

EFFECT OF INCOME ON EDUCATION GRADE POINTS OF THEIR CHILDREN

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Abstract: *Modern education in India is often criticized for being based on rote learning rather than problem solving and logical reasoning. Preschool for Child Rights states that almost 99% of preschools do not have any curriculum at all. Even though many children attend schools, they remain ill-equipped. Children often don't receive support from their parents. Parents seem to be indifferent to their child's learning and only see them as additional hands for work and hence lesser priority is given to education which is central to a child's life. The paper tends to focus on causal relationship between income and education.*

IMPACT OF INCOME ON EDUCATION

There are many routes by which children from low income families can end up doing less well in the education system. These can be broadly classified into two groups, causal and non-causal.

The non-causal relationships occur when factors that are correlated with low income result in low levels of education. For example, we might think that low income families have characteristics that leave children more prone to low educational achievement. Such characteristics include innate (genetic) ability, low parental education and other less easily observed measures of adult heterogeneity which lead to lower home based child development. This may also produce a lower emphasis on educational achievement in parenting or a reduced ability to translate parenting time into educational development. A further example would be a shock that leads to both low attainment and low income, such as family break-up. Note that in all these scenarios it is not low income in itself that causes reduced attainment.

Causal effects of income on educational attainment can be direct and indirect. Direct routes may occur through reduced investments in educational development outside the school (i.e. resources for high quality childcare, after school coaching (of good quality), educational materials in the home, money for educational trips to zoos, museums, days out, holidays etc.). Later on in the educational process the direct effects of low income are even more obvious, as poorer parents may lack the resources to fund their children through further and higher education.

Indirect routes include purchase of housing in a good neighbourhood that leads to a better peer group or access to a better school. For example, Gibbons and Machin (2001), highlight that parents seem prepared to pay a lot more for housing located near to better achieving primary schools. We are interested in the extent to which one can uncover a causal relationship between income and education.

THE EXTENT OF THE CAUSAL RELATIONSHIP BETWEEN INCOME AND EDUCATION

Existing research tends to show that children from poorer backgrounds do less well in a number of dimensions than the rest of the society. But, the extent to which this follows from a causal relationship from low incomes to adverse outcomes is less clear. If income matters then increasing inequality of

family incomes will translate into inequalities in children's educational outcomes. However, if the key determinants of educational outcomes are factors like innate ability, parental education and parenting styles then increased income inequality should not matter for children's educational attainment.

METHODOLOGY, DATA COLLECTION AND LIMITATIONS

I. DATA COLLECTION

As income data is hard to obtain and is unreliable, expenditure data has been chosen as a proxy for income data. For expenditure, a range of the costs incurred in obtaining an education were considered, such as the school fee, tuition fee and costs of transportation, uniforms and stationery.

For marks, since primary data is most reliable, the students of 7th standard were given a personal assessment test comprising of questions on basic mathematics, English, logical reasoning and general knowledge.

The data collection was carried out across 5 schools in North Delhi which comprised of 2 boys' schools, 2 co-education schools and a girls' school. A total of 127 students were surveyed. The data collection was carried out over a span of 2 months .i.e., in September and October, 2015 for the academic session 2014-15.

II. METHODOLOGY

From the previous literature on educational spending, the following regression model was adopted to estimate the impact of educational expenditure on educational achievement:

$$Y = \beta_0 + \beta_1 \text{exp}$$

where **Y** is an educational outcome .i.e., marks in the personal assessment test and **exp** is expenditure per student in the year 2014-15.

Educational expenditure per student reflects the costs associated with education. It covers a range of expenses, including school fees, cost of school uniform, transportation cost, expenditure on stationery and tuition fees.

An alternate way of approaching this is that, if the inequalities in expenditure data translate into the inequalities in their educational achievements, income and education grade points are correlated.

III. DATA LIMITATIONS

There are some data constraints in this study.

Collection of income data has numerous problems as it is inadequate, unreliable and time-consuming. Income data generally suffers from the under-reporting bias. Also, income distribution for children in households with differing number of members is tough to determine. Hence, it is more plausible to look at the expenditure data which is proportional to the income data, as it addresses the above problems.

One limitation with using expenditure data is the absence of concrete accuracy and comprehensiveness when considering stationery, transportation, uniform and tuition costs. Another limitation that the expenditure data faces is that it does not take into account the expenses of healthcare and nutrition of the child which affects education. Due to time, administrative and financial constraints, this study is limited to 127 students across 5 schools in Delhi.

SUMMARY OF STATISTICS

% of boys = 57.48%

Number of those who scored above 40% marks = 37%

Number of those who scored above 60% marks = 4.1%

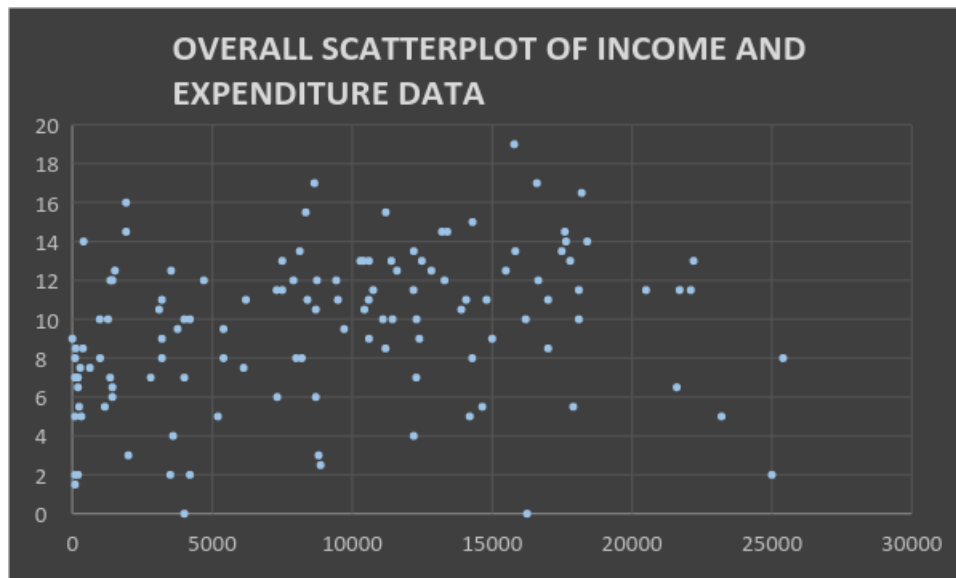
% of girls = 42.5%

Number of those who scored above 40% marks = 59%

Number of those who scored above 60% marks = 7.4%

% of students attending tuitions = 59.84%

EXPENDITURE CLASSES (per capita per year)	NO.OF DATA POINTS	r^2	R	NATURE OF CORRELATION	STRENGTH OF CORRELATION
0-1500	26	0.131	0.362	Positive	Weak
1500-5000	19	0.158	0.398	Positive	Weak
5000-10,000	24	0.033	0.182	Positive	Weak
10,000-15,000	32	0.043	0.206	Positive	Weak
15,000-20,000	18	0.014	0.119	Positive	Weak
20,000 and above	8	0.379	0.616	Positive	Moderate
Total (0-20,000+)	127	0.00235	0.048	Positive	Weak



Therefore, only a 0.23 % of variation in marks is due to variation in expenditure as explained by regression.

Most expenditure classes show no strong correlation to their marks.

- 59% of the girls scored more than 40% which are the passing marks, whereas among boys it is only 37% which reflects the bad quality of education in our country. Also, only 7.4% of the girls scored more than 60% marks whereas among boys, it is just 4.1%. This shows that there has been an expansion in the numbers of girls being educated and also that the system is able to extract more out of them in comparison to the boys.
- Approximately 60% of the students were found to attend tuitions after schools. This is an indication that the quality of education in government schools is unsatisfactory.
- More than 50% of the students couldn't solve simple arithmetic questions, such as division by 5 and fractions and approximately 48% of the students couldn't understand a simple comprehension passage.
- Most of the students couldn't score at all in the general knowledge and logical reasoning section which indicates the poor quality of the education.
- 4 of the 5 schools that were surveyed didn't have proper scheduled classes along with ill-maintained classrooms which made it really difficult for them to study.

CONCLUSION

Therefore, low income may be one of the reasons contributing to low grade points along with a few other reasons, some of which are mentioned above, but it in itself has no causation. Other than financial problems, other reasons causing this outcome can be lack of innate ability, proper parenting, parental education, conducive environment at home and in the neighbourhood etc

Also, the inequalities in expenditure data do not translate into the inequalities in their educational achievements. Hence income and education grade points are not strongly correlated .i.e., there is no causal relationship between them.

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