



## Statistical Analysis of Students' Feedback with the Services of the on Campus Boy's Hostels: A Case Study of Mehran University, Jamshoro

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### Authors' contributions

This work was carried out in collaboration among all authors. Author MM designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors SA and MW managed the analyses of the study under the supervision of authors MM. Authors KAK and MAQ managed the literature searches. All authors read and approved the final manuscript.

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### Abstract

Currently, the hostel life is so necessary for the students. During their higher studies, the students face a lot of problems of accommodation. After the solution of accommodation, the students face the issues in the hostels regarding their provided services. The data of students' feedback is gathered from the Director MIS, MUET, Jamshoro by taking the sample of 60 students from each boy's hostel. For analysis, we use the tool Statistical Package for Social Sciences (SPSS V.16). This study revealed the analysis of two services, water supply and first aid in the seven boy's hostels of MUET, Jamshoro. The null hypothesis is accepted for all hostels except Rashidi, Hyder Bux Jatoi and Shah Abdul Latif. These results determined the strong relationship between the services water supply and first aid. From this study, we suggest to authorities of the university management to provide the necessary betterment regarding the water supply and first aid facilities in Rashidi, Hyder Bux Jatoi and Shah Abdul Latif hostels.

Keywords: Students' satisfaction; significant; facilities.

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## 1 Introduction

Now a day, the accommodation in universities during graduate and undergraduate students in Pakistan is a very big problem. Students' satisfaction plays an important role of both academic and management aspect. It is affirmed to be a fundamental variable to study. To discuss with scholars, families, societies and universities, the problems of students' satisfaction towards hostels has been made. To improve the quality and services of the hostels are a major unease for higher institutions. It is vital to analyze the issues of students' hostel gratification. So, in this sense, to assess the students' satisfaction with accommodation, many concepts or ideas have been compared throughout the various years [1]. Lack of hostel satisfaction leads to mental disturbance, however an urbanization survey satisfied the socio-economic conditions [1]. In the content of education, it is compulsory for higher institutions to recognize the basic needs of an individual in terms of diverse contexts, to escalate hostel facilities equipped with them. The most suitable technique to ensure satisfaction is observing the outcomes and evaluation of the facilities provided suggest as un-satisfaction. Positive un-satisfaction involves when the evaluation of the facilities enhance the intention of the students, although negative un-satisfaction involves when the evaluation of the facilities provided falls short of the students' assurance. Concurrently, if the evaluation fulfils the intention, an authentication involves. It states that the concept of un-satisfaction has sound impact on satisfaction. Hence, it is amazing to visualize how the civilization affects the student's satisfaction. [2,3] revealed the study of the hostels of MUET, Jamshoro with respect to the parameters working condition of electric fans, lighting in the rooms, canteen facility, hygienic condition of the canteen, security at the hostel, dispensary, first aid facility in the nine (both boys and girls) hostels and suggested that the working condition of electric fans, canteen facility, hygienic condition of canteen, security at the hostel and dispensary have been a strong relationship between the results and alternative parameters have been some issues which was not resolved. [4] presented in the study that the students are satisfied with water supply, first aid, laundry and other facilities and suggested for the improvement in the internet connectivity system in the campus and outside the campus. It Shows that the students are displeased with the facilities quality of rooms, kitchen and lobby in the hostels are needed to some improvement and the facilities whether the students is fully satisfied is water supply, general maintenance, first aid / health related issues and cafeteria [5]. [6,7,8] suggested that on campus hostels offered better services for the campus students during the graduate or postgraduate study. Satisfaction with accommodation has been argued in different categories of residential locations (Potter, Chicoine, Speicher, 2001). The Majority of analysis in housing satisfaction had been surveyed in Asian or western countries. Subsequently, Pakistan is an undeveloped country, very elated allocation of money is reserved for the education sector; higher education services are merely reachable in establishing and big cities of Pakistan. Students look a lot of difficulties during the hostel stay like the water supply facility, students contribute their rooms with roomies, moral issues, food problems, family accent, security issues, geyser service in the wintertime, emergency treatment service (first aid) etc. To determine these problems, this research study was investigated in the boy's hostels of Mehran University of Engineering & Technologies (MUET), Jamshoro on the parameter's first aid facility and water supply.

### 1.1 Objectives of the study

- To collect the data of the boys hostels from Director MIS, MUET, Jamshoro
- To analyze the issues of boys hostels on the parameters First Aid and Water Supply facilities.
- To formulate statistical regression model for the analysis.

## 2 Materials and Methods

This study would be comprised the feedback of seven boy's hostels of (MUET), Jamshoro for testing the facilities first aid and water supply provided by the management. The sample of 60 respondents were randomly taken from each hostel for testing. The data were analyzed through statistical techniques like Average, standard deviation, coefficient of variation (CV), coefficient of correlation and simple regression

line. To interpret the significance of the results, t-test were used. The formulas which were used during the studies are:

We using the regression line as:

$$Y = aX + b$$

Where, the intercept of the regression line b is:

$$b = \frac{n \sum X - \sum X \sum Y}{n \sum X^2 - (\sum X)^2}$$

And slope of the line is:

$$a = \bar{Y} - b\bar{X}$$

The coefficient of correlation is:

$$r = \frac{n \sum XY - \sum X \sum Y}{\sqrt{[n \sum X^2 - (\sum X)^2][n \sum Y^2 - (\sum Y)^2]}}$$

The formulas for finding the t-test is:

$$S_e = \sqrt{\frac{\sum y_i^2 - a \sum y_i - b \sum x_i y_i}{n - 2}}, S_b = \frac{S_e}{\sqrt{\sum x_i^2 \frac{(\sum x_i)^2}{n}}} \text{ and } t - \text{statistic is: } t = \frac{b}{S_b}$$

The hypothesis is:

$H_0$ : There is a significant relation between the results.

$H_1$ : There is no significant relation between the results.

### 3 Results and Discussion

Table 1 showing the cumulative statistics of hostels by semester wise and hostel wise. The maximum Mean is 3.75 which is in G.M.Syed hostel and the corresponding coefficient of variation is 50.55237 which is in the Shaikh Abdul Majeed Sindhi hotel. The minimum mean is 2.2 which is in Shaikh Abdul Majeed Sindhi and the corresponding coefficient of variation is 21.161 which is in Abdul Qadeer Khan Afghan hostel. These results shows that the data of the hostel Abdul Qadeer Khan Afghan is more reliable than the other's hostel data.

Table 2 shows the equation of the regression lines with their trends of the hostels for the water supply facility. The trend of only one hostel G.M.Syed is increasing and remaining trends of the hostels is decreasing. From this table we interpret that the relation is negatively distributed of other hostels except G.M.Syed hostel.

Table 3 shows the equation of the regression lines with their trends of the hostels for the first aid facility. The trend of only two hotels (Abdul Qadeer Khan Afghan and Sachal Sarmast) is decreasing and endure trend of hostels is increasing. From this table, we conclude that most of the hostels have positive relation excluding Abdul Qadeer Khan Afghan and Sachal Sarmast hostels.

Table 4 showing the t-test of the hostels for the water supply facility. The null hypothesis ( $H_0$ ) of one hostel (Hyder Bux Jatoi) is rejected and for all other hostels are accepted. These results shows that hyder bux jatoi

hostel is not the significant regarding water supply facility and all other hostels result are significant. So, we accept alternative hypothesis ( $H_1$ ) for one hostel Hyder Bux Jatoi and need to some improvement regarding the water supply facility.

Table 5 shows the t-test of the hostels for the first aid facility. The null hypothesis ( $H_0$ ) of Rashidi and Shah Abdul Latif hostels are rejected and accepted for the endure hostels regarding the First Aid Facility. These results shows that the results of Rashidi and Shah Abdul Latif hostels are not significant and that's why we accept the alternative hypothesis ( $H_1$ ). These two hostels are needed some improvement regarding the first aid facility.

Fig. 1 shows the overall graph of the hostels as regards to the First Aid facility. This figure shows the distribution of all four semesters' averages of the hostels. The maximum average is 3.75 which is in the third semester of the G.M. Syed hostel and the minimum average is 2.2 which is in the second semester of Shaikh Abdul Majeed Sindhi hostel.

Fig. 2 shows the overall graph of the hostels as regards to the Water Supply facility. This figure shows the distribution of all four semesters' averages of the hostels. The maximum average is 3.3 which is in the first semester of the Shaikh Abdul Majeed Sindhi hostel and the minimum average is 2.3 which is in the second semester of Shaikh Abdul Majeed Sindhi hostel. This is also shown that the data of shaikh Abdul Majeed Sindhi hostel has more variation than the other hostels.

**Table 1. Cumulative statistics of the hostels**

Serial No.	Cumulative statistics hostel wise			
	Maximum mean		Minimum mean	
1	3.75	G. M. Syed	2.2	Shaikh Sindhi
	Maximum Coefficient of Variation		Minimum Coefficient of Variation	
2	50.55237	Shaikh Sindhi	21.161	A. Q. K. Afghan
Cumulative statistics semester wise				
1	Maximum mean		Minimum mean	
	3.75	1 <sup>st</sup> Semester (2016)	2.2	2 <sup>nd</sup> Semester (2015)
	Maximum coefficient of variation		Minimum coefficient of variation	
2	50.55237	1 <sup>st</sup> Semester (2016)	21.161	1 <sup>st</sup> Semester (2015)

**Table 2. The equation of regression lines of water supply facility with their trend of line**

S. No.	Hostel	Regression line	Trend of line
1	A. Q. K. Afghan	$y = -0.095x + 3.0517$	Decreasing
2	G. M. Syed	$y = 0.13x + 2.4915$	Increasing
3	Hyder Bux Jatoi	$y = -0.1517x + 3.2751$	Decreasing
4	Rashidi	$y = -0.0983x + 2.925$	Decreasing
5	Sachal Sarmast	$y = -0.0467x + 3.0667$	Decreasing
6	Shah Abdul Latif	$y = -0.015x + 2.8834$	Decreasing
7	Shaikh Sindhi	$y = -0.0717x + 2.95$	Decreasing

**Table 3. The equation of regression lines of first aid facility with their trend of line**

S. No.	Hostel	Regression line	Trend of line
1	A. Q. K. Afghan	$y = -0.1667x + 3.6334$	Decreasing
2	G. M. Syed	$y = 0.13x + 2.6$	Increasing
3	Hyder Bux Jatoi	$y = 0.1767x + 2.475$	Increasing
4	Rashidi	$y = 0.1283x + 2.375$	Increasing
5	Sachal Sarmast	$y = -0.08x + 3.0667$	Decreasing
6	Shah Abdul Latif	$y = 0.1516x + 2.3169$	Increasing
7	Shaikh Sindhi	$y = 0.255x + 2.0333$	Increasing

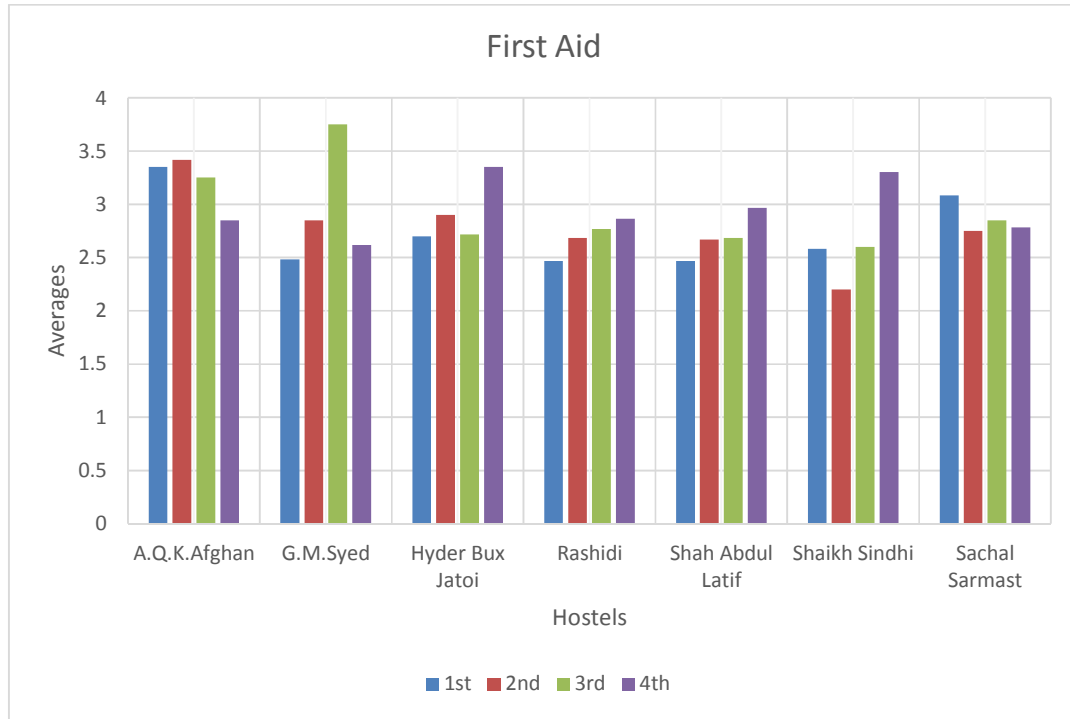


Fig. 1. Graph of the first aid facility of all hostels

Table 4. T-test and hypothesis of the hostels for the water supply facility

S. No.	Hostel	Standard error of B ( $S_b$ )	Test statistic ( $t = \frac{b}{S_b}$ )	Hypothesis ( $t \pm 1.96$ )
1	A. Q. K. Afghan	0.1238561	-0.7670191	ACCEPT
2	G. M. Syed	0.119140673	1.091147	ACCEPT
3	Hyder Bux Jatoi	0.05614614	-2.701877	REJECT
4	Rashidi	0.153052643	-0.64226	ACCEPT
5	Sachal Sarmast	0.154039318	-0.303169	ACCEPT
6	Shah Abdul Latif	0.096268348	-0.15581	ACCEPT
7	Shaikh Sindhi	0.552816074	-0.129699	ACCEPT

Table 5. T-test and hypothesis of the hostels for the first aid facility

S. No.	Hostel	Standard error of B ( $S_b$ )	Test statistic ( $t = \frac{b}{S_b}$ )	Hypothesis ( $t \pm 1.96$ )
1	A. Q. K. Afghan	0.165003368	-1.010282	ACCEPT
2	G. M. Syed	0.667784	0.19467	ACCEPT
3	Hyder Bux Jatoi	0.243909	0.724450	ACCEPT
4	Rashidi	0.047537	2.6989	REJECT
5	Sachal Sarmast	0.133732737	-0.5982080	ACCEPT
6	Shah Abdul Latif	0.077139	1.978	REJECT
7	Shaikh Sindhi	0.390553	0.652920	ACCEPT

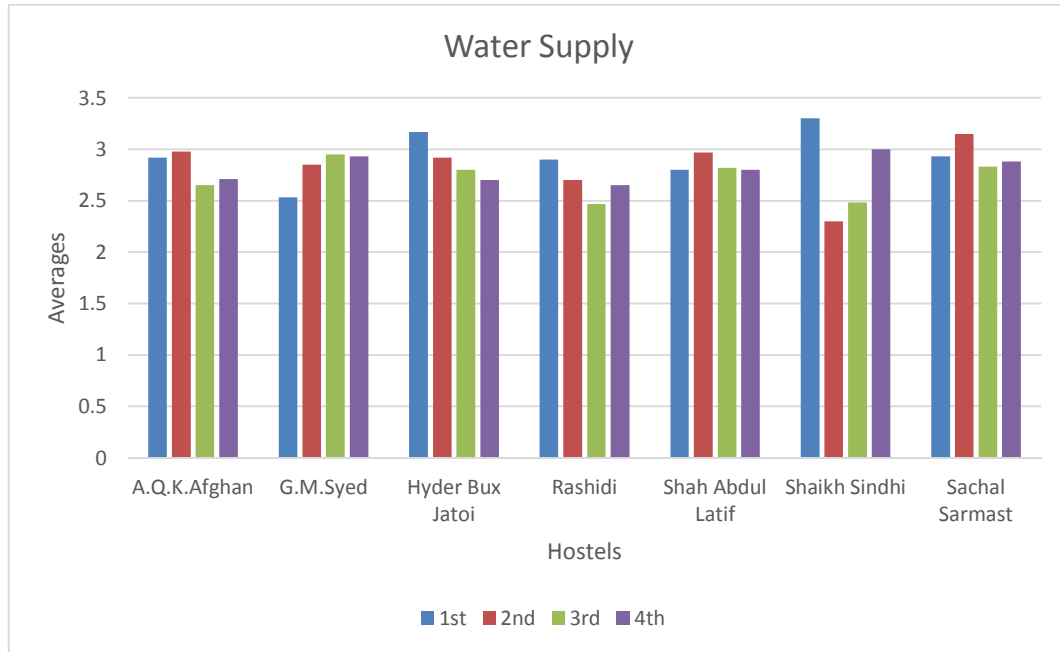


Fig. 2. Graph of the water supply facility of all hostels

## 4 Conclusion

This research study is created on to examine the situation of the accessible facilities in the boy's hostels of the Mehran University of Engineering & Technology (MUET), Jamshoro. Existing condition offers devotion of all the educational establishments i.e. Ministry of Education Government of Pakistan, Higher Education Commission of Pakistan, Chancellors of both Private & Public universities, Vice Chancellors & Rectors, concerned Deans, and everybody authoritative to improve the eminence & values of higher education in the country. This study would be measured as an initial stage to identify the level of fulfillment of university undergraduates in Pakistan. The outcomes of this research can be generalized, if the scope of research covers to further universities & disciplines. The study reveals that the required facilities are equitably sustained and those students are averagely contented with the obtainable services in the hostels. The null hypothesis ( $H_0$ ) is rejected for the Rashidi and Shah Abdul Latif hostel regarding the parameter first aid and Hyder Bux Jatoi hostel regarding the facility water supply and the null hypothesis is accepted for all the other hostels as regards to the parameters water supply and first aid facility. It is concluded that in these three hostels (Hyder Bux Jatoi, Rashidi, Shah Abdul Latif), the required services are not provided in such a way and the data of Shaikh Abdul Majeed Sindhi hostel is not significantly related with any of the parameter of the hostels. It is highly recommended to the higher authorities of the university to improve the required services in the above mentioned hostels regarding the available facilities.

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## Competing Interests

Authors have declared that no competing interests exist.

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