

Socio-economic factors influencing learning outcome - a case study in north Chennai

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Abstract: *The paper attempts to find out the determinants of learning outcome, and the relationship between the indices of socio-economic factors and academic performance of pupils. Primary Survey was taken from 199 students in North Chennai. Family inputs are to measured by socio-demographic characteristics such as parental education, income, sibling education and family size. Multi-variate regression technique is employed. The study found that social background of students plays a determining role in the educational attainment of the students.*

Keywords: Academic Performance - Socioeconomic factors- Ordinary Least Squares.

Introduction

Economic development of a nation certainly determined by the educational status of the nation. There is a direct nexus between economic development and educational development. The so-called developed nations had reached highest economic development due to the educational development (Galbraith, J.K.). Education development positively influences productivity, employment, mobility and specialization of labour, etc. Economists argue that education is one of the key indicators in human development (Schultz, T.). Increasing human capital produces significant economic growth (Barro, 1991; Mankiw, Romer and Weil, 1992). Attainment of higher educational status facilitates to solve many of economic problems (Sen, A., 1995).

One of the issues in the educational research is the determinants of educational achievement of school children. Studies underlined that educational attainment of a student depends significantly on traits of the students and family background [Lave, Cole, and Sharp, 1981; Teachman, 1987; Laucer, 2003]. More specifically, the educational attainment depends on the Socio-economic status of the family [Tansel, 1997, 2002; Srinivasan, R., and M.Karpagam 2012]. Not only in developing economies Marlain E. Lockheed et al. (1989), school-related factors had stronger effects on student's achievement (Charlotte Laurer, 2002). Parental Education plays an indecisive role in the academic achievement of their Children [Sandra E. Black et al., 2003; Gary L. Bowen et al., 2008; Ermisch John and Pronzato Chiaro, 2010; Valbuena Javier, 2011]. Location of the schools also acts as a strong predictor of the academic outcome of the students Konstantopoulos (2005). Some studies are being conducted in the rest of world to understand the determinants of student's academic achievements. Academic achievement of a student is invariably related to a series of inputs: type of Schools, teacher-Pupil ratio, curriculum, socio-economic status, innate nature of the students, etc.

A study in OECD countries on the role of deviations in students characteristics to their performance showed that students whose parents (especially mothers) have high school

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certificates or higher qualifications perform better than their peers (OECD, 2001). The study also shows that the performance of students influenced by family affluence, socio-economic status, culture, gender, languages are spoken at home and family structure.

Objective of the Study

1. To find out the influence of socio-economic factors on academic achievement of the students

Review of Related Studies

Ermisch & Francesconi (2001), studied the association between various aspects of family background, including parents' education, income and family structure, and the educational attainments of more recent cohorts of British Youth who were born during 1974-81, using the British Household Panel Study (BHPS). The study concluded that parent's educational attainments were very powerful predictors of their children's educational attainment.

Daniel Suryadarma and et al. (2004) explored the determinants of performance in tests of Indonesian's fourth-grade students in public primary schools. The results show that the educational levels of mothers' appears to matter more than other variables in determining the educational attainment of students.

Ermisch and et al. (2010) examined the causal impacts of parents' education on that of their children's education. The authors tested the hypothesis that better-educated mothers work more in paid employment and spend less time interacting with their children and found no evidence to support it. The results suggest that there was a correlation between parent and child education which reflected the correlation of activities and attitudes of parents improved their children's educational achievements.

Bhaumik and Chakrabarty (2010) suggested that the most important factors deriving the transition likelihoods are personal and household characteristics like gender and education of household heads.

Valbuena, Javier (2011), analyzed the effect of parental education, educational achievement of children using longitudinal data from the 13th wave of British household panel survey. The authors had found that parents' educational attainments were to be strong predictors of the education of their offspring.

Strayhorn (2010) also concluded that Black high school students whose parents are college-educated fare better than their counterparts with non-college educated parents in math achievement.

Lathapipat (2013), in his analysis, reports that family wealth, attributed to the education and occupation of both parents and urban-rural location influences schooling decisions and the educational attainments of young students.

Review of related literature shows that the main determining factors for the educational achievement of the children are parents' education, economic status, and size of the family. Socio-economic status of the parents is influencing their wards learning the outcome. Parental schooling has an impact on children educational achievement. In this study, an attempt is made to examine the factors influencing academic achievement of higher secondary school students in Chennai City.

Materials and Methods

Primary data was collected by administering the questionnaire on 199 samples comprising 109 boys and 90 girls who had entered into a college for pursuing their higher education. Respondents were selected randomly from different departments of all the three-year students and gathered information on parent's education, parent's occupation, family income, family size and siblings education. Students' 10th and 12th grade Board exam marks are used as the dependent variable. The respondent's age, gender, mothers' education, fathers' education, fathers' occupation, mothers' occupation, fathers' income, mothers' income and highest siblings education are the independent variables. Multi-variate Regression techniques are employed.

Results and Discussion

Empirical Models

The proposed model of the study is described in the form of set of equations

$$Y_{+2marks} (\%) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 \\ + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} \\ + \beta_{14} X_{14} + \beta_{15} X_{15} + \beta_{16} X_{16} + \beta_{17} X_{17} + \beta_{18} X_{18} + \varepsilon_i \quad \dots\dots (1)$$

$$Y_{10marks} (\%) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 \\ + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} \\ + \beta_{14} X_{14} + \beta_{15} X_{15} + \beta_{16} X_{16} + \beta_{17} X_{17} + \beta_{18} X_{18} + \varepsilon_i \quad \dots\dots(2)$$

Table 1: Summary of OLS Estimation

Variables	Model-1	Model- 2
Gender(X ₁)	-1.158 (-0.504)	-.996 (-0.416)
Mother_tongue(X ₂)	2.906 (0.820)	-1.833 (-0.497)
Mother_education(X ₃)	2.257 (0.551)	-.970 (-0.227)
Mother education primary (X ₄)	5.115 (0.906)	6.091 (1.036)
Mother education middle(X ₅)	-1.976 (-0.469)	-1.557 (-0.355)
Mother education secondary(X ₆)	-4.717 (-0.850)	-6.822 (-1.180)
Mother education higher secondary(X ₇)	-1.193 (-0.132)	-11.195 (-1.193)
Father education (X ₈)	1.809 (0.707)	2.593 (0.973)
Father education primary(X ₉)	6.901 (1.435)	8.174 (1.632)
Father education middle(X ₁₀)	-1.847 (-0.350)	.462 (0.084)
Father education secondary(X ₁₁)	-6.752 (-0.803)	1.424 (0.163)
Father education higher secondary(X ₁₂)	-13.454 (-1.032)	2.824 (0.208)
Sibling Education(X ₁₃)	1.774*** (2.302)	1.788 (2.228)
Number of Sibling(X ₁₄)	2.905* (1.980)	2.838 (1.858)
Father Occupation(X ₁₅)	2.993*** (2.722)	3.219 (2.811)
Mother Occupation(X ₁₆)	3.201** (2.686)	2.741 (2.209)
Father income(X ₁₇)	0.000 (0.668)	-0.0009 (-0.389)
Mother income(X ₁₈)	0.00004 (0.093)	-.001 (-1.311)
Intercept	29.269	29.705
N	199	199
R-Square	0.365	0.325
F-value	5.939	4.975

Note: Values in parenthesis are t-value

Table 1 produces a summary of OLS estimation of two models. In the model 1, it is underscored that the computed R-Square is 0.365. The R-Square seems to be low but is not a problem in cross-sectional data setting (Gujarati, 2009). Further, the table also furnishes the correlation between the dependent and independent variables. The computed R-value is 0.604,

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which explains that there is positive correlation exists between the regressand and regressors. The model fit statistic is provided in the table with the F value 5.939.

From the OLS model, it is found that the boys secure 1.15 percentage of marks than girls. It is expected the outcome that the girls are securing more marks than boys in all Board examinations. It is universally acknowledged that parents' education background has significant effects on their children academic accomplishment. Particularly educational background of mothers does have a significant influence on the children's educational outcome. In this study both the fathers' and mothers' education is divided into primary, middle school, secondary and Higher Secondary school education. From the result, it is astonishing to note that the parents' education does not have a significant effect on the 12th percentage. The reason could be that most of the 12th aspirants take tuitions along with their classroom teaching and therefore they are independent of their parents' education. Another interesting finding is that the number of siblings also have significant positive effects; as the sibling size increases, it would create competitiveness among the siblings regarding academic talents. Therefore, they would try to attain good marks and thereby they would be on par with their sibling's education. Parents' occupation to has significant effects; as the income of the parent's increases, they would try to put their wards in such schools by their economic status. Moreover, there would be demonstration effects when their children are sent to tuitions.

From the model-2, the R-square is 0.325 which means that 32% of variations are caused by the independent variables on the dependent variable. The fitted model is significant with 'F' value as 4.975. Out of the variables used in the model, variables such as sibling education, occupation, the status of the father and mother influences the mark percentage in the 10th standard board exam. The remaining 15 variables do not influence the dependent variable, and five variables such as education level of the mothers and gender show a negative impact.

Conclusion

Economic development of a nation is certainly determined by the educational status of the nation. There is a direct nexus between economic development and educational development. The so-called developed nations had reached highest economic development due to the educational development (Galbraith, J.K.). Education development positively influences productivity, employment, mobility and specialization of labour, etc. In this study both the fathers' and mothers' education is divided into primary, middle, secondary and Higher Secondary school education. The result shows that the parents' education does not have a significant effect on both 10th and 12th standard board exam marks percentage. Parents' occupation to has significant effects; as the income of the parent's increases, they would try to put their wards in such schools by their economic status. Moreover, there would be demonstration effects when their children are sent to tuitions. The impact of parental schooling on children's educational achievement has received attention in the economic literature. Studies have found that one or both parents' education has a significant impact on children's schooling. Educated parents may influence their wards education both directly and indirectly. An educated parent is better able to help with homework and indirectly through the transmission of values like punctuality, the importance of schooling, ambition). In our sample, none of the student's parents is a graduate. Our sample is taken from a college in North Chennai, where all the students socioeconomic status are more or less the same. Measures, such as school attendance rates and school continuation or dropout rates. Our result supports the fact the students from high SES will perform better than students from low SES.

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