Evaluation of the HEDUQUAL Scale Intended for the Assessment of Students' Perceptions of Service Quality in Higher Education Institutions in Vojvodina

Milan Nešić[1], Zlatko Ahmetović[1], Velibor Srdić[2] and Marko Badrić[3]
[1]Faculty of Sport and Tourism, University "Educons"
[2]Faculty of Sports Sciences, Pan-European University "Apeiron"
[3]Faculty of Teacher Education, University of Zagreb

Abstract

This research was carried out in order to evaluate metric characteristics of the HEDUQUAL scale, whose purpose is to assess quality of service in higher education institutions. The same scale can be used for further research among student population. The research sample consisted of 257 students (of both sexes) from three higher education institutions from Autonomous Province (AP) Vojvodina. Metrics of the HEDUQUAL scale was tested via three procedures: 1) evaluation of the scale's internal consistency (Scale Reliability Analysis which is based on Cronbach's alpha coefficient); 2) evaluation of validity based on internal correlation coefficient of the scale (Spearman's rank correlation – rho); and 3) factor analysis (analysis of the main components – Principal Components Analysis) using the method of Direct Oblimin rotation. All statistical conclusions were made at the level of significance of 0.05 (Sig.<.05). The results indicate that the tested instrument is valid, reliable and that it should be used as a multi-item and one-factor scale in further research on student population.

Key words: *HEDUQUAL scale; multi-item one-factor scale; reliability; students; validity.*

Introduction

The quality of work of higher education institutions has been observed more or less intensively over the last ten years as a conceptual part of academic practice in

Serbia; specifically, since the introduction of the Bologna Process, so in this context its quality is certainly a relevant question. It represents one of the most significant determinants which has been the constant focus of the wider social community. Even though the concept of work quality of higher education institutions has received some attention in this region as a part of the decades-long academic tradition, it gained its new "face" and importance only with the introduction of obligatory accreditation of higher education institutions in the Republic of Serbia. Since then, there has been an increase of interest in this issue in each higher education institution (universities, colleges and professional schools are obliged to adopt certain regulatory documents and special apparatus for quality control) and in the wider academic community via research studies which deal with this topic (Ćurković et al., 2011; Mašić, 2010; Pejčić-Tarle et al., 2009; Živković, Gajić, & Brdar, 2013).

On the other hand, current legislation takes higher education to be a "state project" which strives to realize a mission and a vision of higher education in Serbia through integrative processes of European education realm. It outlines, among other things, the issue of the founder of the higher education institution, which can either be the state on the one side or legal and/or natural persons on the other side. These institutions are formed according to the same criteria, and their study programs are accredited by unique standards, processes and quality evaluation criteria are mandatory for all institutions, and the faculty is chosen through the same criteria. Therefore, the legislator does not essentially imply discrimination of higher education institutions, their faculty or students on any grounds, including the origin of the founder of institutions (Ahmetović, Tomka, & Dimitrić, 2014). Hence, service quality of higher education institutions should be taken as a single category in this area where insistence on questions about the ownership structures of founding capital of a certain college is becoming out of place.

The notion of *quality* is an increasingly used term present in almost all current discussions about higher education in the Republic of Serbia, and especially on the territory of Autonomous Province of Vojvodina. In spite of this, the notion of quality is still inadequately defined so it is mostly used in the context of promotion of an idea, especially in the service domain. The problem of service quality gets special attention in today's modern marketing literature, and there, one can find different explanations of quality: a) the consumer expectation satisfaction level, b) attractive price and value; c) usage ability; etc. (Nešić & Zubanov, 2015). Service quality implies a consumer's or user's opinion about the quality and quantity of the benefit gained by their purchase, but it can also refer to the quality of formed interrelations and consumers' attachment to an organization (company, institution, etc.), where it has been proven that the last factor positively connects quality of service and quality of formed relationships to the satisfaction of clients (consumers, users, and such) (Segoro, 2013). Thus, it can be said that the notion of quality is becoming a more and more significant component of education which has to meet modern demands and needs of the current service system in higher education; and especially in the context of its main goal – training

and education of young people who are active in their own development, as well as helping the development of the community.

Research Background

Measuring of service quality in higher education institutions represents one of the important issues, especially from the viewpoint of institutional management. Its complexity is particularly evident in the context of complexity of factors that are observed by measuring, and they are determined by the complexity and peculiarities of the service itself (its intangibility) on the one hand, and the existence of multiple interested stakeholders on the other (who express different demands when it comes to quality). This issue is implied by the implementation of Bologna Process which, above all, affirms the quality of studying and, generally, the existence of higher education institutions' work, so that measuring quality can only be undertaken via internally designed instruments in a higher education institution. The reason for this is that the results of such instruments (mostly survey type of an instrument), which are usually one-sided and non-standardized, can often portray the service quality wrongly, which creates a problem with their reliability. The practice has shown that these (internally designed) surveys often neglect or completely ignore the issue of factors related to service quality in higher education, considering that it is frequently treated as a one-dimensional category (Klarić & Kulašin, 2011).

In some studies that have dealt with service quality in higher education institutions, the most commonly used instrument has been the SERVQUAL scale (Parasuraman, Zeithaml, & Berry, 1988), followed by its derivative version SERVPERF (Abdullah, 2005). However, one of the limitations of the SERVQUAL scale is the fact that it measures factors of service quality through two separate spaces – *expectations* and *perception* after consumption of service, which are observed through a certain time distance (Cronin & Taylor, 1994). On the other hand, SERVPERF only includes the area of quality perception of the already consumed service, so it fails to detect expectations of users before the consumption of a specific service. The problem of dimensionality is not the only deficiency that has been observed in the application of the SERVQUAL scale in the area of higher education service. The most significant problem is the movement of variables when it comes to "expectations" (as a determinant of service). The empirical results of research show that when the expectation is conceptualized as a separate category in the instrument, it produces many variations in the same sample which negatively influences reliability of service quality measurement expressed as a difference of perception as related to expectations (Klarić & Kulašin, 2011, p. 822). Therefore, the main concept of SERVQUAL, which takes service quality to be a result of the difference between expectations and service perception, is not completely applicable in the area of evaluation of service quality in higher education.

One of the recent instruments designed for measuring service quality in higher education institutions - HEDUQUAL (Klarić & Kulašin, 2011) was created through

research done in Bosnia and Herzegovina (Universities in Sarajevo, Bihać, Zenica and Mostar). It was constructed as a multi-item survey with 30 variables that represent a combination of original variables (22) of the initial instrument (SERVQUAL) and new variables (8) which were generated through the authors' focus research. In the final formation, a five-factor structure of the SERVQUAL scale was kept – RATER (*Reliability*, *Assurance*, *Tangibles*, *Empathy* and *Responsiveness*), which determined dimensions of the five subscales: tangibility, reliability, responsibility, trust and empathy. In their conclusion, the authors emphasized that as compared to the previously used instruments, HEDUQUAL had the advantage which is observable through the following: 1) statistical reliability and validity, as the most important metric characteristics, 2) the survey was defined according to the primary users' demands (students), 3) indirect measuring of *expectations* as determinant of service quality in higher education, 4) parallel perceptions of segments of the process of educational quality and support process, and 5) qualitative and quantitative measurement of the main factors of higher education service quality (Klarić & Kulašin, 2011, p. 827).

Method

The main goal of the empirical research which was undertaken in three higher education institutions in Vojvodina (College for Sport and Tourism in Novi Sad, College of Economics in Subotica and Professional School for Education of Kindergarten Teachers and Coaches in Subotica), via a transversal study, was to test the metrical values of the HEDUQUAL scale which was intended for the evaluation of service quality of higher education institutions and for further research among the student population in Vojvodina. The research sample consisted of 257 students (M=104; F=153). When it comes to the colleges they come from, most of the participants were from the College of Economics in Subotica (N=100; m=50, f=50), followed by the Professional School for Education of Teaches and Coaches in Subotica (N=82; m=9, f=73), and the College for Sport and Tourism in Novi Sad (N=75; m=45, f=30). When it comes to the participants' year of study, the distribution was as follows 1st year (N=42), 2nd year (N=95), 3rd year (N=66), and 4th year (N=44).

Data collection was done via the original version of the HEDUQUAL survey (Klarić & Kulašin, 2011) constructed for the assessment of service quality perception in higher education in Bosnia and Herzegovina. The survey was designed as a multi-item scale with 30 questions within which there are five differentiated subscales: tangibility of service (6 items), reliability of service (7 items), responsibility of the service provider (5 items), trust (7 items) and empathy (5 items). Participants expressed their evaluation by choosing one position on a five-point scale, where numerical values represented intensity of the evaluation of each service indicator and that is: 1) a lot less than my expectations, 2) less than my expectations, 3) equal to my expectations, 4) more than my expectations, 5) a lot more than my expectations. The evaluation scale encompasses the quantitative value of their assessment (positive or negative) and it is

interpreted according to a rule: a) perception of service quality "*equal to expectations*" (if it is about the average scale value close to the quantitative value 3), b) perception of service quality "*below expectations*" (if it is about the average scale value that is way below the quantitative value 3), c) perception of service quality "*above expectations*" (if it is about the average scale value that is way above the quantitative value 3).

Metrics of the HEDUQUAL scale in our research was tested through three procedures: 1) evaluation of the scale's internal consistency (*Scale Reliability Analysis* which is based on Cronbach's alpha coefficient); 2) evaluation of validity based on the internal correlation coefficient of the scale (Spearman's rank correlation – rho); and 3) factor analysis (analysis of the main components – *Principal Components Analysis*) using the method of *Direct Oblimin* rotation. The choice for the aforementioned statistical procedures was primarily dependent on the nature of the research and the selected research instrument. As in this case, the metrical characteristics of the instrument in question were only defined in one research on a similar population (students), and in the second (legal - regulatory and entity related one) academic environment (Bosnia and Herzegovina), thus the logical choice regarding the selection of data analysis method, was aiming at the validation of a relatively new evaluation scale but in the second socio-legal and regulatory-existential environment (the Republic of Serbia, that is, Autonomous Province of Vojvodina), was the PCA approach. According to Tabachnick and Fidell (2007, p. 635) this approach is far superior when it comes to the usual empirical extraction of a group of data than the CFA procedure (*common factor analysis*). On the other hand, a generally recommended evaluation form of each scale-type instrument (Pallant, 2009) also directed the choice of statistical procedure for determining validity on this concrete sample to be *Scale Reliability Analysis* based on Cronbach's alpha coefficient. According to Klarić and Kulišan (2011), HEDUQUAL scale showed a decent internal consistency and statistical validity on the sample consisting of student population in Bosnia and Herzegovina. Also, since this research addresses statistical data representing ordinal sizes (scale), as an appropriate procedure for further determination of internal correlation coefficient, in addition to Cronbach's alpha coefficient as the procedure for the determination of internal consistency of the scale, Spearman's rank correlation has been performed (Chen & Popovich, 2002).

All statistical conclusions were carried out at the 0.05 (*Sig.*<.05) level of significance.

Results and Discussion

At the first level of testing of the HEDUQUAL's metrics, the results show that overall the scale has a fine internal consistency, which is indicated by Cronbach's alpha coefficient (*Cronbach's Alpha*=.958), which is significantly higher than the recommended theoretical value of 0.77 (De Vellis, 2003) (Table 1). Furthermore, within all five subscales, defined in the original instrument (Klarić & Kulašin, 2011) and retained as a starting point in this research, their high internal consistency

has been determined for the following: tangibility (*Cr. Alpha*=.806), reliability (*Cr. Alpha*=.851), responsibility (*Cr. Alpha*=.838), trust (*Cr. Alpha*=.834) and empathy (*Cr. Alpha*=.897) (Table 2).

Thus, it can be concluded that the results of the first level metrics validation showed that HEDUQUAL scale, applied in its original version and on a sample of students from higher education institutions in Vojvodina, in terms of its internal consistency, showed good metric properties.

Table 1

Components of internal consistency of the HEDUQUAL scale

No.	Questions	Scale average	The influence of point's removal on alpha coefficient
1	O1 The college has modern equipment.	3.58	.957
2	O2 College's equipment is visually attractive.	3.60	.956
3	O3 College employees are neat and look professional.	3.97	.957
4	O4 The promised service is fully provided at the college.	3.63	.957
5	O5 Library resources at the college are satisfactory.	3.63	.958
6	O6 Modern technologies are widely used for teaching.	3.82	.958
7	P7 Services offered by the college are consistently good.	3.58	.957
8	P8 Teachers follow fixed class schedules.	3.79	.957
9	P9 Administrative workers observe services' work hours.	3.78	.957
10	P10 There is a record of students' complaints at the college.	3.56	.957
11	P11 Students' problems are solved effectively.	3.50	.957
12	P12 Teaching curriculum is modern.	3.77	.957
13	P13 Work hours of the support service are maximally adjusted to students (students' service, library...).	3.77	.957
14	OD14 Students are duly informed about the realization of certain services (class and exam schedules...).	3.84	.957
15	OD15 Administrative service at the college is expeditious.	3.81	.956
16	OD16 College employees are always ready to help students.	3.84	.957
17	OD17 Employees invoke students' trust by their relations.	3.83	.956
18	OD18 Teachers have consistent grading criteria.	3.73	.957
19	PO19 Students feel safe dealing with the support services (issuance of certificates, registration for exams, library usage...).	3.90	.957
20	PO20 Students feel safe dealing with faculty (consultations, exams...).	3.84	.956
21	PO21 College employees are always polite.	3.76	.957
22	PO22 College employees are competent enough to successfully meet students' needs.	3.79	.957
23	PO23 Teachers connect theory and practice in class.	3.76	.957
24	PO24 It is possible to communicate with teachers online.	3.99	.958
25	PO25 Teachers are periodically evaluated by students.	3.61	.956
26	E26 Students receive individual attention.	3.72	.957
27	E27 College employees treat students with care.	3.73	.955
28	E28 College employees are earnestly interested in the realization of students' interests.	3.78	.956
29	E29 College employees have a lot of understanding for students' specific/special needs.	3.76	.956
30	E30 Class schedules are adjusted to students' needs.	3.91	.956
	Cronbach's alpha coefficient		.958

Table 2

Components of internal consistency for subscales of the HEDUQUAL survey

no	Subscale	Question	The influence of point's removal on alpha coefficient	Cronbach alpha coeff.
1	Tangibility	1	.767	.806
		2	.755	
		3	.787	
		4	.735	
		5	.794	
		6	.792	
2	Reliability	7	.812	.851
		8	.833	
		9	.829	
		10	.838	
		11	.819	
		12	.829	
		13	.839	
3	Responsibility	14	.818	.838
		15	.792	
		16	.800	
		17	.790	
		18	.825	
4	Trust	19	.815	.834
		20	.802	
		21	.814	
		22	.796	
		23	.807	
		24	.819	
		25	.802	
5	Empathy	26	.897	.897
		27	.855	
		28	.869	
		29	.870	
		30	.870	
	Cronbach's alpha coefficient			.958

The second level of validity testing of the HEDUQUAL survey included the procedure which determines the coefficient of internal correlation of the scale (Spearman's rank correlation) (Table 3). Coefficent values of the subscales: tangibility, reliability, responsibility, trust and empathy, show high correlation with the total average of the HEDUQUAL scale, which confirms validity of the analyzed domains (subscales) and validity of the entire scale (at the level of significance of $p<0.0001$).

Thus, through comparative inspection of analysis of the first and second level validation of the HEDUQUAL scale (and its subdomains) validity, it can be observed that the results showed its full mutual cooperativeness, and by means of the determined values they indicated similar evaluative distribution (both *alpha* coefficient for each

subscale, and their *rho* values). Thus, it can be concluded that applying the procedure for determining Spearman's correlation further contributes to confirming the validity of internal consistency of this scale.

Table 3

Values of the subscales' correlation coefficent with the score of the entire HEDUQUAL scale

Subscales	HEDUQUAL	
	Spearman's coefficient	Sig
Tangibility	.860	.000
Reliability	.883	.000
Responsibility	.857	.000
Trust	.899	.000
Empathy	.904	.000

The third level of metrics validation of the HEDUQUAL questionnaire included the analysis of principal components, in order to assess validity of this 30-item scale (*Principal Components Analysis* - PCA). Given that research recommendations for the procedures of measuring scales evaluation point to the PCA procedure (Pallant, 2009), this solution has also been accepted for this research. In the previous procedure, suitability of the data for factor analysis has been evaluated, and the results showed full justification for its application *(KMO=0.908; Bartlett's Test of Sphericity=5061.546; Sig.=0.000)*. Principal components analysis revealed presence of five of them with characteristic values *(Eigenvalues)* over one, explaining the variance of 45.81%, 5.19%, 4.56%, 4.18% and 3.49%. Since the results of selected components upon validation involving rotation into both projections *(Varimax and Direct Oblimin)* were very similar, and the correlation structure is very clear (with almost all values of the correlation coefficient greater than 0.3), the solution with slant rotation was retained, which is in accordance with the recommendations for measuring scales evaluations (Pallant, 2009; Tabachnick & Fidell, 2007).
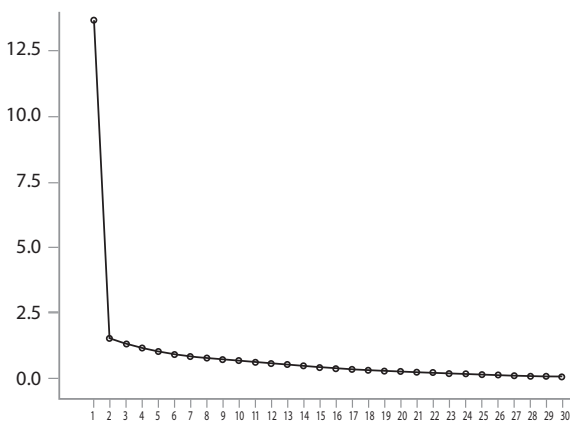

Figure 1. A diagram of breaking point (Screeplot) for the indicators of the HEDUQUAL scale

All 30 variables produced a suitable and acceptable factor weight in the isolated factor (Table 4). However, in terms of their distribution within factor saturation in the subscales of the original questionnaire, it was observed that in our case, the items constituting the elements of previously shown and metrically validated subscales, were not symmetrically extracted. Since it was established that the HEDUQUAL questionnaire has had suitable validity in its entirety, and that the acceptance of a single-factor solution has been suggested in the context of this research, it can be concluded that it would be advisable to apply the HEDUQUAL questionnaire as a single multi-item scale in the future.

Table 4

Factor structure of the HEDUQUAL survey

No.	Questions	Factor	Communialities
1	O1 The college has modern equipment.	.615	.378
2	O2 College equipment is visually attractive.	.724	.524
3	O3 College employees are neat and look professional.	.661	.436
4	O4 The promised service is fully provided at the college.	.691	.477
5	O5 Library resources at the college are satisfactory.	.483	.233
6	O6 Modern technologies are widely used for teaching.	.554	.307
7	P7 Services offered by the college are consistently good.	.692	.479
8	P8 Teachers follow fixed class schedules.	.639	.408
9	P9 Administrative workers observe services' work hours.	.673	.453
10	P10 There is a record of students' complaints at the college.	.606	.368
11	P11 Students' problems are solved effectively.	.669	.448
12	P12 Teaching curriculum is modern.	.690	.476
13	P13 Work hours of support services are maximally adjusted to students (students' service, library...).	.637	.406
14	OD14 Students are duly informed about the realization of certain services (class and exam schedules...).	.627	.393
15	OD15 Administrative service at the college is expeditious.	.742	.551
16	OD16 College employees are always ready to help students.	.681	.464
17	OD17 Employees invoke students' trust by their relations.	.729	.532
18	OD18 Teachers have consistent grading criteria.	.681	.464
19	PO19 Students feel safe dealing with the support services (issuance of certificates, registration for exams, library usage...).	.633	.400
20	PO20 Students feel safe dealing with faculty (consultations, exams...).	.722	.522
21	PO21 College employees are always polite.	.675	.455
22	PO22 College employees are competent enough to successfully meet students' needs.	.672	.451
23	PO23 Teachers connect theory and practice in class.	.584	.341
24	PO24 It is possible to communicate with teachers online.	.501	.251
25	PO25 Teachers are periodically evaluated by students.	.708	.501
26	E26 Students receive individual attention.	.648	.419
27	E27 College employees treat students with care.	.853	.727
28	E28 College employees are earnestly interested in the realization of students' interests.	.761	.579
29	E29 College employees have a lot of understanding for students' specific/special needs.	.810	.657
30	E30 Class schedules are adjusted to students' needs.	.802	.644
Indicator of sample's suitability (KMO)=.916 Bartlett's sphericity test=5387.673	*Sig.*= .000		

Problems that have been noticed so far and that have been present in the system of higher education in AP Vojvodina since the introduction of the Bologna Process, and in this context a related question about its quality, are one the more significant determinants which are the constant focus of the wider community's interest. However, in order to understand this matter better, one needs to have in mind some differences which are typical for the notions (frequently used in the higher education realm) of quality and standard. They are mainly noticeable when it comes to defining these notions, where quality pertains mostly to the process itself (e.g. how students perceive the quality of higher education), while standards primarily encompass real achievements and results. Thus, we can say that the breaking point of both quality and standard represent a grade of higher education's contribution (of quality) toward the realization of the defined standard (Pejčić-Tarle et al., 2009).

Therefore, when it comes to the evaluation of service quality in higher education, that is, in higher education institutions, it is necessary to take into consideration students as direct service users (Vranješ, Gašević, & Drinić, 2014). Their perception of the entire service system quality in an institution essentially gives value to the institution and indirectly, it determines its market position. This means that the value for students (users) represents the result of the education process, which starts with a business strategy of an institution that has to be based on the fundamental understanding of users' needs (Milosavljević, Maričić, & Gligorijević, 2009). Their expectations and perception of a consummated service are correlated in the context of quality (Douglas, Douglas, & Barnes, 2006), so detected satisfaction or dissatisfaction with the service in its entirety or parts of it, should be treated as a part of users' satisfaction context, which is indicated by some existing studies (Aldridge & Rowley, 1998; Chua, 2004; Clewes, 2003; Gajić, 2011; Hill, Lomas, & MacGregor, 2003; Kolev & Jakupović, 2014).

Conclusion

This study showed testing of metrical characteristic of one survey intended for students' evaluation of service quality in higher education institutions, based on the HEDUQUAL instrument.

The application of the procedure for the identification of the scale's internal consistency (*Scale Reliability Analysis*) resulted in a high value of alpha coefficient (*Cronbach's alpha*=0.958). Additionally, when it comes to the internal consistency of the subscales, there were suitable (acceptable) values of this coefficient: *tangibility* (0.806), *reliability* (0.851), *responsibility* (0.838), *trust* (0,834) and *empathy* (0.897). This is why we can speak about decent reliability of this instrument which has shown its validity on the student population in chosen higher education institutions of Vojvodina.

The factor analysis was used for identification of the latent structure of factors which define students' perception of service quality, and this analysis further confirmed the validity of the HEDUQUAL scale in its entirety. Bartlett's test of sphericity values

(*Bartlett's Test of Sphericity*=5387.637) and Kaiser-Meyer-Oklin's indicator of the sample's suitability (*KMO*=0.916) indicate a high validity of the scale and justify the application of the factor analysis. The analysis of the principal components resulted in a statistically acceptable parsimony and a defined one-factor structure, which show that the HEDUQUAL scale should be used as a multi-item one-factor scale.

Further studies are expected to test this survey on a larger student population (at other colleges and vocational schools in Vojvodina). Furthermore, taking into consideration the good metrical characteristics that were obtained in this study, it is recommended to use the HEDUQUAL as a unique multi-item scale, and it is realistic to expect that the survey will be proven reliable and applicable in studies that deal with students' perception of service quality of higher education institutions, primarily in the province of Vojvodina (which has been the focus of this study), but also the wider academic community in the region.

It is quite certain now that higher education institutions intensively search for the best models for the evaluation of their work, where the issue of maintaining high quality of educational services has been set as an imperative for positioning them on the market. Their design and "delivery" is one of the effective ways for a specific higher education institution to have a more significant position on the market in comparison to its competitors. Even though dynamic competition does not exist declaratively (in formal-legal terms), it is increasingly more present on the scene today, predominantly so between the so-called "private" and "state" higher education, but also between higher education institutions in the same scientific field (direct competition). This leads to increasingly more complex requirements of the users who, primarily, expect a higher level of quality standards, as well as their strict observance by the services supplier. On the other hand, the users' perceptions and expectations are in constant progressive transformation (towards a higher level of requirements) thus implying increasingly more complex mechanisms for their measuring, and thus for efficient management of internal performance of a higher education institution.

As other studies have shown (Ivković, 2009), a significant role in defining the quality of higher education has been played by students themselves, as service users , following the feedback that they provide to the institutions/faculties management. Therefore, it is necessary to constantly "listen" and measure their experiences on using the services of a higher education institution. Equally, students/clients are one of the most important factors of internal evaluation of the faculties' (and their management) operation so that their opinion, that is evaluation, form an integral part of this process. Therefore, valid "tools" must also be provided to measure these evaluative procedures. One of them is also the HEDUQUAL questionnaire, which has been insufficiently exploited so far, but can provide sufficient level of the data quality through its performance. Certainly, there is no universal and one-and-only "ideal" instrument that would satisfy all the needs and "reconcile" different properties and indented contexts of higher education institutions. Therefore, attempts to create "fresh" instruments, in particular,

scalar type instruments, are certainly worthy of academic attention. In these terms, this study has also valorized a relatively recent, and certainly less used (utilized) so far, questionnaire for users' quality evaluation of higher education institutions services through its confirmative orientation. Essential messages resulting from it are reflected in an unambiguous possibility for applying the HEDUQUAL questionnaire in the area of higher education in Vojvodina. As in its original interpretation, we can also talk about the benefits that this questionnaire determines now: (1) statistical reliability, (2) compliance with requirements of the main stakeholders in the process of higher education (institutions and students), (3) possibility of indirect measuring of the user's *expectations* regarding the services, as well as the determinants of its quality, (4) possibility of identifying parallel perception of segments of the quality of the teaching process and support processes (management), (5) possibility of clearly determining the dimensions of the main factors that determine the quality of specific higher education institution's service, and (6) practicality of application as a single-factor multi-item instrument (scale) which defines the general factor of the quality of specific higher education institution's service.

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Milan Nešić
Faculty of Sport and Tourism, University "Educons"
Radnička 30a, 21000 Novi Sad, Serbia
milan.nesic@tims.edu.rs

Zlatko Ahmetović
Faculty of Sport and Tourism, University "Educons"
Radnička 30a, 21000 Novi Sad, Serbia
zlatko.ahmetovic@tims.edu.rs

Velibor Srdić
Faculty of Sports Sciences, Pan-European University "Apeiron"
Pere Krece 13, 78000 Banja Luka, Bosnia and Herzegovina
velibor.g.srdic@apeiron-edu.eu

Marko Badrić
Faculty of Teacher Education, University of Zagreb
Savska cesta 77, 10000 Zagreb, Croatia
marko.badric@ufzg.hr

Evaluacija HEDUQUAL skale namijenjene procjeni studentske percepcije kvaliteta usluga visokoškolskih ustanova u Vojvodini

Sažetak

Istraživanje je provedeno s ciljem provjere metrijskih karakteristika HEDUQUAL skale, koja je namijenjena procjeni kvaliteta usluga visokoškolskih ustanova. Ista skala posije bi se koristila za daljnja istraživanja među studentskom populacijom. Uzorak ispitanika činilo je ukupno 257 studenata (oba spola) s tri visokoškolske ustanove iz AP Vojvodina. Metrijske karakteristike HEDUQUAL skale testirane su primjenom tri postupka: (1) provjerom njezine unutarnje konzistencije (Scale Reliability Analysis koja je utemeljena na Cronbachovu alfa koeficijentu); (2) provjerom valjanosti utemeljenom na koeficijentu unutarnje korelacije skale (Spearmanov koeficijent korelacije – rho); i (3) faktorskom analizom (analiza glavnih komponenti – Principal Components Analysis) s metodom kose rotacije (Direct Oblimin). Sva statistička zaključivanja provedena su na razini značajnosti od 0,05 (Sig.<,05). Dobiveni rezultati pokazuju da je testirani instrument valjan i pouzdan te da se treba koristiti u daljnjim istraživanjima na studentskoj populaciji kao jednofaktorska skala s više čestica.

Ključne riječi: *HEDUSQUAL skala; jednofaktorska skala višestrukih čestica; pouzdanost; studenti; valjanost.*

Uvod

Kvaliteta rada visokoškolskih ustanova prati se više-manje intenzivno, kao koncepcijski dio akademske prakse posljednjih desetak godina u Srbiji. Odnosno od trenutka uvođenja Bolonjskog procesa, tako da je s tim kontekstom svakako povezano i pitanje njegove kvalitete. Odnosno, predstavlja jednu od najvažnijih odrednica koja je u stalnom fokusu interesa šire društvene zajednice. Premda se koncept kvalitete rada visokoškolskih ustanova njeguje kao dio višedesetljetne akademske tradicije na ovom prostoru, ono je svoje novo „lice" i visoku razinu važnosti dobilo tek uvođenjem procesa

obvezne akreditacije visokoobrazovnih institucija u Republici Srbiji. Od tada naglo raste intenzivnije „bavljenje" tim pitanjem, kako u okviru svake visokoobrazovne ustanove (sveučilišta, fakulteti i visoke strukovne škole imaju obavezu usvajanja odgovarajućih regulativnih dokumenata i posebnih ustanova za praćenje kvalitete), tako i u široj akademskoj zajednici, u istraživanjima koja se bave tom tematikom (Ćurković i sur., 2011; Mašić, 2010; Pejčić-Tarle i sur., 2009; Živković, Gajić, i Brdar, 2013).

S druge strane, aktualna zakonska legislativa područje visokog obrazovanja uređuje kao „državni projekt" kojim se nastoji realizirati vizija i misija visokog obrazovanja u Srbiji putem integracijskih procesa europskog obrazovnog prostora. Njome su, između ostalog, uređena i pitanja formata osnivača visokoškolskih ustanova. Kao osnivač se, s jedne strane, pojavljuje država, a s druge se strane pojavljuju pravne i/ili fizičke osobe. Formiraju se prema istim kriterijima, akreditiraju studijske programe po jedinstvenim standardima, procesi i kriteriji vrednovanja kvalitete obavezujući su za sve ustanove, nastavni kadar se bira prema istim kriterijima. Dakle, zakonodavac u suštini ne implicira diskriminaciju ustanova visokog obrazovanja, nastavnog kadra ili studenata prema bilo kojoj osnovi, pa ni prema osnovi porijekla osnivača ustanova (Ahmetović, Tomka, i Dimitrić, 2014). Stoga se i procjeni kvalitete usluga visokoškolskih ustanova mora prići kao jedinstvenoj kategoriji u tom području, gdje inzistiranje na pitanjima vlasničke strukture osnivačkog kapitala nekog fakulteta i visoke škole postaje nevažno.

Pojam *kvalitete* sve je češće upotrebljavan termin koji prati gotovo sve današnje rasprave o visokom školstvu u Republici Srbiji, a posebno na području Autonomne pokrajine Vojvodine. Usprkos tome, sam pojam kvalitete još uvijek ostaje nedovoljno definiran, tako da se uglavnom upotrebljava u kontekstu promoviranja određene ideje, posebno u domeni usluga. Tako se u suvremenoj marketinškoj literaturi danas posebna pažnja posvećuje problemu kvaliteta usluge, te se najčešće mogu sresti odrednice koje govore o tome da kvaliteta predstavlja: a) stupanj u kojem su zadovoljena očekivanja potrošača, b) privlačnu cijenu i vrijednost, c) sposobnost korištenja itd. (Nešić i Zubanov, 2015). Kvaliteta usluge podrazumijeva mišljenje stvoreno kod potrošača ili korisnika o kvaliteti i kvantiteti koristi koje su dobili prilikom kupovine, ali se može odnositi i na kvalitetu međusobno uspostavljenih odnosa i vezanosti potrošača za organizaciju (tvrtku, instituciju i sl.), pri čemu je dokazano da ovaj posljednji faktor pozitivno povezuje kvalitetu usluge i kvalitetu uspostavljenog odnosa sa zadovoljstvom klijenata (potrošača, korisnika, i sl.) (Segoro, 2013). Stoga se može reći da pojam kvalitete postaje sve značajnija komponenta obrazovanja koja u najvećoj mjeri treba odgovoriti zahtjevima suvremenosti i aktualnosti sustava usluga u visokom obrazovanju. Posebno u kontekstu promatranja njegova glavnog cilja - osposobljavanje i obrazovanje mladih ljudi koji su aktivni u samostalnom razvoju, kao i doprinosu razvoju zajednice.

Istraživačko polazište

Mjerenje kvalitete usluga u visokoškolskim institucijama predstavlja jedno od bitnih pitanja, posebno s aspekta menadžmenta ustanove. Njegova složenost posebno

je izražena u kontekstu kompleksnosti čimbenika koji se mjerenjem opserviraju, a ponajprije su determinirani složenošću i osobitostima usluge (njezina neopipljivost) s jedne strane i prisustvom više zainteresiranih stejkholdera s druge strane (koji pokazuju različite zahtjeve prema kvaliteti). Posebno zato što je to pitanje implicirano poštovanjem Bolonjskog procesa, koji dominantno afirmira kvalitetu studiranja i općenito egzistencije rada visokoškolskih ustanova tako da se mjerenje razine kvalitete više ne može obaviti samo interno dizajniranim instrumentima u visokoškolskoj ustanovi jer rezultati takvih instrumenata (najčešće tipa anketnog upitnika), koji su najčešće jednostrani i nestandardizirani, često mogu dati pogrešnu „sliku" o kvaliteti usluge, a to kasnije proizvodi probleme s njihovom pouzdanošću. Praksa je pokazala da takve (interno dizajnirane) ankete često zanemaruju ili potpuno ignoriraju pitanja čimbenika vezanih uz kvalitetu usluge visokog obrazovanja s obzirom na to da se ona, u tom kontekstu, tretira kao jednodimenzionalna kategorija (Klarić i Kulašin, 2011).

U nekim dosadašnjim istraživanjima koja su se bavila mjerenjem kvalitete usluga visokog obrazovanja, kao najzastupljeniji instrument koristila se SERVQUAL skala (Parasuraman, Zeithaml, i Berry, 1988), a nešto manje i njezina izvedena verzija SERVPERF (Abdullah, 2005). Međutim, jedno od bitnih ograničenja SERQUAL skale odnosilo se na činjenicu da ona mjeri čimbenike kvalitete usluge u dva odvojena prostora - *očekivanja* i *percepcije* nakon konzumirane usluge, koji se tretiraju u određenoj vremenskoj distanci (Cronin i Taylor, 1994). S druge strane SERVPERF obuhvaća samo prostor percepcije kvalitete već korištene usluge tako da izostaje prostor koji detektira očekivanja korisnika prije konzumiranja konkretne usluge. Problem dimenzionalnosti nije jedini uočeni nedostatak u primjeni SERVQUAL-a u sferi usluga visokog obrazovanja. Najizraženiji problem predstavlja kretanje varijabli u bateriji „očekivanja" (kao determinante usluge). Empirijski rezultati istraživanja pokazuju da očekivanje koncipirano kao zasebna baterija u instrumentu dovodi do mnogo varijacija u istom uzorku koje negativno utječu na pouzdanost mjerenja kvalitete usluge izraženo razlikom percepcije u donosu na očekivanja (Klarić i Kulašin, 2011, str. 822), tako da osnovni koncept SERVQUAL-a, koji kvalitetu usluge prikazuje kao rezultat razlike između očekivanja i percepcije usluge, nije u potpunosti primjenjiv u prostoru procjene kvalitete usluga visokog obrazovanja.

Jedan od novijih instrumenata kreiranih za mjerenje kvalitete usluga visokoškolskih ustanova - HEDUQUAL (Klarić i Kulašin, 2011) kreiran je tijekom istraživanja na području Bosne i Hercegovine (Univerziteti u Sarajevu, Bihaću, Zenici i Mostaru). Konstruiran je kao upitnik višestrukih čestica s ukupno 30 varijabli, koje predstavljaju kombinaciju izvornih varijabli (22) inicijalnog instrumenta (SERVQUAL) i novih varijabli (8) koje su generirane u fokusnom istraživanju autora. U završnom definiranju zadržana je petofaktorska struktura SERVQUAL skale - RATER: (*Realiability*, *Assurance*, *Tangibles*, *Empathy* i *Responsiveness*), kojima su određene dimenzije pet subskala: opipljivosti, pouzdanosti, odgovornosti, povjerenja i empatije. U zaključku istraživanja autori su istaknuli da u odnosu na do tada primjenjivane instrumente,

HEDUQUAL ima prednosti koje se ogledaju u: (1) statističkoj pouzdanosti i valjanosti, kao najvažnijim metrijskim karakteristikama, (2) definiranosti upitnika u skladu sa zahtjevima osnovnih korisnika (studenata), (3) posrednom mjerenju *očekivanja* kao determinante kvalitete usluge visokog obrazovanja, (4) paralelnu percepciju segmenata kvalitete nastavnog procesa i procesa podrške, i (5) kvalitativne i kvantitativne mjere glavnih čimbenika kvalitete usluge visokog obrazovanja (Klarić i Kulašin, 2011, str. 827).

Metode

Empirijsko istraživanje koje je realizirano u tri vojvođanske visokoškolske ustanove (Fakultetu za sport i turizam iz Novog Sada, Ekonomskom fakultetu u Subotici i Visokoj školi strukovnih studija za obrazovanje vaspitača i trenera u Subotici), putem forme transverzalne studije, imalo je osnovni *cilj* provjeru metrijskih karakteristika HEDUQUAL skale namijenjene procjeni kvalitete usluga visokoškolskih ustanova, a za potrebe daljnjih istraživanja među studentskom populacijom u AP Vojvodini. Uzorak ispitanika činilo je ukupno 257 studenata (M=104; Ž=153). U kontekstu pripadnosti visokoškolskoj ustanovi, najveći broj ispitanika bio je s Ekonomskog fakulteta u Subotici (N=100; m-50, ž-50), zatim s Visoke škole strukovnih studija za obrazovanje vaspitača i trenera u Subotici (N=82; m-9, ž-73), Fakulteta za sport i turizam iz Novog Sada (N=75; m-45, ž-30). U odnosu na godinu studija koju ispitanici pohađaju, distribucija je bila sljedeća: I. godina (N=42), II. godina (N=95), III. godina (N=66), IV. godina (N=44).

Za prikupljanje podataka koristila se originalna verzija upitnika HEDUQUAL (Klarić i Kulišan, 2011) konstruiranog za ispitivanje percepcije kvaliteta usluga visokog obrazovanja u Bosni i Hercegovini. Upitnik je konstruiran kao skala višestrukih čestica s ukupno 30 pitanja, u okviru koje se uvjetno diferencira i pet subskala: *opipljivost* usluge (6 čestica), *pouzdanost* usluge (7 čestica), *odgovornost* uslužnog subjekta (5 čestica), *povjerenje* (7 čestica) i *empatija* (5 čestica). Svoju procjenu ispitanici su iskazivali izborom jedne od pozicija na petostupanjskoj skali gdje su brojčane vrijednosti predstavljale intenzitet procjene svakog indikatora usluge i to: 1 – „puno manje od mojih očekivanja"; 2 – „manje od mojih očekivanja"; 3 – „prema mojim očekivanjima"; 4 – „više od mojih očekivanja; 5 – „znatno više od mojih očekivanja. Skala ocjenjivanja obuhvaća dobivenu kvantitativnu vrijednost procjene (pozitivnu ili negativnu) i interpretira se u skladu s pravilom: (a) percepcija kvalitete usluge „*jednako očekivanjima***"** (ako se radi o skalarnom prosjeku bliskom kvantitativnoj vrijednosti 3), (b) percepcija kvalitete usluge „*ispod očekivanja*" (ako se radi o skalarnom prosjeku znatno ispod kvantitativne vrijednosti 3), (c) percepcija kvalitete usluge „*iznad očekivanja*" (ako se radi o skalarnom prosjeku znatno iznad kvantitativne vrijednosti 3).

Metrijske karakteristike HEDUQUAL skale u ovom istraživanju testirane su primjenom tri postupka: (1) provjerom njezine unutarnje konzistencije (Scale

Reliability Analysis koja je utemeljena na Cronbachovu alfa koeficijentu); (2) provjerom valjanosti utemeljenom na koeficijentu unutarnje korelacije skale (*Spearmanov koeficijent korelacije* – rho); i (3) faktorskom analizom (analiza glavnih komponenti – Principal Components Analysis) s metodom kose rotacije (Direct Oblimin). Izbor navedenih statističkih procedura bio je uvjetovan, u prvom redu, karakterom istraživanja i tretiranim istraživačkim instrumentom. Kako je u ovom slučaju riječ o instrumentu čije su metrijske karakteristike definirane u samo jednom istraživanju, na sličnoj populaciji (studenti), ali u drugom (pravno-regulativnom i entitetskom) akademskom okruženju (BiH), to se kao logičan odabir metode analize podataka, čije je usmjerenje prema validaciji relativno novije skale procjene, ali u okviru drugog društveno-pravnog i regulativno-egzistencijalnog okruženja (Republika Srbija, odnosno Autonomna pokrajina Vojvodina), nametnuo PCA pristup. On je, prema Tabačniku i Fidelu (2007, str. 635) znatno superiornije rješenje kada je riječ o uobičajenom empirijskom sažimanju skupa podataka, u odnosu na CFA postupak (*common factor analysis*). S druge strane i općenito preporučeni aspekti provjere svakog instrumenta tipa skale (Pallant, 2009) usmjeravaju i u ovom slučaju izbor statističke procedure za utvrđivanje pouzdanosti na konkretnom uzorku prema primjeni *Scale Reliability Analysis* utemeljene na Kronbahovu alfa koeficijentu. Prema tvrdnji autora Klarića i Kulišana (2011) skala HEDUQUAL je na uzorku studentske populacije u BiH pokazala dobru unutrašnju konzistenciju, odnosno statističku pouzdanost i valjanost. Također, budući da se u ovom istraživanju radi o statističkim podacima koji predstavljaju ordinalne veličine (skale), kao korektna procedura za dodatno utvrđivanje koeficijenta unutrašnje korelacije, uz Cronbachov alfa koeficijenta kao procedure za utvrđivanje unutarnje konzistencije skale, realizirana je Spermanova korelacija ranga (Chen i Popovich, 2002).

Sva statistička zaključivanja provedena su na razini značajnosti od 0,05 (Sig.<,05).

Rezultati i rasprava

U kontekstu prve razine provjere metrijskih karakteristika HEDUQUAL upitnika dobiveni rezultati pokazuju da skala u cjelini ima dobru unutarnju konzistenciju na što ukazuje Cronbachov koeficijent alfa (*Cronbach's Alpha*=,958) koji je značajno veći od preporučene teorijske vrijednosti 0,7 (De Vellis, 2003) (Tablica 1). Takođe i unutar svih pet subskala, koje su definirane u originalnom instrumentu (Klarić i Kušan, 2011), te zadržane kao polazište i u ovom istraživanju, utvrđena je njihova visoka unutarnja konzistencija i to za: opipljivost (*Cr. Alpha*=,806), pouzdanost (*Cr. Alpha*=,851), odgovornost (*Cr. Alpha*=,838), povjerenje (*Cr. Alpha*=,834) i empatiju (*Cr. Alpha*=,897) (Tablica 2).

Dakle, može se zaključiti da rezultati prve razine provjere metrijskih karakteristika pokazuju da HEDUQUAL skala primijenjena u svojoj originalnoj verziji i na studentima vojvođanskih visokoškolskih ustanova u pogledu svoje unutarnje konzistencije pokazuje dobre metrijske karakteristike.

Tablica 1 i 2

Drugu razinu provjere valjanosti HEDUQUAL upitnika obuhvaćao je postupak utvrđivanja koeficijenta unutarnje korelacije skale (Spearmanova korelacija ranga) (Tablica 3). Vrijednosti koeficijenta korelacije rezultata subskala: opipljivost, pouzdanost, odgovornost, povjerenje i empatija, pokazuju visoku povezanost s ukupnim skalarnim prosjekom HEDUQUAL-a, što potvrđuje valjanost analiziranih domena (subskala) i skale u cjelini (na razini značajnosti- p<0,001).

Tablica 3

Dakle, usporednom inspekcijom analize prve i druge razine provjere valjanosti HEDUQUAL skale (i njezinih subdomena), može se uočiti da rezultati pokazuju svoju punu međusobnu kooperativnost, a utvrđenim vrijednostima ukazuju na sličnu vrijednosnu distribuiranost (kako *alfa* koeficijenta za svaku subskalu, tako i njihovih *ro* vrijednosti). Može se zaključiti da primjena postupka utvrđivanja Spearmanove korelacije dodatno doprinosi potvrđivanju valjanosti unutarnje konzistencije te skale.

Treća razina provjere metrijskih karakteristika HEDUQUAL upitnika obuhvaćala je analizu glavnih komponenti s ciljem procjene valjanosti te skale s 30 čestica (*Principal components analysis* -PCA). S obzirom na to da istraživačke preporuke u postupcima vrednovanja mjernih skala usmjeravaju na PCA postupak (Pallant, 2009), to se i u ovom istraživanju prihvatilo kao rješenje. U prethodnom postupku ocijenjena je prikladnost podataka za faktorsku analizu, a rezultati su pokazali punu opravdanost njezine primjene *(KMO=0,908; Bartlett's Test of Sphericity=5061,546; Sig.=0,000).* Analiza glavnih komponenti otkrila je prisustvo njih pet s karakterističnim vrijednostima (*Eigenvalues*) preko jedan, koje objašnjavaju 45,81 %, 5,19 %, 4,56 %, 4,18 % i 3,49 % varijance. Kako su rezultati izdvojenih komponenti nakon provjere s rotacijom u obje projekcije (*Varimax* i *Direct Oblimin*) bili veoma slični, a struktura korelacije veoma jasna (s gotovo svim vrijednostima koeficijenta korelacije većim od 0,3), zadržana je solucija s kosom rotacijom, što je u skladu s preporukama o vrednovanjima mjernih skala (Pallant, 2009; Tabachnick i Fidell, 2007).

Međutim, dobiveni dijagram prijevoja (*Scree plot*) pokazao je postojanje prihvatljive točke loma već iza prve komponente (Slika 1), te je na osnovi Cattelova kriterija (1966) odlučeno da se zadrži samo prva komponenta, koju objašnjava značajan postotak ukupne varijance (45,81 %), što je u skladu i s preporučenim procedurama tumačenja rezultata faktorske analize (Pallant, 2009).

Slika 1

Svih 30 varijabli dalo je odgovarajuću i prihvatljivu faktorsku težinu ekstrahiranih komponenti u izoliranom faktoru (Tablica 4). Međutim u pogledu njihove distribucije u saturiranju faktora u subskalama originalnog upitnika uočeno je da se u našem slučaju nisu simetrično ekstrahirale čestice koji čine elemente prije prikazanih i metrijski provjerenih subskala. S obzirom na to da je utvrđeno da HEDUQUAL

upitnik u cjelini ima odgovarajuću valjanost te da se u okviru ovog istraživanja sugerira prihvaćanje jednofaktorskog rješenja, može se zaključiti da bi bilo preporučljivo HEDUQUAL upitnik ubuduće primjenjivati kao jedinstvenu skalu višestrukih čestica. Odnosno, kao samostalnu skalu za generalnu procjenu kvalitete usluga visokoškolskih ustanova od studenata.

Tablica 4

Do sada uočeni problemi, koji su prisutni u sustavu visokog obrazovanja u AP Vojvodini od uvođenja Bolonjskog procesa, a u ovom kontekstu i povezanog pitanja o njegovoj kvaliteti, predstavljaju jednu od značajnijih odrednica koja je u stalnom žarištu zanimanja šire društvene zajednice. Međutim, za potpunije razmatranje te tematike uopće, treba imati u vidu i neke razlike koje su karakteristične za pojmove (koji se aktivno koriste u prostoru visokog obrazovanja) kvalitete i standarda. One su ponajprije primjetne u definiranju tih pojmova, pri čemu se kvaliteta odnosi ponajprije na sam proces (npr. kako studenti percipiraju kvalitetu obrazovnog procesa), a standardi obuhvaćaju, prije svega, ciljana i stvarna dostignuća i rezultate. Može se reći da točka refrakcije kvalitete i standarda predstavlja ocjenu doprinosa obrazovnog procesa (kvalitete) dostizanju definiranog standarda (Pejčić-Tarle i sur., 2009).

Prema tome, kada je riječ o procjeni kvalitete usluga u visokom obrazovanju, odnosno u visokoškolskim ustanovama, neophodno je uzeti u obzir studente kao neposredne korisnike usluga (Vranješ, Gašević, i Drinić, 2014). Njihova percepcija kvalitete cjelokupnog sustava usluga ustanove u suštini vrednuje samu visokoškolsku ustanovu i indirektno je pozicionira na tržištu. To znači da vrijednost za studente (korisnike) predstavlja sam ishod obrazovnog procesa koji započinje poslovnom strategijom ustanove koja mora biti utemeljena na suštinskom razumijevanju potreba korisnika (Milosavljević, Maričić, i Gligorijević, 2009). Njihova očekivanja, a potom i percepcija konzumirane usluge, međusobno koreliraju u kontekstu kvalitete (Douglas, Douglas, i Barnes, 2006), tako da se identificirano zadovoljstvo ili nezadovoljstvo uslugom u cjelini ili nekim njezinim dijelom, trebaju tretirati u kontekstu zadovoljstva korisnika, na što ukazuju i neka dosadašnja istraživanja (Aldridge i Rowley, 1998; Chua, 2004; Clewes, 2003; Gajić, 2011; Hill, Lomas, i MacGregor, 2003; Kolev i Jakupović, 2014).

Zaključak

U ovoj studiji prikazana je provjera metrijskih karakteristika upitnika namijenjenog procjeni kvalitete usluga ustanova visokog obrazovanja od studenata utemeljenog na instrumentu HEDUQUAL.

Primjenom procedure metodom unutranje konzistencije skale (*Scale Reliability Analysis*), dobivena je visoka vrijednost koeficijenta alfa (*Cronbach's Alpha*=0,958). Također, i u pogledu koeficijenta unutarnje korelacije subskala dobivene su odgovarajuće (prihvatljive) vrijednosti tog koeficijenta: domena *opipljivost* (0,806),

domena *pouzdanost* (0,851), domena *odgovornost* (0,838), domena *povjerenje* (0,834) i domena *empatija* (897). Stoga se može govoriti o korektnoj pouzdanosti tog instrumenta koji je svoju valjanost pokazao i na populaciji studenata u odabranim vojvođanskim visokoškolskim ustanovama.

Radi utvrđivanja latentne strukture faktora koji determiniraju studentsku percepciju kvalitete usluga primijenjena je i faktorska analiza koja je ujedno dodatno potvrdila valjanost HEDUQUAL skale u cjelini. Dobivene vrijednosti Bartletova testa sferičnosti (*Bartlett's Test of Sphericity*=5387,637) i Keiser Meyer-Olkin testa pokazatelja adekvatnosti uzorka (*KMO*=0,916) ukazuju na visoku valjanost skale i opravdanost primjene faktorske analize. Analizom glavnih komponenti postignuta je statistički prihvatljiva parsimonija i definirana jednofaktorska struktura, što upućuje na preporuku da se HEDUQUAL upitnik treba koristiti kao jednofaktorska skala višestrukih čestica.

U budućim istraživanjima očekuje se da validirani upitnik bude provjeren i na široj studentskoj populaciji (na ostalim fakultetima i visokim školama u Vojvodini). Također, polazeći od dobrih metrijskih karakteristika dobivenih u ovoj studiji, preporučljivo je da se HEDUQUAL primjenjuje kao jedinstvena skala višestrukih čestica, pa je i realno očekivati da se upitnik pokaže pouzdanim i primjenjivim u praksi za istraživanja studentske percepcije kvalitete usluga visokoškolskih ustanova. Prije svega u Vojvodini (na koju se dominantno odnosilo ovo istraživanje), ali i u širem akademskom okruženju u regiji.

Danas je već sasvim izvjesno da visokoškolske ustanove intenzivno tragaju za najboljim modelima vrednovanja svoga rada, pri čemu se pitanje održavanja visoke kvalitete obrazovnih usluga postavlja kao imperativ tržišnog pozicioniranja. Njihovo oblikovanje i „isporuka" predstavlja jedan od djelotvornih načina da se konkretna visokoobrazovna ustanova značajnije pozicionira na tržištu u odnosu na svoje konkurente. Jer, premda deklarativno ne egzistira (u formalno-pravnom smislu), danas je na sceni prisutna sve dinamičnija konkurencija, dominantno između tzv. „privatnog" i „državnog" visokog obrazovanja, ali i između visokoškolskih ustanova u istom znanstvenom području (direktna konkurencija). To dovodi do sve kompleksnijih zahtjeva korisnika koji, u prvom redu, očekuju više razinu standarda kvalitete, kao i njihovo striktno poštivanje od isporučitelja usluge. S druge strane korisnička percepcija i očekivanja u stalnoj su progresivnoj transformaciji (prema višoj razini zahtjeva), što podrazumijeva sve kompleksnije mehanizme za njihovo mjerenje, a time i za djelotvorno upravljanje internim performansama visokoobrazovne ustanove.

Kao što su i druga istraživanja već nagovijestila (Ivković, 2009), važnu ulogu u definiranju kvalitete visokog obrazovanja imaju upravo studenti, kao korisnici usluga, a koja proizilazi iz povratnih informacija koje oni pružaju menadžmentu ustanove/fakulteta. Zbog toga je neophodno stalno „osluškivanje" i mjerenje njihovih iskustava o konzumiranim uslugama visokoobrazovne institucije. Isto tako, studenti/klijenti su jedan od najvažnijih čimbenika interne evaluacije rada fakulteta (i njegova

menadžmenta), tako da je njihovo mišljenje, odnosno procjena, sastavni dio ovog procesa. Stoga se moraju osigurati i valjani „alati" za mjerenje tih evaluacijskih procesa. Jedan od njih je i HEDUQUAL upitnik, koji je do sada malo eksploatiran, a koji svojim performansama može osigurati dovoljnu razinu kvalitetnih podataka. Naravno, još uvijek ne postoji univerzalan i samo jedan „idealan" instrument koji bi zadovoljio sve potrebe i „pomirio" različite osobnosti i kontekste visokoobrazovnih ustanova. Stoga pokušaji kreiranja „svježih" instrumenata, posebno skalarnog tipa, svakako zavređuju akademsku pažnju. U tom smislu je i ova studija, svojim konfirmativnim usmjerenjem, vrednovala relativno noviji, a svakako do sada manje (is)korišten, upitnik za korisničku valorizaciju kvalitete usluga ustanova visokog obrazovanja. Osnovne poruke koje iz nje proistječu ogledaju se u nedvosmislenoj mogućnosti primjene HEDUQUAL upitnika i u okruženju vojvođanskog visokoobrazovnog prostora. Kao i u njegovu izvornom tumačenju, i sada se može govoriti o prednostima koje ovaj upitnik determinira: (1) statističkoj pouzdanosti, (2) usklađenosti sa zahtjevima glavnih stakeholdera u procesu visokog obrazovanja (ustanove i studenti), (3) mogućnosti posrednog mjerenja korisnikovih *očekivanja* od usluge, kao determinante njezine kvalitete, (4) mogućnosti identifikacije paralelne percepcije segmenata kvalitete nastavnog procesa i procesa podrške (menadžmenta), (5) mogućnosti jasnog utvrđivanja mjere glavnih čimbenika koji determiniraju kvalitetu usluge konkretne visokoobrazovne ustanove, i (6) praktičnost primjene kao jednofaktorskog multiitemskog instrumenta (skale) koji definira opći faktor kvalitete usluge konkretne visokoobrazovne ustanove.