

The Impact of Socio-Economic Status and Parental Involvement on the Inequality in Educational Attainment during the COVID-19 Pandemic

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Abstract:

This study investigates the impact of socio-economic status and parental involvement on educational attainment among rural and urban secondary school students during the COVID-19 pandemic, with particular focus on disparities in access to online learning. Through using a survey method, data were collected from 80 students across four government schools in South 24 Parganas (rural) and Kolkata (urban), followed by a structured questionnaire based on a five-point Likert scale. Statistical analysis, including mean, standard deviation, and t-tests. The result revealed significant differences between rural and urban students in terms of educational attainment and parental involvement. By statistical analysis, it is observed that urban students demonstrate higher levels due to better access to digital resources, higher socio-economic status, and greater parental support. The findings also indicate a significant relationship between socio-economic status and educational attainment among rural students, while no such relationship was found among urban students. It highlights the critical role of economic and familial factors in shaping educational outcomes during the pandemic.

Keywords — Parental Involvement, E-learning, Educational Attainment, COVID-19 Pandemic.

I. INTRODUCTION

The emergence of a novel coronavirus known as COVID-19 spread across the globe from the end of 2019 in China, and then spread across India. This COVID-19 pandemic interrupted the day-to-day life of every human being. As a precaution to control this pandemic, ranging Government of countries announced to shut down education institution and park, hotels, airports, and job sectors to prohibit social gatherings, etc. During this period, the education institution like schools remained closed for a certain period. While the pandemic situation created a disruption in terms of access to education, the chances of students being pushed out of their daily school. At that time, Government takes an initiative to solve this problem that is the idea of Remote Learning. Several tools emerged to help in

E-Learning, that was Goggle classroom, Zoom, Skype, and some devices like computers, laptops, and android mobile phones with internet connection.

It is observed that there are some underlying causes, such as poverty. Students' family socio-economic status, types of school, home support, and parental involvement are related to access in remote learning and the degree of enrolment as well as educational attainment. These pandemic situations divide the students with respect to these factors and create a division according to educational attainment among them. Many households in India were below the poverty line or had low family socioeconomic status. Basically, this are shown to be higher in rural areas than in urban areas. Due to the digital divide and socio-economic status, remote learning or e-learning cannot succeed. The students

are not the only important factor besides the teacher; parents play a significant role. As the students are locked in their homes, they spend their 24 hours in their homes without a formal education system. So, the involvements of parents are increased than other time for their children's development, growth and in case of educational attainment. Besides Family Socio Economic status parent's involvement in terms of formal and informal involvement and their education level related to their children's educational achievement.

Haveman and Wolfe (1995) outlined three broad categories of factors to determine educational attainment that are environmental and social factors, household decision as well as parent's involvement and individual choices made by each student.

According to Investment Theory given by Backer and Tomes (1995) family income and parental involvement or any endowments given by parents to their children act as an investment for their children's academic achievement. So, we can say that more family income and parental involvement lead to better academic achievement. Besides Parent's socio-economic status relates to their psychological condition. When they have faced economic problem, they live in anxiety and this anxiety decreases parent's supportive role according to good parent theory (By Adams and Singh). According to Cotton and Wikelund (2001), the earlier parental development begins in their children's education are the benefits.

II. STATEMENT OF THE PROBLEM

The aims of study are to exploring the gap between secondary school children of rural and urban in accordance to their educational attainment during global pandemic situation which was run by e-learning. Besides to study how socio-economic status (SES) and parental involvement plays a vital role to create these differences in educational attainment in this period. What are the major differences areas of educational attainment between rural and urban area.

III. OBJECTIVES OF THE STUDY

- 1) To investigate the differences of educational attainment among students of rural and urban during e-learning time.
- 2) To find out the relationships between student's family socio-economic status (SES) and educational attainment during e-learning.
- 3) To explore the relationship between student's educational attainment and parental involvement in e-learning
- 4) To investigate what is more important among family socio economic status and parental involvement to create student's enthusiasm in e-learning.

IV. OBJECTIVES OF THE STUDY

To achieve the above-mentioned objectives, the following null hypothesis is developed:

- 1) H_{01} : There is no significant difference between students' educational attainment during pandemic situation between rural and urban students.
- 2) H_{02} : There is no significant relationship between student's family socio economic status and educational attainment of rural and urban area.
- 3) H_{03} : There is no significant difference between rural and urban parental involvement with respect to their educational attainment.

V. STUDY AREA

To prepare this study researcher has chosen students of class 10 from two rural Govt. schools and two urban Govt. schools these are Diamond Harbour Balika Vidyaniketan (H.S.), Bishnupur Grihasree Sikhshayatan for Girls, Behala Girls High school and Multipurpose Govt. Girls School which shown in Table 1. Among them two rural schools are represent rural students and another two schools for urban students. Diamond Harbour Balika Vidyaniketan (H.S.), Bishnupur Grihasree Sikhshayatan for Girls, Behala Girls High school and Multipurpose Govt. Girls School.

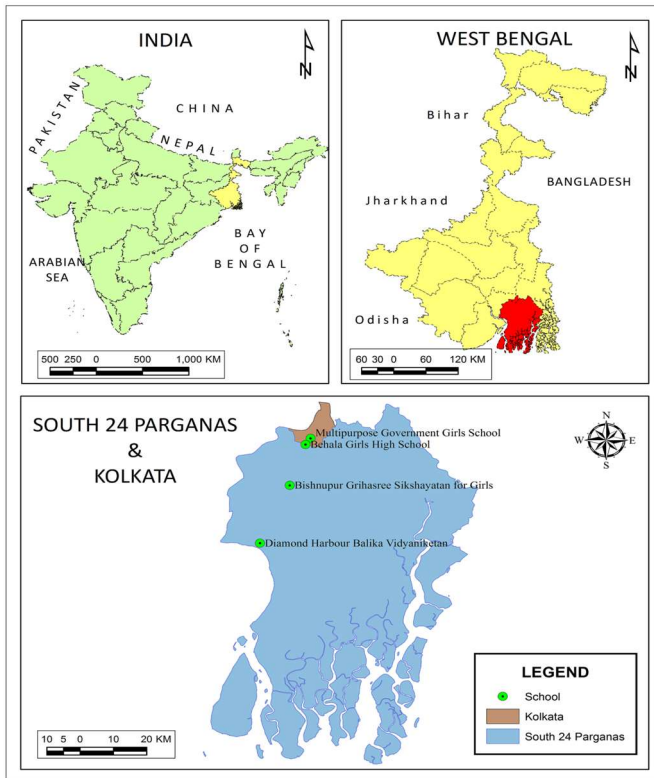


Fig. 1 Sample's sites location

VI. DATA USED AND METHODOLOGY

A. Data Used

Researcher adopted random sampling technique and the sample of the study was eighty (80) secondary school students from randomly chosen schools of South 24 Parganas and Kolkata. Researcher chosen four Govt. schools of South 24 Parganas and Kolkata. Researcher chosen conduct a survey by using Questionnaire and selected 20 students from class 10 in these schools by using random sampling, total sample I will collect (20*4=80).

B. Statistical Analysis

The data were subjected to relevant differential statistics which are Mean and Standard Deviation. Data are further subjected to inferential statistics which is T-test. The items of the inequality of educational attainment in urban to rural in relation to socio-economic status and parental involvement variables scale are responded over 5-point scale ranging from Strongly Agree to Strongly Disagree.

The scale was consisted of total 15 statements responded over 5-point scale ranging from Strongly Agree to Strongly Disagree (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree), ranked 1 to 5. The items have been chosen mainly from the scale used by Marie Camille Cuisia-Villanuev, Jayrome Nunez in the dissertation “A Study on the Impact of Socioeconomic Status on Emergency Learning during the Corona virus Lockdown submitted to University of Phillipines” and also some items developed by researcher self.

TABLE I: SCORING PATTERN OF SCALES

Scale	Item No.	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
A Study of the Impact of Socio-Economic Status and Parental Involvement on the Inequality in Educational Attainment during the COVID-19 Pandemic	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15	5	4	3	2	1

C. Methodology

The overall methodology illustrates

$$Mean = \frac{(n_1 + n_2 + n_3 + n_4 + \dots + n_n)}{n}$$

Standard Deviation=

$$S_x = \sqrt{\frac{\sum_{i=1}^n (X_i - \bar{X})^2}{n - 1}}$$

Where n = The number of data points, X_i = Each of the values of the data, \bar{X} = The mean of X_i

t Test =

$$t = \frac{\bar{X}_1 - \bar{X}_2}{S_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Where, \bar{X}_1 = Mean of the experimental group, \bar{X}_2 = Mean of the Control group, S_p = Pooled standard deviation, n_1, n_2 = Sample sizes of the two groups

$$\begin{aligned} \text{Degree of freedom (df)} &= (n_1 + n_2 - 2) \\ &= 40 + 40 - 2 \\ &= 78 \end{aligned}$$

VII. RESULTS AND ANALYSIS

D. To find out the differences between rural and urban students' educational attainment during the pandemic situation

TABLE II: THE MEAN, STANDARD DEVIATION (SD) & T-VALUE OF EDUCATIONAL ATTAINMENT OF RURAL AND URBAN STUDENTS

Students	N	Mean	SD	t-value	P-value
Rural	40	13.7	3.67	8.53	1.990
Urban	40	19.75	2.58		

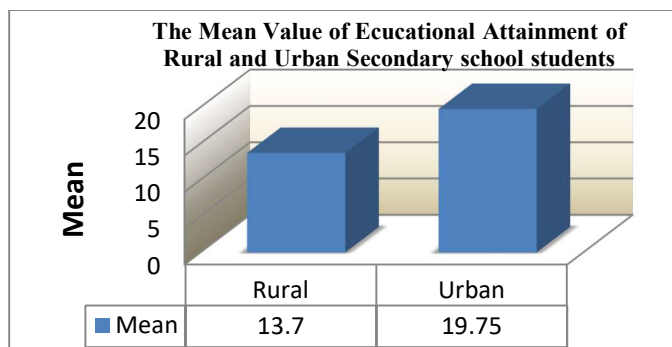


Fig. 2 The Mean value of Rural and Urban student's Educational Attainment.

The mean value of students' educational attainment of secondary school students between rural and urban students is 13.7 for rural and 19.75 for urban. The calculated t- value is 8.53, and df is 78. From the 0.05 level of significance, the calculated P value is 1.990; I found that the difference is considered statistically not significant at $P > 0.05$. The result reflected that there were significant differences in educational attainment during the pandemic situation in terms of some facilities and economic conditions. Therefore, the null hypothesis H_01 , that there is no difference in educational attainment between rural and urban students during the pandemic, is rejected and the alternative hypothesis accepted. That is each student who lives in urban area and gets better help than students in rural areas has achieved and enjoyed the e-learning journey.

E. To find out the significant relationship between students' family socioeconomic status and educational attainment in rural and urban areas

1) To find out the significant relationship between rural students' family socioeconomic status and educational attainment:

TABLE III: THE MEAN VALUE AND SD, T-VALUE OF RURAL STUDENTS' FAMILY SOCIO-ECONOMIC STATUS AND EDUCATIONAL ATTAINMENT

Students	N	Mean	SD	t-value	P-value
Educational Attainment	40	13.7	3.67	2.68	1.990
Socio-economic Status	40	11.78	2.83		

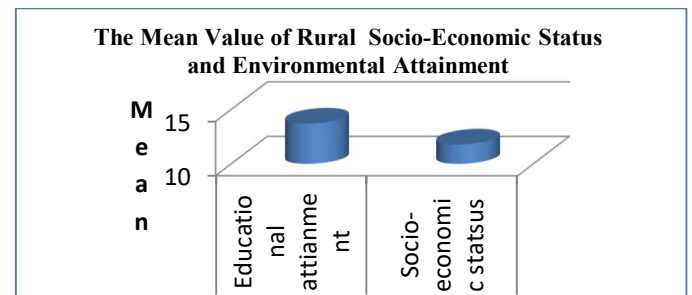


Fig. 3 The Mean value of rural students' family socioeconomic status and educational attainment.

To find out, there is no significant relationship between students' family socioeconomic status and educational attainment of rural students; the data are subjected to mean, standard deviation, and t-test value in rural and urban areas. In rural areas, the mean value of educational attainment is 13.7, and the mean value of socio-economic status is 11.78. The SD value of educational attainment is 3.67, and the SD value of Socio-economic status is 2.83. The t-value is 2.68, where df is 78, and the p-value is 1.990. It is not significant at a 0.05 significance level (1.99) and not even at a 0.01 significance level (2.64). It crosses the value of the P-value. Therefore, the null hypothesis H_02 , there is no significant relationship between rural students' family socioeconomic status and their educational attainment, is rejected and alternative accepted. That is in rural area they are face some monetary problem during pandemic. Someone lost their permanent job and it direct impacts on their expenditure. Besides they live in below poverty line and they have no able to provide different electronic gadgets and services for continuation

online classes and sometimes they are lifted from their home tutor for limited money.

2) To find out the significant relationship between urban student's family socio economic status and educational attainment:

TABLE IV: THE MEAN VALUE AND SD, T-VALUE OF URBAN STUDENT'S FAMILY SOCIO ECONOMIC STATUS AND EDUCATIONAL ATTAINMENT

Students	N	Mean	SD	t-value	P-value
Educational Attainment	40	19.75	2.58	1.01	1.990
Socio-economic Status	40	20.5	3.90		

In Urban area the mean value of educational attainment is 19.75 and the mean value of socio-economic status is 20.5. The SD value of educational attainment is 2.58 and the SD value of Socio-economic status is 3.90. The t-value is 1.01 Where df is 78 and P value is 1.990. It is significant in 0.05 significance level (1.99) and in 0.01 significance level (2.64). The t-value is below the P value. Therefore, the null hypothesis H_0 , there is no significant relationship between urban student's family socio economic status and their educational attainment is accepted. Moreover, the students of urban areas enjoyed all the electrical facilities and networking services, and the least of them enjoyed fewer facilities, but these are higher than those of the students of rural areas.

F. There are no significant differences between rural and urban parental involvement with respect to their educational attainment

TABLE V: THE MEAN VALUE AND SD, T-VALUE OF URBAN STUDENT'S FAMILY SOCIO ECONOMIC STATUS AND EDUCATIONAL ATTAINMENT

Students	N	Mean	SD	t-value	P-value
Rural Parental Involvement	40	15.7	3.25	7.54	1.990
Urban Parental Involvement	40	21.2	3.27		

To find out the significant relationship between parental involvement and educational attainment between rural and urban parents of students are subjected to Mean, SD and t-value. In this area the mean value of rural parental involvement is 15.7

and the mean value of urban Parental involvement is 21.2. The SD value of rural parental involvement is 3.25 and the SD value of urban parental involvement is 3.27. The t-value is 7.54. Where df is 78 and P value is 1.990. It is significant in 0.05 significance level (1.99) and in 0.01 significance level (2.64). The t-value is Crossed the P value. Therefore, the null hypothesis H_0 , there is no significant relationship between parental involvement and educational attainment of urban students is rejected. The parents of those students are involved in their Childs educational activities that succeed in home schooling. Besides who are not plays a vital role in their Childs daily study, they not finish their syllabus with the help from parents.

VIII. DISCUSSION

The ambition of the study was to examine the impact of socio-economic status and parental involvement on the inequality of educational attainment during pandemic ranging. Basically, the rural and urban are not same in terms of economic status of people and availability of facilities. Most of the people in the rural area like in south 24 parganas district belongs under the lower range of monthly income which around below 10,000 per month. Besides it is under low literacy level. So, in terms of socio-economic status, educational qualification and different facilities it remains behind of urban area. This scenario in normal but in the time home schooling online learning it highlighted to everyone. To study this scenario during pandemic with respect to educational attainment conducted a survey method. The population of the study is considered as secondary school students of Government schools of South 24 Parganas and Kolkata. The sample of the study consists of eighty (80) secondary school students from four Govt. schools and 20 students from each school. These schools represent two districts of West Bengal as a rural and urban.

As a tool Questionnaire was used for the data collection purpose. It divided into two parts and first parts consists personal information regarding student's name, class, name of the school, roll, address and parental information include

occupation, total no. of earning member, educational qualification of parents etc. The second part is divided into three sub parts on which five (5) questions about their online class attaining and their study, another five questions are about their availability of gadgets and survives which are linked with their socio-economic status and remaining fives (5) are related to parental involvement. The second part consists of fifteen (15) statements responded over five (5) point Likert scale ranging from Strongly Agree to Strongly Disagree. This ranked 1 to 5 depending on the strength of student's responses on educational attainment, socio-economic status and parental involvement.

First hypothesis of the study is there are no significant differences between rural and urban educational attainment. Through the t-test it is observed that it is not significant, so it is rejected as its t-value is 8.53 which is over p-value at 0.05 level of significance. The no. of attaining online class, ability of understanding, continuation of study and completed the syllabus of class 9 are also differs in Urban students from rural students. It is higher in urban area students as they get require facilities and support or Guidance from their parents and lower in rural areas students. The students of urban area have already known about ICT, Hardware and how to run Software. They give importance to realize that why online class attain is vital although they secure available facilities from their family. Besides they get educational guide from their educated person or home tutor through online class. But in case of rural areas, it is fully opposite in nature they cannot attain online class may be due to lack of electronic gadget or maybe they are not getting instruction from home for online class attain.

Second hypothesis of research work is there are no significance differences between socio economic status and educational attainment of rural students, the data are subjected to Mean, Standard Deviation and t-test value in rural and urban area. In rural area the mean value of educational attainment is 13.7 and the mean value of socio-economic status is 11.78. The SD value of educational attainment is 3.67 and the SD value of Socio-economic status is

2.83. The t-value is 2.68 where df is 78 and P value is 1.990. It is not significant in 0.05 significance level (1.99) and even not in 0.01 significance level (2.64). It crosses the value of P value. Therefore, the null hypothesis H_0 , there is no significant relationship between rural student's family socio economic status and their educational attainment is rejected and alternative accepted. In rural area most of the people or students belongs to primary activities with low monthly income that is below 5000 and most of their parents lost their job during pandemic. When these economic problems arose during pandemic lock down then the demands of electronic gadgets suddenly emerged. Their family as well as parents cannot fulfil their needs that are Smartphone with internet connection. Thus, they are not enjoyed with online class journey.

Another hypothesis of my work is there are no significance differences between socio economic status and educational attainment of urban students, the data are subjected to Mean, Standard Deviation and t-test value in rural and urban area. In Urban area the mean value of educational attainment is 19.75 and the mean value of socio-economic status is 20.5. The SD value of educational attainment is 2.58 and the SD value of Socio-economic status is 3.90. The t-value is 1.01 where df is 78 and P value is 1.990. It is significant in 0.05 significance level (1.99) and in 0.01 significance level (2.64). The t-value is below the P value. Therefore, the null hypothesis H_0 , there is no significant relationship between urban student's family socio economic status and their educational attainment is accepted. Moreover, the students of urban area enjoyed all the electrical facilities and networking services and least of them enjoyed fewer facilities but that are higher than the students of rural area.

Third Hypothesis is there are no significant differences between rural and urban parental involvement with respect to their educational attainment. That is subjected to Mean, SD and t-value. In this area the mean value of rural parental involvement is 15.7 and the mean value of urban Parental involvement is 21.2. The SD value of rural parental involvement is 3.25 and the SD value of urban parental involvement is 3.27. The t-value is 7.54. Where df is 78 and P value is 1.990. It is

significant in 0.05 significance level (1.99) and in 0.01 significance level (2.64). The t-value is Crossed the P value. Therefore, the null hypothesis H_{02} , there is no significant relationship between parental involvement and educational attainment of urban students is rejected. The parents of those students are involved in their Childs educational activities that succeed in home schooling. Besides who are not plays a vital role in their Childs daily study, they cannot finish their syllabus with the help of parents. The students who belong to urban area they get Computer, Broad band connection, Android phone for personal use and home tuition by parents they have no barriers to attain home schooling.

At this time students of urban area were continued their studies through online private tutoring or help of parents. As their parents are qualified above Graduation, they have no problem to compete their studies. They show willingness to study their parents and they spent their time with their Childs through various activities like gardening, cleaning, cooking, singing, dancing or reciting etc. Among them some parents were continued their work from home schedule. But the students who are live in rural area they were not enjoyed the online journey. Because they were not facilitated through various services like electric gadget, network connection even parenting guidance. Their parents are not involved in formal and informal both types of parental involvement. Their parents not qualified above secondary education and they have no good idea about their parenting. As results they are not wanted to know they do their home study or not. It may be due to their economic problem they are stressful and for this they cannot monitor and guide their child study. Thus, urban and rural students have differentiated parenting that leads to their home tutoring.

Findings of the study with respect to their objectives are as follows:

1) The null hypothesis H_{01} , there is no significant differences between students' educational attainment during pandemic situation between rural and urban students is rejected and alternative hypothesis are accepted. It is insignificant at 0.05 levels. So, there are differences in educational attainment between rural and urban students.

2) The null hypothesis H_{03} , there is no significant impact between student's family socio economic status and educational attainment of rural and urban students is rejected and alternative hypothesis accepted. It is insignificant at 0.05 levels. So, there are differences between educational attainment and student's socio-economic status.

3) The null hypothesis H_{02} , there is no significant differences between urban and parental involvement is rejected and alternative hypothesis accepted. It is not significant at 0.05 levels. So, there are differences between urban and rural parental involvement.

IX. CONCLUSIONS

Through the study it is cleared that students are affected in the field of education. Basically, it is higher in rural area where peoples faced monetary problems and have not higher education degree. Those students are only dependent on School learning and private tutor. For this reason, when they are diverted their daily routine then they become hopeless at first how they cover their syllabus of class 9. If they get the facilities of electronic gadget with internet services and literate home tutor like urban students, they can enjoyed online learning and can complete their syllabus. From this study it is observe that they are basically not understood some subjects through online that is Mathematics, Sciences and English. But the students of urban area get sufficient facilities from their families and guide from their educate parents. As a result, they said that they had not being faced any types of problems. Only sometimes they faced networking issues that are not controlled by them. Through their Parental involvement they done some creative activity with their parents and discuss their study with parents. Their school organizes some Parent Teacher Meeting and various programmers in online mode for enjoying Online journey with the help of others to realize that education not stops only we change our path to achieve this. At present to continuing their current study they are not facing problems which are related to their previous syllabus.

ACKNOWLEDGMENT

The heading of the Acknowledgment section and the References section must not be numbered.

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