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UnilQual: University Life Quality Scale

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Abstract

Recently, higher education sector has been recognized as an intangibly dominant service sector and universities have been considered as service providers besides their traditional roles. Accordingly, quality in higher education has become an important competitive element and sustaining service quality is now accepted as a sine qua non for universities. Yet, since the higher education sector has very different characteristics than other service sectors, measurement and improvement of service quality is becoming a more complex issue. Higher education quality is a multidimensional phenomenon with institutional, physical and psychological components. It is not only measured by the quality of services, but also by the added value and transformative impact on the students. In this context, this paper reports a study conducted to develop and validate a quality scale (UnilQual) for measuring service quality in higher education. The scale was based on the concept of "quality of life" and designed to measure "university life quality of students". To this end, a 56-item scale with 7 subscales was developed and administered to a sample of 314 undergraduate students. The mean age of the sample was 19.25. The results of the Exploratory Factor Analysis revealed that UnilQual can be used as a valid and reliable measurement tool. The Cronbach alpha value was found as .96 for the scale. The correlation values between the subscales and the total score addressed a positive and significant relationship, as well.

Keywords: *Higher education, Quality of university life, Service quality scale, University.*

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UnilQual: ÜniversiteYaşamKalitesiÖlçeği

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Öz

Son yıllarda yükseköğretim bir hizme tsektörü olarak görülmekte ve üniversiteler geleneksel rollerinin yanısıra birer hizmet sunucusu olarak değerlendirilmektedir. Bu doğrultuda, yükseköğretimde kalite önemli bir rekabet faktörü haline gelmekte ve üniversitelerin olmazsa olmazları arasında sayılmaktadır. Ancak, yükseköğretim sektörü diğer hizmet sektörlerinden çok farklı özelliklere sahip olduğundan, kaliteyi ölçmek ve geliştirmek oldukça karmaşık bir konu haline gelmektedir. Yükseköğretimde kalite kurumsal, fiziksel ve psikolojik bileşenleriyle çok boyutlu bir olgudur. Üniversitelerde hizmet kalitesi sadece sunulan hizmetlerin kalitesi ile değil, aynı zamanda öğrencilere sağlanan katma değer ve dönüştürücü etki ile de ilişkilidir. Bu bağlamda bu makalede üniversitelere özgü geçerli ve güvenilir bir kalite ölçeği (UnilQual-Üniversite Yaşam Kalitesi Ölçeği) geliştirmek üzere yapılan bir çalışmanın bulguları aktarılmaktadır. Ölçeğin teorik altyapısı "yaşam kalitesi" kavramına dayanmakta ve "öğrencilerin üniversite yaşam kalitesini" ölçmeyi amaçlamaktadır. 7 alt ölçek ve 56 maddeden oluşan ölçeğin geçerlilik ve güvenirlik çalışması anket uygulamasına katılan 314 öğrenci ile gerçekleştirilmiştir. Öğrencilerin ortalama yaşı 19.25'dir. Açımlayıcı Faktör Analizinin sonuçları UnilQual'ın geçerli ve güvenilir bir ölçüm aracı olarak kullanılabileceğini göstermektedir. Ayrıca, alt ölçekler ile toplam puan arasındaki korelasyon değerleri de pozitif ve anlamlı bir ilişkiye işaret etmektedir.

Anahtar Kelimeler: *Hizmet kalitesi ölçeği, Üniversite yaşam kalitesi, Üniversite, Yükseköğretim.*

Introduction

Today, higher education has been witnessing rapid changes and universities are considered as service providers besides their traditional roles. Accordingly, quality in higher education sector has become an important competitive element and sustaining service quality is now accepted as a *sine qua non* for higher education institutions (Baron, Haris& Hilton, 2009). Yet, some characteristics of services sector such as inseparability and heterogeneity make it difficult to measure the quality of services. In the services sector, the quality of the product is generally determined individually and subjectively (Parasuraman, Zeithaml& Berry, 1985).

As to the higher education sector, it becomes more difficult to define and measure the quality of the services. Since the higher education sector has very different characteristics than other service sectors, evaluating quality is becoming a more complex issue. Education sector has a high degree of public benefit and interest rather than individual preferences. Therefore, it is not possible to evaluate many factors with the concepts and criteria related to the market. While the facilities such as infrastructure and technical equipment can be measured at universities, it is difficult to evaluate abstract concepts such as educational quality (Parasuraman et al., 1985). The distinction of service provider / user in higher education is blurred and it is difficult to make clear evaluations about service quality. The quality of service at the university is a process formed by the interaction of managers, academicians, administrative staff and students. Perceptions andexpectationsof various stakeholder groups differ and it becomes more difficult to achieve a balance among them. Yet, among all the stakeholders, students are to be considered as the primary stakeholder.

The student-centered quality approach emphasizes the privilege of students and their important role in evaluation of service quality in higher education. Participation in the quality processes provides students the opportunity to get better value for their time and effort in their academic lives. In addition, student-centered quality facilities provide a basis for a lifelong relationship with the university by nurturing students' sense of belonging (Stodnick& Rogers, 2008). Thus, "higher education is not about presenting a service to a customer but rather a continuous process of

transformation of the student" (Harvey & Green, 1993, cited in Teeroovengadum, Kamalanabhan&Seebaluck, 2016).

Due to the different characteristics of education sector, it is difficult to develop a measurement tool peculiar to higher education service quality. Service Quality Scale (SERVQUAL) and Service Performance Scale (SERVPERF),measuring service quality in general, are widely used in in higher education institutions, as well (Arambewela& Hall, 2006; Cuthbert, 1996; Soutar& McNeil, 1996;). SERVQUAL is frequently used for measuring service quality and it aims to measure the differences between expectations and perceived quality (Parasuraman, Zeithaml& Berry, 1988). Another tool commonly used to assess the quality of service is the SERVPERF scale. The scale, developed by Cronin and Taylor (1992), uses the same materials as SERVQUAL and is based on performance measurement instead of expectation-perception. Both scales are used in the measurement of service quality in higher education.

Yet it is argued that the education sector has a different structure than other service sectors and thus several studies attempted to measure higher education quality from the eyes of the students (Abdullah, 2006; Ford, Joseph & Joseph, 1999; Lagrosen, Seyyed-Hashemi&Leitner, 2004; LeBlanc & Nguyen, 1997; Teeroovengadum et al., 2016). The HEdPERF scale (Abdullah, 2006) was developed as a more comprehensive and performance-based scale for determining service quality in higher education institutions compared to other scales. The scale aims to measure the factors specific to tertiary education in terms of performance. The HEdPERF scale consists of 41 questions and the students are asked to evaluate these questions on a 7-point likert scale. Validity and reliability analysis of the Turkish form of the scale revealed that it could be used as a valid and reliable instrument, as well (Bektaş&Akman, 2014, p. 131).

A more recent scale on service quality in higher education is the Higher Education Service Quality Scale (HESQUAL) developed in 2016 in order to determine the quality of the university services by creating a hierarchical model (Teeroovengadum et al., 2016). The five sets of variables were used corresponding to the higher education service quality dimensions; administrative quality, physical environment quality, core educational quality, support facilities quality and transformative quality comprising 48 items. HESQUAL employs the idea of Harvey and Green (1993) that

"education is not about presenting a service to a customer but rather a continuous process of transformation of the student". Accordingly, the concept of transformative quality is introduced in the scale which comprises two components, "enhancement and empowerment" of the participant (Teeroovengadum et al., 2016, p. 247).

A similar approach for evaluating the service quality of universities is to measure the quality of university life of the students. This approach focuses on the student feedback about the quality of their total educational experience, inspired by the "quality of life" concept. The term quality of life (QOL) has been commonly used across multiple disciplines in explaining the overall assessment of human experience. "QOL as a general term represent either how well human needs are met or the extent to which individuals or groups perceive satisfaction in various life domains" (Constanza et al., 2007, p.268). Quality of life is a multidimensional concept, with no clear boundaries. Thus, different disciplines and studies use various definitions and methods of assessing quality of life. There are different perspectives on "what constitutes the quality of life" and "how to assess a 'high' or 'low' quality of life".

There are mainly three philosophical approaches regarding the concept of quality of life. The preference-satisfaction approach focuses on whether the individuals can obtain the things they desire. This approach takes on the concept of "utility" which is the basis of modern economic thinking. The preference satisfaction account is probably the most proximal dimension to the economist's account of quality of life. This suggests that more income would allow individuals to satisfy more of their preferences which lead an increase in quality of life.

The second approach links the concept of quality of life to the social indicators tradition which was born in the United States in the mid-1960s (Bauer, 1966). This approach can be seen as a response to the limitations of purely economic measures in the assessment of quality of life. Social indicators approach emphasizes the basic needs and rights of citizens which allow them to build their capabilities and flourish as individuals. The last definition of quality of life is inspired by the subjective well-being tradition in the behavioral sciences. In this approach, quality of life is primarily defined and assessed in terms of the experience of individuals. Accordingly, factors such as feelings of pleasure, contentment and

satisfaction are emphasized rather than the objective indicators. Thus, the measurement of quality of life is centered on the people's self -reported assessment of their own lives (Brock, 1993; Cummins, 2005; Diener& Suh, 1997, pp.189-190).

As seen from the above definitions, the concept of "quality of life" is a comprehensive term which could be differently defined in different contexts. As for the quality of college life, a review of the literature reveals that there are mainly three types of studies involving university students and quality of life. Several studies investigate the relationship between students'quality of life and factors such as health and personality. There are also studies that attempt to develop specific measures for quality of life of college students. Finally there are studies for measuring quality of college life of students. There are many studies that explore the quality of life of students at large by focusing on factors outside of their university (Sirgy, Grzeskowiak & Rahtz, 2007).

On the other hand, research on the quality of college life of students has been limited. In this regard, Quality of College Life (QCL) Scale (Sirgy et al., 2007), should be mentioned as an attempt to develop a measurement tool specific for the university life of the students. "QCL is based on the assumption that the subjective well being of university students is affected by two types of student experiences in college, namely satisfaction with the academic aspects of the college and the social aspects. Satisfaction with the academic and social aspects is influenced by satisfaction with university facilities and services"(Sirgy et al., 2007). Survey instrument has 70 items measuring satisfaction with the academic aspects of the college, satisfaction with the social aspects of the college, satisfaction with the college facilities, and satisfaction with the college basic services. The QCL scale emphasizes the subjective well being approach of quality of life, and focuses on "satisfaction" as the most important domain of quality of college life (Sirgy et al., 2007).

The present study also focuses on the quality of college life on the basis of subjective well being account. Yet, in this study, the concept of university life quality is defined more extensively than satisfaction. It is not only associated with the quality of the services provided but also with the transformative effect of the students' lives. In this context, the study aims to develop a comprehensive, valid and reliable measurement tool for

quality assessment in higher education based on the university life quality of the students.

Conceptual Model of UnilQual Scale

The basic thereotical framework of this study is based on the subjective well being approach of quality of life. Within the scope of the study the term quality of university life refers to the students' sense of well being based on their experience during their university life and it includes academic, social and individual domains. Accordingly, factors enriching the life experiences of the students were included in the scale. These factors were determined through the investigation of the higher education quality literature and categorized under 7 subscales/dimensions. The descriptions and explanations related to each subscale are given below.

Perceived Quality (Perceived Academic Quality, Perceived Physical Facilities Quality, Perceived Administrative Quality)

The first three dimensions measure students' perceptions of academic activities, administrative activities and the quality of physical facilities. These dimensions focus on the quality of the facilities provided by the university as an important component of the university's quality of life. Perceived quality is the most widely used criteria for the measurement of services quality along with the satisfaction. Perceived quality is a broader or overall assessment of the services resulting from the general perception of the individual (Sultan & Yin Wong, 2012).

Regarding universities, perceived quality has many dimensions which could be categorized into three components as physical goods, explicit service and implicit service. "Physical goods cover facilities to the student which expedite college life, such as infrastructure, lecture rooms, labs, and canteens. Explicit service deals with quality of teaching, whereas implicit service is about how students are treated by staff, especially when they have any problem".(Douglas et.al 2006, cited in Ali & Ahmed, 2018, p. 8). The relationship between service quality and satisfaction has been reported in many studies (Ali, Zhou, Hussain, Nair &Ragavan, 2016; Caruana, Money, &Berthon, 2000; Sultan & Yin Wong, 2014).

In this study, "perceived quality" has been taken as the determinant of both satisfaction and quality of university life. Dimension of service quality was taken from Sultan & Yin Wong (2013) and manifested in three dimensions as perceived academic quality, perceived administrative quality and perceived physical facilities. In this context, the 25 items constituting the first three dimensions were adapted from the study of Sultan & Yin Wong (2013), HedPerf (Abdullah, 2006) and HESQUAL (Teeroovengadum et al., 2016).

Social Integration

The definition of "quality of university life", adopted in this study, exceeds the service quality and satisfaction dimensions. The quality of university life also depends on how much students participate in the university life and socially included. Higher education is a pure service that requires greater amount of interpersonal contact and thus social interaction and integration of the student is an important domain of quality of college life. For this reason, social integration dimension was included in the UnilQual scale as different from the previous studies.

Theoretical basis of social integration dimension stems from the model of "hierarchy of learning environment purposes" (Strange & Banning, 2001). Strange and Banning's study used Maslow's (1968) model of human development and proposed a hierarchy of environmental purposes. According to the model, "the safety and inclusion of participants must be positioned at first, followed by promoting student involvement, and then circumstances that encourage full membership in a learning community"(Strange & Banning, 2001). In this respect, student's feeling of being safe and belonging on campus are fundamentals for further progress of the student. Safety requires the student first feel welcome at the university through a friendly campus environment. Involvement, as the second tier of the hierarchy, refers to the relations with other students, engagement in social activities and integration with the social environment of the institution. The last tier comprises communal settings such as unified goals and sense of belonging (Strange & Banning, 2001).

In this context, social integration dimension of the scale is composed of 12 items, referring to the students' confidence in the university's integrity

and reliability, social conditions in the campus, relations with fellow students and participation in social activities.

Personal Development

In this study, personal development is another dimension evaluated as one of the significant components of university life quality. As Harvey and Green (1993) suggest, services provided by the university differ from other services that such facilities involve adding value to the students in terms of knowledge and skills. In other words, value added is a measure of quality of university services. Educational services should also enable transformation in the students and improve them (Harvey and Knight, 1996). Thus, in the context of higher education we could speak of a "transformative quality". This dimension was included in the HESQUAL scale, as one of the components of higher education service quality (Teeroovengadum et al., 2016). In the present study, a similar approach was adopted and "personal development" stemming from the transformative quality of the university was accepted as a component of university life quality. Accordingly, 10 items referring to the progress of personal abilities and career planning were included in the scale.

Satisfaction

Satisfaction is regarded as the constituent element of quality of life and also quality of college life. In terms of higher education satisfaction is most widely measured from the standpoint of students and their level of satisfaction with various aspects of the university is evaluated. The relationship between service quality and satisfaction has been reported in many studies and perceived service quality is accepted as an antecedent of satisfaction (Caruana et al., 2000; Kärnä&Julin, 2015; Sultan & Yin Wong, 2014).

Yet, satisfaction is a cumulative construct that includes not only satisfaction with specific services but also with the various aspects of the organization. Thus, in this study satisfaction was evaluated as the cumulative result of perceived quality, social integration with the university and personal development opportunities. In this framework, 6 items were

included in the scale, which were designed to measure the satisfaction of students with services and overall satisfaction with the university compared to their expectations. Satisfaction component gives an idea about the expectations and university life experience of students.

Loyalty

Loyalty is one of the emerging research fields in higher education quality literature. Jones and Sasser (1995) defines loyalty as "a feeling of attachment to goods or services which has a direct impact on consumer behavior"(Cited in Ali & Ahmed, 2018, p. 13). In the context of higher education loyalty could be regarded as "a deeply held commitment to repeat selection of a university for educational needs in the presence of competitive options, advocate in one's professional and social circle and, as alumni, extend cooperation to its alma mater and its graduates"(Ali & Ahmed, 2018, p. 14). In this study, loyalty was accepted as a result of student's satisfaction and integration with the university. Thus, loyalty is a determinant of quality of university life in that it positively affects the sense of belonging, motivation and emotional well being of the student. In this respect, 7 items were included in the scale expected to measure the degree of identification with the university.

Methodology

The methodology for scale development used in this study follows the steps suggested by DeVellis (2003). These 8 stages can be explained as following: (a) determination of the construct that you want to measure; (b) generation of item pool; (c) determination of format for measure; (d) having the experts reviewed the initial item pool; (e) inclusion of validation items; (f) Administration of items to a sample, (g) Evaluation of the items; and (h) optimizing the length of the scale. Steps that were followed in developing UnilQual Scale are explained below.

Step 1: Determination of the construct that you want to measure

DeVellis (2003) emphasized that the first requisite in developing a scale is to determine the construct that will be measured. In determining what to measure, the theoretical framework should be constructed, a well structured definition should be given and the boundaries of the phenomena should be identified. Within the scope of this study, the term quality of university life refers to the students' sense of well being based on their experience during their university life including academic, social and individual factors. Thus, conceptualization of quality of university life is based on the notion that global satisfaction is determined by satisfaction with academic and social aspects of college. The 'subjective well being approach' has been adopted that focuses on the level of well-being as perceived by single individual independently from his/her objective standard of life.

Step 2: Generation of item pool

DeVellis (2003) suggests that after a well structured definition of the construct to be measured, the researcher should generate an item pool that will best fit to the phenomena. There are some important points in this step: choosing items that reflect the scale's purpose, redundancy, number of items, beginning the process of writing items, characteristics of good and bad items, positively and negatively worded items. De Vellis recommends to select items randomly from the universe related with the construct of measurement. In this study, initially 79 items were selected from the literature and after expert reviews and pilot study, 19 items were omitted. The names of the subscales and the items of the scale are shown in Table 1.

Table 1. University Life Quality Scale (UnilQual)

Subscales	N of items	Items
1- Perceived Academic Quality	11	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
2- Perceived Physical Facilities Quality	10	12, 13, 14, 15, 16, 17, 18, 19, 20, 22
3- Perceived Administrative Quality	4	24, 25, 26, 27
4- Social Integration	12	21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37
5- Personal Development	10	38, 39, 40, 41, 42, 43, 44, 45, 46, 47
6- Satisfaction	6	48, 49, 50, 51, 52, 53
7- Loyalty	7	54, 55, 56, 57, 58, 59, 60

Step 3: Determination of format for measure

In the third step, the researchers should determine the format of the scale. Since there are various types of formats (such as thurstone scaling, guttman scaling etc.), the researcher should choose the most appropriate form for the construct that he/she want to measure. Likert scaling is considered to be suitable for measuring opinions, beliefs and attitudes. The aim of the current study is to identify the university students' self-perception about the dimensions of university life quality. Accordingly, 5-point Likert Type scale (1= I strongly disagree, 5= I strongly agree) was chosen for the measurement.

Step 4: Having the experts reviewed the initial item pool

In order to ensure content validity, the evaluation of the initial items by the experts is strongly suggested. The relevance of the items to the construct, the clarity and the necessity can be determined by experts' opinions.

In the current study, 79 items were reviewed by two experts. The experts were expected to rate the items by three options ("match with construct", "not match with construct", and "should be modified") and write down their comments. 19 items were skipped from the scale after the expert evaluation.

The final form of the scale was consisted of 7 subscales including 60 items. The original language of the scale is English. It was translated into

Turkish by the researcher and a lecturer from Süleyman Demirel University School of Foreign Languages for survey study.

Step 5: Inclusion of validation items

After the reviews of experts, the scale developers are suggested to provide the construct validity by 'think aloud strategy' with participants. This strategy provides a feedback about the structural or linguistic problems of items. For this reason, four university students from each grade level were invited to read the items aloud and express the meaning of each item. The feedbacks of participants indicated that the items were clear and understandable.

Step 6: Administration of items to a sample

The sample of the study consisted of 314 (135 women and 179 men) university students. The mean age of the sample was 19.25 (*SD* = 1.62). The students of Faculty of Economics and Administrative Sciences (n = 165, 52.5 %), Faculty of Arts and Science (n = 60, 19.1 %), Faculty of Engineering (n = 53, 16.9 %), and Faculty of Health Sciences (n = 36, 11.5 %), attended to the study. The participants were all undergraduate students (1st grade: n = 95, 30.3 % ; 2nd grade: n = 102, 32.5 %; 3rd grade: n = 31, 9.9 % and 4th grade: n = 81, 25.8 %).

Data was collected through convenience sampling method in SüleymanDemirel University. The participants were informed about the aim and the procedure of the study and their ethic rights and responsibilities through informed consent before the study. Afterwards, volunteer participants were asked to complete the demographic information form and University Life Quality Scale. The demographic information form was consisted of questions about the participants' gender, age, faculty, grade and type of education program. The duration of survey administration has taken 12 minutes on average.

Step 7: Evaluation of the items

In order to identify the items, the validity and the reliability of the scale,

Exploratory Factor Analysis (EFA) were conducted. In preliminary analysis process, Kaiser- Meyer-Olkin Test was conducted for testing the adequacy of the sample size and Barrlett's Test of Sphericity was conducted for testing the assumption of multivariate normality. The cut-point value for KMO test was accepted as .60. Higher values for Barrlett's Test of Sphericity and the chi square significance values smaller than .05 addressed the multivariate normality (Tavşancıl, 2005; as cited in Çokluk, Şekercioğlu&Büyüköztürk, 2012, p. 208). Preliminary analyses were conducted via SPSS.22.

The items and the factor structure of the scale were determined through Exploratory Factor Analysis (EFA). Principal Components Factor Analysis was utilized for 7 subscales. Correlation matrix was obtained and the eigenvalues greater than "1" was evaluated as a factor if scree plot verified the finding. As mentioned in the literature, items with smaller factor loadings than .40 were excluded from the scale. The reliability of the scale and the subscales were also analyzed. SPSS.22 program was used for utilizing the EFA.

Step 8: Optimizing the length of the scale

Based on the Explanatory Factor Analysis, 4 items that found to have load values below .40 were dropped from scale. 56 items remained in the last form of the scale and it consisted of 7 subscales including perceived academic quality, perceived physical facilities quality, perceived administrative quality, social integration, personal development, satisfaction and loyalty.

Findings

Preliminary analysis

Preliminary analyses were utilized in order to test the adequacy of the sample for factor analysis (Kaiser-Meyer-Olkin Test) for subscales and the assumption of multivariate normality (The Bartlett's Test). The results of KMO and Bartlett's test are shown in Table 2.

Table 2. Results of Kaiser- Meyer-Olkin Test and the Bartlett's Test for Subscales of UnilQual Scale

Subscales	KMO Test	Barlett Test		
		x^2	*SD*	*p*
1- Perceived Academic Quality	.864	1444.652	36	.00
2- Perceived Physical Facilities Quality	.708	1125.773	45	.00
3- Perceived Administrative Quality	.665	373.788	6	.00
4- Social Integration	.790	1800.619	66	.00
5- Personal Development	.855	2178.201	36	.00
6- Satisfaction	.661	975.582	15	.00
7- Loyalty	.781	1064.867	15	.00

As seen in the table, the results of KMO Test and Barlett Test for each subscale addressed the adequacy of the sample size for factor analysis and appropriateness of the data for analysis.

Exploratory Factor Analysis (EFA)

The 7 subscales of 60-item UnilQual scale were analyzed initially in order to calculate the item factor loadings and find out the factors of the subscales. The eigen- values and the scree plot were examined in order to decide the number of the factors of subscales, simultaneously. On the other hand, the factor loadings of each item were also examined. Four items were found to have load values below .40 and these items were excluded from the scale.

Table 3. Number of Items, Number of Factors and the Explained Variances of the Subscales of UnilQual Scale

Subscales	N of items	N of factors	Exp. variance (%)
1- Perceived Academic Quality	9	1	53.08
2- Perceived Physical Facilities Quality	10	1	38.31
3-Perceived Administrative Quality	4	1	58.55
4- Social Integration	12	2	58.43
Factor 1. Institutional Facilities			
Factor 2. Interpersonal Relations			
5- Personal Development	9	1	62.77
6- Satisfaction	6	1	57.78
7- Loyalty	6	1	60.23

The removed items were 6, 11, 38 and 58. After the items were excluded and the number of the factors was determined, the Exploratory Factor Analysis was conducted for the final form of the subscales. The number of items, number of factors and the explained variances of the subscales are shown in the Table 3.

As seen in the table, the six of the subscales were consisted of one factor. Social integration subscale was consisted of two factors. The final number of the items of the scale was calculated as 56. The means, standard deviations and factor loadings of the items were given in the Table 4.

Table 4. The Items' Means, Standard Deviations and Factor Loadings

	$\overline{X}$	*Sd*	Factor loading
Subscale 1: Perceived Academic Quality			
Item 1. Lecturers are well prepared in the class	3.497	.869	.736
Item 2. Lecturers are highly qualified and experienced in their field	3.583	.780	.652
Item 3. Lecturers have good communication skills	3.236	.993	.819
Item 4. Lecturers are up-to-date in their area of expertise	3.656	.913	.738
Item 5. The time available for consulting the lecturers is sufficient	2.806	.971	.681
Item 7. Programmes have challenging academic standards to ensure students' overall development	3.355	.877	.637
Item 8. Up to date technological methods and tools are used in teaching	2.859	.940	.701
Item 9. Active participation of students is ensured in their learning process	2.876	.925	.813
Item 10. Regular feedback is provided to students with respect to their academic performance	2.703	.983	.756
Subscale 2: Perceived Physical Facilities Quality			
Item 12. Transportation facilities are adequate and at a reasonable price.	2.748	1.213	.612
Item 13. Housing facilities are adequate and at a reasonable price.	2.396	1.287	.642
Item 14. Catering facilities are adequate and qualified at a reasonable price	2.926	1.242	.526
Item 15. Health care services are available and adequate.	3.533	1.086	.489
Item 16. Library infrastructure is adequate	3.895	.883	.517

Table 4. The Items' Means, Standard Deviations and Factor Loadings (cont.)

	$\overline{X}$	*sd*	Factor loading
Item 17. Sports infrastructure is adequate and qualified.	3.452	1.038	.638
Item 18. Lecture rooms are adequate and comfortable.	2.748	1.178	.631
Item 19. Teaching tools and equipments (e.g. Projector, White boards) are adequate	3.132	1.162	.724
Item 20. Ambient conditions (ventilation, noise, etc.) are favorable within the campus	3.390	.994	.795
Item 22. Social facilities are adequate and rich at the campus.	3.179	1.068	.548
Subscale 3: Perceived Administrative Quality			
Item 24. Clerical staff has adequate knowledge on their job.	3.138	.902	.799
Item 25. Clerical staff behaves students in an interested and kindly manner	2.907	1.120	.831
Item 26. Adm. services from the university are not delayed.	3.279	.791	.782
Item 27. Questions and problems are dealt effectively	2.901	.972	.632
Subscale 4: Social Integration			
Item 21. I feel physically and emotionally safe at the campus	2.697	1.117	.540
Item 23. There is an international and multicultural environment at the campus.	3.093	1.194	.618
Item 28. Student organizations (unions, clubs etc.) and facilities are supported by university	3.806	1.068	.706
Item 29. The university management appreciates student feedback	3.174	.949	.740
Item 30. My university is trustworthy and reliable	3.374	1.127	.864
Item 31. My university makes great efforts to meet students demands	3.114	1.099	.890
Item 32. I am sure that the university staff always act in my best interest	3.016	.980	.696
Item 33. Behavior of lecturers instill confidence in me	3.113	1.115	.593
Item 34. I regularly take part in university-related leisure activities, such as sport or fairs	3.372	.967	.833
Item 35. I always have intensive contact with my fellow students.	3.632	1.164	.831
Item 36. I regularly do things with fellow students outside of university	3.848	1.152	.835
Item 37. I am a member of at least one student club	3.757	1.262	.788

Table 4- The Items' Means, Standard Deviations and Factor Loadings (cont.)

	$\overline{X}$	*sd*	Factor loading
Subscale 5: Personal Development			
Item 39. My university has given me adequate counseling for my personal development and career planning	2.439	1.059	.456
Item 40. My university has enabled me to increase my knowledge, abilities and skills	3.039	1.004	.797
Item 41. My university has enabled me to increase international communication and develop foreign language skills	2.226	1.066	.800
Item 42. My university has enabled me to be more self confident	3.216	.986	.822
Item 43. My university has enabled met o think more critically	3.305	1.055	.794
Item 44. My university has enabled me to have a higher level of self-awareness	3.266	1.044	.844
Item 45. My university gives me adequate knowledge and skills to find a good job	3.180	.975	.841
Item 46. My university will give me a good possibility of managing my future career	2.997	.944	.879
Item 47. I believe that I could attain my future goals with the help of my university life	3.147	.893	.818
Subscale 6: Satisfaction			
Item 48. I am satisfied with the quality of lecturers compared with my expectations	3.059	1.084	.804
Item 49. I am satisfied with the academic programs compared with my expectations	3.151	1.031	.794
Item 50. I am satisfied with the administrative personnel compared with my expectations	2.950	.974	.624
Item 51. I am satisfied with the support services compared with my expectations	3.398	.993	.705
Item 52. I am satisfied with the campus life compared with my expectations	2.974	1.152	.773
Item 53. I am satisfied with my university life in general compared with my expectations	3.302	.997	.840
Subscale 7: Loyalty			
Item 54. I am happy for belonging to this university	3.429	.968	.882
Item 55. I feel as a member of university community	3.533	1.046	.860
Item 56. I'd recommend my university to someone else.	3.421	1.025	.889
Item 57. If I was faced with the same choice again, I'd still choose the same university.	3.046	1.063	.822
Item 59. I would like to attend new courses/further education at the university	3.633	1.046	.532
Item 60. I'd become a member of any alumni organizations of my university.	3.561	.965	.590

The correlation values between the subscales of the University Life Quality Scale and the total score were also calculated. The correlation coefficients of total score and subscales of scale were found to range between r = .794 and r = .880. Correlation coefficients between the subscales were found to vary from r = .536 to r = .773. These results addressed a positive and significant relationship between the total score and the subscales, as expected. The correlation coefficients were shown in Table 5.

Table 5. Correlations between UnilQual Scale Total Score and Subscales

	Perc. AcQ	Perc. PFQ	Perc. AdQ	Social Int.	Pers. Dev.	Satisf.	Loyal.
Perc. AcQ	1						
Perc. PFQ	.555*	1					
Perc. AdQ	.609*	685*	1				
Social Int.	.537*	650*	645*	1			
Pers. Dev.	.626*	.536*	.664*	.704*	1		
Satisfaction	.632*	.722*	.631*	.660*	.718*	1	
Loyalty	.584*	.619*	.546*	.562*	.677*	.773*	1
UnilQual	.785*	.816*	.794*	.843*	.856*	.880*	.811*

*p< .01; Perc.AcQ = Perceived Academic Quality; Perc.PFQ = Perceived Physical Facilities Quality; Perc. AdQ = Perceived Administrative Quality; Social Int. = Social Integration; Pers. Dev. = Personal Development; Satisf. = Satisfaction; Loyal. = Loyalty; UnilQual = University Life Quality Scale.

The internal reliability analyses for UnilQual Scale and for the subscales are displayed in Table 6. The Cronbach alpha values indicated that the scale and the subscales of the scale are reliable.

Table 6. Reliability Analysis of UnilQual Scale and Subscales

Scale/Subscales	Cronbach Alpha
University Life Quality Scale	.96
Perceived Academic Quality	.88
Perceived Physical Facilities Quality	.81
Perceived Administrative Quality	.75
Social Integration	.77
Factor 1: Institutional facilities	.86
Factor 2: Interpersonal relations	.85
Personal Development	.92
Satisfaction	.85
Loyalty	.83

As an overall assessment, the results of the Exploratory Factor Analysis generally provided support for the validity and reliability of the UnilQual Scale comprising 7 subscales and 56 items. In addition, the correlation values between the subscales and the total score addressed a positive and significant relationship. The correlation values revealed positive and significant relationships among the subscales, as well.

Discussion

In the last few decades the higher education sector has been recognized as an intangibly dominant service sector. In this context, studies on the measurement and evaluation of quality have also gained increasing recognition. Yet, service quality is a complex phenomenon based on the qualifications and behaviors of both parties, the server and the consumer, and its control is often very difficult. This is especially true in terms of quality in higher education, where the services provided are the output of the interaction among different stakeholders.

The student-centered quality approach emphasizes the privilege of students among these stakeholders and argues that the most important target group of quality processes is the students. According to this approach, the participation in the quality processes provides the students with a better understanding of the time and effort they spend in their academic lives, as well as providing a basis for a lifelong relationship with their universities by nurturing their sense of belonging. Although in recent years the expectations from the universities are focused on the needs of labor markets, it should be noted that there are other significant missions of higher education. Higher education plays an important role in educating active citizens, raising academic knowledge and providing personal development. With these services, higher education plays an important role in determining the long-term quality of life of the students as well as affecting the social structure.

For this reason, the university-student relationship should not only be seen as a sole service relationship in which students receive a diploma for a certain fee. Higher education quality is a phenomenon with many components and it has institutional, physical and psychological dimensions. The quality in universities should be fed not only by customer satisfaction

but also by long term and well planned sustainable systems. In this respect, assessment systems focusing on the unique characteristics of higher education should be developed.

This study was conducted in order to develop a quality scale specific to the universities based on the above mentioned requirements. The reason behind determining the subject of the study as "university life quality" is the idea that quality should not be seen as a sole service quality in higher education. Rather, the quality in higher education context should be perceived as a comprehensive set of many domains, such as transformative capacity, social integration and sense of identification from the standpoint of students. In this perspective, the present study aimed at developing a quality of university life scale with seven dimensions.

In the first place, "perceived quality" was included in the scale as the most widely used criteria in the higher education quality literature (Abdullah, 2006; Ali et al., 2016; Caruana et al., 2000; Sultan &YinWong, 2014; Teeroovengadum et al., 2016). Accordingly, perceived quality manifested in three dimensions as perceived academic quality, perceived administrative quality and perceived physical facilities. The Exploratory Factor Analysis revealed positive results in terms of these dimensions in parallel with the results of the previous scales of HedPerf (Abdullah, 2006) and HESQUAL (Teeroovengadum et al., 2016).

Second, "social integration" dimension was included in the scale on the basis of the model of "hierarchy of learning environment purposes" (Strange&Banning, 2001). In this context, student's feeling of confidence, belonging, involvement and engagement were held as the determinants of quality of university life. Regarding this dimension, Exploratory Factor Analysis revealed a positive result in terms of reliability. The results also revealed that this dimension was consisted of two factors comprising institutional settings and interpersonal relations. This implies that although social integration is linked to personal characteristics to some extent, universities can play an important role in the creation of favorable conditions in this context.

"Personal development" is another dimension evaluated as one of the significant components of university life quality in this study. As Harvey and Green (1993) suggest, services provided by the university shouldcontribute to the development of the students in terms of knowledge and

skills. Thus, "value added"should be considered as a measure of quality of university services. This dimension was included in the HESQUAL and named as transformative quality (Teeroovengadum et al., 2016). Similar to HESQUAL, this study also confirmed the importance of transformative role of the university, according to the results.

"Satisfaction" is regarded as the constituent element of quality of life and also quality of college life (Sirgy et al., 2006). Yet, in this study, satisfaction was not considered as the sole determinat of the quality of university life. Rather, it was evaluated as the cumulative result of perceived quality, social integration with the university and personal development opportunities. In this regard, 6 items were included in the scale, whichwere designed to measure the satisfaction of students with services and overall satisfaction with the university compared to their expectations. The Satisfaction component gives an idea about the expectations and university life experience of students. ExploratoryFactor Analysis gavepositive results for this dimension, as well. Thus, satisfaction component could give an idea about the proximity of students' expectations and experiences regarding their university life.

"Loyalty" has been evolving as one of the widely studied concepts in higher education quality research (Brown & Mazzarol, 2009; Chieh-Peng & Yuan, 2008; Gulid, 2011; Helgesen & Nesset, 2007; Hennig-Thurau et al., 2001; Thomas, 2011). In these studies loyalty was explored as the dependent factor of quality, satisfaction, image etc.. In this study, loyalty was accepted as the result of students' satisfaction and integration with the university. On the other hand, it was regarded as a determinant of university life quality in that it positively affects the sense of belonging, motivation and emotional well being of the student. The loyalty dimension of the scale was also statistically supported by the results of factor analysis.

As an overall assessment, Exploratory Factor Analysis revealed positive results in terms of the validity and reliability of the UnilQual Scale comprising 7 subscales and 56 items. In addition, the correlation values between the subscales and the total score addressed a positive and significant relationship. The correlation values revealed positive relationships among the subscales, as well. Thus, it could be stated that the UnilQual Scale brings together the different components of the quality of university life in a statistically supported manner, in accordance with the aim of the

study. It is expected that the UnilQual Scale could contribute to the quality improvement process in the universities with a wider perspective to understand how they affect the life experience of their students. On the other hand, it should be mentioned that university life is only one of many life domains that plays an important role in overall satisfaction and well-being of students (Sirgy et.al, 2007, p.345). Similarly, quality of the services provided by academic and administrative staff could also be perceived as a function of overall quality of their lives in university campus. Thus, in terms of quality of life, systems for regular monitoring and improvement of quality of life of all stakeholders should be developed by further research.

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