Child labour and schooling outcomes among children in India: An analysis of levels, trends and differentials

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Introduction

It has become closest thing to a global conventional wisdom: a nation's economic prosperity is intimately tied to its stock of human capital, and its human capital depends on the quality of its educational system. Also, it is widely established fact that child schooling has far reaching influence on shaping their subsequent living, in particular, and social and economic development of the society, in general. The influence of education in shaping the demographic structure of a society has received wide scholarly attention and many countries have introduced measures to improve the educational levels of its population, particularly targeting the young male and female children. The social, economic, and demographic implications of child schooling are enormous and multifaceted. Thus, across the world, education reform is now seen as indispensable to economic success. Moreover, the world community has a special responsibility to ensure that all children receive some desired level of education of improved quality and that they complete primary school, as agreed upon at the World Conference on Education for All in 1993 (UNESCO, 1994). Further, the Millennium Declaration adopted by the General Assembly of the United Nations in September 2000 reaffirmed its commitment to achieve universal primary education by the year 2015. However, Government of India under the Tenth Plan (2002-07) included the target of achieving all children in school by 2003 and all children to complete 5 years of schooling by the year 2007.

The Constitution of India directs all states to provide free and compulsory education for all children until they reach 14 years. It also instructs that no citizen shall be denied admission into any educational institution maintained by the state or any institution, which receives aid from state funds on grounds of religion, race, caste, and language. For the realization of its constitutional goal of universal elementary education not only requires sufficient investments from government but also the active support of families since children largely depend on the family for their basic needs; parents and other family members play

the deciding role in determining whether or not children actually enroll in school when it is available. In India, the government plays a decisive role in the provision of schooling for children. In addition to government, private sector also runs a large number of educational institutions at all levels and the share of private sector has witnessed a phenomenal increase in recent years. As per a recent report on elementary education in India, majority of the schools are run by the government (85.3 percent) and about 13.5 percent of the schools are run by the private management (Mehta, 2005).

In India, the government's investment in primary education is below 2 percent of its gross domestic product. Expenditure on education as a proportion of total expenditure has slightly increased from 9.7 per cent in 2003-04 to 10.1 per cent in 2005-06 (Budget Estimate) (Ministry of Finance, 2006). The number of recognized primary schools was increased from 0.21 million during 1950-51 to about 0.6 million during 1997-98. On the other side, the number of teachers in primary school was also increased from 0.54 million to 1.87 millions during the same period (National Institute of Public Co-operation and Child Development [NIPCCD], 1998). According to the Sixth All India Educational Survey, 94 percent of the rural population has a primary school within close proximity (less than a mile) (National Council of Educational Research and Training [NCERT], 1997). Steady progress is recorded towards achieving near-universal enrollment of children in the primary school ages (primary school enrollment ratio increased from 43 percent during 1950-51 to 90 percent during 1997-98). The absolute number of children age 6-11 enrolled in the primary level also increased from 19.2 millions to 108.7 millions during the same period (NIPCCD, 1998). Although significant improvement in enrollment of children at the primary level was achieved over the years, recent studies indicate striking regional and socio-economic differentials in school enrollments and continuation in India (IIPS,1995; Filmer and Pritchett, 1999, IIPS and ORC Macro, 2000).

Improvements in educational attainments are often regarded as a means to enable individuals to gain access to knowledge, which is a precondition for coping, in today's complex world. It is also considered as a component in the development of well being through its links with demographic as well as economic and social factors (Buchmann,

2000). There is also a close and complex relationship between education and marriage age, fertility, mortality, and migration. Several studies have discussed the relationship between female education and fertility (for a recent discussion, see Bledsoe, et al., 1999; Jejeebhoy, 1995; Mari Bhat, 2002). The increase in the education of women and girls may contribute to greater empowerment of women, to postponement of marriage to a later age and thus, probably, a reduction in fertility.

It is more difficult to meet the educational needs when a country experiences a rapid population growth like in India. In order to improve the educational needs, levels as well as to eliminate the socio-economic differentials in the primary school enrollment, government of India constituted various commissions/committees and formulated policies from time to time (for details see Lok Sabha Secretariat, 1990). Various issues are considered while formulating these policies and special educational programs are implemented to improve enrollment as well as continuation in schools among girls, disabled and working children, and children from socially weaker sections of the population. The National Policy on Education (NPE), 1986, as modified in 1992, emphasized three aspects in relation to elementary education: universal access and enrolment, universal retention of children up to 14 years of age, and a substantial improvement in the quality of education to enable all children to achieve essential levels of learning. The ongoing comprehensive programme called Sarva Siksha Abhiyan (SSA) is the main vehicle for providing elementary education to all children in India and is launched during 2001-02. The SSA aimed at achieving: all children in School, Education Guarantee Centre, Alternate School, Back-to-School camp by 2005; bridge all gender and social category gaps at the primary stage by 2007 and at elementary education level by 2010; universal retention by 2010; and focus on elementary education of satisfactory quality with emphasis on education for life. Despite having all these various programs to accommodate the weaker sections of the population, a wide gap in educational enrollment and continuation still remains at large. Also, there are few or no empirical studies that highlight the key factors accountable for child schooling outcomes due to lack of data. Recently, the availability of combined information on household characteristics and schooling outcomes among children age 6-14 through a large-scale survey, namely National Family Health Survey (NFHS), provides an

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opportunity for researchers to examine empirically the determinants of schooling outcomes in India.

Conceptual Framework

The process through which child schooling outcomes are affected is more complex, involving the decisions and resources of the parents/family, community level characteristics such as availability and accessibility, and the policies and actions taken by the state. Although the federal government supports free and compulsory schooling for children until they complete age 14, parents' decisions are much more important than other external factors. Various characteristics of a child's residential household – gender of the household head, educational level of household head, educational level of parents, type of family, family size, socio-economic status - are expected to influence the schooling outcomes among children in various ways. For example, if the household head/parent is educated then the decision about enrolling a child in school will be a high priority. Similarly, the highest level of education attained by a family member is a deciding and motivating factor for a child to attend school. Decisions, motivations, social supports, innate abilities etc. also differ among people according to the socio-economic characteristics viz. caste/religion and standard of living. This results in differential impact on child schooling outcomes. It is expected that, other things being equal, families with many children tend to invest less in each child, and families with fewer children are likely to make more investment per child (Montgomery et al., 1995). Hence the enrollment of children in school will decrease as the number of children per family increases. Dropout rates are also significantly greater for girls who have younger siblings, and their attainment levels are also lower than those of boys when they have younger siblings (Lloyd and Gage-Brandon, 1992). However, it is suggested that the detrimental effects of family size on children education would emerge only when developmental conditions increase the importance of educational attainment. Similarly, the governmental policies on subsidizing educational costs aiming at some sections of the population also play a critical role in curtailing the detrimental impact of family size on child schooling among the targeted group. In other words, unaided families might not be the best guarantors of children's well being (Sudha, 1997). Family support

networks may have greater tendency to support the schooling of boys than girls because of the higher returns these investments may bring to the family in the future (Lloyd and Blanc, 1995). Child characteristics – such as gender, disability and work status – are also important factors in explaining the variation in schooling outcomes. In India, female children are less likely to enroll or continue in school, due to discrimination against them. In general, disabled children are less likely to attend schools, particularly in rural areas. In India special school are available for disabled child, but its availability is limited to urban areas and that to in selected urban areas only. But, in India according to Census 2001 the prevalence of disability among children aged 0-14 is about 15 per 1000 children. It is expected that enrollment as well as continuance in school is likely to be less among working than non-working children. Explaining the effect of child work on the enrollment and completion rate is more complex than other variable. Generally, child work thrives due to a variety of reasons and the most important being poverty. Traditional factors such as rigid cultural and social roles also further increase child work and limit educational attainment among children. Parents who are educated understand the importance of schooling from personal experience and as a result, parental education plays a large role in determining child work and schooling. Similarly, poor parents/families may find no use in sending their children to school and drive them into employment for supplementing the family income. Because parents/families have so much control over their children, their perception of the value of schooling is a main determinant of child attendance.

The present study examines the levels, trends and differentials in schooling outcomes among children in India. Two aspects of schooling patterns such as current status of schooling outcomes and ever completion of 5 years of schooling among children in India are examined. The paper also addresses the determinants of enrollment of children in primary school and primary school completion in India by considering the above discussed process. The main focus of the paper is to examine role of work status of the child in determining the enrollment of children aged 6-14 and the probability that a child aged 11-14 has ever completed 5 years of schooling. Information from two sources such as Census and National Family Health Survey are used for the present analysis. The Census data is used mainly to examine the levels and trends in the selected schooling outcomes. The

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analysis of differentials and determinants are mainly based on the data from the two rounds of the National Family Health Surveys (NFHS) conducted in India during 1992-93 and 1998-1999.

Data

The levels and trends in the working status and schooling among children in India are studied using the data from the Census for the years 1991 and 2001 and the two rounds of National Family Health Survey conducted during 1992-93 and 1998-99. Information on two aspects related to schooling was enumerated in the Census. Each literate person in the household were asked about the highest level of education completed and all the persons in the household were asked whether he/she is attending the school or college. Every person in the household was asked about their economically productive activity. Accordingly, they were categorised into three groups such as 'Main Workers', 'Marginal Workers' and 'Non-wokers'. According to the Census definition, main workers are those who had worked for more than 6 months (183 days) or more and marginal workers are those who had worked for less than 6 months (183 days) in the reference year. In the present analysis, working children include both main and marginal workers.

In India, two rounds of National Family Health Surveys (NFHS) were completed and covered majority of the states and used uniform questionnaires, sample designs and field procedures. Recently, the third round of National Family Health Survey was completed and some of the preliminary results are available, but the data sets are not still available to the users. In the first round of NFHS the data collection was carried out on a state-by-state basis from April 1992 to September 1993. The data collection in the second round of NFHS was carried out from November 1998 and March 1999, excluding the state of Tripura. In the state of Tripura, the data collection was completed only in July 2000. Three types of questionnaires were administered in the NFHS: the household questionnaire, the woman's questionnaire, and the village questionnaire. For the present analysis we mainly used the information collected in the household questionnaire. All usual residents of each sampled household, plus all visitors who slept in that household the night before the interview were

listed in the household questionnaire. Few aspects of education such as whether the person ever attended school and highest grade completed were collected for each person aged six and above. Additional information on whether the person is still in school was collected for children aged between six and fourteen in NFHS-1 and for children aged between six and seventeen in NFHS-2. This information permits to examine the status of children attending school and completed years of schooling at the time of survey. In addition all persons aged six years or older were asked about the kind of work they do most of the time. Thus NFHS provides unique opportunity to researchers to examine the relationship between child schooling outcomes and work status of children along with other household characteristics.

The paper examines two aspects of child schooling such as ever been to school and completed grade 5 using the information available in the NFHS data. Data pertaining to children aged 6-14 years are used for studying ever been to school and information on children aged 11-14 years are used for studying the grade 5 completion. For the present analysis, we considered only the children who are usual residents in the household. The information on family type, highest education attained by an adult female or male member and the number of female or male children below age 15 in the household are generated from the relevant information available in the data set.

Methodology

The first step of the analysis is based on Census data and from the Census data, we estimated the percentage of children aged 6-14 attending the school and the percentage of children aged 11-14 completing primary school for India as a whole and according to state. The percentage of children aged 6-14 who are working and the percentage of children aged 6-14 attending according to work status of the children are also calculated for each states and India as a whole. These are estimated for the years 1991 and 2001 and provide the levels and trends in the child schooling over these two periods in India and its states.

In the next step of the analysis we used the data from the first two rounds of National Family Health Surveys (NFHS) and estimated the percentage of children aged 6-14 ever been to school and percentage of children aged 11-14 completed grade 5 according to state and selected background characteristics. The percentage of children ever been to school are further divided into two groups such as attending school and dropped out from school. Since, a significant number of children are still attending the school and not completed the grade 5 at the time of survey, the proportion of children completing grade 5 is estimated using the life table approach. The advantages of life table methodology in analyzing censored observations have been described elsewhere (Namboodiri and Suchindran, 1987). The life table approach that offers the computation of transition probabilities is considered as a valuable approach for synthesizing the pattern and propensity of any events that are occurring in the life of a human being.

Logistic regression model is applied to identify factors that influence ever enrollment of children in school and children ever complete 5 years of schooling. Instead of presenting the coefficients, the odds ratios and predicted values from the model are presented in the paper. The model considered in the paper computed the sandwich (Huber and White) estimator of variance. The following is the basic model used in the analysis:

$$Y_{ij} = a + bX_{ij} + m_j + e_{ij}$$

Y_{ij}: outcome variable, X_{ij}: individual control variables, m_j: error of unobserved community variables, e_{ij}: error of unobserved individual variables. The basic assumption is that m_j's are uncorrelated with the regressors.

For studying the ever enrollment, the response has a code 1 if an individual child ever enrolled and 0 otherwise. However, due to censoring, for studying ever completion of grade 5 before fitting the logistic regression one has to restructure the data so that we have an observation for each grade (year of schooling) until dropout or censoring occurs. When the data are restructured to obtain a record for each grade until grade 5 as mentioned, we end up with 175,649 records out of the 44,061 children aged 11-14 in the

NFHS-1 and 182,380 records out of the 43,713 children aged 11-14 in the NFHS-2. For each child and for each grade at which the child is at risk for having the event (i.e drop out), the file contains information about the occurrence or nonoccurrence of drop out as well as the values of the covariates. In each year of schooling the response has a code 1 if an individual child dropped out and 0 otherwise. In the present analysis children never been to school are also considered as dropped out cases.

The estimated equation can be used to predict for each child in the sample the probability of ever enrolling the school or dropping out the school (i.e. ever completing grade 5), conditional upon the relevant values of the determining variable. Using these predicted probabilities, one can compute, using the methodology of inequality decomposition, how much of the over all inequality in these probability can be explained by a particular factor. Borooah (2004) is used this methodology to examine the incidence of diarrhoea among Indian children. Suppose that the entire sample of children subdivided into M mutually exclusive and collectively exhaustive groups with N_m ($m =$ 1………. M) children in each group. Let $\mathbf{p} = \{p_i\}$ and $\mathbf{p_m} = \{p_i\}$ represent the vector of (estimated) probabilities of a child ever enrolling or dropping out the school, respectively, for all the children in the sample and all the children in group m. Then an inequality index $I(\mathbf{p}: N)$ defined over the vector is said to be *additively decomposable* if:

$$I(p:N) = \sum_{m=1}^{M} I(p_m : N_m)\, w_m + B \quad = A + B$$

where: $I(\mathbf{p}: N)$ represents the overall level of inequality, $I(\mathbf{p_m}: N_m)$ represents the level of inequality within-group m, A, expressed as the weighted sum of the inequality in each group , w_m being the weights, and B represent, respectively, the within-group and the between-group contribution to overall inequality. The inequality index takes the form:

$$I(p:N) = \frac{\left(\sum_{i=1}^{N} \log\,(p_i\,/\,\overline{p}\,\right)}{N}$$

where $\overline{p}$ is the mean probability over the entire sample. Further details about the methodology can be found in Borooah (2004).

Results

The analysis of the levels and trends in the selected schooling outcomes such as attending school and completed primary school are carried out using the Census data for the years 1991 and 2001 and the results are presented in Table 1. Over all, the Census information indicates that a little above half of the children aged 6-14 are attending school (55 percent) in the year 1991 and a little below three-quarters of the children are attending school (71 percent) according to 2001 Census. In other words, over the decade there is an upward trend in the children attending school. But the information from the NFHS-1 and NFHS-2 indicates higher estimates than that obtained from the Census indicating a possible underestimation. In order to ascertain possible reporting error in Census we have plotted the percentage of children aged 6-14 attending school according to age estimated from the Census as well as NFHS and are shown in graph 1. As expected, we observe a zigzag manner of curve for the estimates obtained from the Census data for the years 1991 and 2001. This clearly indicates a possible under reporting in the Census particularly for the year 1991. The graph also indicates a possible improvement in the reporting in 2001 over the year 1991. The trends observed for the estimates from the NFHS data don't exhibit a zigzag type of curve.

In the year 1991, the percentage of children aged 6-14 attending school in the states namely Bihar, Uttar Pradesh, Meghalaya, Rajasthan, Arunachal Pradesh, Madhya Pradesh, West Bengal, Assam, and Andhra Pradesh is below the national average. However, in the year 2001, the states that recorded below the national level are: Bihar, Jharkhand, Meghalaya, Arunachal Pradesh Uttar Pradesh, Assam, Jammu and Kashmir, Orissa, Rajasthan, West Bengal, Madhya Pradesh and Nagaland. Over the Census period, all the states witnessed an upward trend in the percentage of children aged 6-14 attending school. It is important to note that over the period the state of Rajasthan experienced the highest growth in the children attending school from a level of 44 percent in 1991 to 71 percent in 2001. Andhra Pradesh is another state which witnessed a higher growth in the children attending the school over the Census period and consequently moved above the national average. In other words, Andhra Pradesh was ranked 9th in the year 1991 form

the lowest level and was progressed to 17th in the year 2001. In both the years Bihar state found to have the lowest estimates and Kerala state recorded the maximum value. Among the union territories, only Dadra & Nagar Haveli found to have level below the national average and Lakshadeep followed by Pondicherry have the highest percentage of children aged 6-14 attending school.

Overall, according to 1991 Census 57 percent of the children aged 11-14 completed primary schooling and this is increased marginally to 62 percent in the year 2001. However, it is surprising to note that some states, such as Arunachal Pradesh, Sikkim, Bihar, West Bengal, Mizoram, Assam, Gujarat, Goa, and Kerala, have experienced a decline in the percentage of children aged 11-14 completed primary school. Over the period Tripura followed by Andhra Pradesh have experienced the highest increase in the percentage of children aged 11-14 completing primary school. In the year 1991, the states namely Meghalaya, Rajasthan, Tripura, Madhya Pradesh, Arunachal Pradesh, Uttar Pradesh, Sikkim, Bihar, Orissa, West Bengal, Andhra Pradesh, Nagaland, and Haryana, have shown below national average. The percentage of children aged 11-14 completed primary school is below national level for the states of Meghalaya, Arunachal Pradesh, Sikkim, Bihar, Jharkhand, Rajasthan, West Bengal, Uttar Pradesh, Mizoram, Madhya Pradesh, Assam, Tripura, Chhattisgarh, Nagaland, and Jammu and Kashmir. Although, the state of Kerala has experienced a moderate decline in the percentage of children completing primary school over the period, it has the highest value in both the years. Surprisingly, Delhi has experienced a decline in the percentage of children aged 11-14 completing primary school between the years 1991 and 2001 (declined from 82 percent to 74 percent).

The percentage of children aged 6-14 who are working and the percentage of children attending school according to working status by state are presented in Table 2. On the whole, the Census suggests that about 6 percent of children in the age group work in the year 1991 and was slightly declined to 5.5 percent in the year 2001. The estimates from the two rounds of NFHS data also suggests similar trend in percentage of working children. But over the Census period, Manipur, Haryana, Mizoram, Nagaland, Himachal

Pradesh, and Sikkim have experienced a growth of above 2 percentage points in the working children. However a decline of above 2 percentage point in the working children has experienced in the states of Andhra Pradesh, Maharashtra and Karnatka. Among the states, Andhra Pradesh found to have maximum percentage of children aged 6-14 working in the year 1991 and in the year 2001 Mizoram reported to have the highest percentage of children working. However, among the Union Territories, Dadra & Nagar Haveli has the highest percentage of children working in both 1991 and 2001. The analysis of correlation between the state level percentage of children aged 6-14 attending school and percentage of children working suggests a value of (-0.61) in 1991 and (-0.39) in 2001. This indicates that the relationship between working status and children attending school diminished over the census period.

The table 2 also suggests that over the period there is an improvement in the percentage of children attending school among both working and non-working children. The percentage of working children attending school was about 4 percent in 1991 and it was increased to 27 percent. But among the non-working children the same was increased from 57 percent in 1991 and 74 percent in 2001. This suggests that over the census period increment in the children attending school is better for working children. But the estimates from the two rounds of NFHS data did not suggest such trend; rather it shows a declining trend in the percentage of working children attending school over the two NFHS periods. All the states including the union territories have shown an increase in the percentage of children attending school among both working and non-working children during the two census periods. But some of the states such as Himachal Pradesh (60 percentage points), Sikkim (59.8 percentage point), Manipur (50.5 percentage points), Nagaland (43.2 percentage point), and Haryana (43.1 percentage points), indicate striking increase in the percentage of children attending school among working children over the census period. The results suggest possible deficiency in the information from Census particularly for the year 1991.

The results of the percentage of children aged 6-14 according to the status of schooling outcomes from the two rounds of NFHS data according to states are presented

in Table 3. The estimates from the NFHS for all the states are higher than the values from the Census. Over all, according to NFHS-1, a little over two-thirds of children are attending school and a little over three-quarters of the children are attending school as per NFHS-2. But as found in the Census, NFHS also suggests Bihar state having the lowest estimate of children attending school in both rounds. According to NFHS-1 the states having the estimates below the national average are: Bihar, Rajasthan, Uttar Pradesh, Madhya Pradesh and Andhra Pradesh. As per NFHS-2 the states found to have lower values than national average are: Bihar, Rajasthan, Mahdya Pradesh, Andhra Pradesh, Assam and Gujarat. The percentage of children attending school is highest in Kerala (95.6 percent) followed by Goa (94.3 percent) and Himachal Pradesh (90.8 percent) as per NFHS-1 and according to NFHS-2, Himachal Pradesh (97.9 percent) has the maximum value followed by Kerala (97.1 percent) and Goa (95.0 percent). On the other hand, although the school attendance rate has increased over the NFHS periods, it is surprising to note that percentage of children dropping out from school also increased slightly. On the whole the drop out percentage of 4.3 percent during the period 1992-93 is increased slightly to 5.6 percent during a short span of 7 years. During the period 1992-93, the percentage of children aged 6-14 dropping out from the school is highest in Tamil Nadu (9.6 percent). The other states that recorded higher drop out than national average are: Assam (4.7 percent), Haryana (5.1 percent), Orrisa (5.1 percent), Maharashtra (5.4 percent), Andhra Pradesh (5.8 percent), West Bengal (5.9 percent), Gujarat (5.9 percent), and Karnataka (6.4 percent). But according to NFHS-2, Gujarat witnessed the highest drop out of children with 9.7 percent followed by Andhra Pradesh (9.4 percent). The other states found to have dropout rates above the national average are: Orissa (5.7 percent), West Bengal (6.4 percent), Tamil Nadu (6.8 percent) and Madhya Pradesh (7.5 percent). According to NFHS data, over the period some of the states, such as Tamil Nadu, Haryana, Punjab, Himachal Pradesh, Kerala, Nagaland, Maharashtra, Meghalaya, New Delhi and Assam, have experienced a reduction in the drop out rates.

The NFHS data also provides an opportunity to examine the status of schooling out comes according to selected background characteristics and the results are presented in Table 4. The levels and trends from the two NFHS data suggest that there is an

improvement in the school attendance rate among all the groups studied over the two periods. However, surprisingly over the two NFHS periods, the percentage of children attending school is reduced among working children. The results suggest that rural areas in India experienced a higher growth in the children attending school over the two NFHS periods. Similarly, the maximum increment in the school attendance among children aged 6-14 over this period is found among female children, among children living households with low standard of living and among children living in male headed households. Growth in the percentage of children attending school is found to be highest among children living in households with no educated adult male or female member. According to number of female or male children below age 15, households with two female children experienced the maximum increase and households with no male child witnessed the maximum increase in the school attendance rate. In terms of religious affiliation, Muslims experienced the maximum growth compared to other religious groups and according to caste/tribe affiliation the growth in the percentage of children attending school is highest among Scheduled Caste. Although, the mentioned groups witnessed maximum growth in the percentage of children attending school over the two NFHS periods, majority of these groups have the lowest school attendance rate among children aged 6-14 in both NFHS-1 and NFHS-2 as compared to other groups. In both NFHS-1 and NFHS-2, the percentage of children attending school is lowest among Scheduled Tribe children compared to other groups. As expected, according to NFHS-1 and NFHS-2, the attendance rate in school is found to be least among the working children. On the other hand, the ever attendance rate in school among working children is increased over the two NFHS periods. But the difference in the drop out rate among the working children over the periods is much higher as compared to that of ever attendance rate.

Table 5 provides the result of grade 5 completion rate in India and its states from the two rounds of NFHS data. Over all, according to NFHS-1 the grade 5 completion rate among children aged 11-14 is about 76 percent and it is increased to 81 percent as per NFHS-2. During 1992-93, the lowest grade 5 completion rate is noticed for the state of Bihar (59 percent), followed by Rajasthan, Madhya Pradesh, West Bengal, Uttar Pradesh, Andhra Pradeseh, Karnataka, Orissa, Assam and Meghalaya and the levels for

these states are below national average. However, as per NFHS-2, Bihar, Rajasthan, West Bengal, Madhya Pradesh, Orissa, Assam, Gujarat and Karnataka states found to have grade 5 completion rate below the national average. As per both NFHS-1 and NFHS-2, grade 5 completion rate is nearly universal in Kerala state (98 percent in NFHS-1 and 99 percent in NFHS-2). During 1992-93, grade 5 completion rate of above 90 percent are noticed for the states of Nagaland, New Delhi, Manipur, Himachal Pradesh, Goa and Mizoram. According to NFHS-2, the grade 5 completion rate is above 90 percent in Punjab, Mizoram, Maharashtra, Tamil Nadu, New Delhi, Goa and Himachal Pradesh. Surprisingly, although over all there is an increase in the level of grade 5 completion rate, few states covered in the NFHS have experienced a decreasing trend in the grade 5 completion over the two NFHS period. These states include Gujarat, Jammu and Kashmir, Manipur, Mizoram and Nagaland. It is important to note that Uttar Pradesh recorded the highest rate of increase in the grade 5 completion over the period followed by Madhya Pradesh, Karnataka, Rajasthan and Tamil Nadu.

The results of grade 5 completion rate according to selected background characteristics from the NFHS data are provided in Table 6. The levels in the grade 5 completion rate indicate significant differentials according to various background characteristics studied. According to NFHS-1 and NFHS-2, the grade 5 completion rates are significantly high for children living in urban area, male children, children living in households with high standard of living, children living in households with an adult male or female member completed matriculation or higher, children living in households with no female childe below age 15, not working child, children having religious affiliation to Christianity and children belonging to other than Scheduled Caste and Scheduled Tribe. It is important to note that the differentials in the grade 5 completion rate between various groups of children are reduced over the period. However, the differentials between working and non-working children in the grade 5 completion rate remained the same over the period. Almost all the categories of children have experienced an increase in the grade 5 completion over the two NFHS periods. The groups that experienced the highest growth in the grade 5 completion rate are: rural children, female children, children living in households with medium standard of living, children living in households headed by

male, children living in joint families, children living in households with adult male or female member not having any schooling, children living in households don't have female child below age 15, children living in households with two female children below age 15, non-working children, children belonging to Muslims and children belonging to other than Scheduled Caste and Scheduled Tribe.

The results of the odds ratios and the predicted percentage of children aged 6-14 ever enrolled in primary schools from the logistic analysis are presented in Table 7. The effect of almost all the variables considered in the analysis is found to be highly significant. After controlling for the other variables the differentials in the enrollment in primary school are narrowed down for many of the variables examined. In general, the effects of the socio-economic variables included in the model are as expected and are similar to those observed in the bivariate relationship. The results indicate that the likelihood of enrollment in school is higher among urban children, but the differentials between rural and urban children are drastically reduced, when other variables accounted for. On the other hand, sex differentials in ever been to school remained the same even after controlling for the other variables. Working children are less likely to enroll in school and the differentials between working and non-working children are very high even after introducing other control variables into the model. Similarly, the likelihood of ever going to school is less among children living in households with low standard of living as compared to other children. The chance of enrolling in primary school is considerably low among children living in households with no educated female or male adult member. The results also suggest that compared to household wealth (in terms standard of living), the influence of such factors as education of adult female or male member in the household, and children's working status on primary school enrollment is larger and more important. The other least favorable characteristics for school enrollment among children are: households with four or more female or male children, household head being Muslim and household head being Scheduled Tribe. Predicted values also suggest that there is progressive improvement in the enrollment of children in primary school over the two NFHS periods. In addition the differentials in the enrollment of

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children in schools between various groups considered in the analysis are also reduced over the period.

The results from the logistic regression analysis for the grade 5 completion among children aged 11-14 during 1992-93 and during 1998-99 are provided in Table 8. All the attributes considered in the analysis are having significant influence on the grade 5 completion among children aged 11-14. The predicted values indicate that over the period there is an improvement in the grade 5 completion among children in India. As in the case of primary school enrollment, after the introduction of other control variables, the differentials in the grade 5 completion according to various attributes examined are diminished. The likelihood of completing grade 5 is found to be high among urban children but the differentials are low, after other variables are accounted for. The differentials in the grade 5 completion are significantly higher between working and non-working children, even after controlling for other variables, but the differentials are remained almost same over the period. Only about 19 percent of the working children completed grade 5 as compared to 80 percent for non-working children during 1992-93. According to NFHS-2, the percentage of working children completing grade 5 is slightly increased to 23 percent and the same for non-working children is increased to 85 percent. Other than working status, the differentials are found to be comparatively high according to various attributes such as sex of the child, standard of living index, education of adult female or male member and religion of head of household, but the differentials over the period are reduced. The likelihood of completing grade 5 is higher for male children, children living in households with high standard of living and children living in households with female or male adult member educated matriculation or above. On the other hand, the lowest grade 5 completion rates are noticed for female children, children living in households with low standard of living and children living in households with no educated adult female or male member. It is important to note that the differentials in the grade 5 completion according to caste/tribe are low, once other variables are controlled for.

Finally, the results from decomposing the likelihood of enrollment in primary school and grade 5 completion among children, by subdividing the sample according to various characteristics are provided in Table 9. The decomposition analysis provided surprising results compared to the differentials noticed in the predicted values according to various characteristics. For example, the differentials in the enrollment in school and in the grade completion according to sex of the child are found to be large, but the decomposition result suggests that sex of the child do not provide good explanation for the observed inequality in the distribution of likelihood of either enrolling in school or grade 5 completion. Similarly, the other attributes such as caste/tribe, religion, place of residence, number of male or female children under age 15, type of family and sex of the household head are poor in explaining the observed inequality in the distribution of likelihood of enrolling in school and completing grade 5. The decomposition results indicate that during the period 1992-93 (i.e. NFHS-1), the attributes such as grade completed by an adult female or male member provide better explanation in the observed inequality in the enrollment of children in school than standard of living and working status. But according to NFHS-2, working status obtained slight upper hand in explaining the observed inequality in the primary school enrollment. Moreover, the explanatory power of the standard of living in the observed inequality in the primary school enrollment is lower than working status and grade completed by an adult female or male member. But, in case of the observed inequality in the grade 5 completion, standard of living provided a better explanation than working status of children. In other words, standard of living is more important for grade 5 completion than the work status of children. The decomposition results indicate that the observed inequality in the likelihood of children enrolling in school and completing grade 5 could be explained by four factors: educational level completed by an adult female or male member, standard of living and work status of children.

Summary and Conclusions

The primary objective of the paper is to examine the levels and trends in the schooling out comes among children and child work. In addition the paper also examined

the effect of working status of children on the selected schooling out comes such as ever enrollment in primary school and grade 5 completion, after controlling for a wide range of socio-economic determinants of child schooling. The analysis of Census data for the years 1991 and 2001 indicates that percentage of children attending school has increased from 55 percent in 1991 to 71 percent in 2001. Overall, there is a slight decrease in the percentage of children working over the Census period. The correlation between percentage of children attending school and percentage of children attending indicates that the relationship between working status and children attending school diminished over the census period. The Census data analysis suggests that the primary school completion rate is increased form 57 percent in 1991 to 62 percent in 2001.

The data from the two rounds of NFHS also suggests that the primary school enrollment and children completing grade 5 is increased over the NFHS period. But surprisingly, the drop out rate from school is marginally increased over the period according to NFHS-1 and NFHS-2 data. The results from the logistic analysis suggest that differentials in the enrollment of children in primary school as well as in the grade 5 completion between working and non-working children remained the same over the two NFHS period. However, the differentials in the enrollment of children in primary school and grade 5 completion between various other attributes are declined over the period. The predicted values from the logistic regression indicates that the differentials in enrollment in primary school and grade 5 completion are relatively high according to sex of the child, household standard of living, religion, work status and highest education attained by an adult female or male member. On the other hand, the decomposition results indicate that the observed inequality in the likelihood of children enrolling in school and completing grade 5 could be explained mainly by four factors: education completed by an adult female or male member, standard of living and working status of children. Further, the education attained by an adult female member is more important than that attained by an adult male member. The influence of work status on the enrollment in primary school is more than the household standard of living. But the observed inequality in the likelihood of children completing grade 5 is explained more by the household standard of living than working status of children. In other words, the work status may be more

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important than standard of living index for primary school enrollment compared to grade 5 completion.

The result indicates that programmes and policies aiming at safeguarding the children from work will improve the schooling outcomes in India. In India, already a comprehensive law, namely the Child Labour (Prohibition and Regulation Act) 1986 is in force and prohibits employment of children in certain hazardous occupations and regulates their employment in some other areas. Recently, employing the children as a domestic servant is also prohibited under this law. However, it is apparent that child labour can not be fully eliminated until the conditions on which it flourishes are controlled. It is well documented that child labour is the product of poverty and uneven development. Policies and programmes aimed at alleviating poverty not only safeguard the child from work but also improve the schooling outcomes among children in India. Further, the influence of the educational level of an adult female member suggests the importance of educating the female children for better schooling outcomes in the future as well. The trends over the period, however, suggest that the ambition of achieving all children in school by 2003 and all children to complete 5 years of schooling by the year 2007 as envisaged in Tenth Plan is impossible in the near future.

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Table 1: Percentage of children aged 6-14 attending school and percentage of children aged 11-14 completed primary school in India and its states

State/UT/India	Percentage children aged 6-14 attending school		Percentage of children aged 11-14 completed primary school	
	1991	2001	1991	2001
Andhra Pradesh	54.1	77.9	54.0	71.2
Arunachal Pradesh	46.5	60.5	42.0	40.4
Assam	52.4	64.1	61.4	57.2
Bihar	40.1	47.3	48.7	42.6
Chhattisgarh	N.A	74.4	N.A	59.0
Goa	86.5	90.3	87.3	84.5
Gujarat	64.6	76.1	71.2	69.1
Haryana	66.6	79.0	56.7	64.2
Himachal Pradesh	79.8	91.6	62.8	76.4
Jammu & Kashmir	N.A	65.8	N.A	60.4
Jharkhand	N.A	57.5	N.A	49.9
Karnataka	62.4	76.6	63.2	71.7
Kerala	92.1	95.0	94.6	90.7
Madhya Pradesh	51.0	71.0	41.9	54.7
Maharashtra	71.7	86.1	76.2	79.4
Manipur	57.7	79.4	61.1	63.0
Meghalaya	42.4	59.1	20.2	33.1
Mizoram	69.6	81.9	66.6	52.8
Nagaland	56.2	71.0	55.3	59.7
Orissa	55.3	69.4	51.5	65.3
Punjab	69.0	80.7	62.9	68.1
Rajasthan	43.6	70.7	38.4	51.1
Sikkim	65.3	81.7	47.8	41.5
Tamil Nadu	75.2	87.7	73.8	84.4
Tripura	60.2	76.9	37.0	57.3
Uttar Pradesh	41.9	63.4	44.5	52.3
Uttaranchal	N.A	82.5	N.A	66.2
West Bengal	51.7	70.7	51.9	51.6
Andaman & Nicobar Islands	80.1	86.8	71.2	72.7
Chandigarh	82.3	85.3	75.0	73.9
Dadra & Nagar Haveli	45.4	68.3	47.9	57.6
Daman & Diu	73.3	86.4	90.0	80.8
Delhi	78.0	84.0	82.4	74.0
Lakshadweep	88.9	94.5	75.0	72.6
Pondicherry	84.8	93.1	75.0	88.2
All India (Census)	55.3	71.1	56.9	62.0
All India (NFHS)[1]	68.1	78.5	75.8	81.2

Note: [1] The percentages in Columns 2 and 4 are from NFHS-1 and in Columns 3 and 5 are from NFHS-2, respectively. The values in the columns 4 and 5 from the NFHS is for completed grade 5.
N.A. Not Available, in 1991 Census was not conducted in Jammu and Kashmir and states of Chhattisgarh, Uttaranchal and Jharkhand were formed after 1991 Census.

Table 2: Percentage of children aged 6-14 who are working, and percentage of children aged 6-14 attending school according to work status in India and its states

State/UT/India	Percentage of children aged 6-14 who are working		Percentage of working children aged 6-14 attending school		Percentage of non-working children aged 6-14 attending school	
	1991	2001	1991	2001	1991	2001
Andhra Pradesh	11.2	8.4	1.5	10.7	60.7	84.0
Arunachal Pradesh	6.4	6.7	3.3	27.0	49.4	62.9
Assam	6.1	5.5	4.3	34.7	55.6	65.8
Bihar	4.5	5.2	3.2	17.1	41.5	48.9
Chattisgarh	N.A.	7.7	N.A.	26.7	N.A.	78.3
Goa	2.1	2.0	17.3	24.1	88.0	91.6
Gujarat	5.9	4.7	2.6	16.3	68.5	79.1
Haryana	2.8	5.2	4.8	47.9	68.3	80.8
Himachal Pradesh	5.0	8.9	23.9	83.9	82.8	92.4
Jammu & Kashmir	N.A.	7.1	N.A.	36.0	N.A.	68.1
Jharkhand	N.A.	6.0	N.A.	21.3	N.A.	59.9
Karnataka	9.8	7.5	4.5	15.5	68.7	81.6
Kerala	0.6	0.5	4.8	36.9	92.6	95.2
Madhya Pradesh	9.1	7.4	4.5	26.7	55.7	74.5
Maharashtra	6.4	3.9	9.3	32.6	76.0	88.3
Manipur	4.1	6.2	7.5	58.0	59.9	80.8
Meghalaya	8.3	9.0	6.1	33.3	45.6	61.6
Mizoram	10.5	13.6	53.4	72.2	71.5	83.4
Nagaland	5.8	9.1	2.8	46.1	59.5	73.5
Orissa	6.6	4.8	1.9	16.5	59.0	72.1
Punjab	3.4	3.5	5.1	28.8	71.3	82.6
Rajasthan	7.3	9.2	5.5	36.7	46.6	74.1
Sikkim	5.8	13.2	4.7	64.5	69.0	84.4
Tamil Nadu	5.3	3.8	2.1	26.2	79.3	90.2
Tripura	2.6	3.0	3.1	27.5	61.7	78.4
Uttar Pradesh	4.3	4.4	5.1	34.4	43.5	64.7
Uttaranchal	N.A.	3.5	N.A.	54.0	N.A.	83.5
West Bengal	4.6	4.9	4.4	24.3	54.0	73.1
Andaman & Nicobar Islands	2.0	2.9	22.6	49.8	81.3	87.9
Chandigarh	1.6	2.3	4.4	26.4	83.6	86.7
Dadra & Nagar Haveli	15.2	10.0	1.1	13.0	53.4	74.4
Daman & Diu	4.3	2.9	5.3	13.4	76.4	88.5
Delhi	1.4	1.5	5.2	16.7	79.0	85.0
Lakshadweep	0.2	0.2	13.8	36.0	88.9	94.6
Pondicherry	1.7	1.2	1.0	20.1	86.2	94.0
All India (Census)	6.0	5.5	4.4	26.6	58.6	73.7
All India (NFHS)[1]	6.8	4.8	9.5	4.4	72.4	82.2

Note: [1] The percentages in Columns 2, 4 and 6 are from NFHS-1 and in Columns 3, 5 and 7 are from NFHS-2, respectively.

N.A. Not Available, in 1991 Census was not conducted in Jammu and Kashmir and states of Chhattisgarh, Uttaranchal and Jharkhand were formed after 1991 Census.

State	NFHS -1 (1992-93)				NFHS -2 (1998-99)			
	Never attended	Dropped out	Attending school	Ever attended	Never attended	Dropped out	Attending school	Ever attended
Andhra Pradesh	27.3	5.8	63.8	69.6	14.6	9.4	76.0	85.4
Assam	25.1	4.7	70.3	75.0	15.8	4.6	77.9	82.5
Bihar	46.1	2.1	51.6	53.7	34.4	3.2	62.4	65.6
Goa	3.6	1.8	94.3	96.1	2.2	2.5	95.0	97.5
Gujarat	18.0	5.9	75.7	81.6	12.4	9.7	77.9	87.6
Haryana	13.7	5.1	81.3	86.3	7.7	3.6	88.7	92.3
Himachal Pradesh	6.9	2.2	90.8	93.0	0.9	1.2	97.9	99.1
Jammu & Kashmir	12.5	2.6	84.9	87.5	12.7	4.2	83.2	87.3
Karnataka	21.7	6.4	71.2	77.6	12.2	8.1	79.7	87.8
Kerala	1.5	2.2	95.6	97.8	1.5	1.3	97.1	98.5
Madhya Pradesh	31.3	4.0	63.5	67.4	16.6	7.5	76.0	83.4
Maharashtra	12.2	5.4	81.8	87.1	6.4	4.9	88.7	93.6
Manipur	8.6	1.2	90.2	91.4	6.3	3.5	90.0	93.5
Meghalaya	22.2	3.0	74.9	77.8	13.1	2.7	82.9	85.5
Mizoram	7.4	1.9	90.7	92.6	4.4	3.6	90.9	94.5
Nagaland	7.7	2.9	89.4	92.3	10.6	2.2	86.1	88.4
Orissa	25.2	5.1	69.6	74.7	15.1	5.7	79.2	84.9
Punjab	15.1	4.0	80.9	84.9	6.2	2.8	91.1	93.8
Rajasthan	36.3	2.3	60.1	62.4	19.7	5.0	75.3	80.3
Sikkim	N.A.	N.A.	N.A.	N.A.	6.1	2.9	89.0	91.8
Tamil Nadu	7.5	9.6	82.4	91.9	2.6	6.8	89.6	96.4
West Bengal	25.7	5.9	68.1	74.0	13.4	6.4	78.6	85.0
Uttar Pradesh	34.2	3.0	62.2	65.3	17.6	5.0	76.4	81.4
New Delhi	7.6	3.5	87.7	91.1	4.7	3.2	91.2	94.4
Arunachal Pradesh	27.6	1.4	71.0	72.4	15.4	2.4	81.7	84.1
Tripura	17.2	3.8	79.0	82.8	7.3	3.8	88.8	92.6
All India	26.9	4.3	68.1	72.4	15.4	5.6	78.5	84.1

Table 3: Percentage of children aged 6-14 according status of schooling outcomes, by state, India

Note:- The percentage for states are based on individual state weights and all India is based on all India weights

Background characteristics	NFHS -1 (1992-93)				NFHS -2 (1998-99)			
	Never attended	Dropped out	Attending school	Ever attended	Never attended	Dropped out	Attending school	Ever attended
Place of Residence								
Urban	12.5	3.8	82.9	86.6	7.2	4.9	87.5	92.4
Rural	31.6	4.5	63.2	67.7	18.0	5.9	75.7	81.5
Sex of child								
Male	19.4	3.9	76.0	79.9	11.4	5.1	83.1	88.2
Female	34.9	4.8	59.5	64.3	19.8	6.2	73.6	79.8
Standard of living index								
Low	41.9	5.6	51.8	57.4	27.8	7.5	64.4	71.9
Medium	23.0	4.2	72.1	76.2	10.6	5.6	83.3	88.9
High	4.4	1.8	93.2	95.0	2.1	1.7	95.8	97.5
Sex of household head								
Male	27.1	4.2	67.9	72.1	15.5	5.6	78.6	84.1
Female	23.2	5.3	71.0	76.3	15.0	6.8	77.5	84.3
Family Type								
Nuclear family	28.6	4.6	66.2	70.8	16.9	6.2	76.5	82.7
Joint family	25.1	4.0	70.1	74.1	13.7	5.0	80.8	85.8
Highest grade completed by an usual female adult member								
0	41.1	4.7	53.5	58.2	26.0	7.2	66.4	73.6
1-5	10.5	6.1	82.8	88.9	7.2	6.4	86.0	92.4
6-9	5.0	3.6	90.7	94.3	3.4	3.8	92.4	96.2
10+	3.2	1.4	94.7	96.1	1.7	1.6	96.2	97.8
Highest grade completed by an usual male adult member								
0	50.8	4.2	44.4	48.6	31.9	6.5	61.3	67.7
1-5	26.9	6.3	65.9	72.2	16.5	8.0	75.1	83.0
6-9	19.9	5.1	74.3	79.4	10.6	6.4	82.6	89.0
10+	8.9	2.8	87.6	90.4	4.7	3.0	91.8	94.8
Number of female children below age 15								
0	17.4	4.5	77.4	81.8	9.0	6.1	84.3	90.4
1	23.0	4.6	71.6	76.2	13.0	6.0	80.5	86.6
2	30.6	4.2	64.5	68.7	16.9	5.2	77.6	82.8
3	33.9	4.1	61.4	65.4	21.8	5.1	72.6	77.8
4+	34.5	3.6	61.1	64.7	22.8	5.3	71.5	76.8
Number of male children below age 15								
0	31.4	5.9	61.4	67.3	15.6	7.2	76.9	84.1
1	24.9	4.6	69.8	74.4	13.5	5.8	80.4	86.2
2	25.5	4.0	69.8	73.8	14.8	5.6	79.0	84.7
3	29.5	3.7	66.3	70.0	18.8	4.9	75.8	80.7
4+	28.2	3.3	67.9	71.2	19.3	4.4	75.9	80.3
Working status								
No	23.8	3.1	72.4	75.5	13.4	3.9	82.2	86.1
Yes	68.3	20.8	9.5	30.3	55.5	39.7	4.4	44.1
Religion								
Hindu	26.3	4.2	68.8	73.0	14.9	5.7	79.1	84.7
Muslim	34.7	5.0	59.6	64.5	20.6	6.0	72.7	78.7
Christian	13.2	4.8	81.5	86.3	6.8	4.8	88.0	92.8
Other	17.2	3.0	79.0	81.9	8.7	4.0	86.9	90.9
Caste/Tribe								
Scheduled Caste	32.6	5.0	61.7	66.6	19.1	6.5	73.9	80.4
Scheduled Tribe	37.9	3.7	57.6	61.3	26.8	7.2	65.6	72.8
No Caste/Other	24.4	4.3	70.7	74.9	12.9	5.2	81.5	86.7
All India	26.9	4.3	68.1	72.4	15.4	5.6	78.5	84.1
Number of cases	29968	4794	75962	80756	16558	6056	84219	90275

Table 4: Percentage of children aged 6-14 according status of schooling outcomes, by background characteristics, India

Table 5: Percentage of children aged 11-14 ever complete grade 5, by state, India		
State	**NFHS-1 (1992-93)**	**NFHS-2 (1998-99)**
Andhra Pradesh	67.6	73.3
Assam	71.6	78.5
Bihar	58.5	63.5
Goa	94.8	95.8
Gujarat	80.6	80.0
Haryana	85.6	88.9
Himachal Pradesh	92.4	98.2
Jammu & Kashmir	87.4	82.6
Karnataka	70.2	80.0
Kerala	97.8	99.0
Madhya Pradesh	65.4	75.8
Maharashtra	82.4	91.0
Manipur	90.8	89.3
Meghalaya	73.8	82.7
Mizoram	95.1	90.9
Nagaland	90.4	85.5
Orissa	71.1	78.1
Punjab	81.9	90.3
Rajasthan	63.6	73.2
Sikkim	N.A.	87.3
Tamil Nadu	82.5	91.9
West Bengal	66.0	75.4
Uttar Pradesh	66.3	77.7
New Delhi	90.6	94.2
Arunachal Pradesh	81.0	84.5
Tripura	82.4	85.8
All India	75.8	81.2
Note: Based on actuarial life table approach.		

Table 6: Percentage of children aged 11-14 ever complete grade 5, by background characteristics, India		
Background characteristics	**NFHS-1 (1992-93)**	**NFHS-2 (1998-99)**
Place of Residence		
Urban	87.3	90.5
Rural	70.5	77.1
Sex of child		
Male	83.0	86.4
Female	67.9	75.6
Standard of living index		
Low	55.6	61.3
Medium	79.0	85.2
High	95.3	96.6
Sex of household head		
Male	75.3	81.3
Female	80.5	80.4
Family Type		
Nuclear family	76.0	80.8
Joint family	75.5	81.7
Highest grade completed by an usual female adult member		
0	57.2	65.4
1-5	86.2	86.1
6-9	94.2	94.6
10+	96.7	97.2
Highest grade completed by an usual male adult member		
0	50.7	60.0
1-5	69.7	72.2
6-9	80.6	85.5
10+	91.8	94.2
Number of female children below age 15		
0	85.1	88.3
1	78.3	83.4
2	71.6	78.7
3	68.3	72.5
4+	66.3	71.7
Number of male children below age 15		
0	72.1	81.0
1	78.6	83.9
2	76.6	81.1
3	72.1	76.0
4+	73.2	76.3
Working child		
No	81.6	86.0
Yes	21.6	24.7
Religion		
Hindu	75.8	81.4
Muslim	65.2	74.0
Christian	87.4	89.0
Other	81.5	87.9
Caste/Tribe		
Scheduled Caste	69.3	75.3
Scheduled Tribe	70.3	72.9
No caste/other	78.0	84.2
All India	75.8	81.2
Note: Based on actuarial life table approach.		

Table 7: Odds ratio and predicted percentage of children aged 6-14 ever been to school, India, results from logistic regression analysis

Background characteristics	NFHS-1 (1992-93)			NFHS-2 (1998-2000)		
	Odds ratio	Standard Error	Predicted values	Odds ratio	Standard Error	Predicted values
Place of Residence						
Rural	1.0000	N.A.	73.2	1.0000	N.A.	84.3
Urban	1.3426	0.0609	76.9	1.1328	0.0630	85.5
Sex of child						
Female	1.0000	N.A.	66.3	1.0000	N.A.	79.7
Male	3.0363	0.0823	80.8	2.5736	0.0729	88.8
Sex of household head						
Female	1.0000	N.A.	79.8	1.0000	N.A.	86.2
Male	0.5823	0.0290	73.3	0.8128	0.0438	84.3
Family Type						
Joint family	1.0000	N.A.	72.2	1.0000	N.A.	83.1
Nuclear family	1.2484	0.0298	75.1	1.2595	0.0361	85.3
Working child						
No	1.0000	N.A.	76.4	1.0000	N.A.	86.3
Yes	0.1054	0.0051	42.6	0.1039	0.0053	55.4
Standard of living index						
Low	1.0000	N.A.	69.5	1.0000	N.A.	80.7
Medium	1.6561	0.0481	76.4	1.9818	0.0648	87.7
High	3.3235	0.2089	84.3	3.6498	0.2786	92.1
Highest grade completed by an usual female adult member						
0	1.0000	N.A.	68.7	1.0000	N.A.	80.7
1-5	3.6224	0.1517	85.3	3.0182	0.1340	91.1
6-9	5.1615	0.2449	88.5	4.3842	0.2437	93.4
10+	5.0907	0.3403	88.4	4.2435	0.3204	93.2
Highest grade completed by an usual male adult member						
0	1.0000	N.A.	64.3	1.0000	N.A.	78.7
1-5	2.1909	0.0742	76.0	1.8487	0.0669	85.6
6-9	2.7645	0.0882	79.0	2.3514	0.0871	87.8
10+	4.0043	0.1581	83.2	3.2531	0.1594	90.4
Number of female children below age 15						
0	1.5708	0.0802	76.3	1.7494	0.1011	86.7
1	1.4972	0.0635	75.7	1.6062	0.0735	86.0
2	1.2008	0.0515	72.9	1.3706	0.0644	84.5
3	1.1072	0.0516	71.8	1.0514	0.0540	81.7
4+	1.0000	N.A.	70.4	1.0000	N.A.	81.2
Number of male children below age 15						
0	1.6639	0.0895	75.9	2.2096	0.1292	86.9
1	1.6289	0.0756	75.6	2.0240	0.1076	86.2
2	1.4289	0.0651	74.0	1.6905	0.0871	84.5
3	1.1439	0.0572	71.1	1.2491	0.0683	81.4
4+	1.0000	N.A.	69.3	1.0000	N.A.	78.9
Religion						
Hindu	1.5329	0.0769	74.5	1.6377	0.0927	85.3
Muslim	1.0000	N.A.	68.8	1.0000	N.A.	80.1
Christian	2.2570	0.1963	79.2	2.2122	0.2484	87.9
Other	1.6545	0.2027	75.5	1.6722	0.1896	85.5
Caste/Tribe						
Scheduled Caste	1.3384	0.0806	73.5	1.3494	0.0756	84.2
Scheduled Tribe	1.0000	N.A.	69.6	1.0000	N.A.	81.1
No caste/Other	1.4545	0.0747	74.6	1.4826	0.0786	85.1
Region						
North	1.0000	N.A.	75.8	1.0000	N.A.	85.4
South	1.7849	0.1317	82.5	1.8234	0.1408	90.3
West	1.8209	0.1389	82.7	1.5662	0.1389	89.2
Central	0.5854	0.0330	68.5	0.8223	0.0495	83.5
North-east	1.0613	0.0777	76.5	1.0712	0.0936	86.0
East	0.6039	0.0356	68.9	0.5601	0.0343	79.2
All India	N.A.	N.A.	73.8	N.A.	N.A.	84.4

Table 8: Odds ratio of dropping out before grade 5 and predicted percentage of children aged 11-14 complete grade 5, India, results from logistic regression analysis

Background characteristics	NFHS-1 (1992-93)			NFHS-2 (1998-99)		
	Odds ratio	Standard Error	Adjusted values	Odds ratio	Standard Error	Adjusted values
Place of Residence						
Rural	1.0000	N.A.	74.4	1.0000	N.A.	80.2
Urban	0.8590	0.0401	76.6	0.8781	0.0425	82.0
Sex of child						
Female	1.0000	N.A.	61.1	1.0000	N.A.	70.6
Male	0.2160	0.0089	84.6	0.2874	0.0118	87.8
Sex of household head						
Female	1.0000	N.A.	81.3	1.0000	N.A.	82.2
Male	1.7115	0.0985	74.2	1.1474	0.0639	80.4
Family Type						
Joint family	1.0000	N.A.	72.5	1.0000	N.A.	78.0
Nuclear family	0.7570	0.0229	76.6	0.7407	0.0241	82.1
Working child						
No	1.0000	N.A.	80.2	1.0000	N.A.	85.2
Yes	11.6153	0.5593	18.5	11.0843	0.5308	22.5
Standard of living index						
Low	1.0000	N.A.	68.8	1.0000	N.A.	74.5
Medium	0.5829	0.0195	77.5	0.5416	0.0190	83.6
High	0.3169	0.0222	84.8	0.3123	0.0245	89.3
Highest grade completed by an usual female adult member						
0	1.0000	N.A.	66.5	1.0000	N.A.	74.0
1-5	0.3264	0.0156	84.0	0.4516	0.0207	85.7
6-9	0.1867	0.0108	89.3	0.2423	0.0139	91.3
10+	0.1817	0.0142	89.5	0.2366	0.0184	91.4
Highest grade completed by an usual male adult member						
0	1.0000	N.A.	64.1	1.0000	N.A.	72.5
1-5	0.5410	0.0232	75.2	0.6932	0.0284	78.8
6-9	0.4175	0.0159	79.0	0.4649	0.0193	84.3
10+	0.2898	0.0138	83.5	0.3315	0.0175	87.9
Number of female children below age 15						
0	0.8767	0.0559	74.9	0.7961	0.0539	81.3
1	0.7957	0.0411	76.3	0.7581	0.0414	81.9
2	0.9156	0.0475	74.2	0.8272	0.0460	80.7
3	0.9077	0.0527	74.3	1.0089	0.0628	77.9
4+	1.0000	N.A.	72.8	1.0000	N.A.	78.0
Number of male children below age 15						
0	0.6755	0.0462	77.2	0.5322	0.0383	83.7
1	0.7362	0.0445	76.0	0.6152	0.0397	81.9
2	0.8228	0.0489	74.4	0.7003	0.0462	80.2
3	0.9451	0.0603	72.3	0.8834	0.0605	76.7
4+	1.0000	N.A.	71.4	1.0000	N.A.	74.7
Religion						
Hindu	0.6198	0.0336	75.5	0.5901	0.0305	81.6
Muslim	1.0000	N.A.	67.7	1.0000	N.A.	73.5
Christian	0.4632	0.0432	79.4	0.4792	0.0539	84.1
Other	0.4417	0.0700	80.0	0.6087	0.0649	81.2
Caste/Tribe						
Scheduled Caste	0.8928	0.0615	73.9	0.8698	0.0542	79.6
Scheduled Tribe	1.0000	N.A.	72.2	1.0000	N.A.	77.6
No caste/Other	0.7961	0.0452	75.6	0.7571	0.0438	81.5
Region						
North	1.0000	N.A.	76.0	1.0000	N.A.	81.0
South	0.6323	0.0453	81.9	0.6140	0.0428	86.6
West	0.5794	0.0452	82.9	0.6424	0.0531	86.2
Central	1.5111	0.0879	69.3	1.1869	0.0697	78.5
North-east	1.0104	0.0815	75.8	1.0103	0.0837	80.8
East	1.7103	0.1017	67.1	1.5793	0.0911	73.9
All India	N.A.	N.A.	74.9	N.A.	N.A.	82.2

Table 9: Percentage of within and between group contributions to inequality in the probabilities of ever been to school and ever complete grade 5: results from mean logarithmic index

Decomposition by	Children aged 6-14 ever been to school		Children aged 11-14 complete grade 5	
	NFHS-1 (1992-93)	NFHS-2 (1998-99)	NFHS-1 (1992-93)	NFHS-2 (1998-99)
Place of Residence				
Within group contribution to overall inequality	94.69	95.90	93.05	92.04
Between group contribution to overall inequality	5.31	4.10	6.95	7.96
Sex of child				
Within group contribution to overall inequality	96.40	97.13	94.81	95.34
Between group contribution to overall inequality	3.60	2.87	5.19	4.66
Sex of household head				
Within group contribution to overall inequality	99.76	99.98	99.80	99.97
Between group contribution to overall inequality	0.24	0.02	0.20	0.03
Family Type				
Within group contribution to overall inequality	99.96	99.73	99.97	99.98
Between group contribution to overall inequality	0.04	0.27	0.03	0.02
Working child				
Within group contribution to overall inequality	79.47	76.34	81.84	78.99
Between group contribution to overall inequality	20.53	23.66	18.16	21.01
Standard of living index				
Within group contribution to overall inequality	84.32	80.51	71.61	65.70
Between group contribution to overall inequality	15.68	19.49	28.39	34.30
Highest grade completed by an usual female adult member				
Within group contribution to overall inequality	74.91	77.62	51.38	51.82
Between group contribution to overall inequality	25.09	22.38	48.62	48.18
Highest grade completed by an usual male adult member				
Within group contribution to overall inequality	75.99	78.59	75.06	69.44
Between group contribution to overall inequality	24.01	21.41	24.94	30.56
Number of female children below age 15				
Within group contribution to overall inequality	97.16	96.52	96.19	95.36
Between group contribution to overall inequality	2.84	3.48	3.81	4.64
Number of male children below age 15				
Within group contribution to overall inequality	99.50	99.03	99.33	98.83
Between group contribution to overall inequality	0.50	0.97	0.67	1.17
Religion				
Within group contribution to overall inequality	98.14	98.22	96.84	97.67
Between group contribution to overall inequality	1.86	1.78	3.16	2.33
Caste/Tribe				
Within group contribution to overall inequality	98.63	97.73	98.86	96.98
Between group contribution to overall inequality	1.37	2.27	1.14	3.02
Region				
Within group contribution to overall inequality	92.76	93.39	94.28	98.25
Between group contribution to overall inequality	7.24	6.61	5.72	1.75

Fig 1. Percentage of children attending school according to age from Census and NFHS