, 2019). In this study, the author evaluated the quality of physical fitness instructional service at Bahir Dar University and students' perceptions across contextual groups.

Sampling

Participants were freshman students registered for the 2021/2022 academic year at Bahir Dar University. Before sampling, the researcher identified the total number of students (1860) as well as the number of sections in the university by using a section list collected from the Registrar's Office. The researcher then divided all the sections into two groups, Natural and Social science, based on their stream. The sample size was determined by using the following formula.

$$n = [z^2 * p * (1 - p) / e^2] / [1 + (z^2 * p * (1 - p) / (e^2 * N))]$$

The sample size (n) is calculated according to the formula:

Where: z = 1.96 for a confidence level (α) of 95%,

p = proportion (expressed as a decimal),

N = population size, e = margin of error.

$$z = 1.96, p = 0.5, N = 1860, e = 0.05$$

$$n = [1.962 * 0.5 * (1 - 0.5) / 0.052] / [1 + (1.962 * 0.5 * (1 - 0.5) / (0.052 * 1860))]$$

$$n = 384.16 / 1.2065 = 318.399$$

$$n = 319$$

Then, 15 sections were randomly selected from each group and from every section, 22 students were selected using systematic random sampling techniques. Seven papers were not turned in. So, a total of 323 students were taken as samples of the study. Table 1 summarizes the contextual factors of the research participants.

As shown in Table 1 below, most of the participants were male students (52.6 %, n = 170), and the rest were female participants (47.4 %, n = 153). Regarding their educational stream, 53% (n = 174) of the participants were from Natural Science while 46.1% (n = 149) were from the Social Sciences. In terms of their residence area before joining the university, 44% (n=142) were from big cities (capital cities of regional states, zones, and city administrations) whereas 34% (n=110) and 22% (n = 71) respectively were from semi Urban (*woreda* cities) and rural areas. In terms of experience in

playing in sports teams, only 30.3% (n= 98) had the experience during their primary and or secondary school days.

Table1 Students' contextual factors (n=323)

Contextual factors	Characteristics	frequency	Percentage
Age	18	13	4
	19	79	24.5
	20	216	66.9
Gender	Above 20	15	4.6
	Male	170	52.6
Educational stream	Female	153	47.4
	Natural Science	174	53.9
Area of residence	Social Science	149	46.1
	Urban	142	44
	Semi-urban	110	34
Sports experience as a player	Rural	71	22
	Experienced	98	30.3
	Non-experienced	225	69.7

Data collection

In this study, the quality of physical fitness instructional service was assessed by adapting the standard tool called Service Quality Assessment Scale (SQAS) developed by Lam, Zhang, & Jensen (2005). The fit indexes from the confirmatory factor analysis (CFA) showed that the model was acceptable, with Root Mean Square Error of Approximation = .07, Standardized Root Mean Square Residual = .05, and Comparative Fit Index = .87. All the dimensions had satisfactory alpha and composite reliability coefficients. The model was then confirmed for invariance across gender. Nine items were eliminated due to lack of invariance for factor loadings or tau coefficients. The 31-item scale with 6 dimensions displayed sound psychometric properties and invariance for factor loadings and tau coefficients and can be utilized to evaluate physical fitness service-quality issues in various physical fitness-related research

investigations and settings (Lam et al., 2005; Šimkus, Pilelienė, 2010).

This tool is specifically designed to examine the quality of physical fitness instructional service (Lam et al., 2005). Besides, it has clear criteria specific to assess quality physical fitness instructional services suitable for students and provides easily managed results as well as its dimensionality (Perez, Minguet, Freire, 2010). Moreover, it has psychometric properties determined by the attributes of psychological characteristics used for the evaluation of the quality fitness instructional service (Knop, Hoecke, Bosscher, V.D., 2004).

One of those six components, including the presence of waiting room for kids and relatives did not comply with essential issue expectations, at least in the higher education context, so it is not represented in the questionnaire. The instrument includes individual student scores on composite measures in 5 dimensions: instructor's performance (9 items), program operation (7 items), dressing room (4 items), physical facility function (5 items), and workout facility (5 items).

Before data collection, a selected research review committee member of the sports academy of Bahir Dar University checked and approved the research code of conduct of the university. As a teaching- learning process, code of conduct associated with COVID-19 pandemic were also considered in this research. Verbal consent was obtained from the students in their respective sections. After this, the questionnaire survey was distributed to the sampled students. Almost all of the distributed questionnaires were collected with responses properly filled in.

With the purpose of understanding the reliability of the survey instrument, a pilot study was conducted on 106 first-year students who were not part of the main study. Since a language expert was

involved, there were no major inaccuracies. However, the expected time and the time required to fill in the questionnaire were different. Hence, it helped to know the time required for the actual data collection in advance. Based on the results, the observed values of quality instruments were equal to 0.65 or the Sig value. $< \alpha = 0.05$, while the test-retest reliability of the instrument was .65. This shows that the instrument was valid and reliable. So, it can be concluded that the first and second tests of the instrument have a high level of consistency in the administration of the tests.

Data analysis

In this study, descriptive statistics, particularly, frequency and percentage were employed to examine the quality of physical fitness instructional services. Besides, an independent sample t-test was used to compare perception across the contextual groups of students. In doing so, SPSS version 25 software was used.

Results

The description of quality physical fitness instruction service at Bahir Dar University is presented in Table 2. As can be seen from the table, the overall mean (2.62) with a standard deviation of .89 was below the average mean (mean=2.62+.89). Most of the quality variables, dressing room, physical facility function, and workout facility were also below the average mean. Only the mean of the instructor performance score (3.66), with a standard deviation of+.94, and program operation score (3.31), with a standard deviation of 1.87 were found a bit higher than the average mean implying that most of the sample students were clearly satisfied with their instructor's performance and program operation capability.

Table 2 Summary descriptive result of quality fitness instruction service variables (n=323)

Quality variables	Minimum	Maximum	Mean(SD)
Instructor's performance	1	5	3.66(±.94)
Program operation	1	5	3.31(±.87)
Dressing room	1	5	2.02(±1.01)
Physical facility function	1	4	2.45(±.82)
Workout facility	1	5	1.68(±.85)
Total average			2.62(.89)

Note: *SD= Standard deviation,*

Following this, the mean scores across the contextual groups, i.e., gender, education streams, area of residence and sports team experience as a player were compared. The purpose was to test whether or not there was a statistically significant perception difference among each contextual group. Independent samples t-test results obtained in this regard are presented in Table 3.

As can be seen in the table, the mean scores of most quality variables did not show statistically significant perception differences as a function of gender ($p < .05$). This means that there were no significant quality perception differences between male and female freshman students. It implies that males perceived performance of their instructors as did the females.

The mean scores of all quality variables did not show any statistically significant perception differences as a function of educational streams ($p < .05$). This means that there were no significant quality perception differences between male and female freshman students. This implies that males perceived all quality variables as did their female counterparts.

Regarding area of family residence, there was no statistically significant perception difference in most quality variables among students coming from urban and semi-urban areas. However, those coming from families living in big cities did not perceive workout facilities as those coming from *woreda* towns ($p < .01$). This indicates that the quality of workout facilities for students coming from big cities was not the same as for those coming from *woreda* towns. This might be associated with their expectation.

Concerning students' sports team experience as a player, there was no statistically significant perception difference in most quality variables among students having sports team experience as a player and those who do not have the experience. However, there was a statistically significant perception difference in one quality variable - instructors' performance ($p < .01$). This means there were significant quality perception differences between students having sports team experience and their counterparts only in one quality variable - instructors' performance. This implies that students with sports team experience as players did not perceive instructors' performance as did their counterparts.

Table 3 Summary of perceived quality scores between sampled students across gender, educational stream, area of residence and sports team experience as a player (n=323)

QV	Male (n= 231)	Female(n=170)	95%CI		DF	t value	F	P
	M (SD)	M(SD)	LL	UL				
IP	3.72(.90)	3.59(.98)	-.07	.33	321	1.22	.074	.223
PO	3.32(.65)	3.30(1.07)	-.16	.22	321	.294	21.98	.769
DR	2.19 (1.06)	1.83(.90)	.14	.58	321	3.28	2.18	.001**
PF	2.50(.71)	2.41(.92)	-.09	.26	321	.96	14.31	.337
WF	1.81(.82)	1.54(.86)	.08	.45	321	2.85	.33	.005**
QA	Natural science (n= 174)	Social science (n=149)	95%CI		DF	t value	F	P.
	M(SD)	M(SD)	LL	UL				
IP	3.65(.95)	3.70(.94)	-.28	.12	321	-.74	.04	.83
PO	3.35(1.94)	3.26(.83)	-.10	.28	321	.89	2.37	.124
DR	2.06(1.06)	1.96(.94)	-.11	.32	321	.90	2.74	.099
PF	2.45(.82)	2.46(.82)	-.19	.17	321	-.09	.004	.947
WF	1.69(.84)	1.67(.87)	-.16	.21	321	.25	.041	.83
QA	Urban (n= 142)	Semi urban (n=71)	95% CI		DF	t value	F	P.
	M (SD)	M(SD)	LL	UL				
IP	3.66(.89)	3.62(.99)	-.19	.26	250	.29	1.20	.27
PO	3.33(84)	3.22(.96)	-.11	.33	250	.96	1.53	.21
DR	2.02(1.01)	1.97(.99)	-.20	.30	250	.37	.006	.94
PF	2.44(.81)	2.32(.79)	-.08	.31	250	1.14	.39	.53
WF	1.73(.89)	1.52(.72)	.005	.41	250	2.02	5.81	.01*
QA	Experience as a player (n= 98)	No experience as a player (n=225)	95%CI		DF	t value	F	P.
	M(SD)	M(SD)	LL	UL				
IP	3.62(1.12)	3.68(.85)	-.28	.16	321	-.50	12.68	.001**
PO	3.18(.92)	3.37(.85)	-.39	.01	321	-.17	.09	.75
DR	2.07(.96)	2.00(1.03)	-.16	.31	321	.58	.27	.59
PF	2.47(.78)	2.44(.83)	-.16	.22	321	.30	.55	.45
WF	1.56(.80)	1.73(.87)	-.37	-.02	321	-1.71	.16	.68

Note: QA = Quality variables, IP = Instructor performance, PO = Program operations, DR = Dressing room, PF = Physical facility function, WF = Workout facility, M= Mean, LL = lower limit, UL = Upper limit, SD= Standard Deviation, Significant levels: *p<.05, **p<.01.

Discussion

This study examines the quality of physical fitness instructional service and compares quality perception across contextual groups of first year students at Bahir Dar University. As indicated in the results section, the overall mean quality of the physical fitness instructional service under discussion was below the expected mean (2.62). Moreover, there was no statistically significant perception difference in all quality variables across the educational stream. There was also no statistically significant perception difference in most quality variables across gender, area of residence, and sports team experience as a player. However, a statistically significant perception difference was observed in some quality variables between male and female students. There was also a statistically significant perception difference in a single quality variable between urban and semi-urban as well as between students with sports team experience and their counterparts.

Quality physical fitness instructional service is a very critical issue in higher education, physical education departments, sports academies, clubs, centers, gymnasiums, and any exercise-related institutions. Unfortunately, this study found out that the overall mean quality of fitness instructional service in Bahir Dar University was under the expected mean (2.62). This implies that the quality of physical fitness instructional service offered is not within the expected standard. This has negative effects on the activity of students, their performance, lifestyles, sense of well-being and leads to dissatisfaction (Kim, Lee, & Yoo, 2006; Twum, & Peprah, 2020). It also negatively affects the goodwill, image and, market shares of the University (Tsitskari, Tzetzis, & Konsoulas, 2017). This finding is inconsistent with previous studies (Afthinos, Theodorakis & Nassis, 2005; Strong, 2005; Moxham & Wiseman, 2009; Jasinskas, Reklaitiene & Svagzdiene, 2013; Mavridou, Tsalikioti, & Alexandris, 2013; Gocłowska, Piątkowska & Lenartowicz, 2019; Lino, 2022). Such variations of findings might be associated with ability, caring,

and physical appearance of instructors (Blut et al., 2015; Clemes et al., 2008), program management and environment service (Lam, 2005, Tsitskari, Tsiotras & Tsiotras, 2006; Xu, Zhang & Zhu, 2015), as well as difference in relation to instrument used to collect data, socio-economic, political and cultural differences (Haghdoost et al., 2015).

However, In the present study, instructors' performance and their program operation capability were above average. This indicates that the overall under-average service quality in the University was not related to personnel and the program variable. It is rather related to facilities as a whole. This might be associated with the political as well as economic and, social situation of the country, Ethiopia (Haghdoost et al., 2015; Liu, Zhang, & Desbordes, 2017).

In this study, the mean scores for most quality variables were not of statistically significant difference across most contextual variables. This is partially similar to previous research findings (Jasinskas, Reklaitiene & Svagzdiene, 2013) who found no significant difference between males and females in quality perception. Inconsistent findings were also reported by Afthinos et al., (2015). There was a statistically significant quality perception difference between males and females. This might be associated with the variation of most psychological, biochemical, neuroendocrine, and metabolic variables (Alessandra, 2004). On the other hand, the statistically significant difference in quality perception might be connected to overcrowded physical fitness of participants, the absence of a variety of workouts, weather conditions, and inconvenient schedules. This requires further investigation.

As far as the other contextual variables are concerned, the present study has shown that there was no statistically significant quality perception difference between Natural and Social Science background students, between students from urban and semi-urban areas as well as between students with experience in sports teams

and their counterparts. The perception difference, however, is only in two motivational variables: workout facility and instructor performance. As indicated in the results section, significant quality perception differences were found between students coming from the urban and semi-urban areas in relation to workout facilities and between students with experiences in sports teams and those without. There have not been studies conducted in this context so far. This indicates that the influences of areas of residence and the experience of playing for a sports team on quality physical fitness instruction service perception were not clearly known. Therefore, further investigation is needed across different subjects.

Conclusion and Recommendations

Assessment of quality physical fitness instructional service has become critical for all physical fitness, exercise, and sports-related organizations. It is very basic to help participants to meet their personal goals, to influence their lifestyle, health, and wellness. It also helps higher education and related centers to remain competitive and survive in the market. In line with this, examining the quality of physical fitness instructional service is very important so it could be possible to take necessary measures. The aim of this study was thus to examine the quality of physical fitness instructional service and its perception across contextual groups of first year students at Bahir Dar University.

Based on the results of the present study, the following conclusions are drawn. Assessed on a 5-point Likert scale, the quality of physical fitness instructional service at Bahir Dar University was found to be below average. Moreover, there was no statistically significant difference in most contextual factors of the students. Under average quality physical fitness instruction service is mainly linked to facilities. This includes dressing room, physical facility function, and workout facilities. Findings indicate that there was no statistically significant quality perception difference in most quality variables across gender,

educational stream, area of residence, and sports team experience of students as a player.

The results of the present study have important implications. Under-average quality physical fitness instructional service negatively affects the activity and personal goal of students and leads to dissatisfaction, reduced sense of well-being, and performance, as well as influences their lifestyles (Twum & Peprah, 2020; Assan et al., 2019; Cheng et al., 2016). This may also lead to a loss of goodwill, image, and market shares of the University (Mestrovic, 2017). Unsatisfied students exhibit disloyalty and provide negative word-of-mouth (Kim, Lee & Yoo, 2006). Thus, enhancing the quality as well as the satisfaction of students is not only a matter of effective instruction, safety, and health of students and staff, but also an issue of competitiveness in the industry (Panayiotou et al., 2014). Besides, sports and fitness-related exercise needs of students are also increased from time to time (Mikalauskas et al., 2012; Strong, 2005). Therefore, paying attention to physical as well as workout facilities is becoming mandatory for higher education institutes and exercise-related organizations. This ultimately leads to students' premier choice. For this purpose, it is highly advisable to improve the physical as well as exercise facilities in the university under discussion.

Moreover, the issue of quality physical fitness instruction is that of health, sports, education, military, and almost all sectors. Therefore, these results should be considered by policymakers, quality assurance sectors, non-governmental organizations, the youth as well as all private and public universities, colleges, sports academies, and related organizations. The findings could be used as a base for planning further actions, and practices in line with physical fitness, health and related developmental activities.

Study Limitation

One of the limitations of this study is that the analysis was mainly based on results from an independent samples t-test. The evaluation of quality physical fitness instructional service is assessed based on particular data collection tool. A future study might be required to examine quality physical fitness instructional service from different perspectives including instructors and administrative units and using inclusive design and data collection instruments. The inclusion of students in a single university is the other limitation of the study. Hence, the quality perception and contextual characteristics of the students may not capture those found in another university in the country. The focus on broad conceptualizations of physical fitness course instructional service is also considered a limitation of the study. This fails to capture the theoretical part of the course. Future research may wish to examine other indices of physical fitness instructional service in the higher education setting. Due to some reasons, other contextual variables of the students such as disability, ethnicity, region, language, and others have not been considered in the comparison. Thus, future research should also examine the relationship between the quality of physical fitness instructional service and students' motivation for physical fitness exercises. A further study is also needed regarding the absence or presence of significant quality perception differences across other contextual variables.

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