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Revising the Importance of Factors Pertaining to Student Satisfaction in Higher Education

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Background and purpose: Competition among higher education institutions is intensifying and such institutions are increasingly directing efforts towards improving their ranking. In this context, both high-quality programmes and student satisfaction have become major goals of universities. In our study, we tried to identify the importance of various factors influencing student satisfaction in higher education institutions.
Design/Methodology/Approach: A paper-and-pencil survey was carried out in the 2017/18 academic year at the University of Maribor in Slovenia. Students were verbally informed of the nature of the research and invited to freely participate. They were assured of anonymity. Mean values and standard deviations of the responses were calculated. Friedman test was conducted to assess which satisfaction factors were a priority for the students. Independent samples t-test was used to examine whether a significant difference exists between specific groups. The correlations between satisfaction factors and selected study variables (age, average grade and readiness to spread information) were tested using Pearson correlation coefficients.
Results: The study results revealed that the most important factors influencing student satisfaction were teaching staff, followed by administrative support, programme issues, physical environment, location of the institution, social life and support facilities. Significant differences between the genders were found for two satisfaction criteria, i.e. programme issues and administrative support, both being more important to women than men. We also found that the higher the level of the class, the lower was the importance of the satisfaction factors.
Conclusion: The results of this study indicate that higher education institutions need to focus efforts on improving the quality of teaching aspects so as to respond to the needs of their students, but also that they should not neglect non-teaching factors, especially regarding the physical environment. With improving these factors institutions can raise students' satisfaction, gain on the reputation and impact future enrolment.

Keywords: *student satisfaction; higher education; teaching staff; support facilities; programme issues*

1 Introduction

Universities and their faculties are competing among themselves to attract students, not only within one country but also internationally. Hemsley-Brown and Oplatka (2006) state that the higher education market is strongly affected by globalization. This has produced an international market for educational services and increased competition to attract students (Sandberg Hanssen & Solvoll, 2015). Whether a higher education student is seen as a customer or a client, there is no doubt that the concern about the quality of their educational experience and the resulting level of their satisfaction with this experience, is a very important component of the evaluation of an educational institution (Robson, Aranda-Mena, & Baxter, 2017). Students are the direct recipients of the services provided and according to Saleem, Moosa, Imam, and Khan (2017) their satisfaction can easily be achieved by outstanding service standards. A number of student-satisfaction surveys have been introduced, such as the National Student Survey

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(NSS) in the United Kingdom and the Course Experience Questionnaire (CEQ) in Australia (Poon & Brownlow, 2015). Student satisfaction has thus become one of the major goals of universities. A satisfied student population is a source of competitive advantage with outcomes such as positive word of mouth (WOM) communication, student retention and loyalty (Arambewela & Hall, 2009).

Satisfaction is an outcome of service quality (Bolton & Drew, 1991), but a number of different definitions have been given concerning quality in higher education. Every stakeholder in higher education (e.g. students, government and professional bodies) views quality differently, depending on their specific needs (Voss, Gruber, & Reppel, 2010). O'Neill and Palmer (2004) define service quality in higher education as 'the difference between what a student expects to receive and his/her perceptions of actual delivery'. Service quality in the field of higher education is particularly essential and important (Ali, Zhou, Hussain, Nair, & Ragavan, 2016). It is an established fact that positive perceptions of service quality have a significant influence on student satisfaction (Alves & Raposo, 2010). If the consumer is not satisfied with the performed service, he or she can quickly take advantage of the services of another provider, which can also happen in higher education. Superior service delivery to meet students' needs and expectations and to maintain student satisfaction and loyalty towards places of study has thus become a key objective of universities (Arambewela & Hall, 2009).

The aim of our study was to revise the importance of factors pertaining to student satisfaction in higher education and answer the following research questions:

- How important are specific satisfaction factors to students?
- Are there any differences in the importance of student satisfaction factors according to specific demographic facts (specifically gender, study level and mode of study)?
- Is there any correlation between the importance of student satisfaction factors and age, average grade and readiness to spread information about their satisfaction with the higher education institution?

2 Literature review of student satisfaction

In recent years, student satisfaction has gained considerable attention. Satisfaction can be defined as the fulfilment of one's wishes, expectations or needs or the pleasure derived from this; thus it can also be seen in an emotional reaction to a product or service experience (Spreng & Singh, 1993). Elliott and Shin (2002), for example, describe student satisfaction as the favourability of a student's subjective evaluation of the various outcomes and experiences associated with education. According to Elliott and Healy (2001), student satisfaction is a short-term attitude resulting from an evaluation of a student's educational experience.

The formation of student satisfaction is a multi-dimensional process influenced by many factors (Sandberg Hanssen & Solvoll, 2015). Appleton-Knapp and Krentler (2006), meanwhile, divide factors influencing student satisfaction into institutional factors and personal factors. Institutional factors include quality of instruction, the quality and promptness of the instructors' feedback and the clarity of their expectations, the teaching style of the instructor, the research emphasis of the institute, and the size of classes (Dana, Brown, & Dodd, 2001; Fredericksen, Pickett, Pelz, Shea, & Swan, 2000; Krentler & Grundnitski, 2004). Personal factors that have been identified as predictors of student satisfaction are their age, gender, employment status, temperament, preferred learning style and average grade (Brokaw, Kennedy, & Merz, 2004; Fredericksen et al., 2000). Elliott and Healy (2001) find that student-centeredness, campus climate and instructional effectiveness also have a strong impact on student satisfaction with their overall educational experience. The results of a research by Chan, Miller, and Tcha (2005), meanwhile, revealed that the significant explanatory variables that increase satisfaction levels at universities are related to satisfaction with academic work, good relationships formed, good time management, good reputation of the university and resources provided by the university.

Martirosyan (2015) identified some commonalities of a number of studies that have examined factors that affect student satisfaction. These factors include the quality of programmes, instructional effectiveness, student support facilities, internet and library access, administrative staff efficiency, the college environment, and individual characteristics such as gender, ethnicity and age. Petruzzellis, D'Uggento, and Romanazzi (2006) identified 19 variables which are important to student satisfaction; these can be classified under the headings of facilities (such as lecture halls, laboratories, equipment, libraries, refectories, accommodation and internet access), students services and support (such as language courses, scholarships, examination booking, administrative services and counselling), teaching services (such as contact with teachers, tutoring, internship and placement), and student life (such as leisure and sports facilities). Mai (2005) finds that the overall impression of the quality of the education provided, the overall impression of the school, lecturers' responses towards complaints/suggestions and the availability of study areas for students have a positive and statistically significant influence on overall student satisfaction. J. Douglas, A. Douglas, and Barnes (2006) state that the most important aspects are those associated with teaching and learning. Class size and the opportunity to take optional modules also affect student satisfaction (Poon & Brownlow, 2015). Coles (2002) and J. Douglas, A. Douglas, and Barnes (2006) find that student satisfaction decreases when class

sizes are larger and when students are only allowed to take compulsory modules rather than optional ones. Moreover, the physical environment – the layout, lighting and overall feel of the classrooms, the appearance of buildings and grounds, and overall cleanliness – has also been found to significantly contribute to student satisfaction with the service provided (J. Douglas, A. Douglas, & Barnes 2006).

Teaching (academic) staff

Findings by Hill, Lomas, and MacGregor (2003) stress the importance of teaching staff; these authors report that the quality of the teachers is one of the most important factors in the provision of high-quality education. Marzo-Navarro, Pedraja-Iglesias, and Rivera-Torres, (2005) state that teaching staff are the main actors in a university, exercising the largest positive influence on student satisfaction. Hill, Lomas, and MacGregor (2003), who used focus groups to determine what quality education meant to students, found that the most important theme was the quality of the lecturer, including classroom delivery, feedback to students during teaching sessions and on assignments, and the relationship with students in the classroom. Bigne, Moliner, and Sanchez (2003) consider quality teaching to be the core service provided by universities and that it dominates perceptions of overall quality. In their study, meanwhile, Fernandes, Ross, and Meraj (2013) confirmed the importance of the quality of teaching. A significant level of satisfaction with overall programme quality can be attributed to whether students believe their teachers were good at explaining things, were enthusiastic, made the subject interesting and were intellectually stimulating. The role of teaching staff members has been shown to be essential in keeping students satisfied with their programmes (Fernandes, Ross, & Meraj, 2013). Tsinidou, Gerogiannis, and Fitsilis (2010) found that, for academic staff, it was observed that communication skills was the most important criterion, followed by friendliness/approachability. This shows that the participants in the survey regarded teachers' personality traits as more important than their professional skills, setting great store on having good interpersonal relations with their teachers. Arambewela and Hall (2009), meanwhile, found that the education construct highlights the fact that feedback from lecturers, good access to lecturers and quality of teaching are perceived to be the most important variables influencing student satisfaction. Many authors, for example J. Douglas, A. Douglas, and Barnes (2006), Hill, Lomas, and MacGregor (2003), Newell (2013), Petruzzellis, D'Uggento, and Romanazzi, (2006) and Smyth, Houghton, Cooney, and Casey, (2012), on the other hand, find the most commonly occurring factors influencing student satisfaction to be those related to the quality of teaching and the learning experience, such as the enthusiasm of teaching staff and their knowledge of the subject, course content, punctuality/quality of feedback and classroom delivery.

Programme issues

Tahar (2008) postulates that students define quality based on five dimensions, namely ability to create career opportunities, issues of the programme, cost/time, physical aspects and location. In a study conducted by Abdullah (2005), meanwhile, it was observed that within the higher education context, major determinants of student satisfaction included both academic and non-academic aspects and issues related to programmes, access and reputation. Ali, Zhou, Hussain, Nair, and Ragavan (2016) also found a significant effect of programme issues on student satisfaction. Among all the dimensions they tested, programme issues and academic aspects had the highest mean scores, which suggests that the range and design of programmes offered, their flexibility and a robust curriculum are most important in forming perceptions of service quality.

The growing competitiveness in student recruitment among higher educational institutions has created a need to assess the effectiveness of academic programmes and student support services. According to Martirosyan (2015) a number of factors in this regard affect student satisfaction, such as quality of programmes, instructional effectiveness, student support facilities, internet and library access, administrative staff efficiency, and individual demographic characteristics. Since the 1990s, an increasing number of universities have created programmes to compete for well-qualified students (George, 2007). Indeed many trends can be identified in terms of how institutions make their programmes more attractive to students.

Support facilities

Student support facilities, internet technology and library services in particular, play an important role in students' success in postsecondary education (Martirosyan, 2015). The number of studies on the relationship between student support facilities and student satisfaction is relatively large (e.g. Arambewela, Hall, & Zuhair, 2005; Mai 2005; Petruzzellis, D'Uggento, & Romanazzi, 2006). Libraries stimulate academic and research activities by providing access to world-class information resources (Hossain and Islam, 2012). As libraries provide resources that students use in their studies, Sandberg Hanssen and Solvoll (2015) note that it is reasonable to assume that students who are satisfied with the library resources available to them also exhibit higher levels of overall satisfaction. This assumption has indeed been confirmed. Price, Matzdorf, Smith, and Agahi (2003) reported on the impact of facilities on undergraduate students' choice of university. They surveyed a number of universities and found that quality of library facilities was one of the top eight reasons influencing enrolment. In a research conducted by J. Douglas, A. Douglas, and Barnes (2006), meanwhile, with regard to facilities, students ranked the importance of information technology facilities very highly, reflecting the usefulness of connection to the internet for research purposes and software packages for producing high quality word-processed doc-

umentation for coursework assignments and dissertations. The ancillary services, for example catering facilities and vending machines, on the other hand, were found to be relatively unimportant to students, but regardless of these findings, many universities are developing retail and commercial units on their campuses. The findings of the study by McLaughlin and Faulkner (2012) highlight the fact that active student learning more often occurred outside the classroom in informal ad hoc spaces. They emphasise that university students want flexible learning spaces that can adapt to individual and collaborative work with a strong emphasis on social learning and the use of advanced technologies. Temple (2008), meanwhile, argues that building design has to give more consideration to the social underpinnings of learning, for example by providing welcoming and flexible spaces, including informal meeting spaces.

Administration and other support staff

In order to deliver a high level of student satisfaction, all employees of a university should adhere to the principles of quality customer service, whether they be front-line contact staff involved in teaching or administration or non-contact staff in management or administrative roles (Banwet & Datta, 2003). Sohail and Shaikh (2004) found that the contact personnel were the most influencing factor in students' evaluation of service quality He found that it impacted directly on students and influenced their perceptions of the quality of the whole institution. Most important for students was that the office had a professional appearance, the staff dressed smartly and were never too busy to help, and the office hours were personally convenient. Tsinidou, Gerogiannis, and Fitsilis (2010), meanwhile, state that regarding administration services, the provision of correct directions and advice on administrative issues is the top priority for students. Students see the administration service as the authoritative source of information on matters relating to their studies and place great importance on receiving good advice. And they also place considerable importance on the friendliness of the service, a perception created on the basis of the interpersonal relations they have in their dealings with it.

Physical environment

University facilities, and the management of these, play an important role in achieving the goals of the university by providing students and employees with an effective infrastructure as a basis for university functions (Kärnä, Julin, & Nenonen, 2013). Price, Matzdorf, Smith, and Agahi (2003) find that a university's physical facilities represent an important factor for students when choosing a higher education institution. Sohail and Shaikh (2004) also find that the physical environment – layout, lighting, the feel of the classrooms, the appearance of buildings and grounds, and overall cleanliness – significantly contributed to students' concepts of service quality. Yusoff, McLeay, and Woodruffe-Burton (2015), meanwhile, found that students want the classroom environment to be conducive to learning, the variables bearing strongly on this factor including decoration, layout, furnishings, teaching and learning equipment, lighting, cleanliness, and the overall feel of the lecture and tutorial rooms. As Oldfield and Baron (2000) note, students spend a lot of time within the classroom environment, and therefore it is no surprise that they would prefer an environment that is comfortable and conducive to learning. Kok, Mobach, and Onno (2011) argue that the more facility services directly affect the educational process, the higher their potential contribution to educational achievement will be. They see facility management services such as lighting systems, heating, ventilation and air-conditioning systems, acoustic systems, the design of classrooms, audio-visual/information technology equipment, and cleaning and maintenance as having a direct and major effect on the educational outcome. Other facility services, such as building design, physical layout and fitting out of buildings, internal decorations, plants and catering, have a more indirect influence on the educational process and also a lesser effect on staff and student satisfaction.

Social life

Social life has also been identified as one of the important dimensions of student satisfaction (C. B. Schertzer & S. M. B. Schertzer, 2004). Exploring the impact of social integration on college student satisfaction and retention was one of the purposes of a quantitative study conducted by R. Liu and R. Liu (2004). The results indicated that while academic integration, social integration and academic performance all had a positive impact on overall student satisfaction, interestingly it was social integration that was the most influential factor. In addition to libraries, offices, laboratories and so on, universities also offer social areas where students can relax, study and spend time together. According to Sandberg Hanssen and Solvoll (2015), it is the social areas at the university that are most strongly associated with overall satisfaction. Arambewela and Hall (2009), meanwhile, state that it is the quality of the social areas, auditoriums and libraries that most strongly influence students overall satisfaction with the facilities. They consider the counselling services, social activities, close working relationships with other students and international orientation programmes the most important variables within the social construct that influence student satisfaction.

Location of the higher education institution

As mentioned above, Tahar (2008) postulated that students define quality based on five dimensions and that one of these is location. According to Tsinidou, Gerogiannis, and Fitsilis (2010), too, the location of the higher education institution seems to be an issue for students, since they report transport cost and the frequency of the transport service as factors important to them. Meanwhile, Kärnä and Julin (2015) stress the importance of bus stop locations, maintenance of cycle-ways and walkways and safety. According

to their results, car parking arrangements and outdoor area cleanliness are also very important to students.

Demographic factors

As already noted, student satisfaction is a complex concept consisting of several dimensions, and demographic factors are one of these. Appleton-Knapp and Krentler (2006) state that a variety of factors seem to influence student satisfaction, with relevant factors in the personal category being the student's gender, temperament, preferred learning style and average grade. According to Poon and Brownlow (2015), demographic backgrounds have an impact on student satisfaction. The demographic data considered in their study include gender, age, degree class, mode of attendance, mode of study, country of origin and type of university (i.e. whether the university is old or new).

3 Method

Sample

The target population for this study was limited to students at the University of Maribor in Slovenia in the academic year 2017/18. Students were verbally informed of the nature of the research and invited to freely participate. They were assured of anonymity. The Ethical Committee for Research in Organizational Sciences approved the study.

The research involved 233 students: 120 participants (51.5%) were male and 113 (48.5%) were female, with a mean age of 20.33 years (SD=4.21, range=18–50 years). More than half (57.1%) of the participants were using a blended mode of study (e-*learning* combined with traditional *classroom)*, 42.9% attending traditional courses. The majority (74.7) were bachelor students, the remaining 25.3% master's students. The general data is presented in Table 1.

Data collection instrument

The questionnaire contained 86 closed questions referring to (i) general data (gender, age, average grade, mode of study, study level, year of study), (ii) teaching staff, (iii) programme issues, (iv) support facilities, (v) administration and other support staff, (vi) physical environment, (vii) social life, and (viii) location of the higher education institution. For the items from (ii) to (viii), we used a 5-point Likert scale from not important at all (1) to very important (5), with larger values indicating stronger impor-

Table 1. Frequency distributions of the study variables

Gender	Male		120	51.5%
	Female		113	48.5%
Mode of study	Traditional		100	42.9%
	Blended		133	57.1%
		1st year	91	52.3%
	Bachelor	2nd year	43	24.7%
Study level		3rd year	40	23.0%
	Master's	1st year	31	52.5%
		2nd year	28	47.5%

Table 2. Descriptive statistics for satisfaction factors and homogeneous subsets using Friedman test

			Sample averages			
Satisfaction factor	Mean	SD	Subset 1	Subset 2	Subset 3	Subset 4
Support facilities	3.48	0.63	3.02			
Location of the institution	3.56	0.65	3.31	3.31		
Social life	3.51	0.92	3.43	3.43		
Physical environment	3.68	0.69		3.83		
Programme issues	3.82	0.50			4.25	
Administration and other support staff	3.96	0.66				5.00
Teaching (academic) staff	4.00	0.47				5.17
Test statistic			1.006	7.135		0.210
Sig (2-sided)			0.885	0.065		0.974

tance. The individual items in these groups are provided in the Appendix. In addition, the questionnaire contained a question concerning disseminating information relating to the students' satisfaction with the higher education institution. We used a 5-point Likert scale from definitely not (1) to definitely (5), with larger values indicating higher probability for spreading the information. The instrument was compiled on the basis of literature review.

For statistical analysis purposes, the groups (ii) to (viii) were developed as a composite index measuring overall student perception by averaging the responses to items in each group. Internal consistency of the scales forming groups (ii) to (viii) was assessed using Cronbach's alpha. The results showed strong internal consistency in each individual group, with a Cronbach's alpha of 0.90 for teaching (academic) staff, 0.82 for programme issues, 0.87 for support facilities, 0.90 for administration and other support staff, 0.88 for physical environment, 0.92 for social life, and 0.85 for location of the institution.

4 Results

In order to respond the first research question, mean values and standard deviations of the responses to individual items in groups (ii) to (viii) were calculated (see Appendix). Next, Friedman test was conducted to assess which satisfaction factors were a priority for the students (see Table 2). There were significant differences among the distributions of the responses for the satisfaction factors (Chi-Square=216.878, p=0.000). The satisfaction factors can also be formed into four homogeneous subsets. The first subset consists of support facilities, location of the institution and social life (the factors with the lowest average response values). Location of the institution and social life can also be classified into the second subset together with physical environment. Third is the subset with programme issues. Finally, administration and other staff support and teaching (academic) staff (the factors with the highest average response values) are joined in the last subset. The distributions of the responses for the factors within these four subsets are not significantly different.

Independent samples t-test was used to examine whether a significant difference exists between two groups (i.e. related to gender, study level or mode of study) for each individual satisfaction factor (see Table 3). Female students registered significantly higher mean values than male students for programme issues and administration and other staff support. According to the study level, statistically significant differences were found for support facilities, physical environment, social life and location of the institution, to which bachelor students attribute greater importance than master's students. Differences related to the mode of study were detected only for the physical environment, with students using a traditional mode of study attach greater importance to it than their counterparts using a blended mode of study.

The relationships between the year of study and satisfaction factors were tested using a one-way ANOVA for bachelor and master's students separately (see Table 4). The only significant difference for bachelor students was confirmed for teaching (academic) staff. Hochberg's GT2 post-hoc comparisons of all possible pairs of means revealed that this satisfaction factor has a greater impact on the satisfaction of first-year bachelor students than on that of third-year bachelor students. Meanwhile, first-year master's students found all the satisfaction factors more relevant than second-year students.

The correlations between satisfaction factors and selected study variables (age, average grade and readiness to spread information) were tested using Pearson correlation coefficients (two-tailed). Age was found to have weak but significant negative correlation with support facilities (−0.20), physical environment (−0.20), social life (−0.30) and location of the institution (−0.23): the greater the age, the less the importance of these factors. A significant negative correlation was also observed for average grade with physical environment (−0.19) and location of the institution (−0.13). With a higher average grade, the relevance of these two factors for student satisfaction decreased. Pearson correlation coefficients among the satisfaction factors and readiness to spread information about satisfaction with higher institution were all found to be positive and statistically significant (see Table 5).

5 Discussion

Seven constructs referring to student satisfaction were investigated in this study: teaching staff, programme issues, support facilities, administration and other staff support, physical environment, social life and location of the higher education institution. According to the literature preview, these factors are significant predictors of student satisfaction.

The results of the study revealed that the teaching staff play the most important role in student satisfaction (*M=4.00, SD=0.47*) (see Table 2). These findings reinforce the studies carried out by Marzo-Navarro, Pedraja-Iglesias, and Rivera-Torres (2005), Martirosyan (2015) and others, who identified teaching factors as the most important factors affecting satisfaction overall. Within the factors under teaching staff, it was observed that friendliness was the most important criterion (see Appendix), followed by helpfulness, communication skills and concern shown when a student has a problem. It can be seen that students emphasis interpersonal factors over the academic qualifications of the teacher and his or her research activity and links to business. Tsinidou, Gerogiannis, and Fitsilis (2010) also found that personality traits are more important to students than the professional skills of the teaching staff. What is also very important to students, however, is

Table 3. Descriptive statistics for satisfaction factors by gender, study level and mode of study and the results of t-tests

	Gender					Study level					Mode of study				
	Male		Female			Bachelor		Master's			Traditional		Blended		
Satisfaction factor	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t	Mean	SD	Mean	SD	t
Teaching (academic) staff	3.95	0.47	4.04	0.47	−1.46	4.00	0.46	3.97	0.51	0.45	3.98	0.49	4.01	0.46	−0.38
Programme issues	3.76	0.48	3.89	0.51	−2.00*	3.83	0.49	3.80	0.52	0.37	3.79	0.52	3.85	0.49	−0.89
Support facilities	3.45	0.71	3.51	0.54	−0.76	3.56	0.63	3.25	0.58	3.27**	3.54	0.65	3.44	0.61	1.17
Administration and other support staff	3.89	0.64	4.04	0.67	−1.85*	3.98	0.67	3.91	0.64	0.75	3.97	0.67	3.96	0.65	0.13
Physical environment	3.69	0.73	3.68	0.64	0.14	3.77	0.67	3.42	0.67	3.49**	3.80	0.70	3.60	0.66	2.24*
Social life	3.50	0.93	3.52	0.91	−0.18	3.67	0.87	3.05	0.89	4.70**	3.48	0.93	3.54	0.91	−0.50
Location of the institution	3.54	0.68	3.58	0.62	−0.55	3.62	0.63	3.37	0.68	2.60**	3.61	0.64	3.53	0.66	0.91
*: p<0.05; **: p<0.01															

Table 4. Descriptive statistics for satisfaction factors by study level and year of study and the results of ANOVA

	Bachelor								Master's				
	1st year		2nd year		3rd year				1st year		2nd year		
Satisfaction factor	Mean	SD	Mean	SD	Mean	SD	F		Mean	SD	Mean	SD	F
Teaching (academic) staff	4.10	0.48	3.93	0.42	3.88	0.43	3.93*		4.13	0.50	3.79	0.47	7.18**
Programme issues	3.89	0.55	3.84	0.38	3.68	0.44	2.56		4.00	0.46	3.58	0.50	11.53**
Support facilities	3.61	0.65	3.52	0.58	3.49	0.64	0.60		3.46	0.54	3.03	0.56	9.22**
Administration and other support staff	4.09	0.68	3.87	0.63	3.86	0.65	2.43		4.08	0.62	3.72	0.62	4.91*
Physical environment	3.85	0.69	3.70	0.54	3.67	0.75	1.33		3.60	0.70	3.22	0.58	5.10*
Social life	3.66	0.83	3.82	0.95	3.51	0.88	1.34		3.28	0.94	2.79	0.76	4.92*
Location of the institution	3.67	0.60	3.68	0.64	3.45	0.65	2.02		3.63	0.71	3.09	0.53	10.88**
*: p<0.05; **: p<0.01													

Table 5. Correlations between satisfaction factors and selected study variables

Satisfaction factor	Age	Average grade	Readiness to spread information
Teaching (academic) staff	−0.06	0.00	0.40**
Programme issues	−0.04	−0.04	0.53**
Support facilities	−0.20**	−0.11	0.34**
Administration and other support staff	−0.07	0.08	0.36**
Physical environment	−0.20**	−0.19**	0.22**
Social life	−0.30**	−0.06	0.28**
Location of the institution	−0.23**	−0.13*	0.40**

*: Correlation is significant at the 0.05 level
**: Correlation is significant at the 0.01 level

teaching staff subject expertise and their ability to explain well. In the study conducted by Arambewela and Hall (2009), feedback from lecturers, good access to lecturers and quality of teaching were also perceived to be the most important variables influencing student satisfaction.

The second, also very highly assessed, construct was administration and other staff support (*M=3.96, SD=0.66*). The most important factors here were responsiveness of the administrative staff and friendliness and helpfulness, followed very closely by communication skills and career support. Tsinidou, Gerogiannis, and Fitsilis (2010) also found that students place great importance on administrative services and the friendliness thereof.

Next were the programme issues (*M=3.82, SD=0.50*), the most important factors within this construct being accessibility of study material, quality of the programme, interest of content, the programme's correspondence with the needs of existing job markets (career opportunities) and the contemporaneousness of the programme. Ali, Zhou, Hussain, Nair, and Ragavan, (2016) and Martirosyan (2015) also found a significant effect of programme issues on student satisfaction, especially the quality of the programme, and Tahar (2008) postulated that students define career opportunities as one of the most important higher education quality dimension factors.

Programme issues were followed by physical environment (*M=3.68, SD=0.69*), where toilet facilities were assessed as the most important factor, followed by overall cleanliness and living conditions (lighting, air quality and temperature). These results are in line with the findings of Sohail and Shaikh (2004) and Kok, Mobach, and Onno (2011), who also found that physical environment, e.g. lighting, heating, ventilation and overall cleanliness, significantly contribute to students' concepts of service quality and to their satisfaction. Classroom decoration was perceived by students to be least important. This aligns with Kok, Mobach, and Onno (2011) findings that building design, internal decoration and plants have a more indirect influence on student satisfaction.

Location of the institution (*M=3.56, SD=0.65*) ranked fifth among the constructs, the most important factor being institution accessibility, followed by outdoor area cleanliness, location overall, security and availability of parking. Kärnä and Julin (2015) also stressed the importance of location, safety, car parking arrangements and outdoor area cleanliness.

Very close in terms of importance to location of the higher education institution was social life (*M=3.51, SD=0.92*), the most influential factor contributing to student satisfaction being counselling services, followed by close working relationship with peers and international collaboration. Arambewela and Hall (2009) also consider student counselling services, close working relationships with other students and the international orientation of programmes the most important variables within the social construct that influence student satisfaction.

Last, support facilities were rated as the least important group of factors influencing student satisfaction (*M=3.48, SD=0.63*). Among the factors here, internet access was considered the most important, followed by the availability of advanced information technologies and ease of borrowing from libraries. Recreation facilities were perceived by students to be the least important factor within this construct, with catering facilities also rated as relatively unimportant. Martirosyan (2015) also considers that among student support facilities, information/communication technologies and library services play an important role in students' satisfaction. And in a research conducted by J. Douglas, A. Douglas, and Barnes (2006), students ranked the importance of information technology facilities and the usefulness of connection to the internet very highly, whereas catering facilities and vending machines were not deemed that important to them.

Student satisfaction is a complex concept and one influenced by many different factors. According to many authors (e.g. Appleton-Knapp & Krentler, 2006; Poon & Brownlow, 2015), both demographic and personal factors also influence student satisfaction. In our study, significant

differences between gender were found for two groups of satisfaction factors, i.e. programme issues (*t=−2.00, p=0.02)* and administration and other staff support (*t=−1.85, p=0.03)*, both seeming to be more important to women than men (see Table 3). An inverse relationship between study level and satisfaction criteria was found. Bachelor students found satisfaction criteria, for example support facilities (*t=3.27, p=0.00)*, physical environment (*t=3.49, p=0.00)*, social life (*t=4.70, p=0.00)* and location of institution (*t=2.60, p=0.00)*, more important than master's students. We found that the higher the level of the class, the lower the ratings of the importance of satisfaction factors were (see Table 4). Although at bachelor level differences are statistically significant only for teaching staff criteria (*F=3.93, p=0.02)*, at master's level the differences are statistically significant for all satisfaction factors. There were no statistically significant differences between the cohorts studying under traditional and blended modes except in their assessment of the importance of physical environment (*t=2.24, p=0.01)*. Physical environment appears to be more important to students studying in a traditional mode than to those studying in a blended one, which makes sense since blended-learning students do not need to be physically present at the educational institution as often.

We also wanted to know if there was any correlation between the importance of satisfaction factors and the student's age, average grade and likelihood of disseminating information on their satisfaction with the institution. We found that age shows a weak but significant negative correlation at the 0.01 level with support facilities, physical environment, social life and location of the institution (see Table 5): the higher the age, the lower the importance of the satisfaction factors. A significant negative correlation was observed for average grade with physical environment at the 0.01 level and location of the institution at the 0.05 level: with a higher average grade, the relevance of these two factors decreases. The correlations among the satisfaction factors and readiness to spread information about the higher education institution were all positive and statistically significant at the 0.01 level. Students rated the probability of disseminating information relating to their satisfaction with the institution relatively high (*M=4.04, SD=0.86*).

6 Conclusion

According to our research, the most important factor influencing student satisfaction is teaching staff attitude towards students. It is evident that lecturers remain students' primary contact for both academic and non-academic issues. In order to improve student satisfaction with teaching staff at higher education institutions, good relationships between teachers and students should be established, and high responsiveness and assistance from teachers is essential. Teaching staff could benefit from training to improve their communication skills, as this criterion is of such high importance to students. This would result in greater student satisfaction, as it is clear from researches carried out worldwide that the role of teachers in the overall satisfaction of students is very important.

The results of this study show that students are very concerned about career prospects and that they expect that their programme matches the needs of existing job markets. They expect the programme to be of high quality, contemporaneous and interesting in terms of content. We believe that greater satisfaction with teaching staff would also increase the satisfaction with the study programme, as this also depends on the educators, i.e. on their structuring, designing and delivering of the subject they teach in a given study programme.

Regarding administrative support, friendliness, responsiveness, helpfulness, availability and advice, especially career advice, are the top priorities for students. Another important supportive factor is internet access and the availability of advanced information technologies. Institutions should therefore pay attention to these factors, as they also seem very important in building student overall satisfaction. According to the literature preview, social areas at the faculty are most strongly associated with overall satisfaction with faculty facilities. And in this study, students also emphasised good peer relationships. This suggests that for institutions aiming to improve student satisfaction, it would be sensible to prioritise the social areas, such as hallways and areas where students may choose to relax and interact socially between lectures and classes.

The paper shows which factors of the higher education institution system have the greatest impact on students' satisfaction. Using these factors, institutions can research students' levels of actual satisfaction and use the results to identify and then work towards resolving any weaknesses. It is assumed to be more likely that satisfied students' acquired knowledge will be greater, and consequently their study results better. Satisfied students tend to be more competitive in the labour market, to have higher incomes and to be more satisfied generally, which in turn raises the reputation of the institution they attended. Students' satisfaction also has a strong impact on their identification with the higher education institution, which in turn has an impact on the recruitment, enrolment and global ranking of said institution. Furthermore, if students were satisfied during their studies, it is more likely that they will cooperate with the higher education institution after completing them via professional visits, alumni and other activities. By understanding the factors pertaining to student satisfaction, the higher education institution can optimise the use of time and resources for acquiring students and retaining students in the study process. The questionnaire can be used for periodic research on perceived students' importance of satisfaction factors. New factors, such as digitalisation and implementation of new technologies in

higher education (artificial intelligence, machine learning, the internet of things, virtual reality, virtual assistants, robotics, block chain technology, etc.) can be added.

The paper also provides the basis for further research in determining differences in the importance of student satisfaction factors among different countries or different cultural environments. These findings can then serve for better understanding of cultural diversity in higher education institutions as more and more students come from different countries. In short the results can be used for the improvement of the higher education institution system and through this to gaining more students.

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Appendix: Descriptive statistics of the satisfaction factors importance

Teaching (academic) staff	**Mean**	**SD**
The quality of teaching staff instruction	4.01	0.68
The teaching staff competences and professionalism	4.09	0.72
The teaching staff subject expertise	4.29	0.65
The teaching staff feedback on student performance	3.86	0.83
The teaching staff objective grading	4.04	0.83
The appropriateness of the tests and assessment method	3.99	0.79
The approachability of the teaching staff	4.12	0.86
The friendliness of the teaching staff	4.31	0.77
The teaching staff communication skills	4.24	0.78
The concern shown when you have a problem	4.24	0.73
The helpfulness of the teaching staff	4.28	0.74
The teaching staff responsiveness	4.04	0.81
The consideration of student differences	3.74	0.94
The teaching staff enthusiasm	3.79	0.84
The teaching staff capability of good explanation	4.21	0.77
The teaching staff capability of making the subject interesting and intellectually stimulating	4.09	0.81
The teaching staff research activity	3.63	0.83
The teaching staff professional experience	3.99	0.82
The teaching staff academic qualifications	3.35	1.08
The teaching staff links with enterprises	3.63	0.96
Programme issues	**Mean**	**SD**
The course diversity of the programme	3.69	0.87
The quality of the programme	4.02	0.80
The contemporaneousness of the programme	3.97	0.80
The interesting content of the programme courses	4.00	0.86
The programme workload	3.75	0.83
The course structure of the programme	3.80	0.75
The possibility to choose the mode of study (traditional, blended)	3.86	0.95
The timetable of the programme	3.89	0.91
The difficulty of the programme	3.73	0.75
The programme's correspondence to the needs of existing job markets (career employment prospects)	4.00	0.92
The accessibility of lecturing/studying materials	4.04	0.81
The programme tuition fee	3.30	1.23
The opportunities for postgraduate programmes	3.85	0.95
The opportunities to perform part of the programme abroad	3.58	1.16

Appendix: Descriptive statistics of the satisfaction factors importance (continued)

Support facilities	**Mean**	**SD**
The library resources (up-to-date books and journals in the library)	3.58	0.95
The library working hours	3.36	0.91
The easy borrowing process	3.72	0.85
The e-library	3.64	0.89
The library equipment	3.47	1.02
The advanced information technology facilities	3.82	0.81
The internet access	4.11	0.93
The catering facilities	3.24	1.12
The vending machines	3.53	1.08
The flexible learning spaces outside the classroom	3.19	1.07
The labs facilities	3.15	1.03
The recreation facilities	2.97	1.17
Administration and other support staff	**Mean**	**SD**
The friendliness and helpfulness of the administrative staff	4.07	0.80
The responsiveness of the administrative staff	4.08	0.81
The availability (working hours) of the administrative staff	3.79	0.93
The competences of the administrative staff	3.90	0.89
The administration staff communication skills	3.99	0.87
The library staff expert knowledge and support	3.92	0.88
The career support at the institution	3.99	0.83
The helpfulness of the technical staff	3.96	0.86
Physical environment	**Mean**	**SD**
The classroom layout	3.41	1.08
The classroom furnishing	3.44	1.04
The classroom decoration	2.95	1.11
The classroom teaching and learning equipment (projectors, screens, etc.)	3.77	0.88
The classroom sizes	3.66	1.00
The overall cleanliness	4.11	0.84
The living conditions (lightening, air quality, temperature)	4.06	0.83
The toilet facilities overall	4.18	0.82
The appearance of the building and its surrounding	3.58	1.06
Social life	**Mean**	**SD**
The social activities	3.37	1.13
The close working relationships with peers	3.57	1.03
The extracurricular activities	3.39	1.09
The counselling services	3.69	0.99
The international collaboration	3.53	0.98

Appendix: Descriptive statistics of the satisfaction factors importance (continued)

Location of the higher education institution	**Mean**	**SD**
The public transportation locations	3.44	1.16
The frequency of the transport service	3.46	1.14
The cost of transportation	3.53	1.08
The availability of parking	3.70	1.29
The maintenance of the cycle- and walkways	3.32	1.06
The location overall	3.73	0.95
The institution's accessibility	3.91	0.86
The nearness of the sports facilities	3.24	1.12
The institution's reputation	3.61	0.99
The outdoor area cleanliness	3.74	0.90
The security measures overall	3.73	0.84
The accommodation possibilities	3.31	1.29