

## Measuring Relationship Between Students' Satisfaction and Motivation in Secondary Schools of Pakistan

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**Abstract:** In this study an analysis of determinants of students' motivation of matriculation level is conducted. The purpose of this study is to explore the impact of activities/services of schools on the motivation of students. Six determinants of motivation of students were identified and their impact was measured. Secondary and higher secondary schools were chosen as a sample of the study and two studies were carried out. Study-1 was carried out in Sargodha district for pilot study with a sample of 416 students of 14 schools. A comprehensive study-2 was carried out in both Sargodha and Rawalpindi districts with a new sample size of 1185 respondents of 40 schools, both public and private, equally. The variables used as determinants of motivation of students included the teacher's performance, quality of education, discipline, infrastructure, facilities and extracurricular activities. A confirmatory factor analysis was run in AMOS for Study-1 to check model fitness, validity and reliability. In Study-2, multiple regression analysis was applied to determine the strength of relationship between the activities of schools and motivation of students, relationship of academic and non-academic satisfaction with motivation and relationship of overall satisfaction with self-motivation.

**Key words:** Schools • Secondary • Students • Satisfaction • Motivation • Sargodha • Rawalpindi • Pakistan

### INTRODUCTION

Education is a first class ticket for life. Education is very much prestigious and high returning investment and rewards in multiple ways. Educational systems which are effective and efficient, they provide greater performance of the students. The strong educational systems which have effective and efficient administration and are willing to provide high quality of facilities and services, those institutions often enjoy more incoming of shining, high performer and talented students.

In the context of education, student satisfaction refers to the favorability of a student's subjective evaluations of the various outcomes and experiences associated with education [1]. As satisfaction is based on experience, student satisfaction is constantly being influenced by the students' overall experiences [2].

Palacio[3] says that in order to make the institutions more efficient and effective, the students' expectations and motivation, academic preferences and perceptions

about quality of the institutions environment or atmosphere should be kept higher by the managements of the institutions. The students of school level particularly at secondary level, they need more high quality services and facilities to be motivated for study at high level education because high quality of services at this level satisfied their esteem and develops them with all the essentials and capabilities to be an effective education personality. Educational institutions which provide higher quality of services and facilities, they have more capable, motivated, good performers and productive students [4]. The students particularly at school level seek empathy, responsiveness, assurance during their academic development process which then equips them with confidence and motivation to compete in the education market place. It is therefore the effectiveness and high performance of the teachers, high quality of education and quality to learn and personality grooming so that the students can take maximum of it [5].

Researchers [6-11] argue that students high motivation and involvement in learning is linked to minimize the dropout rates and increases the success level of students. Therefore, retaining the students interested in their learning in schools and motivating them to achieve success in their schools are the issues that present themselves year after year to even seasoned teachers. So many studies regarding the motivation of students have demonstrated that the student's engagement at their school level decreases as they get older [12]. More and more students become less concerned to their studies when they reach at middle school level and they show lack of interest and many students are not sufficiently motivated to get success at schools, when they reach at high school level [13]. According to Lumsden [13], there are many factors that have influence on the student's interest in learning and educators have no or very little control over those factors. However, researches on student's motivation have demonstrated that teachers have great influence upon the motivation of students; that some practices do work to increase the time spent on task.

Some of the researches also investigated and analyzed the effects of social factor like relationship between students and teachers etc. Gregg [14] analyzed that academic motivation and non academic motivation is directly related with teacher-students relationship and it is negatively related with competitive student-student relationship. Benjamin & Hollings [15] concluded that recent events, family relation, academics satisfaction and evaluation of students affect the life satisfaction of students. They also found that on campus facilities and social activities are not directly related with motivation of students.

Role of teachers and departments was also analyzed by the researches in regard to measure motivation of students. Students were more motivated in the departments in which the teachers were more oriented towards research [16, 17].

Leblanc & Nuyen, [18] analyzed that the students overall experiences by the services offered by their schools or institutions are the determinants of quality of education. Owlia & Aspinwall [19] and Siu & Wilson [20] on their studies on motivation and satisfaction of students argued that to evaluate teaching, the best way is through measuring student's motivation and satisfaction.

In Pakistan Mahmood & Saeed [21] conducted research on status of higher secondary schools scheme in Punjab province of Pakistan and found that pedagogical and pastoral environment in these schools have gradually improved between 1987-94 even in presence of financial constraints, lack of physical facilities etc. Besides a high correlation of enrollment with passing, especially of arts students were observed.

Salfi & Saeed [22] probed to determine the relationship among school size, school culture and students' achievement at secondary level in Punjab province of Pakistan. They were of the view that there are many factors which affect the students' learning in schools which include teachers' qualifications and experiences, teachers' guidance to students, availability of teaching learning resources, physical facilities, students' own cognitive and other abilities and their socio-economic backgrounds.

At Pakistani environment, a large number of students leave school before reaching at high or higher secondary school level. Many of the students are physically present at classrooms but mentally absent from classroom activities, so they fail to indulge themselves in the experience of learning. Awareness about how student's attitude, behavior and beliefs about their learning develop and what facilities and services schools should provide to increase their motivation can assist schools in reducing students apathy. By focusing on the facilities and services provided by the schools to their students the present research offers a theoretical framework for promoting the motivation of students in learning.

**Educational System in Pakistan:** Pakistan is a developing country in South Asia and was founded in 1947 and has a literacy rate of 53%. Among its four provinces of Punjab, Sindh, Balochistan and Khyber Phaktunkhua, Punjab is the most populous one (96.5 million) [23], with highest literacy rate (59.6%) [24]. Since its inception, no significant change/improvement in educational system has brought here, same old British educational system is still in progress. Educational system is monitored by Ministry of Education and Provincial Governments. According to Ministry of Education Pakistan, a literate person is one who can read newspaper and write a simple letter in any language. The educational system of Pakistan consists of junior to higher education. The duration of compulsory education is from age 5 to 15. Formal education system in Pakistan is comprised of following five stages.

- Primary schooling with first 5 classes (I-V) of children of age group 5-9.
- Middle schooling, 3 years duration (VI-VIII) and children age group 10-12.
- Secondary schooling, 2 years duration (IX-X) and children age group 13-15.
- Higher secondary schooling or Intermediate education, 2 years duration (XI-XII).
- Higher education in which bachelor degree is now awarded after 2 years of education and in some disciplines 4 years.

Though at secondary school level both matriculation and General Certificate of Education (GCE), O-level and A-level are available, but majority opts for matriculation and intermediate education system. GCE is available in limited private schools only. Therefore in this research, students of matriculation are approached only for data collection. There are separate schools for boys and girls for secondary and higher secondary level in public schools, whereas in private schools though co-education is available, but in most of the schools there are separate sections for both male and female students. There are 35 districts of Punjab province out of which two Rawalpindi and Sargodha were selected. According to Government of Punjab district literacy ranking, Rawalpindi city has a literacy rate of 79.56% as compared to 55.57% of Sargodha.

**Research Justification:** Student motivation naturally has to do with students desire to participate in the process of learning and education at the institutions. Researchers have defined motivation differently. In general, student motivation refers to the willingness of students' needs, desires and compulsion to participate in and be successful in the learning process [25]. Skinner & Belmont [26] defined the students' motivation as students who are motivated to engage in school, select goals at the border of their competencies, exploit the opportunity when they find and exert their full concentration in the implementation of learning tasks.

According to Lumsden [13], the earliest impact on the motivation of students towards their learning is by their parents and others in the home. When students get admission in the school at that time their level of interest in learning is influenced by the environment of school, the administrators of school, the teachers and class fellows.

It also sometimes seems that the behavior of students cannot be controlled by the teacher but researchers confirm that they always have influence on student's attitude [12].

Performance of teacher in the class and outside the class is an important feature that significantly and positively contributes towards student's motivation and satisfaction. Wachtel [27] provides that students rate their teacher's performance and his style of the teaching as great and most important indicators in the development of their educational career and successful completion of their studies. Umbach & Porter [16] and Thomas & Galambos [17] provided that departments which are well equipped with intellectual faculty members have students with high degree of motivation and satisfaction.

Perceived quality is defined by many researchers. Dyson *et al.*, [28] defined the service quality as the better and standardized output delivered by the product or service. Student's interests in their schools are retained when they feel the high education quality in the institution, good learning atmosphere, intellectual teachers, explicit and implicit service for learning and a good infrastructure of the institutions [29].

Holland [30] presented a theory of careers to understand institutions discipline. The main idea of Holland theory is that behavior is the result of individual's interaction with each other and with the culture in which they are living. Discipline at school level include the proper specification of classes, checking of students uniform and marking the attendance, fine to the late comers and punishment to the trouble making students. Discipline at school level include the proper specification of classes, checking of students uniform and marking the attendance, fine to the late comers and punishment to the trouble making students.

Infrastructure of schools include the classrooms, light and fans and their working conditions in classrooms, class sizes, availability and durability of class room's furniture, availability and cleanliness of toilets and schools building. So Infrastructure can be defined as the basic structure and facilities needed for the operation of institution. Umbach & Porter [16] emphasize that researchers should begin to feel the importance of infrastructure of the institution. These facilities can provide an institution a competitive advantage (Hill, 1995). Guolla [31] provides that motivation of students may be influenced by poor classroom facilities in which teacher have limited resources to change.

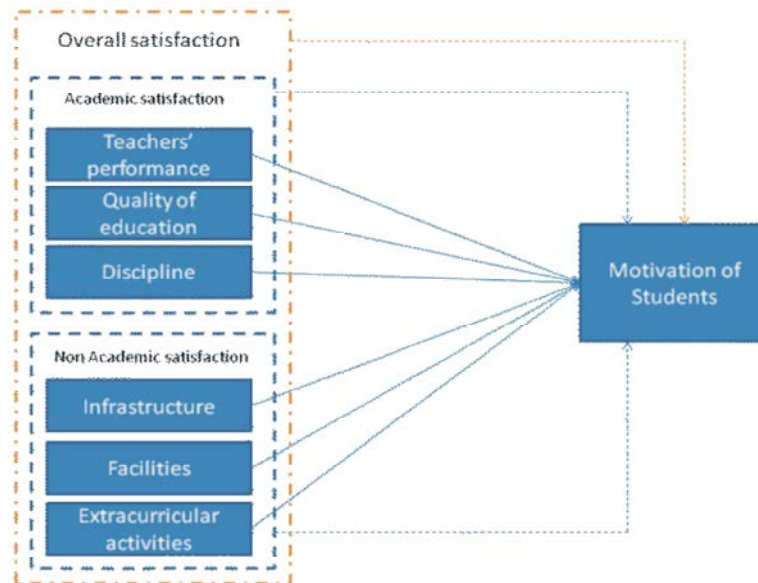


Fig. 1: Theoretical Framework

Letcher & Neves [32] studied the motivation of undergraduate students. They determined eight factors of motivation and one of them was extracurricular activities. Results of their study shown that extracurricular activities have great impact on the motivation of students. They said that the factor named extracurricular activities deals with practical experiences like, student's organization activities, leadership opportunities and access to alumni.

**Research Design:** Principal aim of this research study is to determine the impact of different schools services/activities on the motivation of students at matriculation level. A multiple regression model has been used in this study to assess the contribution of independent variables in predicting the motivation of students of different government and private schools at matriculation level. Independent variables used in this study to assess the motivation of students include teachers' performance, quality of education, discipline, infrastructure, facilities and extracurricular activities, whereas the dependent variable is the motivation of students. Independent variables were further divided into two categories, i.e., academic and non academic. Teacher's performance, quality of education and discipline were included in academic and infrastructure, facilities and extracurricular activities were included in nonacademic activities (Fig-1).

Based on model, first six hypotheses were developed related to six different facilities of schools and their impact was measured on the motivation of students. Hypothesis No. 7 and 8 were related to relationship of academic and non academic satisfaction with motivation and overall satisfaction with motivation of students respectively. Furthermore, difference in the motivation of male and female students and between two groups i.e., science groups and arts group's students was also investigated. For this purpose following ten hypotheses were developed.

- H1: There is a positive relationship between the teacher's performance and motivation of students.
- H2: There is a positive relationship between quality of education and motivation of students.
- H3: There is a positive relationship between school discipline and motivation of students.
- H4: There is a positive relationship between infrastructure and motivation of students.
- H5: There is a positive relationship between facilities of schools and motivation of students.
- H6: There is a positive relationship between extracurricular activities and motivation of students.
- H7: There is a positive relationship between academic and non academic satisfaction with motivation of students.
- H8: There is a positive relationship between overall satisfaction and motivation of students.

Table 1: Demographic Results

Studies	Study-1 (Pilot)		Study-2 (Actual)			
	Sargodha City		Sargodha City		Rawalpindi City	
	N	%	N	%	N	%
<i>Sample (Students)</i>	416	100	585	100	600	100
<i>Schools Details</i>						
Public	6	40	10	50	10	50
Private	8	60	10	50	10	50
<i>Students Details</i>						
Public	184	44.2	312	53.3	325	54.2
Private	232	55.8	273	46.7	275	45.8
<i>Gender</i>						
Male	189	45.4	271	46.3	280	46.7
Female	227	54.6	314	53.7	320	53.3
<i>Age Group</i>						
11-14	38	9.1	78	13.3	62	10.3
15-18	364	87.5	496	84.8	531	88.5
Above 18	14	3.4	11	1.9	7	1.2
<i>Level Of School</i>						
Secondary	408	98.1	550	94.0	503	83.9
Higher Secondary	8	1.9	35	6.0	97	16.2
<i>Specialization</i>						
Science	121	29	174	29.7	338	56.3
Arts	295	71	411	70.3	262	43.7
<i>Strength Of Class</i>						
15-30	127	30.5	101	17.3	285	47.5
31-45	173	41.6	257	43.9	270	45.0
46-60	41	10	119	20.3	45	7.5
60-above	75	18	108	18.5	0	0

The study is a casual/co-relational study which has been carried out as a field study in a non contrived environment. Interference of the researcher was minimal. Unit of analysis are public and private schools of matriculation level of rural areas of Sargodha and urban areas of Rawalpindi. Lists of schools were received from Board of Intermediate and Secondary Education of Rawalpindi and Sargodha districts. Convenience sampling technique was used for the selection of schools and students were selected randomly within the schools. Primary data was collected through self administered questionnaire and scale of measurement was Likert scale.

A bilingual questionnaire (English and Urdu) was used in this study keeping in view the lingual convenience of respondents. Questionnaire was consisted of 50 close ended questions, in which 7 were related to respondents' demographic info and remaining about satisfaction from services provided and overall motivation. Questionnaire was comprised of three parts. Part-A of the questionnaire was related to the general information about the students and their school. Part-B encompassed general demographic of student, their city,

gender age group and nature of school, level of school, specialization and strength of class. Section C was related to facilities and services offered by their school. In section-C, Likert scale was used to collect the desired information from the respondents having range (1-5). In which 1 meant strongly disagree and 5 strongly agree.

Questionnaire used in the study was self-designed in which constructs from different sources were adopted [33, 22] and few were included after consultation with participating school teachers and principals. Two studies were carried out; in Study-1, questionnaire was pretested in Sargodha district on 14 schools (6 public and 8 private) with a sample size of 416 students (44% from public and 56% from private schools). Study-2 was carried out in both Sargodha district and Rawalpindi with equal number of schools, both private and public. A total sample of 1185 was collected from 40 schools (20 public and 20 private), with 634 female and 551 male respondents. Response rate received was around 90% as the researcher personally visited schools and most of the times got it filled in his presence with permission of school authorities. For confirmatory analysis AMOS 18 and for statistical analysis IBM SPSS 19 was used.

Table 2: AMOS - Confirmatory Factor Analysis Results

Measurement Models	Total Factors	Absolute Fit Measures			Incremental Fit Measures				
		CMIN	RMSEA	GFI	NFI	RFI	IFI	TLI	CFI
Model-1	7	2.036	0.050	0.854	0.868	0.847	0.928	0.916	0.927
Model-2	7	2.479	0.060	0.870	0.835	0.814	0.894	0.880	0.894
Model-3	7	2.533	0.061	0.873	0.837	0.816	0.894	0.880	0.893

Table 3(A): Regression Results of All Models

	Sargodha City				Rawalpindi City			
	$R^2$	Adjusted $R^2$	F	Sig	$R^2$	Adjusted $R^2$	F	Sig
Model-1	0.424	0.418	70.970	0.000	0.394	0.388	64.342	0.000
Model-2	0.378	0.376	177.100	0.000	0.369	0.367	174.742	0.000
Model-3	0.370	0.369	342.610	0.000	0.358	0.357	333.194	0.000

**Statistical Analyses:** Study-1 was conducted for pilot study purpose only. Overall reliability of questionnaire was established at 0.922 Alpha, which was acceptable [34, 35]. In AMOS, Confirmatory Factor Analysis (CFA) was conducted on three measurement models according to theoretical model (Fig. 1) to check model fitness. In measurement model-1, relationship of the entire 6 variables with self motivation was analyzed. In measurement model-2, relationship of academic satisfaction & non-academic satisfaction with self motivation was checked. And finally in measurement model-3, relationship of over satisfaction with self-motivation was checked. Model fitness results are given in Table-2.

According to Robert Ho [36], in SEM the researcher is looking for insignificant differences between the actual and predicted matrices and does not wish to reject null hypothesis and thus the smaller the chi-square value, the better. In all the three structural models, the CMIN value is = 3 which deems acceptable. Root Mean Square Error of Approximation (RMSEA) values range from 0.050 – 0.061 which are in acceptable limit [37, 38]. The Goodness-of-fit Index (GFI) measures how much better the model fits compared with no model at all. It is a non-statistical measure ranging from 0 (poor fit) to 1 (perfect fit) [39]. In all the three models, GFI ranges from 0.854-0.873 showing model fitness. Besides above absolute fit measures, there are incremental fit measures which include Tucker-Lewis Index (TLI), Normed Fit Index (NFI), Relative Fit Index (RFI), Incremental Fit Index (IFI) and Comparative Fit Index (CFI), which show the improvement achieved by a proposed model over the null model and range from 0 (poor) to 1 (perfect fit) [36]. In all the three structural models, values of incremental fit measures deem acceptable ranging from 0.814 – 0.928).

In Study-2, in demographic results (Table-1), gender percentage of respondents was almost alike i.e. Sargodha (male 46.3% & female 53.7%) and Rawalpindi (male 46.7% & female 53.3%) showing high enrollment of females in schools as compared to boys. In age group in both cities, majority of respondents belonged to age group of 14-18 (Sargodha 84.8% and Rawalpindi 88.5%). In nature of school again figures were close in both cities, Sargodha (public 53.2%, private 46.8%) and Rawalpindi (public 54.2%, private 45.8%) showing highly enrollment in public schools as compared to private ones. Significant difference was found in specialization group where in Sargodha 29.7% students adopted science group and remaining 70.3% arts group. Conversely in Rawalpindi majority opted for science group 56.3% as compared to 43.7% in arts group. In Sargodha city, majority of respondents belonged to class strength group of 31-45 (43.9%) as compared to 15-30 (47.5%) Rawalpindi. Second in Rawalpindi maximum students strength group of a class was 46-60 (7.5%) whereas in Sargodha maximum students strength group in a class was 61 & above (18.5%).

In inferential analysis, multiple-regression was used to measure relationship of independent variables with dependent variable, self motivation. A per theoretical model, three regression models were run. Table 3(A) shows  $R^2$ , F values and significance of all three regression models whereas Table 3(B) shows regression results with respect to relationship of all independent variables with dependent variable (self-motivation) of both cities.

Model-1 shows value of R-square as 0.424 for Sargodha and 0.394 for Rawalpindi which means 42% and 39% variance in self-motivation is explained respectively by these six independent variables and substantiates our hypothesis and model. In beta coefficient results (Table 3(B) of Sargodha all variables are significant except

Table 3(B): Regression Results (Standardized) of all Models

		Sargodha City			Rawalpindi City		
		$\beta$	$t$	Sig.	$\beta$	$t$	Sig.
Model-1	The Teachers	0.211	4.948	0.000	0.202	5.265	0.000
	Quality of Education	0.097	2.100	0.036	0.111	2.763	0.006
	Discipline	0.073	1.858	0.064	0.155	4.106	0.000
	Infrastructure	0.356	7.986	0.000	0.269	6.913	0.000
	Facilities	-0.045	-1.131	0.259	0.128	3.207	0.001
	Extra Curricular Activities	0.107	2.741	0.006	0.039	1.064	0.288
Model-2	Academic Satisfaction	0.405	9.334	0.000	0.420	11.617	0.000
	Non-Academic Satisfaction	0.268	6.176	0.000	0.293	8.110	0.000
Model-3	Overall Satisfaction	0.608	18.510	0.000	0.598	18.254	0.000

facilities proving the unreliable and less contributing towards self-motivation as compared to other independent variables. In rural areas it is difficult to provide same level of facilities like library, stationary shop and hygienic food in canteens, clean drinking water etc; as compared to urban areas therefore this variable is less contributable towards self-motivation in Sargodha city. In results of Rawalpindi city, except extracurricular activities, beta coefficients of all the remaining independent variables are significant. In urban areas, most of the schools provide all the basic facilities but vary in terms of extracurricular activities e.g., in public schools though grounds are available but coach services and equipment is mostly unavailable and recreational trips and exhibitions are also made rarely. In case of private schools, though exhibitions and parents day occasions are made but they miss grounds for sports. So this variable therefore is contributing less towards self-motivation in Rawalpindi City.

In Model-2,  $R^2$  results 38% variance for Sargodha and 37% variance for Rawalpindi in self-motivation are explained by these two groups. Beta coefficients of both academic and non-academic independent variables are significant of both cities, contributing positively towards self-motivation.

In 3<sup>rd</sup> regression model relationship of Overall Satisfaction was observed with dependent variable Self-motivation and was found significant in both cities. ( $R^2$  results 37% Sargodha, 36% Rawalpindi; F Vales 342.610 for Sargodha and 333.194 for Rawalpindi; Beta results 0.608 for Sargodha and 0.598 for Rawalpindi).

Multicollinearity results of these three models were found in acceptable range i.e. tolerance > 0.1 and VIF < 10. Whereas values of Durbin-Watson coefficient for dependent variable self-motivation for all the three models ranged between 1.3 and 2.5. Durbin-Watson results for model-1 were (Sargodha 1.616 and 1.495 for Rawalpindi),

for Model-2 (Sargodha 1.552 and 1.428 for Rawalpindi) and for model-3 (Sargodha 1.541 and 1.380 for Rawalpindi).

## CONCLUSION

The intent of this empirical research was to measure the impact of services/facilities on the motivation of matriculation level students of public and private sector schools in rural and urban areas of Punjab province of Pakistan. In Study-1, reliability and validity of the self-designed survey instrument was measured whereas in Study-2, both descriptive and inferential statistical analyses were made. As data was collected from two cities with different demographic backgrounds, results received were also of diverse nature. In regression results we found a positive strong relationship of majority of the independent variables with the dependent variable. The teacher performance, discipline, facilities and infrastructure were found to be the most critical determinants of motivation of students. Students in public sector were found comparatively more satisfied from their counterparts. Private sector schools need to focus on quality of education in their schools, whereas public schools need to focus on facilities and extra curricular activities.

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