

Social Interaction Impact on Student Academic Performance: An Online Survey Estimation

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ABSTRACT

The primal purpose of this study is to investigate the impact of social interaction on student academic performance. This research examines the primary data method, an online survey has been conducted to gather the required data for statistical estimation. The selected population is from different educational sectors and Universities all over Pakistan. A standard questionnaire is developed for empirical data collection. The 79 samples are selected in this research and ask them various types of questions related to their social life and education. After collecting data we also use the OLS (Ordinary Least Square) method to find the overall results. Here, the researcher discovered that the relationship between social interaction and education is statistically significant and affirmative. Despite this, gender, relationship with friends and parents, satisfaction from relations and meeting behavior are also considered explanatory variables. Both variables examined here confirmed their statistical significance but the relationship with parents and improvement in learning strategies shows negative results. In this paper, the augmented dickey fuller test, descriptive statistics, correlation Matrix, and regression are examined. Based on our estimation, the researcher suggests that social interaction is a primal determinant of education performance.

Keywords: The online survey, OLS, Social interaction, Student, Performance, Education, Involvement in social activities, Relationship with Parents and Friends and People meeting in the month.

INTRODUCTION

This research study is a focused inquiry on revealing the relationship between positive and negative characteristics of social interaction and the academic performance for learning attitude of university students for sustainable education. The purpose of this study is to examine the constructive and multiple factors that impact students' minds and how these help students to share positive and negative aspects with others. Social interaction and its applications must present the benefits and as well as risks to university students.

Although social interaction has many positive impacts, there are also negative impacts, one of which is social interaction between students or academic performance which is very lacking or even does not occur during lectures. The findings of this study revealed that social interaction in Pakistan has a negative influence on a student's behavior as compared

to positive aspects. Results may not generalize to the entire student community as findings are specific to the specific respondents only. This study presents a relationship between social interaction and student academic performance.

This study repeats the model of Xue and Liang Sixteen that highlights factors that influence the loyalty of customers' communications business in Pakistan. This study was successful in responding to several significant complications that were high throughout the collected works analysis and theoretic framework. Exploiting statistical features, the study difficult required uncovering the essential views and ideals of dedicated regulars. Besides, the study struggled to determine the impact of variables such as trust and social interaction on customer loyalty.

Social interaction plays an important role in learning by performing academic tasks. Social interactions with people can effective in guiding the students to maintain their thoughts, provide a reflection on their understanding, and find gaps in their studies. In Pakistan, most of the factors we know that can be affected the academic performance of students such as online lectures have low social interaction skills students. Social interaction has a positive impact on student academic performance if the students are from their locality and out of that locality where they studied that provides most of the benefits.

The relationship that arises from the process of social interaction produces two patterns, namely associative and dissociative. This research study takes become even more essential in acknowledgment of the way that the client is being provided superior alternatives, tailored solutions, product improvements, revisions, and innovations at extraordinary levels therefore in an era of time based compression. With so much variety, consumers might become and remain loyal to a company if they rely on its products are the highest option. Agreeing to study, companions can continue with either a phone company should you feel the company value is excellent, but they might leave if indeed the service excellence is poor. Any business that a statement to have a large and devoted competitive advantage over its competitors.

Research related to social interaction and its impact on student academic performance in some analytical studies showed a positive impact on student academic performance. On the other hand, if the results can be significantly positive effects they cannot always be the same and further, it showed the negative effects of social interaction on student academic performance in developing countries like Pakistan.

So, the objectives of this research are as follows:

- Any of that considerations have a positive or negative relationship between social interactions with the student's academic performance. (CIS effects on SII)
- Other consideration shows a significant impact of other variables.
- Each other consideration shows the different independent variables have a significant impact on student performance through social interaction.

LITERATURE REVIEW

Manski (2000) examined the relationship between market analysis and general social interaction through the three different economic theories. The study concluded that the process of research can be needed to richer data based on environmental control by expectations. Song *et al.* (2010) examined the emotional intelligence (EI) among college

students. The study concluded that emotional intelligence (EI) showed positive academic performance of students but not the general mental abilities (GMA).

Lamport *et al.* (2012) discussed the role of the teacher to enhance the student's social behavior by using the social management technique that suggested the special student in the classroom needed special attention from the teacher. The study concluded both educational institutions needed to develop positive social behavior in the academic system then the negative behavior in students may be minimized. Hurst *et al.* (2013) discussed the impact of social interaction on student learning due to the lack of social attachment between graduate and undergraduate students with each other. The results of the study from three classes 9.21 out of 10 points on the rating scale showed a positive relationship between student learning and social interaction.

Essam and Al-Ammary (2013) demonstrated the impact of e-Learning through social interaction. The study concluded the main factor as motivation showed a significant impact by using learning at an AOU followed by student interaction. E-Learning was indirect social interaction between students and teachers. Lu *et al.* (2014) highlighted the effect of social interaction and learning engagement. Researchers concluded that the social networking platform environment as short time interaction of people and the social platform was not enhancing the high level of understanding of people to each other.

Ardiansyah and Ujihanti (2017) examined the constructivism viewed the reality for the students. Wentzel (2017) highlighted the relationship between academic performance and peer relationships. The study concluded that the significant relationship between academic domains and peer relationships was positive. Mesra *et al.* (2018) documented the relationship between the boarding student and the social impact of money. The study highlighted both positive and negative impacts of money which cannot be the solution to any problem and students can avoid buying unnecessary wants (Abdulmuhsin *et al.*, 2021).

Li *et al.* (2018) documented the student performance and social interaction affected by mobile apps for students. The study further concluded that mobile learning also enhances student academic performance but lowers self-efficiency. Abbas *et al.* (2019) investigated the relationship between education and social media in Pakistani educational institutions. The study adopted one thousand and thirteen sample age range sixteen - thirty five years from university students (Raouf *et al.*, 2021; Yan *et al.*, 2020). They conducted eight hundred and thirty one permanent respondents using the mixed sampling method, T-test and ANOVA Statistical Techniques. The study concluded the negative impact on student behavior of social media utilized positive aspects.

Alshutwi *et al.* (2020) described the impact on social interaction, and student academic results by the control set to follow the proportions of the meta-analysis by using Med Calc online survey from the period 1st January 1990 to February 28, 2020. The study further concluded the outcomes that the students needed to enhance their language and social interaction skills. Rehman *et al.* (2021) demonstrated the online learning method to increase social interaction in student group tasks. They concluded the online lecture showed a significant increase in social interaction among the students. Walker *et al.* (2021) highlighted the student's first preference for work in groups instead of individual work. They concluded a significant impact on student social interaction skills by collaborative

learning technique (Basheer et al., 2021). They also encouraged everyone to work best for others and promoted socialization among members.

Walsh *et al.* (2022) examined the impact of young adults on mental health, sleep and social support in Canada. The study concluded the impact of social interaction and others on students. They examined the education helped to maintain mental and physical health and the negative impact related to social support on the students.

THEORETICAL FRAMEWORK

This social interaction theory was introduced by Zeev Bin-Sira. In this theory, he discussed that the patient accepts his inability can judge the physician's actions as an unavoidable fact in the patient-physician interaction. He has faith in it because he believes the clinician will use all of his professional talents to assist him. The simple fact remains of being chosen as a client is an appropriate reaction or benefit (Basheer et al., 2021). There are concerns about the idea that the patient will rely entirely on the success of an expert controlling the masses in a physician relationship. Since social control agents are not everywhere, social control is predicated on constant assessment of the "someone else's" reactions by "ego." It's reasonable to presume that laypeople seeking professional advice from a physician have gotten to the point where his, as well as her health, has become a concern. (Zeev, 1976).

This theory was presented by Jonathan. In this theory, he discussed that social interaction has well-intentioned attempts to construct structures using ethno methods and validity claims have an important influence on organizing systems. The most essential components of acct and argue, according to this theory. Under classifying and normalizing are interpersonal communication dynamics. As the requirement for safety and reliability rises, he proposes that by communicating to build statements, persons will try to generalize one another and the events as an example of the category. Because individuals want identity, they will adopt verifying technology for defining a scenario in terms of suitability standards. Honesty and tends to mean reason. In these other words, actual demands. The aspects of performance are peace and security. As these factors influence billing is the motivational factor that drives classification. (Turner, 1988).

This theory was presented by Snyder and Patterson in 1986. They documented an advert asking research subjects for mother-child relationship generated mother-child groups. The close relationships visited the center for four meetings during this period. So every meeting started with just an hour of analysis of the mother-child relationship, continued by just a quarter where the mother conducted many conscience surveys. This shows the behavior of each individual who has been included in the study. (Snyder and Patterson, 1986)

This theory was developed by Rawls in 1987. According to this theory, the combination of choices or structure of society must have been dealt with to some degree within established social theory. But people term free people living in a reality that is certainly socially restricted. Some say that constraint arises from social structures that go beyond the control of the person, as seen in the concept of the private sector, whereas others believe that restraint develops in social institutions that are outside of the individual's control. Structure, in this view, is now a needed balancer for competing for individual desires, without which social interaction can lack guidance and structure. (Rawls, 1987).

This theory was presented by Brignall and Valey in 2005. According to this theory in so many places of the world, the online world is certainly on one of its journeys into being an important ingredient for industry, education, including pop media (Nuseir et al., 2020). There are many proponents and opponents of computer-mediated communication. Others say that social media should change social connections, while some predict that it would lead to privacy violations, impersonal communications, and isolation. Others say that the Internet is being promoted as a pedagogical instrument for transforming how public education is provided. We believe the Internet is a neutral social structural tool with a variety of benefits. The remarkable rise of the Internet, however, is not without concern. The problem of the Internet's and software interactions' likely effects on the environment is especially significant. (Brignall and Valey 2005)

DATA METHODOLOGY AND STATISTICAL ESTIMATION

We have used the OLS (Ordinary Least Square method). Then we have to illustrate the graphical presentation of data where it can be significant or not. At the end of this chapter, we conclude the overall study, data collecting method or technique and the results occur.

Model Specification

The model is specified as follows:

$$CIS = \beta_0 - \beta_1 Gen_t + \beta_2 ICR_t + \beta_3 NPM_t + \beta_4 MS_t + \beta_5 SWR_t + \beta_6 RWP_t + \beta_7 SII_t + \mu_t \dots \dots \dots (4.1)$$

Where,

CIS= Are you currently involved in social activity

Gen= Gender

ICR= Improve academic performance

NPM= New people meet during the month

MS= Marital status

SWR= Satisfied with your relations

RWP= Relationship with parents

SII= Social interaction improves learning strategy

B0=

B1, B2, B3, B4, B5, B6, B7= variables

μ = error term

t= time period

Data Source

The data source of this model is as follows:

Table 1: Description of Variables

Variables	Data source	Relationship
Dependent variable:		
Currently Involved in social activity	Sample Survey	+

Independent variables:		
Gen	Sample Survey	- +
ICR	Sample Survey	-
NPM	Sample Survey	-
MS	Sample Survey	-
SWR	Sample Survey	+
RWP	Sample Survey	-
SII	Sample Survey	+

Source: Author's calculation

In this research model, there are various variables used. The data has been collected by a sample survey. Theories proved that there is a positive relationship between CIS, SWR and SII and it can be collected by a sample survey. The result of Gen, ICR, NPM, MS and RWP shows a negative relationship and it was also collected by the sample survey.

Statistical Estimation

There are the following statistical estimations are used in this study as follows:

Descriptive Statistics

There is an increasing expectation that critical care nurses use clinical research when making decisions about patient care. In this study, we provide an introduction to the use of descriptive statistics.

Table 2: Descriptive Statistics

Stat.	CIS	GEN	ICR	NPM	MS	SWR	RWP	SII
Mean	0.4736	0.3157	-0.3157	-0.3684	0.0526	0.1052	-0.0526	-0.2631
Median	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000
Minimum	0.0000	0.0000	-1.0000	-1.0000	-1.0000	-1.0000	-1.0000	-1.0000
Std. Dev.	0.5129	0.4775	0.5823	0.6839	0.4046	0.4588	0.2294	0.5619
Skewness	0.1054	0.7925	0.1104	0.5810	0.4581	0.4615	-4.0069	-0.0534
Kurtosis	1.0111	1.6282	2.3656	2.3021	6.2091	4.5208	17.0555	2.5709
Jarque-Bera	3.1667	3.4790	0.3572	1.4546	8.8179	2.5057	207.2432	0.1547
Probability	0.2052	0.1756	0.8364	0.4831	0.0121	0.2856	0.0000	0.9255
Sum	9.0000	6.0000	-6.0000	-7.0000	1.0000	2.0000	-1.0000	-5.0000
Sum Sq. Dev.	4.7368	4.1052	6.1052	8.4210	2.9473	3.7894	0.9473	5.6842

The CIS mean value is 0.4736 and the median is 0.0000. Its maximum value is 1.0000 and its minimum value is 0.0000. The standard deviation is 0.5129 and the skewness level is 0.1054 which is positively skewed. The kurtosis value is 1.0111 which is platykurtic because its value is less than 3. The Gen mean value is 0.3157 and the median is 0.0000. Its maximum value is 1.0000 and its minimum value is 0.0000. The standard deviation is 0.4775 and the skewness level is 0.7925 which is positively skewed. The kurtosis value is 1.6282 which is called platykurtic because its value is less than 3.

The ICR mean value is -0.3157 and the median is 0.0000. Its maximum value is 1.0000 and its minimum value is -1.0000. The standard deviation is 0.5823 and the skewness level is 0.1104 which is positively skewed. The kurtosis value is 2.3656 which is platykurtic because its value is less than 3. The NPM mean value is -0.3684 and the median is 0.0000. Its maximum value is 1.0000 and its minimum value is -1.0000. The standard deviation is 0.6839 and the skewness level is 0.5810 which is positively skewed. The kurtosis value is 2.3021 which is platykurtic because its value is less than 3.

The MS mean value is 0.0526 and the median is 0.0000. Its maximum value is 1.0000 and its minimum value is -1.0000. The standard deviation is 0.4046 and the skewness level is 0.4581 which is positively skewed. The kurtosis value is 6.2091 which is leptokurtic because its value is greater than 3. The SWR mean value is 0.1052 and the median is 0.0000. Its maximum value is 1.0000 and its minimum value is -1.0000. The standard deviation is 0.4588 and the skewness level is 0.4615 which is positively skewed. The kurtosis value is 4.5208 which is leptokurtic because its value is greater than 3.

The RWP mean value is -0.0526 and the median is 0.0000. Its maximum value is 0.0000 and its minimum value is -1.0000. The standard deviation is 0.2294 and the skewness level is -4.0069 which is negatively skewed. The kurtosis value is 17.0555 which is leptokurtic because its value is greater than 3. The SII mean value is -0.2631 and the median is 0.0000. Its maximum value is 1.0000 and its minimum value is -1.0000. The standard deviation is 0.5619 and the skewness level is -0.0534 which is negatively skewed. The kurtosis value is 2.5709 which is platykurtic because its value is less than 3.

Correlation Matrix

In this study the researcher conducted psychological research; it is desirable to be able to make statistical comparisons between correlation coefficients measured on the same individuals.

Table 3: Correlation Matrix

Var.	CIS	GEN	ICR	NPM	MS	SWR	RWP	SII
CIS	1.0000	-0.1909	-0.2153	-0.4250	-0.1267	0.2484	-0.2484	0.0710
GEN	-0.1909	1.0000s	0.1787	0.0358	-0.0907	-0.4136	0.1601	-0.5011
ICR	-0.2153	0.1787	1.0000	0.1101	-0.1612	-0.0765	-0.1313	-0.4377
NPM	-0.4250	0.0358	0.1101	1.0000	-0.3274	-0.2236	0.2236	0.1673
MS	-0.1267	-0.0907	-0.1612	-0.3274	1.0000	0.2677	-0.5669	-0.1800
SWR	0.2484	-0.4136	-0.0765	-0.2236	0.2677	1.0000	-0.4722	0.1134
RWP	-0.2484	0.1601	-0.1313	0.2236	-0.5669	-0.4722	1.0000	0.3175
SII	0.0710	-0.5011	-0.4377	0.1673	-0.1800	0.1134	0.3175	1.0000

In this model, there is a positive correlation of the dependent variable CIS (Currently involved in the social activity) with SWR and SII. The correlation of the dependent variable is negative with GEN, ICR, NPM, MS and RWP. Gen has perfectly correlated with itself. It has a positive correlation with ICR, NPM and RWP show the correlation is negative with CIS, MS, SWR and SII. ICR shows a positive correlation with GEN, and NPM. The correlation is negative with CIS, MS, SWR, RWP and SII. NPM shows a positive correlation with Gen, ICR, RWP and SII. Then the correlation is negative with CIS, MS

and SWR. MS shows a positive correlation with SWR and a negative correlation with the CIS, Gen, ICR, NPM, RWP and SII. SWR shows a positive correlation with the CIS, MS, and SII and a negative correlation with Gen, ICR, NPM and RWP. RWP shows a positive correlation with the Gen and SII and the negative correlation with CIS, ICR MS. SII shows a positive correlation with CIS, NPM, SWR and RWP. Furthermore, it has a negative correlation with Gen, ICR and MS.

Table 4: Augmented Dickey Fuller Test

Variables	Level		1st Difference		Conclusion
	Intercept	Trend & Intercept	Intercept	Trend & Intercept	
CIS	-6.5000** (0.0000)	-9.5660 (0.0000)	-11.8578 (0.0001)	-11.7767 (0.0001)	I(0)_
GEN	-5.4840 (0.0000)	-5.6832 (0.0000)	-3.9512 * (0.0088)	-11.5934 (0.0001)	I(1)
ICR	-5.6568** (0.0003)	-9.2926 (0.0000)	-11.2829 (0.0001)	-11.2042 (0.0000)	I(0)
NPM	-4.2362** (0.0046)	-9.6389 (0.0000)	-10.0970 (0.0001)	-10.0534 (0.0000)	I(0)
MS	-4.0761** (0.0064)	-9.8368 (0.0000)	-12.6465 (0.0001)	-12.7056 (0.0001)	I(0)
SWR	-3.5947** (0.0170)	-6.7941 (0.0000)	-10.9736 (0.0001)	-10.8889 (0.0000)	I(0)
RWP	-4.2426** (0.0046)	-9.6751 (0.0000)	-8.2864 (0.0000)	-8.2406 (0.0000)	I(0)
SII	-8.4782 (0.0000)	-8.4342 (0.0000)	-4.6919* (0.0030)	-9.1578 (0.0000)	I(1)

Source: Author's calculation using Eviews.

In this Research model, several variables are used such as the CIS as a dependent variable and Gen, ICR, NPM, MS, SWR, RWP and SII as independent variables. After applying the ADF test the results of CIS, Gen, ICR, NPM, MS, RWP and SII are significant at 1% level but the results of SWR can be significant at 5% level.

Regression

The study described various diagnostics for generalized linear models are reviewed and extended to more general models. These include some models for censored and grouped data, and nonlinear regressions, or where the response does not have an exponential family distribution. Among diagnostics considered are score tests, various types of residual and approximate Cook statistics. Diagnostics for models with incidental parameters orthogonal to the regression parameters are discussed. Examples are given and the adequacy of approximations is considered.

Table 5: Estimation of OLS (Ordinary Least Square method)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GEN	0.5444***	0.2649	2.0553	0.0669
ICR	-0.2183	0.1528	-1.4285	0.1836
NPM	-0.4182*	0.1203	-3.4746	0.0060

MS	-0.5985**	0.2483	-2.4107	0.0366
SWR	0.2437	0.2154	1.1316	0.2842
RWP	-1.3874*	0.4810	-2.8840	0.0163
SII	0.3137	0.2074	1.5120	0.1615
C	0.3022**	0.1179	2.5611	0.0283
R-squared	0.7888	Durbin-Watson stat		2.5768
Adjusted R-squared	0.6200	F-statistic		4.6711
Prob(F-statistic)	0.0131			

Note: *, **, *** shows 1%, 5%, & 10% significance level respectively.

The estimation results of this OLS (Ordinary Least Square) model show that a 1 percent increase in CIS also causes the 1 percent change in independent variables. The coefficient value of Gen is 0.54% which is a 54 percent increase in it that is positive and statistically significant because it is due to a 1 percent increase in CIS. The standard deviation of gen is 0.2649 and the t-value is 2.0553 significant because it is greater than 1.96.

The results show that ICR has a negative relationship with CIS and this effect is a statistically insignificant impact on CIS due to a 1 percent increase in ICR which is a 0.21 percent decrease in CIS. The standard deviation of ICR is 0.1528 and the t-statistics value is -1.4285 which is statistically insignificant. The coefficient value of NPM is a 0.41 percent decrease which is negative and statistically significant due to a 1 percent decrease in CIS. The standard deviation of NPM is 0.1203 and the t-statistics (-3.4746) is insignificant because it is less than 1.96.

The MS result shows that it is a negative and statistically significant impact on CIS due to a 1 percent increase in MS which is a 0.59 percent decrease in CIS. The standard deviation of MS is 0.2483. The t-value is -2.4107 which is insignificant because the value is less than 1.96. The statistical estimation shows that it positive and statistically insignificant impact on CIS due to a 1 percent increase in SWR which is a 0.24 percent increase in CIS. The standard deviation of SWR is 0.2154 and the t-statistics (1.1316) is insignificant because it is less than 1.96.

The coefficient value of RWP is negative and statistically significant due to a 1 percent increase in RWP which is a 1.38 percent increase in CIS. The standard deviation is 0.4810 and the t-value is -2.8840 which is statistically insignificant. The coefficient value of SII is 0.31 due to a 1 percent increase in SII positive and statistically insignificant and that is also a 0.31 percent increase in CIS. The standard deviation SII is 0.2074 and the t-statistics (1.5120) is insignificant because it is less than 1.96.

CONCLUSION & RECOMMENDATIONS

The social fraction and education performance both are relatively positive or not shown in the studies of literature. Alshutwi *et al.* (2020), Song *et al.* (2010), Li *et al.* (2018), and other studies concluded statistical significance in student performance and social interaction improved by the control setting. The study further concluded that mobile learning also enhances the student's academic performance but lowers self-efficiency and the further study suggested emotional intelligence and general mental abilities (GMA) different in academic performance and social interaction among college students. After studying the reviewed article the conclusion is also the basis of the both positive and negative impact of social interaction on students' academic performance. In this research

study different social interaction, and experimental theories conducted on both social interaction and education are correlated to each other and according to different authors it also has significantly affected students' academic performance

The value of F-statistics is significant because it is greater than 1. The probability value of f-statistics is statistically significant and the value of the Durbin-Watson stat is also significant (Asada et al., 2020). The results show that the overall model is a good fit. After concluding all previous studies of social interaction and education our finding is that social interaction has a significant impact on student academic performance if the person should not involve in social life and activities in this suicide by using the OLS method among the different variables like dependent variable currently involve in social activities and other explanatory variables like Gen, ICR, NPM, MS, SWR, RWP, SII) all positively or negatively related to each other. Then it might be affected the student's result of education.

In this part, to suggest some points which can come into being after studying the different studies of many researchers related to social interaction and how can it affect student performance in the academy as not only teachers can participate in student social activities but also involve parents. Friendly relationship of students with parents and teachers.

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