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Educational Attainment And Intergenerational Mobility In India: Evidence From Nss 75th Round Survey Data

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Abstract

The study of intergenerational mobility has been a longstanding area of interest among social scientists. The concept of intergenerational mobility assesses the extent to which individuals can improve their social or economic standing compared to that of their parents. Since education is an important determinant of an individual's lifetime earnings and general well-being, so educational mobility significantly influences social or economic mobility between generations. The present study stands out from previous research by examining the relationship between one's education and occupation, health, wealth accumulation, and economic independence in old age. Additionally, it investigates how these educational outcomes contribute to the heterogeneity in children's educational attainment. For analysing the objective, NSS 75th round data has been used. The study found a significant positive association between the educational attainment of individuals and their occupation, consumption quintile, economic independence at old age and self-reported health status. Further, the study also found a positive association between the educational level of parents and that of their children suggesting that the children of highly educated parents are more likely to be better educated compared to the children of less educated parents, who are likely to stuck at lower levels of education. This has been validated by the ordinal logistic regression results. Further, the models exhibit differences in terms of significance and effect sizes, highlighting the importance of considering specific variable combinations in understanding educational outcomes. The odds ratios significantly increase after controlling for economic factors. The strong positive relationship between children's education and parental education persisted when controlling for economic factors such as household consumption expenditure and occupation classes.

Keywords: *Education, Intergenerational mobility, Occupation, Health, Heterogeneity.*

1 Introduction

Intergenerational mobility plays a vital role in promoting human progress (Narayan et al., 2018). The study of intergenerational mobility also called intergenerational transmission of human capital, has been a longstanding area of interest for social scientists. Intergenerational mobility pertains to the transition or movement in social or economic standing across different generations. The concept evaluates the degree to which individuals can enhance their social or economic status in relation to their parents (Majumder, 2010). It is widely acknowledged that the parents' socioeconomic characteristics shape the family backgrounds and consequently, affects the social status and characteristics of the next generation (Mare, 2000). Educational attainment, which is a key component of economic advancement and better health and plays a vital role in shaping

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family background, has been given special attention in the study of the intergenerational transmission of human capital (Borkotoky et al., 2015). Education is a crucial factor in determining an individual's lifetime earnings and overall welfare, hence, educational mobility plays a vital role in economic mobility as well across generations (Lee & Lee, 2021; Narayan et al., 2018).

There is a vast literature on the transmission of human capital from parents to children. Studies have explored the impact of parental background on the educational outcomes (S. E. Black et al., 2005; Emran et al., 2019; Symeonaki et al., 2011; Torssander, 2018), occupational outcomes (Kundu & Sen, 2021; Majumder, 2010; Singh et al., 2021b; Yamaguchi, 1983), health outcomes of children (Dhanaraj et al., 2019; Qin et al., 2016) etc. The present study distinguishes itself from the previous studies on the ground that it attempts to first relate one's education with his or her occupation, health, wealth accumulation, and economic independence at old age, and then explore the impact of these educational outcomes on the heterogeneity in the educational attainment of children. It is widely observed that parents always desire for their children to achieve higher standard of living than they had for themselves. Achieving upward mobility is a challenge in many regions across the world as per the existing evidence. Evidence shows that it is harder to climb from the bottom of the economic ladder to the top in developing countries, compared to the affluent countries across the world (Narayan et al., 2018; Uddin, 2019).

Educational mobility is influenced by various factors such as parents' educational level, occupation, socio-economic status, family environment, and aspirations. Intergenerational educational mobility refers to the movement or transition of individuals from one educational level to another in comparison to their parents' educational level (Symeonaki et al., 2011; Torche, 2019). It examines the extent to which children's educational attainment is influenced by the educational level of their parents (Symeonaki et al., 2011). Education plays a crucial role in social mobility, as it is strongly related to the transmissions individuals make in their lives. In addition to gauging professional and economic mobility, it offers vital insights about the level of equality of opportunity within society (Singh et al., 2021a). A robust association indicates that the likelihood of obtaining formal education is mostly influenced by the privileges conferred at birth. A small association implies that individuals, irrespective of the educational resources available within their families, have comparable opportunities to achieve either high or low levels of education (Torche, 2019). High intergenerational mobility indicates that individuals have a greater chance of upward social mobility, while low intergenerational mobility suggests that social and economic disparities persist across generations (Lee & Lee, 2021). Therefore, it is essential to improve the educational distribution in the population, otherwise it would be perpetuating across generations in the society resulting in inequality of opportunities among the different groups of people in the society identified by gender, geographic location or social class (Azam & Bhatt, 2015). An important channel through which interpersonal income inequality is transmitted across generations is this intergenerational persistence in education (Narayan et al., 2018). As being shown by the Great Gatsby Curve, there is a negative relationship between income inequality and intergenerational mobility suggesting unequal opportunities and lower intergenerational mobility associated with inequality (Kishan, 2021).

There are a number of possible explanations that why the parents with higher education levels have children with higher education levels. A general belief among parents is that the investment in their children's education can significantly improve their children's earning potential (Becker, 1962; Becker & Tomes, 1979). However, parents' investment in the education of their children depends on their own educational level as well. Better educated parents earning higher income are more likely to have the resources to invest in their children's education compared to the parents with less education (Lee & Lee, 2021). The existing literature argues that the educated parents provide appropriate family environments

to their children which enable them to acquire better education (Mare, 2000). The family environment has a considerable impact on children's learning behaviours and academic performance, as it serves as their primary and most influential setting (Li & Qiu, 2018).

The literature has also put forward two important theories explaining the transmission of education from parents to children, viz., the pure selection theory and the causation theory (S. Black et al., 2003) . The pure selection theory advocates that the better educated parents earn higher salaries, etc., and therefore they have the type of children doing so as well, regardless. Whereas, the causation theory says that more education makes one a different kind of parent, perhaps better, and thereby children would have better outcomes as well (S. Black et al., 2003).

2 Educational Attainment and Outcomes: Literature Review

Education serves as a reliable and long-term indicator of socioeconomic status (Azam & Bhatt, 2015). Education significantly influences employment prospects, job opportunities, and subsequent income levels. Individuals with a higher level of education have a lower probability of experiencing unemployment compared to those with a lower level of education. Furthermore, they have a higher likelihood of engaging in full-time employment, and their work may be more satisfying and rewarding (Ross & Wu, 1995). The fact that most organizations use education as a measure of an individual's proficiency or productivity (Benson et al., 2004), they often use it as a requirement in hiring decisions. Further, education is often considered a passport to good jobs, as better-educated workers tend to be more productive and capable of performing sophisticated tasks (Pagés & Stampini, 2009). In addition, education transforms individuals through enhancing of learning skills and behaviour (Ali & Jalal, 2018), and make them well informed of the career opportunities, raising their expectations of higher achievements in life (Pagés & Stampini, 2009).

Education is also considered an important social determinant of health (Raghupathi & Raghupathi, 2020). It is well acknowledged that there is a positive association between education and health. Individuals with higher educational attainment experience better health and longevity in comparison to their less educated counterparts (Raghupathi & Raghupathi, 2020; Ross & Wu, 1995; Zajacova & Lawrence, 2018; Zimmerman & Woolf, 2014). Better educated people are more likely to be employed and have high incomes and low economic hardship besides healthy lifestyle and have access to preventive health care (Ross & Wu, 1995). Thus, the work and economic conditions of the well-educated may protect their health (Ross & Wu, 1995). Education fosters the acquisition of diverse skills and qualities, such as cognitive and problem-solving capabilities, acquired efficacy, and personal control. These attributes enhance individuals' likelihood of experiencing better health outcomes, ultimately contributing to the development of human capital (Raghupathi & Raghupathi, 2020).

Studies have also explored how education influences wealth accumulation and financial assets. A majority of the literature supports the link between higher education and larger wealth (Behrman et al., 2012; Bingley & Martinello, 2017; Girshina, 2019; Vo & Ho, 2022). Educational attainment is linked to better financial decision-making, investment strategies, and overall wealth-building capabilities. Schooling or educational attainment have been linked to household wealth accumulation in the literature. Educational attainment by enhancing financial literacy is significantly correlated with a positive financial behaviour (Behrman et al., 2012). Therefore, considering only wage returns to education underestimates the economic implications of education as the later has a positive, large, and long-lasting effect on net worth, leading to higher wealth accumulation over the life cycle (Girshina, 2019).

The literature has found a positive and significant association between the educational attainment of an elderly with his or her economic condition (Mohanty et al.,

2023). Economic independence of the older population is a key indicator of their well-being (Goli et al., 2019). But it has been observed especially in developing countries that the poor elderly have no choice except to live with their children for their survival (Mohanty et al., 2023). Given that majority of the elderly population does not have adequate social security provision or old-age pensions (Goli et al., 2019), the importance of education is further enhanced for ensuring economic independence among parents especially the elderly ones. In this background, as stated previously, the present study examines the association between the educational attainment of parents and their outcomes such as health, occupation, wealth accumulation, and economic independence in old age. It then investigates the effect of these educational outcomes on the heterogeneity in children's educational attainment.

3 Data and Method

3.1 Data Sources

The current study aims to examine the intergenerational mobility in education by examining the impact of parental education on the educational attainment of the children. For this purpose, National Sample Survey (NSS) 75th round data has been used which is a cross sectional survey of data on various socioeconomic indicators including education, occupation, health etc.

The survey used a stratified multistage technique, with the first-stage Units (FSU) being Census villages in the rural sector and Urban Frame Survey blocks in the urban sector. In both sectors, the ultimate stage units (USU) were the households. In the case of large FSUs, one intermediate stage of sampling was carried out to choose two hamlet-groups (hgs)/sub-blocks (sbs) from each rural/urban FSU. The rural and urban sampling frames were the 2011 population census villages and the latest available list of UFS blocks, respectively. The survey included 1,13,823 households, 64,552 of which were rural and 49,271 of which were urban. The overall number of people surveyed was 5,55,115, with 3,25,883 belonging to rural households and 2,29,232 belonging to urban households.
In the present study, only parents of age 60 years or above were included. Therefore, we started with a total of 42,762 respondents. In addition, these respondents should be either the head of the household or the spouse of the head. Since only 31,761 of the 42,762 respondents aged 60 or above were household heads or the spouses, the sample size was reduced to 31,761 respondents. As India currently has no available nationally representative data that encompass the educational achievements of adult children residing outside their households (Thoma et al., 2020), only those respondents who were having at least one adult child aged 25 or above and co-residing with them were considered. The sample was restricted to children aged 25 years or older in order to ensure that they had the chance to complete their formal education. The sample size was further decreased to 22,968 respondents based on this criterion. To conclude, the study analysed a sample of 22,968 parents who were co-residing with at least one adult child aged 25 or above.

To analyse the association between the education of parents and that of their children, the education of the children was defined in three separate ways. First, the highest education attained by any of the children in the household. Second, the mean educational level of all the children in the household aged 25 years or older, and finally, the education attained by the eldest child in the household, were also considered to bolster the validity of our findings. The educational level of the parents and children was classified into six categories: not literate, below primary, primary, secondary, higher secondary, and graduate and above. The categorization of level of education completed is a more tangible measure of educational attainment compared to years of schooling (Thoma et al., 2020).

3.2 Specification of Ordered Logistic Model:

Ordered logit models (OLM) are employed to estimate the associations between an ordinal

dependent variable and a set of independent variables. An ordinal variable is a categorical variable that has a specific order or ranking. Here, the focus is solely on educational status of children categorized into six categories with graduation and above is the highest order and not literate is the lowest in the ranking.

In ordered logit analysis, a linear equation is used to estimate an underlying score based on the independent variables and a series of predetermined cut points. The probability of seeing outcome i is determined by the likelihood that the estimated linear function, along with the random error, falls within the range of the cut points estimated for the outcome. The probability of a given observation for ordered logit can be expressed as

$$Pr(Outcome_j = i) = Pr\ (k_{i-1} < \beta_1 x_{1j} + \beta_2 x_{2j} + \cdots \beta_k x_{kj} + + u_j \leq k_i) - - - - - - (1)$$

$$= \frac{1}{1 + exp\ (-k_i + X_j \beta)} - \frac{1}{1 + exp(-k_{i-1} + X_j \beta)} - - - - - - - - - - - - - - (2)$$

k_0 is defined as -∞ and k_k as +∞.

4 Results and Discussion:

4.1 Descriptive Statistics

Table 1 shows descriptive statistics for various demographic and socio-economic variables which have been used in the analysis of the data from 22,968 households.

Table1: Descriptive Statistics of the Variables Employed in the Ordinal Models

Variable	Obs.	Mean	Std. Dev.	Min	Max
HELC	22968	3.486	1.426	0	5
MELH	22968	3.469	1.376	0	5
ELEC	22968	3.360	1.382	0	5
Education of parents	22968	1.643	1.672	0	5
Health status of parents	22963	2.095	.529	1	3
Household size	22968	6.641	2.668	2	31
Religion	22968	1.368	.691	1	3
Social group	22968	3.043	.9606	1	4
Occupation of parents	22968	1.769	.972	1	4
Drinking water source	22968	1.019	.137	1	2
Cooking fuel used	22968	1.694	.479	1	3
CSCA	22955	1.976	.157	0	2
Age of children	22968	36.317	7.255	25	72
Household wealth	22968	3.498	1.344	1	5
EIP	22963	2.08	.857	1	3

Source: Authors Calculation from NSS 75th Round Data

Note: HELC- Highest education level of any child, MELH- Mean education level of children, ELEC- Education level of the eldest child in the household, CSCA- Children suffering from chronic ailment, EIP- Economic independence status of parents.

It can be seen that the mean of the highest education level of children in the household is 3.486 on a scale of 0 to 5, (where 0 is not literate and 5 is graduate & above), suggesting a relatively moderate educational attainment. The variable mean education level of children in a household, closely aligns with individual children's education, with a mean of 3.469. Whereas, the mean education level of the eldest child in the household is marginally less (3.360) than the highest education of any child or the average education of the children in

the household. Parents exhibit an average education level of 1.643, indicating a generally lower educational attainment. The health status of parents, measured on a scale from 1 to 3, where 1 represents excellent/very good health status and 3 poor health status, has a mean of 2.095, indicating a predominantly good health status. Household size with an observed range of 2 to 31 individuals has a mean of 6.641, suggesting a larger-than-average household. Social group membership has a mean of 3.043, showing most respondents are in OBC and General group, and parents predominantly engage in occupations with a mean of 1.769. Additionally, variables such as source of drinking water, cooking fuel used, children with communicable disease, children with chronic ailment, age of children, household wealth, and economic independence status of parents provide further insights into the distribution and central tendencies of key characteristics within the surveyed households. The age of children, with a mean of 36.317, indicates that, on average, the sampled children are in their mid-thirties. Overall, these descriptive statistics offer a comprehensive snapshot of the educational, health, and socio-economic dimensions within the surveyed households.

4.2 Educational and Occupational Status

Table 2 presents the percentage distribution of the association between the education status and occupational status of the parents. The data reveals distinct patterns between the different educational levels and occupational statuses of elderly parents.

Table 2: Percentage of Distribution on the association between Education and Occupational Status of Parents

		Occupation Status of Parents				**Total**
		Self Employed	Salaried	Casual Labour	Other	
Education Status of Parents	Not Literate	58.7	14.9	23.3	3.1	100
	Below Primary	56.4	18.9	20.5	4.2	100
	Primary	56.9	22.6	14.8	5.7	100
	Secondary	51.1	30.4	7.9	10.6	100
	Higher Secondary	43.9	34.8	3.7	17.6	100
	Graduate or above	35.8	40.9	1	22.4	100
	Total	**53.9**	**22.9**	**15.7**	**7.6**	**100**

Source: Authors Calculation from NSS 75th Round Data
Note: All values are significant at 1% level of significance

Overall, the majority of parents fall under the category of self-employed, constituting 53.9 percent of the total, followed by 22.9 percent in salaried positions, 15.7 percent in casual labour, and 7.6 percent in other occupations. The table illustrates an interesting trend concerning education levels. Notably, as the education level of elderly parents increases, the percentage engaged in self-employment decreases, while the percentage in salaried positions tends to rise. For instance, the highest percentage of self-employed individuals (58.7 percent) is observed among those who are not literate, whereas the lowest percentage (35.8 percent) is found among those with a graduate or higher education. This suggests a correlation between higher education and engagement in salaried occupations among the population. All values in the table are deemed significant at the 1 percent level of significance, emphasizing the reliability of the observed relationships.

4.3 Education and Wealth Quintiles

Table 3 presents the percentage distribution, illustrating the association between the educational attainment of parents and their wealth quintiles. The wealth quintile has been determined based on the household's usual monthly consumer expenditure.

Table 3: Percentage of Distribution on the association between Education and Wealth Quintile of Parents

		Wealth Quintile of Elderly Parents					**Total**
		Poorest	Poor	Middle	Rich	Richest	
Education Status of Parents	Not Literate	14.9	20	23.9	21.8	19.3	100
	Below Primary	13	15.3	22.9	23.6	25.3	100
	Primary	9.5	14.4	21.6	24.5	30	100
	Secondary	6.4	10	18.2	24.6	40.9	100
	Secondary	4.2	8.8	14.5	22	50.5	100
	Graduate or above	2	5.1	10.6	16.9	65.4	100
	Total	**10.5**	**14.7**	**20.7**	**22.6**	**31.5**	**100**

Source: Authors Calculation from NSS 75th Round Data
Note: All values are significant at 1% level of significance

The table shows a constant pattern of declining percentages in the lowest wealth quintile as parental education levels progress, whereas the percentages in the higher wealth quintiles generally rise with increased levels of education. At the lower end of the education spectrum, the percentage of elderly parents in the poorest quintile is highest for those who are not literate (14.9%), and it decreases as education levels progress. Conversely, the proportion of elderly parents in the richest quintile increases substantially with higher education levels, reaching 65.4% for those with a graduate degree or above. These findings indicate a direct relationship between education and wealth, suggesting that people with higher levels of education are likely to belong to higher wealth categories. The significance values confirm the statistical reliability of these associations at the 1% significance level. In general, the table offers significant information about the relationship between education and wealth level among the population.

4.4 Education and Economic Independence

Table 4 presents the percentage distribution, illustrating the association between parents' education levels and their economic independence. The total row indicates that 33% of elderly parents are economically independent, 26% are partially dependent, and 41% are fully dependent.

Table 4: Percentage of Distribution on the association between Education and Economic Independence Status of Elderly Parents

		Economic Status of Elderly Parents			**Total**
		Independence	Partially Dependence	Fully Dependence	
Education Status of Elderly Parents	Not Literate	21.8	29	49.2	100
	Below Primary	26.1	28.4	45.4	100
	Primary	30.6	26.5	42.9	100
	Secondary	42.3	23.4	34.3	100
	Higher Secondary	55.8	19.6	24.7	100
	Graduate or above	61.8	18	20.3	100
	Total	**33**	**26**	**41**	**100**

Source: Authors Calculation from NSS 75th Round Data

Note: All values are significant at 1% level of significance

The table demonstrates a distinct relationship wherein the proportion of economically independent parents rises in tandem with the level of education. In contrast, there is a decrease in the proportion of parents who are totally dependent on others and have attained greater levels of education. As the educational attainment of elderly parents increases, there is a notable rise in economic independence. Notably, the proportion of economically independent elderly parents rises from 21.8% for those not literate to 61.8% for those with a graduate degree or above. This suggests a positive relationship between education and economic independence among older individuals, emphasizing the potential impact of education on promoting economic independence. The significance values confirm the statistical significance of these associations at the 1% level, highlighting the strong and consistent nature of the observed trends.

4.5 Education and Self-Rated Health Status

Table 5 displays the percentage distribution, highlighting the association between the education level of parents and their self-rated health status. The table reveals a continuous pattern where the percentage of parents reporting excellent or very good health status rises as education level increases, while the percentage of those reporting poor health status decreases.

Table 5: Percentage of Distribution on the association between Education and Self-Rated Health Status of Elderly Parents

		Self-Rated Health Status of Elderly			**Total**
		Excellent/Very Good	Good/Fair	Poor	
Education Status of Elderly Parents	Not Literate	7.9	70.3	21.8	100
	Below Primary	8.8	69.6	21.6	100
	Primary	9	72.7	18.3	100
	Secondary	11.9	72.1	16	100
	Higher Secondary	12.3	72	15.7	100
	Graduate or above	13.4	71.8	14.8	100
	Total	**9.7**	**71.1**	**19.2**	**100**

Source: Authors Calculation from NSS 75th Round Data
Note: All values are significant at 1% level of significance

The data reveal a consistent trend of improving self-rated health status with higher educational attainment. Notably, the proportion of elderly parents rating their health as Excellent/Very Good increases from 7.9% for those not literate to 13.4% for those with a graduate degree or above. Conversely, the percentage of those rating their health as Poor decreases significantly with higher education levels, from 21.8% for not literate to 14.8% for graduates and above. This indicates a direct relationship between education and self-rated health among the population at their old age. Again, the associations are significant at the 1 percent level. The table therefore underscores the potential influence of education on the perceived health status of individuals, especially the older ones, emphasizing the importance of education in contributing to better self-reported health outcomes.

4.6 Children's Education and Parental Education Status

In Table 6, we have presented the odds ratios (ORs) and 95% confidence interval (CI) of the estimated results of ordinal logistic regression models. In Model-1 (1A, 1B), the focus is on the dependent variable, representing the highest education level among children, categorized into six distinct groups.

In contrast, Model-2 (2A, 2B) centres around the mean education level of children within a household. Moving to Model-3 (3A, 3B), the dependent variable is specifically the education level of the eldest child in the household. Higher parental education significantly increases the odds of a child attaining a higher education level. This trend is consistent across both model-1A and model-1B. The result indicates that children with parents in good/fair health and poor health are less likely to attain higher education levels compared to those with parents in excellent/very good health. Religious and caste differences also play a role. Muslims and SC (Scheduled Caste) children are less likely to attain higher education levels compared to their Hindu and ST (Scheduled Tribe) counterparts, respectively. General caste children have higher odds of higher education compared to ST, while OBC (Other Backward Class) odds are mixed across models. The occupation of parents significantly impacts a child's education. Salaried parents have higher odds of their children attaining higher education levels compared to self-employed parents. Parents working as casual labour have negative effects on the higher educational attainments of children as the odds ratios are less than one observed across the models. Higher consumption classes are associated with higher odds of a child attaining higher education levels. This implies as the economic status improves from the poorest to the richest, the odds of higher education attainment for children also increase. The source of drinking water and cooking fuel also has some impact, with unprotected water sources and traditional cooking fuels having a negative effect on a child's education level. Children with chronic ailments are less likely to attain higher education levels.

Table: 6 Ordered logistic regression results for the association between children's education and parental education, India

		Highest Education of Any children		Mean Education of Children		Highest Education of Eldest Children	
		Model-1A	Model-1B	Model-2A	Model-2B	Model-3A	Model-3B
Education of parents	Not Literate	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)
	Below Primary	1.664***(1.538-1.8)	1.76***(1.628-1.903)	1.548***(1.432-1.674)	1.645***(1.522-1.778)	1.645***(1.52-1.781)	1.735***(1.603-1.877)
	Primary	2.095***(1.935-2.268)	2.355***(2.177-2.547)	1.974***(1.825-2.135)	2.226***(2.059-2.406)	2.074***(1.915-2.246)	2.331***(2.154-2.522)
	Upto secondary	3.669***(3.416-3.94)	4.697***(4.38-5.036)	3.75***(3.494-4.025)	4.737***(4.42-5.076)	4.044***(3.765-4.343)	5.094***(4.75-5.463)
	HIgher secondary	8.181***(7.174-9.33)	11.492***(10.109-13.063)	8.201***(7.225-9.31)	11.394***(10.065-12.899)	8.65***(7.63-9.807)	12.022***(10.634-13.592)
	Graduate or above	15.974***(13.855-18.418)	25.732***(22.401-29.558)	16.466***(14.374-18.862)	26.007***(22.788-29.681)	16.564***(14.532-18.881)	25.932***(22.835-29.449)
Health Status of Parent	Excellent/Very Good	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)
	Good/fair	0.964 (0.883-1.052)	0.96(0.881-1.046)	0.932(0.856-1.016)	0.938(0.862-1.021)	0.928*(0.852-1.011)	0.933(0.858-1.016)
	poor	0.862***(0.78-0.953)	0.858***(0.777-0.947)	0.784***(0.71-0.865)	0.798***(0.724-0.88)	0.777***(0.704-0.858)	0.788***(0.715-0.869)
Sex of Child	Male	1 (Ref)	1 (Ref)			1 (Ref)	1 (Ref)
	Female	0.869***(0.801-0.944)	0.95(0.877-1.03)			0.615***(0.562-0.673)	0.682***(0.624-0.744)
Household Size	(2-5)	1 (Ref)	1	1 (Ref)	1	1 (Ref)	1 (Ref)
	(06-09)	0.963 (0.909-1.021)	1.112***(1.052-1.175)	0.88***(0.831-0.932)	1.009(0.956-1.065)	0.744***(0.702-0.789	0.851***(0.805-0.899)
	(10-13)	1.09* (0.993-1.197)	1.484***(1.361-1.619)	0.929(0.848-1.018)	1.238(1.138-1.347)	0.544***(0.496-0.596)	0.727***(0.668-0.791)
	14 & above	0.922 (0.769-1.107)	1.444***(1.213-1.718)	0.891(0.744-1.067)	1.332***(1.123-1.579)	0.412***(0.346-0.491)	0.62***(0.525-0.732)
Religion	Hindu	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)

	Muslim	0.607***(0.561-0.655)	0.621***(0.575-0.67)	0.628***(0.582-0.678)	0.64(0.594-0.691)	0.648***(0.6-0.7)	0.657***(0.609-0.709)
	Others	0.942 (0.867-1.024)	1.066(0.982-1.157)	0.946(0.871-1.027)	1.062(0.979-1.152)	0.924*(0.851-1.003)	1.03(0.95-1.118)
Caste	ST	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)
	SC	0.851***(0.764-0.946)	0.783***(0.705-0.87)	0.833***(0.75-0.926)	0.761***(0.686-0.845)	0.874**(0.786-0.972)	0.799***(0.719-0.888)
	OBC	1.128**(1.026-1.241)	1.086*(0.988-1.193)	1.092*(0.994-1.2)	1.041(0.948-1.143)	1.156***(1.052-1.271)	1.106***(0.719-1.215)
	General	1.459***(1.325-1.607)	1.601***(1.456-1.761)	1.424***(1.295-1.566)	1.53***(1.393-1.681)	1.512***(1.374-1.664)	1.631***(1.484-1.793)
	Self Employed	1 (Ref)		1 (Ref)		1 (Ref)	
	Salaried	2.115***(1.976-2.263)		2.029***(1.899-2.169)		2.044***(1.913-2.185)	
Occupation of Parent	Casual labour	0.592***(0.552-0.636)		0.621***(0.578-0.666)		0.604***(0.563-0.649)	
	Other	1.884***(1.688-2.103)		1.882***(1.691-2.095)		1.995***(1.791-2.222)	
	Poorest	1 (Ref)		1 (Ref)		1 (Ref)	
	Poor	1.368***(1.241-1.508		1.423***(1.291-1.57)		1.347***(1.22-1.487)	
Consumption Classes	Moderate	1.438***(1.309-1.58)		1.46***(1.329-1.604)		1.377***(1.252-1.513)	
	Rich	1.792***(1.628-1.973)		1.804***(1.638-1.986)		1.669***(1.515-1.839)	
	Richest	2.865***(2.588-3.173)		2.721***(2.459-3.011)		2.516***(2.273-2.786)	
Drinking Water	Protected Source	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)
	Unprotected source	0.954(0.805-1.131)	0.849*(0.717-1.005)	0.92(0.775-1.091)	0.827**(0.698-0.98)	0.882(0.741-1.048)	0.801**(0.674-0.95)
Cooking Fuel	Firewood/dung/Charcol	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)
	LPG/other natural gas	1.8***(1.696-1.91)	2.456***(2.321-2.599)	1.695***(1.598-1.797)	2.293***(2.168-2.425)	1.715***(1.616-1.82)	2.305***(2.179-2.439)
	Electricity/Kerosene	1.133(0.873-1.471)	1.339**(1.033-1.735)	1.036(0.8-1.344)	1.225(0.947-1.584)	1.004(0.774-1.303)	1.167(0.902-1.509)
	Yes	1 (Ref)					

Chronic Ailment	No	0.195**(0.047-0.815)					
Age of the Child	25 to 29	1 (Ref)	1 (Ref)				
	30 to 34	0.781***(0.722-0.846)	0.837***(0.774-0.905)				
	35 to 39	0.674***(0.623-0.73)	0.74***(0.684-0.801)				
	40 & above	0.507***(0.469-0.548)	0.572***(0.53-0.617)				
	cut1	-3.491	-1.85	-1.724	-1.844	-1.971	-2.03
	cut2	-3.004	-1.372	-1.201	-1.329	-1.285	-1.354
	cut3	-2.28	-0.669	-0.399	-0.546	-0.42	-0.51
	cut4	-0.184	1.324	1.672	1.435	1.827	1.64
	cut5	0.911	2.357	2.956	2.655	2.941	2.699
	Mean dependent var=3.486, SD dependent var=1.426		Mean dependent var=3.486, SD dependent var=1.426	Mean dependent var=3.47, SD dependent var=1.375	Mean dependent var=3.47, SD dependent var=1.375	Mean dependent var=3.361, SD dependent var=1.382	Mean dependent var=3.361, SD dependent var=1.382
	Pseudo r-squared=0.153, Number of obs=22950		Pseudo r-squared=0.129, Number of obs=22963	Pseudo r-squared=0.147, Number of obs=22963	Pseudo r-squared=0.126, Number of obs=22963	Pseudo r-squared=0.153, Number of obs=22963	Pseudo r-squared=0.133, Number of obs=22963
	Chi-square =10645.74, Prob >chi2=0		Chi-square =8990.815, Prob >chi2=0	Chi-square =10339.268 Prob >chi2=0	Chi-square =8854.742, Prob >chi2=0	Chi-square =10882.152, Prob >chi2=0	Chi-square =9410.671, Prob >chi2=0
	Akaike crit. (AIC)=59206.424, Bayesian crit. (BIC)=59495.903		Akaike crit. (AIC)=60878.159, Bayesian crit. (BIC)=61095.28	Akaike crit. (AIC)=60016.335, Bayesian crit. (BIC)=60257.58	Akaike crit. (AIC)=61486.861, Bayesian crit. (BIC)=61671.818	Akaike crit. (AIC)=60122.869 Bayesian crit. (BIC)=60372.15	Akaike crit. (AIC)=61580.349 Bayesian crit. (BIC)=61773.348

*** p<.01, ** p<.05, * p<.1

In part-B (1B, 2B and 3B) models we exclude certain variables from part-A (1A, 1B and 1C) to investigate the impact of education-related variables on the highest education of any child, emphasizing heterogeneity. The models exhibit differences in terms of significance and effect sizes, highlighting the importance of considering specific variable combinations in understanding educational outcomes. The strong positive relationship between children's education and parental education persisted when controlling for economic factors such as household consumption expenditure and occupation classes. The odds ratios (OR) significantly increase in all the part-B (1B, 2B and 3B) models after controlling for economic factors.

Table 7: Predicted Probability of Children's Education based on Parent's Education

		Not Literate	Below Primary	Primary	secondary	Higher secondary	Graduate or above
			Highest education of any child				
	Not Literate	0.158	0.158	0.142	0.123	0.09	0.07
	Below Primary	0.084	0.094	0.093	0.075	0.052	0.041
	Primary	0.08	0.09	0.065	0.052	0.037	0.029
	Secondary	0.032	0.042	0.033	0.024	0.018	0.014
	Higher secondary	0.013	0.019	0.014	0.01	0.007	0.005
	Graduate or above	0.004	0.002	0.003	0.004	0.003	0.002
			Mean education of children				
	Not Literate	0.158	0.158	0.142	0.123	0.09	0.07
Educational Level of Parents	Below Primary	0.084	0.094	0.093	0.075	0.052	0.041
	Primary	0.08	0.09	0.065	0.052	0.037	0.029
	Secondary	0.032	0.042	0.033	0.024	0.018	0.014
	Higher secondary	0.013	0.019	0.014	0.01	0.007	0.005
	Graduate or above	0.004	0.002	0.003	0.004	0.003	0.002
			Highest education of eldest child				
	Not Literate	0.14	0.128	0.121	0.103	0.08	0.065
	Below Primary	0.078	0.077	0.074	0.062	0.043	0.036
	Primary	0.073	0.066	0.055	0.042	0.032	0.026
	Secondary	0.03	0.034	0.026	0.019	0.014	0.011
	Higher secondary	0.012	0.016	0.009	0.008	0.006	0.004
	Graduate or above	0.005	0.001	0.004	0.003	0.003	0.002

Source: Authors Calculation from NSS 75th Round Data

The predicted probabilities of children's educational levels are presented in Table 7, which is based on the highest level of education that their parents have achieved. The table is divided into three sections: the highest education of any child in the household, the mean education of children in the household, and the highest education of the child who is the eldest in the family. The probabilities range from 0.001 to 0.158, which reflects the possibility of children achieving different degrees of education depending on the educational background of their parents. For instance, if the parents are not literate, the probability of highest education of children being not literate or below primary is 0.158, which is more than that of attaining educational levels up to higher secondary (0.09) or graduate and above (0.07). The table shows that the children with parents who are literate

and have a high level of education have a greater likelihood of pursuing higher education, but children who have parents who are illiterate have a greater likelihood of remaining at lower levels of education. The table also extends the analysis to mean education levels and the eldest child's education, offering a comprehensive understanding of the interplay between parental education and children's educational outcomes across different dimensions. Overall, the trend indicates that there is a positive association between the education levels of parents and the education levels of their children; as the education level of parents increases, the likelihood of children reaching higher education levels likewise generally increases on average. Further, we have also found heterogeneity in the educational attainment of children with regard to different scenarios of parents' educational level, occupation and self-reported health status as shown in tables (8-13) in the supplementary material.

5 Conclusion

There is a general consensus that the socioeconomic status of parents influences family backgrounds, which in turn impacts the social position and attributes of the subsequent generation. The study of the intergenerational transmission of human capital places special emphasis on educational attainment, as it is crucial for economic progress and improved health and has a significant impact on family background. Education is an important factor in determining social mobility, as it has a significant impact on the opportunities and achievements individuals experience throughout their life. Parents with a greater level of education and a higher income are more likely to have the means to invest in their children's education, in comparison to parents with lower levels of education. Education influences an individual's job prospects and is positively associated with his or her health status as well. The present study examined the parents' education association with various outcomes such as occupation, wealth, economic independence at old age, and health status and the overall impact of these outcomes in determining the education level of the children. The study also explored the heterogeneity in the educational attainment of children based on the parents' educational background, occupation or health status.

The study's findings indicate a positive relationship between having higher education and being employed in salaried employment among parents. The findings further show a significant positive relationship between educational attainment and the wealth and economic independence of elderly parents. The findings, consistent with the existing research, highlight the significant impact of education on the perceived health status of individuals, particularly older individuals. This underlines the important function of education in improving self-reported health outcomes. Moreover, the study establishes that there exists a positive correlation between the educational attainment of parents and that of their offspring. Specifically, as the educational level of parents increases, the probability of their children attaining higher levels of education also tends to increase on average. In summary, the study is a significant resource for policymakers and researchers seeking to understand the intricate relationship between parental education and the educational paths of their children.

Based on the evidence that educated parents are more inclined to prioritize and actively engage in their children's education, the study recommends enhancing the educational attainment of the present generations, as the benefit will accrue to both the present and subsequent generations. The government should also focus on improving occupational opportunities, which can be done through the implementation of skill development programs or encouraging entrepreneurship. Additionally, to ensure a good health status among parents, adequate and accessible health care services, along with implementing preventive health care measures, will have a significant impact on their health as well as the health and education of future generations. Overall, upward intergenerational mobility can be promoted by collectively addressing the problems of education, occupation, and health, creating a conducive environment for educational advancement.

Note: Supplementary material is available on request.

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