

Importance of Institutional Characteristics in Fostering Student Satisfaction in Higher Education in Pakistan

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ABSTRACT

The higher education sector has become more student-oriented and is striving to meet the expectations and needs of students. This research is designed to measure the present status of student satisfaction in the universities of Pakistan and to determine the differences based on institutional characteristics and student satisfaction. A total of 1335 undergraduates enrolled in three public-sector general universities responded to the questionnaire survey. Students were satisfied with the support of teachers in learning and peer relationships. An average degree of satisfaction was noted concerning food, transport, safety, administration support, library services, and selection of elective courses, orientation, and availability of hostel and classroom facilities. Students showed dissatisfaction with psychological and career support, the organization of extra-curricular activities, financial support, and the university's overall facilities. Results revealed the effects of institutional characteristics, including different universities, faculties/ departments, year in university, and current residence of students on student satisfaction. Policymakers should improve the various aspects of the university environment, including administrative policies, practices, physical facilities, teaching quality, food, transportation, safety, library services, orientation, elective courses, hostel and classroom facilities, psychological and career counseling, financial support and peer relationships, which leads to improving the degree of student satisfaction.

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INTRODUCTION

Throughout the globe, the sector of higher education has experienced change of model regarding governance and governmental control (Hemsley-Brown et al., 2016), with institutes of higher education specifically facing the challenge of fierce competition (Musselin, 2018), challenges of supply and demand balance (Riddell, 2018), drastic variations in funding (Wong & Chapman, 2023), and ultimately argument regarding the productivity and success of higher education sector (Antony et al., 2019). This rising global change in market-oriented higher education (Khan & Hemsley-Brown, 2024) engenders a substantial need to investigate students' behaviors, satisfaction, and choices towards higher education (Hemsley-Brown et al., 2016). The vitality of student satisfaction ensures the success of educational institutes as well as students in the higher education sector. Specifically, the fast-paced technology in the present time has accelerated competition among educational institutes. Against this backdrop, the fundamental objective of each educational institute has concentrated on maximizing student satisfaction. This is because the construct of student satisfaction is widely treated as a criterion for measuring the performance of higher educational institutions (Bukhari, 2018; Jereb et al., 2018). This indicates that the concept of satisfaction of students fundamentally goes beyond a criterion for evaluating higher education institutions' performance.

The education system of Pakistan suggests that the tertiary education level starts after 12 years of education, encompassing the age group of 17 and 24. It is offered through higher education institutions and affiliated colleges regulated and funded primarily by the Higher Education Commission (HEC) of Pakistan. In Pakistan, 262 universities and institutions are bifurcated into 153 public and 109 private sectors, with 1,936,326 student enrolment. Though with sincere efforts taken by the HEC from 2002, the higher education sector of Pakistan improved, the service quality of the learning environment in the higher education sector remained an issue, and student satisfaction has not been given priority (Abbasi et al., 2011; Saleem et al., 2012; Bukhari, 2018). Consequently, to gain academic success, student satisfaction must be given importance by the university administration of Pakistan since students always choose those universities with value-added quality and improved degree of satisfaction (Rasheed & Rashid, 2024). In an international context, student satisfaction predominantly relies upon the services provided by higher education

institutions. To realize fundamental objectives, higher educational institutions must be attentive to the elements of service quality. Studies suggest that the higher education sector should improve the provision of quality service and aim to minimize the gap between the service provision and the satisfaction of students (Bukhari, 2018). Research also established that improved provision of service quality is likely to retrieve more significant gains by attracting prospective learners and retaining existing ones because satisfied learners boost positive word-of-mouth behaviors toward other students (Nguyen et al., 2024). It infers that students prefer institutions that maintain improved satisfaction and service quality, ultimately influencing student loyalty.

In Pakistan, the scholarship suggests that student satisfaction is a much less explored area, particularly concerning the impact of institutional characteristics on student satisfaction. Consequently, this piece of research work has been designed to measure the existing status of the degree of student satisfaction in public sector universities in Pakistan and to assess the effects of various variables of institutional characteristics (e.g., different universities, faculties/ departments, year in university, and current residence) on student satisfaction.

LITERATURE REVIEW

Defining and Measuring Student Satisfaction

Generally, the construct of student satisfaction may be regarded as a temporary attitude that is related to the subjective evaluation by students about their expectations of the degree of specific experiences with education (Elliot & Shin, 2002; Elliot & Healy, 2001). Studies have highlighted the multidimensionality of student satisfaction as a construct based on the formation of several expectations from students about how they rate their educational experiences (Weerasinghe & Fernando, 2017; Jereb et al., 2018; Nastasić et al., 2019). Student satisfaction is derived from the concept of customer satisfaction. In business and marketing research, customer satisfaction gained more acceptance and popularity in the higher education sector. From a customer perspective, satisfaction refers to customers' positive experiences after utilizing the product or service. University students are considered real customers since they use the services (Petruzzellis et al., 2006). For that reason, universities around the globe pay more attention to satisfying the needs and expectations of students. By doing so, policymakers attempt to develop an uninterrupted monitoring system to know whether the services offered to the students are fulfilling the needs and expectations of the students, which leads them to remodel the universities (Elliott & Shin, 2002). For the university's success, student satisfaction becomes a critical element for attracting newcomers and sustaining the satisfaction of existing students (Nguyen et al., 2024).

To measure the degree of satisfaction, the researchers have identified several dimensions of student satisfaction to maintain service quality and identify the weak and strong areas of the universities. For example, Elliott and Healy (2001) noted eleven significant satisfaction dimensions, including campus environment, campus support services, campus life, academic advisory services, teaching effectiveness, financial aid, registration, individual focus, safety and security, excellence of service, and student-centeredness. In the context of Pakistan, Bukhari (2018) and Qiuheng & Bukhari (2015) confirmed that the most important dimensions are financial support, social support, teaching support, teachers' expertise, administrative support, supporting staff services, library services, orientation, classroom facilities, hostel facilities, transport, peer relationships, and safety of students. Solinas et al. (2012) recognized three key dimensions of satisfaction, including quality of services, teaching quality, and students' motivational levels. Academic support, welfare support, and infrastructure are the most important dimensions of student satisfaction (O'Driscoll, 2012). The framework forwarded by Sirgy et al. (2010) suggests that overall satisfaction with university life falls into three key constituents: academic features, sociocultural characteristics, and university facilities and services. Likewise, exploring university students' views about their teaching-learning, Wach et al. (2016) determined satisfaction by employing statements across three dimensions relating to the teaching-learning content, the learning conditions, and personal coping with learning. The multidimensionality of student satisfaction as a construct may be recognized by identifying several dimensions that add to higher education students' degree of general satisfaction. Academic perspectives are crucial providers of student satisfaction in higher education. They are linked to reflections, for instance, the perceived teaching quality, instructors' feedback, teaching style, quality of learning experiences, and students' strength in a class (Butt & Rehman, 2010; Weerasinghe & Fernando, 2017; Nastasić et al., 2019). The more common course features the students are enrolled (e.g., curricula, course contents and teaching ads) are also reported to be imperative (Weerasinghe & Fernando, 2017; Duque, 2014; Butt & Rehman, 2010).

Several investigations have confirmed the significance of the above-mentioned attributes in influencing the satisfaction level of higher education students (Nastasić et al., 2019). More common, institution-centered attributes, for instance, accessibility to student services and infrastructure (e.g., transportation and lodging, internet access and administrative services), in addition to the services it presents (e.g., teaching services, sports and leisure facilities, IT facilities, and study-spaces) have also been documented by researchers to influence the satisfaction levels of higher education students (Duque, 2014; Weerasinghe & Fernando, 2017; Jereb et al., 2018). Intangible features of students'

experiences, for instance, the standing and notions about the universities (Jereb et al., 2018), student-centered environment and campus life (Elliot & Healy, 2001), and students' personal experiences during the study (Nastasić et al., 2019) have also been documented. The five most imperative dimensions for measuring student satisfaction that are repetitively pointed out in the scholarship include student experiences with the university, teaching experiences, social experiences, student backgrounds, and institutional characteristics.

Importance of Student Satisfaction in Higher Education

Experts have identified that one of the key indices of performance of higher education institutions in the existing time is student satisfaction with service quality (Butt & Rehman, 2010; Wong & Chapman, 2023). The data on student satisfaction may be used to mark the distribution of national funds across higher education institutions. Many countries have experienced mounting governmental pressure for the regularization of the higher education sector, resulting in growing calls for higher education institutions to increase the quality of their service (Khan & Hemsley-Brown, 2024). Consequently, governments have used quality assurance mechanisms for regulating higher education globally (Jarvis, 2014). This has caused an increase in the tuition fees for bachelor's programs in many countries. Under the financial stress prevalent across the globe, the expenses on higher education are likely to increase, involving the higher education institutions to face this trend of higher costs and simultaneously address students' needs, expectations, and satisfaction (Wong & Chapman, 2023). These concerns look drastically binding when student satisfaction is connected with several institutional aspects. De Jager & Gbadamosi (2010) discovered student satisfaction to be related considerably to several institutional characteristics comprising academic status, lodging and financial assistance, locality and facilities, sports, and campus environment.

Student satisfaction is meaningful to both educational institutions as well as students themselves. It is not merely the satisfaction of students with their learning environment. The higher education literature suggests that a higher degree of student satisfaction may be associated with the accomplishment of significant learning outcomes in higher education. Studies recognize that student satisfaction can impact outcomes, for instance, academic performance, retention rate, and student motivation (Nastasić et al., 2019). These hypothesized connections between satisfaction and vital learning outcomes have obtained reasonable empirical endorsement. For instance, the affirmative relationship between student satisfaction and the performance of students is stated in two higher education-based investigations, where one study used students' tangible academic performance (grades) as predictors (Van Rooij et al., 2018), while the second used knowledge and overall faculty achievement as performance predictors (Mihanović et al., 2016). Alternatively, Duque (2014) has stated robust negative links between student satisfaction and attrition. Conversely, while linking student satisfaction with service quality, studies indicate crucial concerns about considering students as customers. This treatment of students as customers following corporate philosophy may likely devalue educational institutions' true purpose, i.e., preparing students to be future helpful and informed workforce rather than being a source of fee collection (Calma & Dickson-Deane, 2020). Furthermore, if the expectations of students are satisfied by educational institutions by keeping them satisfied, it may cause only a rise in students' grades rather than their actual learning (Hassel & Lourey, 2005).

Institutional Characteristics and Student Satisfaction

Institutional characteristics refer to between-institutions and within-institutions variances, differences in university size, geographical location, selectivity, type of control, student major department or field of study, year in university, and students' current residence (Astin, 2012). By taking these characteristics as an entire observation unit, researchers can capture the essence of students' real university experiences. Student experiences can vary among different universities. Every university offers diverse categories of academic and professional programs. According to Astin (2012) and Gruber (1980), not only do other types of universities vary significantly because there is variation in learning environments and reputation, but similar types of universities also vary. Gruber (1980) identified three significant differences in universities regarding the professions they offer, teacher and student competence, and the university's size.

Theoretically speaking, several researchers found that institutional characteristics significantly contributed to student satisfaction and other learning outcomes (Pascarella, 1985; Pace, 1984; Astin, 2012; Kuh et al., 1994). For example, institutional characteristics such as different departments or sectors, university control, university mission, teacher-student ratio, living standards, and percentage of students from various backgrounds directly or indirectly influence student success and satisfaction (Kuh et al., 2006; Bukhari, 2018). Institutional characteristics, including university type and institutional control, significantly influence student learning experiences, gains, and other factors (Hu & Kuh, 2001). The characteristics of institutions, such as location and weather conditions, influence student experiences on a large scale (Liang et al., 2012). The theory of student engagement developed by Kuh et al. (2006) suggests that the university's location changes students' decisions since most prefer to choose campuses close to their homes. The theory of quality of efforts developed by Pace (1984) pointed out that student satisfaction varies at different universities. Gruber (1980) confirmed that the type of university where students are enrolled influences student satisfaction. Students belonging to public research universities were less engaged and satisfied than private universities (Hu & Kuh, 2002).

The size of the university and the department are also interrelated with student academic and nonacademic satisfaction (Gregg, 1972). Different departments where students are enrolled are also the most critical predictors significantly affecting satisfaction (Aitken, 1982). Similarly, Umbach & Porter (2002) highlighted that characteristics of departments such as faculty interaction with students, research importance, and ratio of female undergraduates significantly impacted student satisfaction and students' skill development. Hayek & Kuh (1999) also confirmed that student satisfaction was significant for students in major fields. They found that engineering, physical sciences, and biological sciences students had better learning gains and competencies than those from arts, theater, music, humanities, foreign languages, and education. In addition, Kuh et al. (2006) demonstrated that students from mathematics, science, and engineering majors have little diverse experiences, while students from social sciences and humanities majors have good experiences. Those students who enjoy their major show more significant affiliation with their departments, which is associated with student academic and nonacademic satisfaction (Gregg, 1972; Cheng, 2001).

Numerous previous studies have revealed that the number of years of university study significantly impacts student satisfaction (Neumann & Neumann, 1981; Baek & Shin, 2008). Other scholarships also support a similar conclusion; for instance, Rasool et al. (2014) in Pakistan and Hur et al. (2010) in Korea found that senior students were more satisfied than junior students.

Another crucial institutional characteristic is the current residence of the students. In the universities, on-campus living is one of the vital components of the student university life. Throughout this period, students from diverse cultural backgrounds interact with each other, sharing their beliefs, experiences, and traditions by involving themselves in various events, activities, and celebrations under the same roof. Therefore, providing them with an attractive, friendly, and safe environment, living and study facilities, and better services is imperative, making their residential life more comfortable and satisfying. The hostel environment, facilities, and services affect student learning and personal development and influence faculty and peer interactions (Cheng, 2001). Similarly, Pascarella and Terenzini (2005) and Kuh et al. (2006) assert that on-campus students usually get more opportunities to interact with teachers and gain positive experiences that significantly affect their self-concepts, satisfaction, and learning outputs. Students on-campus living experiences are associated with student satisfaction (Pace, 1984; Petruzzellis et al., 2006). Students who live on-campus become more critical thinkers and more satisfied with their university experience than those who live off-campus (Astin, 1977). Numerous studies identified several aspects of student on-campus living experiences. For example, Aitken (1982) identified that the effective services of the hostel provost or ward, physical condition of the dormitory, size, food services, study facilities available at the dormitory, dorm security, and delay in room allotments are the most critical factors that affect student on-campus living experiences and satisfaction. Pace (1984) found differences between on-campus and off-campus students' overall satisfaction regarding their learning gains. Bean and Vesper (1994) also demonstrated that on-campus living positively correlated with student satisfaction. One comprehensive study on student residence satisfaction conducted by Botha et al. (2015) in South Africa concluded several aspects of student hostel life. The most important findings were services and behavior of the hostel warden, services of the house committee, clean and hygienic residence, food quality and waiting timing for food, condition and maintenance of the hostel, occurrence of discriminatory incidents, and safe, sound, and secure residence were positively associated with student residence satisfaction. Other factors, such as student relationships with roommates, the behavior of other students, and peer group relationships, have the most significant impact on student residential satisfaction (Aitken, 1982). Conversely, in Pakistan, Rasool et al. (2014) and Bukhari, (2018) concluded that students are dissatisfied with hostel facilities, especially the food provided in the hostels. Following the guidelines from the existing literature, the hypothetical conceptual framework for this research has been developed, as shown in Figure 1.

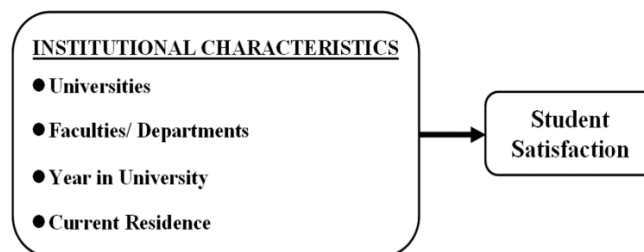


Figure 1: Conceptual Framework

Research Objectives

- To measure the degree of student satisfaction in selected public sector universities
- To assess the effects of different universities on student satisfaction
- To assess the effects of various faculties/ departments on student satisfaction
- To assess the effects of a year in university on student satisfaction
- To assess the effects of current residence on student satisfaction

Research Hypotheses

- H₁:** There are statistically significant differences between the mean scores of the institutional characteristics variable (i.e., different universities) on output variable (i.e., Student Satisfaction).
- H₂:** There are statistically significant differences between the mean scores of the institutional characteristics variable (i.e., various faculties/ departments) on output variable (i.e., Student Satisfaction).
- H₃:** There are statistically significant differences between the mean scores of the institutional characteristics variable (i.e., year in university) on output variable (i.e., Student Satisfaction).
- H₄:** There are statistically significant differences between the mean scores of the institutional characteristics variable (i.e., current residences) on output variable (i.e., Student Satisfaction).

RESEARCH METHODOLOGY

Research Tool

The current study used a revised questionnaire translated from Chinese into English, developed by a team from the National College Student Survey, Xiamen University, China (Qiuheg & Bukhari, 2015; Bukhari, 2018). The survey questionnaire is based on a six-point Likert scale, covering 40 statements about the numerous essential aspects of university students' learning experiences. This questionnaire is already been validated in Pakistan's higher education context (Bukhari, 2018). Chronbach Alpha coefficient was used to check the internal consistency of the adapted survey questionnaire. Johnson and Christensen (2024) suggested that a value of Cronbach alpha coefficient close to one demonstrates the perfect reliability of the tool while the threshold value is greater than or equal to 0.07. Below, Table 1 displays the alpha values for overall satisfaction, including all 40 statements and each dimension of student satisfaction separately. All the values ranged from 0.984 to 0.936, demonstrating that the tool is highly reliable.

Table 1: Reliability for All Factors of Student Satisfaction

Name of Factor	Cronbach's Alpha
Support of Teachers in Learning	0.984
Psychological and Career Support	0.978
Hostel and Classroom Facilities	0.970
Food, Transportation, and Safety	0.970
University Facilities	0.969
Extra-Curricular and Fanatical Support Services	0.965
Library Services	0.961
Administrative Support	0.953
Orientation and Elective Course Selection	0.949
Peer Relationships	0.936
Overall Satisfaction	0.959

Profile of the Respondents

The data were collected from 1335 male and female undergraduate students registered in the three general universities of Sindh, Pakistan, including the University of Sindh (n=679), Shah Abdul Latif University (n=438), and Government College University, Hyderabad (n=218). The convenience sampling technique was used to collect the respondents (See Table 2).

Table 2: Respondent Profile

Institutional Characteristics	Category	Frequency	%age
Name of University	Shah Abdul Latif University, Khairpur Mirs	438	32.8
	University of Sindh, Jamshoro	679	50.9
	GC University, Hyderabad	218	16.3
	Total	1335	100.0
Year in University	Freshmen	344	25.8
	Sophomore	338	25.3
	Junior	318	23.8
	Senior	335	25.1
	Total	1335	100.0
Current Residence	On-Campus	444	33.3
	Off-Campus	891	66.7
	Total	1335	100.0
Faculties/ Departments	Philosophy/ Arts/ Humanities/ Literature/ History	147	11.0
	Economics/ Finance / Accounts/ Commerce	147	11.0
	Education	148	11.1
	Social Sciences	207	15.5
	Natural Sciences	362	27.1
	Business/ Administration/ Management Sciences	147	11.0
	IT/ Computer/ Mathematics/ Statistics	177	13.3
Total	1335	100.0	

DATA ANALYSIS

In current research, institutional characteristics are considered independent variables. Institutional characteristics include different universities, faculties/departments, students' current residence, and years in university. Student satisfaction is regarded as the dependent variable. The data were analyzed using SPSS v-25. The degree of student satisfaction was analyzed through descriptive statistics (mean, standard deviation, and percentages). The tentative hypotheses were tested by applying the ANOVA and t-test.

Status of Student Satisfaction

Table 3 displays the descriptive results for overall student satisfaction, including 40 statements and all 10 dimensions of satisfaction. From Table 3, the degree of student satisfaction is split up into three broader groups. The first leading group is those students who rated that they are satisfied from the dimensions of satisfaction including 'peer relationships' (M=4.42; SD=1.166; 68.5%) and 'support of teachers in learning' (M=4.32; SD=1.164; 66.6%). The second group is of those students who rated that they are generally satisfied concerning the dimensions of 'support from administration' (M=3.96; SD=1.344; 59.3%), 'food, transportation, and safety' (M=3.64; SD=1.448; 52.9%), 'library services' (M=3.57; SD=1.432; 51.5%), 'orientation and elective course selection' (M=3.56, SD=1.294; 51.3%), and 'hostel and classroom facilities' (M=3.29; SD=1.347; 45.9%). The last and third group is those students who rated that they are dissatisfied with dimensions include 'psychological and career support' (M=2.87; SD=1.318; 37.5%), 'university facilities' (M=2.69; SD=1.364; 33.8%), and 'extra-curricular and financial support services' (M=2.55; SD=1.277; 31.0%). In terms of overall satisfaction, the mean score was (M=3.57; SD=0.797; 51.4%), which suggests that overall, students are generally satisfied. These results indicated that the degree of student satisfaction is better concerning the dimensions of peer relationships and support of teachers in student learning. There is a need to improve student satisfaction concerning food, safety, support from administration, library services, hostel facilities, library services, classroom facilities, orientation, transportation, and elective course selection. On the other hand, student satisfaction is lower in terms of dimensions, including university facilities, financial support, extra-curricular activities, and psychological and career support (See Table 3).

Table 3: Descriptive Statistics of All Factors of Student Satisfaction

Name of Factors	Sample (n)	Mean	SD	%age
Peer Relationships	1335	4.4245	1.16687	68.5%
Support of Teachers in Learning	1335	4.3283	1.16419	66.6%
Administrative Support	1335	3.9660	1.34466	59.3%
Food, Transportation, and Safety	1335	3.6451	1.44879	52.9%
Library Services	1335	3.5793	1.43254	51.5%
Orientation and Elective Course Selection	1335	3.5673	1.29471	51.3%
Hostel and Classroom Facilities	1335	3.2942	1.34716	45.9%
Psychological and Career Support	1335	2.8727	1.31872	37.5%
University Facilities	1335	2.6908	1.36412	33.8%
Extra-Curricular and Fanatical Support Services	1335	2.5526	1.27751	31.0%
Overall Student Satisfaction	1335	3.5705	0.79792	51.4%

Analysis of Differences Based on Institutional Characteristics Variables in Student Satisfaction

In this study, four independent variables of institutional characteristics are included: different universities, various faculties/ departments, year in university, and current residences. The outcome variable is considered student satisfaction. After ensuring the assumptions of homogeneity of variances, ANOVA and t-test were applied.

Analysis of University-Wise Differences in Student Satisfaction

The one-way ANOVA and the F-statistics between the three different university groups demonstrated that the effects of various universities were significant for student satisfaction, $F(2, 1332) = 54.963, p = 0.000 < 0.001$. The differences also can be found from the means scores of student satisfaction among the three groups of universities, which indicated that students belonging to 'Shah Abdul Latif University' were linked with the numerically minimum mean level of student satisfaction (M=3.30; SD=0.804) followed by 'University of Sindh' (M=3.61; SD=0.751), and 'GC University, Hyderabad' was linked with the numerically maximum mean score of student satisfaction (M=3.95; SD=0.740). It indicated that students belonging to GC University, Hyderabad, were more satisfied than the other two universities. In contrast, students from the Shah Abdul Latif University, Khairpur Mirs, were less satisfied (See Table 4).

Table 4: Analysis of University-Wise Differences in Student Satisfaction

Name of University	N	Mean	SD	F (2, 1332)
Shah Abdul Latif University, Khairpur Mirs	438	3.3063	.80480	
University of Sindh, Jamshoro	679	3.6164	.75117	54.993***
GC University, Hyderabad	218	3.9582	.74032	

Note: ***p < 0.001; **p < 0.01, *p < 0.05

Analysis of Faculty / Department-Wise Differences in Student Satisfaction

The one-way ANOVA and the F-statistics between the various seven groups of faculties/ departments demonstrated that the effects of multiple faculties/ departments were significant for student satisfaction, $F(6, 1328) = 36.296$, $p = 0.000 < 0.001$. The differences also can be found from the means scores of student satisfaction among the six groups of faculties/departments, which indicated that students belonging to Philosophy/ Arts/ Humanities/ Literature/ History were linked with the numerically minimum mean level of student satisfaction ($M=3.05$; $SD=.657$) followed by IT/ Computer/ Mathematics/ Statistics ($M=3.17$; $SD=.916$), Education ($M=3.33$; $SD=.771$), Economics/ Finance/ Accounts/ Commerce ($M=3.63$; $SD=.692$), Business/ Administration/ Management Sciences ($M=3.68$; $SD=.807$), Social Sciences ($M=3.78$; $SD=.763$), and the group of Natural Sciences was linked with the numerically maximum mean of student satisfaction ($M=3.87$; $SD=.636$). It indicated that students from the faculty of natural sciences were more satisfied than those from other faculties/ departments. In contrast, those from the Philosophy/ Arts/ Humanities/ Literature/ History departments were less satisfied (See Table 5).

Table 5: Analysis of Faculty/Department-Wise Differences in Student Satisfaction

Faculty / Department	N	Mean	SD	F(6, 1328)
Philosophy/ Arts/ Humanities/ Literature/ History	147	3.0596	.65767	36.296***
Economics/ Finance/ Accounts/ Commerce	147	3.6355	.69265	
Education	148	3.3340	.77145	
Social Sciences	207	3.7890	.76308	
Natural Sciences	362	3.8716	.63604	
Business/ Administration/ Management Sciences	147	3.6824	.80717	
IT/ Computer/ Mathematics/ Statistics	177	3.1738	.91662	

Note: ***p < 0.001; **p < 0.01, *p < 0.05

Analysis of Year in University Wise Differences in Student Satisfaction

The one-way ANOVA and the F-statistics between the four years in university groups demonstrated that the effects of years in university were significant for student satisfaction, $F(3, 1331) = 36.012$, $p = 0.000 < 0.001$. The differences also can be found from the means scores of student satisfaction among the four groups of year in university, which indicated that students enrolled in 'First Year or Freshmen' was linked with the numerically minimum mean level of student satisfaction ($M=3.28$; $SD=0.755$) followed by 'Second Year or Sophomore' ($M=3.50$; $SD=0.800$), 'Fourth Year or Seniors' ($M=3.61$; $SD=0.746$), and 'Third Year or Juniors' was linked with the numerically maximum mean score of student satisfaction ($M=3.90$; $SD=0.769$). It indicated that junior students enrolled in the third year were more satisfied than all other groups, i.e., first-year students, sophomores, and seniors in their respective universities (See Table 6).

Table 6: Analysis of Year-in-University Differences in Student Satisfaction

Year in University	N	Mean	SD	F(3, 1331)
Freshmen	344	3.2891	.75569	36.012***
Sophomore	338	3.5057	.80088	
Junior	318	3.9000	.76938	
Senior	335	3.6117	.74602	

Note: ***p < 0.001; **p < 0.01, *p < 0.05

Analysis of Current Residence-Wise Differences in Student Satisfaction

The independent-sample t-test between the two current residence groups demonstrated that the effects of current residence were significant for student satisfaction, $t(1333) = -18.093$, $p = 0.000 < 0.001$. The mean scores of students living on-campus (hostel) demonstrated ($M=3.06$; $SD=0.747$) and off-campus ($M=3.82$; $SD=0.698$). It indicated that students living off campus were more satisfied with their respective universities than students living on-campus or in hostels (See Table 7).

Table 7: Analysis of Current Residence Differences in Student Satisfaction

Current Residence	N	Mean	SD	Mean Deference	t(1333)
On-Campus (in Hostel)	444	3.0687	.74716	-.75173	-18.093***
Off-Campus (Outside of the University)	891	3.8205	.69876		

Note: ***p < 0.001; **p < 0.01, *p < 0.05

DISCUSSION

The first research objective is related to the current satisfaction of students enrolled in three general universities in Sindh, Pakistan. This study found that most undergraduates were generally satisfied only with the two dimensions of satisfaction, including support of teachers in student learning and students' relationship with their peers. The students rated five dimensions of student satisfaction that they are moderately satisfied, which needs to be improved. These dimensions include library services, administrative support, food, transportation and classroom facilities, orientation, selection of elective courses, and hostel and classroom facilities. Three dimensions of student satisfaction were rated very low, suggesting that students are very dissatisfied. These dissatisfied dimensions include university facilities, financial support offered to the students, organization of extra-curricular activities, and psychological and career support. Compared with the previously conducted studies (e.g., Qiuhen & Bukhari, 2015; Bukhari, 2018;

Abbasi et al., 2011; Saleem et al., 2012), this study found that students' satisfaction level remained unchanged. Therefore, the higher authorities required immediate attention and action to improve several areas of student learning experiences where students showed dissatisfaction. Students highlighted the areas for improvements such as library services, food facilities, transportation system, administrative support, selection of elective course system, orientation for newcomers, hostel facilities, classroom facilities, and the safety of students, university psychological and career support of the students, financial support, and organization of extra-curricular activities.

In order to recognize the differences between dependent variables, student satisfaction, and independent variables of institutional characteristics, statistically significant differences among three groups of universities were found. Students from GC University, Hyderabad, were more satisfied than students from the University of Sindh, while students from the Shah Abdul Latif University were less satisfied. These differences are because each institution has a different type of environment owing to different administrative policies, practices, facilities, teaching practices, peer relationships, or other aspects of the institutional environment that influence students' outcomes, i.e., satisfaction (Astin, 2012; Qiuheg & Bukhari, 2015; Bukhari, 2018). Statistically significant differences among seven faculties/departments were also found. Students from the faculty of natural sciences were more satisfied than those from other faculties/ departments, while those from the Philosophy/ Arts/ Humanities/ Literature/ History departments were less satisfied. The finding confirms previous research conducted by (Astin, 2012; Umbach & Porter, 2002; Qiuheg & Bukhari, 2015; Bukhari, 2018) that the characteristics of departments significantly impacted student satisfaction. Significant differences between students' current residence and student satisfaction were also found. Off-campus, students were more satisfied than students who lived on-campus. The results are aligned with those (Qiuheg & Bukhari, 2015; Bukhari, 2018) while these results are in opposition to the findings of Astin (1977), who concluded that students who live in dormitories become comparatively more satisfied with their college experience than those who live at the outside of the campus. According to Pakistan's situation, there may be two reasons: first, internal factors, i.e., hostel facilities, including the learning environment and number of roommates, because students were not fully satisfied with hostel facilities provided by universities. It indicated that hostel facilities influence more on student satisfaction. The second may be an external factor, i.e., security issues since the city of Hyderabad has remained hit on strikes from the student and faculty sides in the past. Due to these reasons, hostel students may have less satisfaction than non-hostlers. Another possible reason might be that students from far-flung areas usually stay at hostels; they always remain disconnected from their families because Pakistan culture is family-orientated, and they might feel homesick during stay at hostels, resulting in less satisfaction. Statistically significant differences in satisfaction between years in university were also found. Junior students in the third year were more satisfied than all three groups, i.e., first-year students, sophomores, and seniors in their respective universities. The present findings of the study confirm the results of previous studies conducted by Baek and Shin (2008), which declared that institutional characteristics, i.e., students' year in college, had a significant effect on student satisfaction.

CONCLUSION

In conclusion, this study found that most students were not fully satisfied. Still, they were generally happy concerning the support of teachers in student learning and students' relationships with their peers. On the other hand, students showed an average degree of satisfaction regarding the dimensions of library services, food facilities, transport facilities, hostel facilities, classroom facilities, support from administration, safety and security measures, selection of elective courses, and orientation for newcomer students. In contrast, students showed a high level of dissatisfaction with the dimensions of psychological and career support of students, overall university facilities, arrangement of extra-curricular activities, and offering financial support to the students. The study also noted many differences in institutional characteristics concerning student satisfaction due to different university environments. For example, support was found that there were differences among universities, faculties/ departments, current residence, and year in university on student satisfaction. This study verified that institutional characteristics exerted the effects on student satisfaction.

RECOMMENDATIONS

The current study has several limitations as the study participants were selected from only three universities in Sindh province. A more significant number of study participants from more universities portray different results. Secondly, the data was obtained at one point in time. The longitudinal data may reveal varied results.

Based on this study's findings, several recommendations are submitted to the governmental authorities, the Higher Education Commission of Pakistan, and the management of universities to strengthen educational determinations and make concrete arrangements to deliver quality education and ensure maximum student satisfaction. To provide a healthier learning environment for university students, the institutions of higher education should be attentive to increasing the performances of career and psychological centers, boost the financial support for students, and

promote improved campus facilities, which can add to the students' rich and positive experiences, learning, and their expansion ultimately leading them to greater satisfaction. Because of the prominence of student satisfaction, higher education institutions should cultivate effective apparatuses to measure student satisfaction regularly, and the findings should be made public and furnished with appropriate deliberation. Other areas for consideration are the differences between institutions and within institutions. The study found significant differences in institutional characteristics on student satisfaction. This will help individual universities and particular departments recognize their areas of strengths in which they are performing well and need further improvement. In this regard, there are significant differences among the three universities because some universities provide better facilities and learning environments than others, negatively affecting student learning satisfaction.

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