Engaged in Work or Study? Evidence from India

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1 Introduction

Child labour[1] has been clearly an Achilles' heels in the way of Millennium Development Goal of universal primary education (Huebler 2008; UNICEF 2006). It represents a fundamental abuse of child rights and violation of international as well as national laws. In absolute numbers child labour is most prevalent in Asia (ILO 2006) and India continues to host the largest number of child labourers (Ashagrie 1998; Weiner 1996) with worrisome out of school child population. Notwithstanding the numerous efforts made by the government viz. National Policy of Child Labour in 1987 and the National Child Labour Project (NCLP) in 1988 (GOI 2009) child labour continues to pose the significant threat. It is theorised that children those who are not attending school gets engaged in some or the other form of work. Therefore, simultaneous efforts were also taken in the area of education by formulating a national population policy in 1986 and the programme of action (POA) in 1992 (GOI 1998). Furthermore, education was made a fundamental right for children aged 6-14 years under 86th Constitutional Amendment Act, 2002 (Juneja 2003). It has implications for the state to ensure that every child is in school.

Statistics from Indian census 2001 reveal that out of 253 million children aged 5-14 years, only 65% are currently attending school, and 12.6 million (5%) are child workers (GOI 2001). Thus, the remaining 30% neither enrolled in school nor reported as participating in work are potential child labourers which further exacerbate the issue. Most of the previous empirical literature have examined the issue and comprehend the trade-off between children's work and schooling particularly in developing countries including South Asian countries (Akabayashi and Psacharopoulos 1999; Heady 2000; Jensen and Nielsen 1997; Kanbargi and Kulkarni 1991; Patrinos and Psacharopoulos 1997; Psacharopoulos 1997; Ravallion and Wodon 2000; Rosati and Rossi 2007). Moreover, Akabayashi and Psacharopoulos (1999) and Binder and Scrogin (1999), in their respective studies in Tanzania and Western Mexico found a negative effect of hours of work on child's academic performance. Heady (2000) has found that child labour leaves children too tired to learn and may rob them of their interest in learning.

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It is widely acclaimed that poverty is one of the main determinants of parent's decision and correspondingly a significant driving force that compels children to join work-force at the age when they are supposed to be in school (Basu et al 2010; Jensen and Nielson 1997; Ravillion and Woodon 2000). School attendance may be the rational choice of parents in the long run, but short term needs for subsistence of the household force the parents to send their children in the labour market (Huebler 2008). Contrastingly, Ray (2000) in his study of Pakistan and Peru found no evidence for the hypothesis that parents out of poverty send their children to work in Pakistan, nevertheless only a weak support for the hypothesis exists for Peruvian children. Moreover, he found that, in both countries, increased education of adult females leads to a significant reduction in child labour. Khanam (2008) utilizing the data from Bangladesh provides evidence that education of parents, especially mother's education significantly increases the probability that a school age child will specialise in the study only, as educated parents' value their child's education. She further, finds that if the father is employed in a vulnerable occupation, for instance, day or wage labours, it raises the probability of child work. Scholarships from India too have found a negative effect of education of parents on the work status of the children (Das and Vemuri 1992; Mishra and Pande 1995).

A mixed trend has been observed for the number of children and household size on school enrolment. Ravillion and Wodon (2000) find that number of siblings and the size of the household do not appear to have any significant effect on school enrolment. Conversely, Patrinos and Psacharopoulos (1997) argue that more children imply fewer resources per child, and subsequently decreasing chances for them to attend the school. Using Egypt Labour Market Survey (ELMS-1998) Assaad et al (2001) show that child work has much more direct and detrimental effect on girls' schooling than that of boys. Since females and older children may be engaged in domestic work by taking care of younger children and engaging in labour market, whereas younger children and males may attend school. This gender bias may be due to the fact that in future investing in a daughter's education may not yield a rate of return, which is equivalent to that of a son's.

The extant literature shows a dearth of studies that specifically examine the burgeoning problem of child work and school attendance in India cutting across different states. Most of the existing studies in India are based on micro-level data which emphasised mainly on the condition of child workers in factories like *Beedi*, fireworks, cotton etc. in the selected region or states. On the other hand few macro level studies which are based on Census and other

demographic survey data even though cover a wider range of the population but the questions asked in these surveys were not adequate to provide a broader picture of child work. To elaborate, there is a limited understanding regarding the type of work, school attendance and particularly duration of work.

The evidence from other developing countries suggests that hours of work is an important indicator in determining the nature of the link between schooling and work (Akabayashi and Psacharopoulos 1999; Binder and Scrogin 1999; Orazem and Gunnarsson 2003; Psacharopoulos 1997; Ray and Lancaster 2004). Nonetheless, the Indian literature remains silent on this part. Moreover, child work also has implications for schooling beyond determining current school attendance. It could affect the regularity of school attendance as well as school advancement and grade advancement (Assaad et al 2001). Therefore any attempt towards the study of schooling should also take into account the school attendance status and appropriateness of grade according to the age of the child.

Clearly, an in-depth assessment of the aforementioned concerns with a focus to Indian subcontinent will inform policymakers while designing interventions to minimise sufferings of the children. It is from this vantage point that the study aims to examine the pattern of child work participation rate, school attendance rate and duration of work in India and states. The study further tries to look in to the socio-economic differentials in the type of work and correlates of child's activity status utilizing the data from the third wave of National Family Health Survey, 2005-06 (NFHS-3) which has collected for the first time an extensive data on child labour.

2 Methods and Materials

The data for the present study comes from India's third National Family Health Survey (NFHS-3), which was conducted in 2005-06. This multi-round Demographic and Health Survey of India covered a nationally representative sample of 109,041 households, with 124,385 women age 15-49, and 74,369 men age 15-54. The NFHS-3 also collected information of all persons in the household including children. The sample covered 99% of India's population living in 29 states. This survey was designed to provide estimates of key indicators for India as a whole and by rural-urban residence across states. The survey used uniform sample design, questionnaires and field procedures to collect data throughout the country to facilitate comparability across the states. In NFHS-III, three types of schedules

were used to collect data, namely household schedule, eligible women schedule, and men schedule (IIPS and ORC Macro 2007).

To measure the child work in India, NFHS-III included a set of questions on the work participation by each child aged 5-14 years. Information on child work was collected as per United Nations Children's Fund (UNICEF)[2] definition, for a sample of 124,826 children aged 5-14 years. The questions were asked about the work a child (age 5-14 years) did for (i) any non household members, paid (cash or kind) or unpaid, (ii) daily household chores (such as shopping, collecting firewood, cleaning, fetching water or caring for children etc.), (iii) other family work (such as work on a farm or in a business or selling goods in the street) in the seven days preceding the survey. The information on the number of hours, child did work since the last day of the week, was also gathered in the survey.

For all the children information was collected regarding school attendance and grade attending for the years 2005-06 and 2004-05. The survey asked the main reason for the children for not attending school. The questions related to schooling were (i) did child attend school or college at any time during the 2005-06 school years? (ii) during this/that school year, what standard is/was she attending? (iii) what is the main reason child is not attending school? Apart from the current school attendance the survey also provides an opportunity to assess the school attendance status given in the form of different categories- (i) never entered (ii) entered- those who have taken admission in the year 2005-06 (iii) advanced- those who have passed the class in the year 2005-06 (iv) repeating- those who are repeating the same class in the year 2005-06 (vi) left school 2+ years ago-those who have left school in year 2004 or before.

It is to be noted here that children typically enter the education at the age of six and by the age of 14 they should be in their last year of basic education. Thus, five year aged children are excluded from the study while analysing the schooling of children as they are not supposed to attend school and ages in the single years are clubbed into two groups 6-11 and 12-14 years. Further, parental information (mother's and father's education and their occupation) and some of the other individual level information like birth order and number of siblings are available for children whose mothers were interviewed on the individual part of the questionnaire. Therefore, two models have been run, for testing the association of child's activity status and school attendance. Model I controls for age, sex, orphanhood status, region, place of residence, religion, castes, wealth index and household structure. In Model II analysis is restricted for children whose both the parents are alive at the time of interview. In

addition control variables used in model I, birth order, number of siblings, mother's and father's education and occupation were assessed in model II.

Based on the data, bivariate statistical techniques are applied to look into the pattern of child work, duration of work and school attendance across the states and to examine the association of child work and school attendance. To understand the correlates of child's activity, multinomial logistic regression models are fitted considering that the dependent variable is categorical having more than two categories (Retherford and Choe 1993).

$Z_1 = \text{Log}\ (P_1/P_4) = a_1 + \sum b_{1j}*X_j$

$Z_2 = \text{Log}\ (P_2/P_4) = a_2 + \sum b_{2j}*X_j$

$Z_3 = \text{Log}\ (P_3/P_4) = a_3 + \sum b_{3j}*X_j$

and; $P_1 + P_2 + P_3 + P4 = 1$

where,

$a_{i,\ i=1,2,3}$: constants

$b_{ij\ \ i=1,2,3;\ j=1,2,\ldots n}$: multinomial regression coefficient.

P_1: Estimated probability of child's activity status classified as work only

P_2: Estimated probability of child's activity status classified as work and study

P_3: Estimated probability of child's activity status classified as neither work nor study

P_4: Estimated probability of child's activity status classified as study only

P_4 is the reference category**.**

Results are presented in the form of relative risk ratios (RRRs) with significance level and 95% confidence intervals. All the analysis has been performed using Stata 10 (Statacorp 2007).

2.1 Cataloguing of Predictor Variables

Age is coded as 1 if 12-14 and 0 otherwise. Sex of the child is coded as 1 if female and 0 otherwise. Similarly, orphanhood status is coded as 1 if at least one parent is dead and 0 otherwise. Religion has three levels, Hindu, Muslims and Christians, dummy variables were

created for two categories, with Hindu as the reference category. Caste has four levels, dummy variables were created for three categories, with Scheduled Castes (SCs) as the omitted reference category. In the absence of direct data on income or expenditure in demographic and health survey wealth index based on the ownership of household assets is largely used as a proxy for assessing the economic status of the households (Filmer and Pritchett 2001; Montgomery et al 2000; Vyas and Kumarnayake 2006). The NFHS also followed this trend in its third wave and wealth status was estimated from a set of economic proxies using Principal Component Analysis (IIPS and ORC Macro 2007). Dummy variables were constructed for two categories, with poor as the omitted reference category. Household structure is coded as 1 if non-nuclear and 0 otherwise. Region has six levels: North, Central, East, North-east, West and South; dummy variables were constructed for five categories, with north as the omitted reference category. Those who live in a rural setting coded as 1 and 0 otherwise. Birth order of the child is a four level variable; dummy variables were constructed for three categories, with first order child as the omitted reference category. Further, number of siblings has three dummy variables with a single child (or no siblings) as the omitted reference category. Mother's and father's education are four level variable, illiterate, primary, secondary and higher, with three dummy variable and illiterate as the reference category. Mother's and father's occupation are also four level variable, unemployed, service, farm and skilled/unskilled, three dummy variables are created, with unemployed as the omitted reference category.

3 Results

3.1 Work Participation Rate, Mean Duration of Work and Percentage of Children not Attending School

Results indicate that the prevalence of child work, duration of work and percentage not attending school varies drastically across different states in both the age groups (figure 1 and figure 2). It is observed that in India every tenth child in the age group 5-11 work for 3 hours in a day and every sixth child in the age group 12-14 work for six hours in a day. Almost one-fifth of the child population in the age groups 6-11 and 12-14 (21% and 19% respectively) is out of school. The results, further, reveal that Work Participation Rate (WPR) in all the states except few (Gujarat, Delhi, Punjab, Tamil Nadu, Tripura and Kerala) is higher among children aged 12-14. Concomitantly, mean duration of work done in a week (in hours) is much higher in the later age group compared to the former.

Figure 1 establishes the ensuing pattern of WPR in the age group 5-11 years; it varies from two percent in Goa to 37% in Gujarat. There are other six states viz. Rajasthan (19%), Delhi, Arunachal Pradesh, Tripura (15% each), Punjab (13%) and Uttaranchal (12%) which lies above the national average (9.8%). The children from Kerala and Tamil Nadu work for one hour in a day, however the duration of work is very high in the states of Meghalaya and Arunachal Pradesh (five hours in a day) followed by Chhattisgarh, Andhra Pradesh, Orissa, Bihar, Nagaland, Karnataka (four hours in a day). The state of Bihar which is also having a high duration of working hours has the highest percentage (47%) of out of school children. Similarly, Meghalaya, Nagaland, Jharkhand, Arunachal Pradesh, Sikkim, Manipur, Madhya Pradesh, Uttar Pradesh and Rajasthan have more than one fifth of children not attending school.

Figure1: Percentage of Working Children aged 5-11 years by Mean Duration of Work in a Week (in Hrs.) and Percent Not Attending School, in India and States, 2005- 06

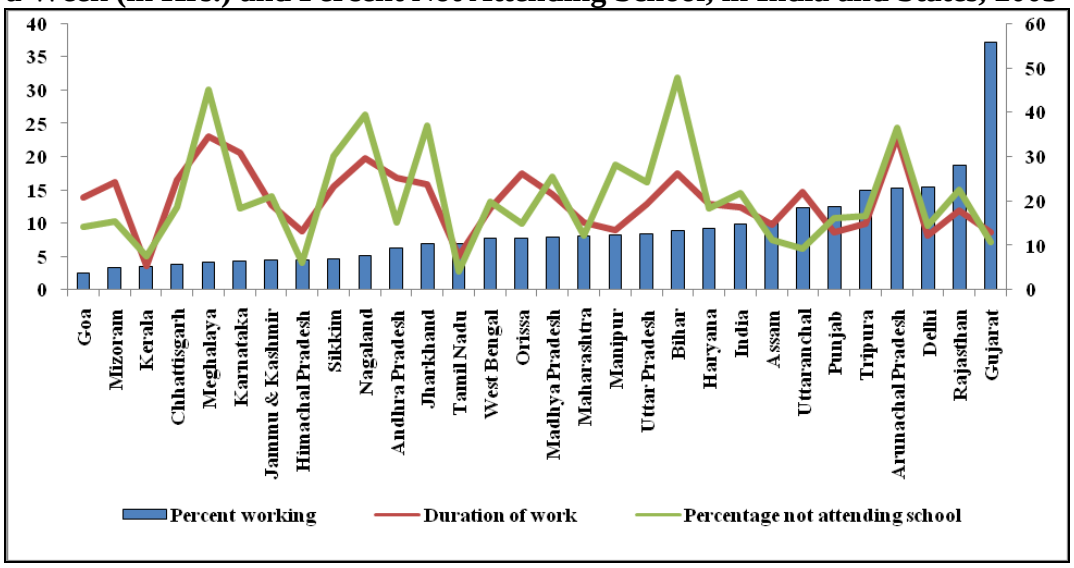
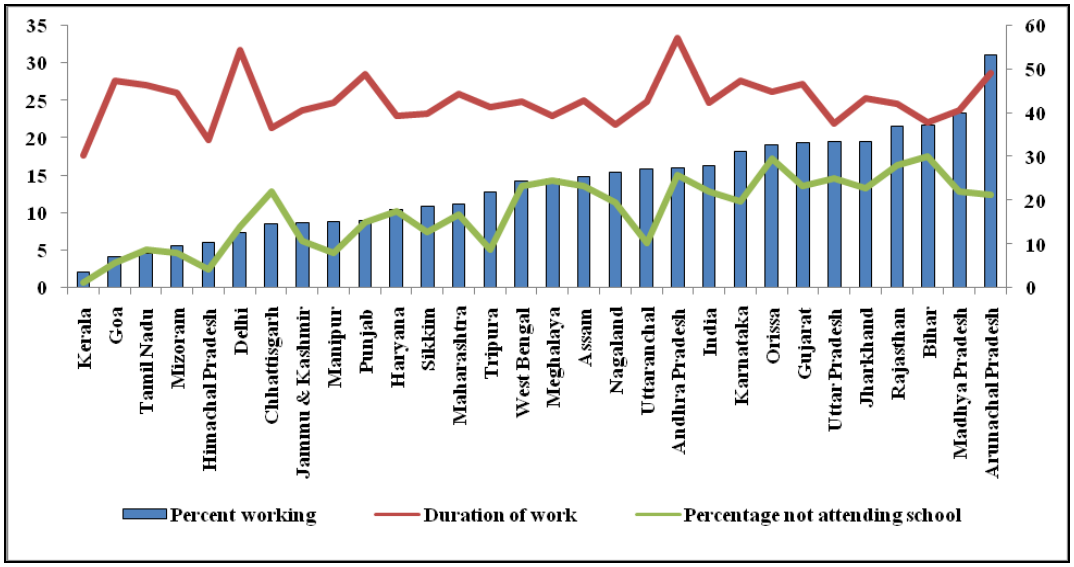


Figure 2: Percentage of Working Children Aged 12-14 Years by Mean Duration of Work in a Week (in Hrs.) and Percent Not Attending School, in India and States, 2005-06

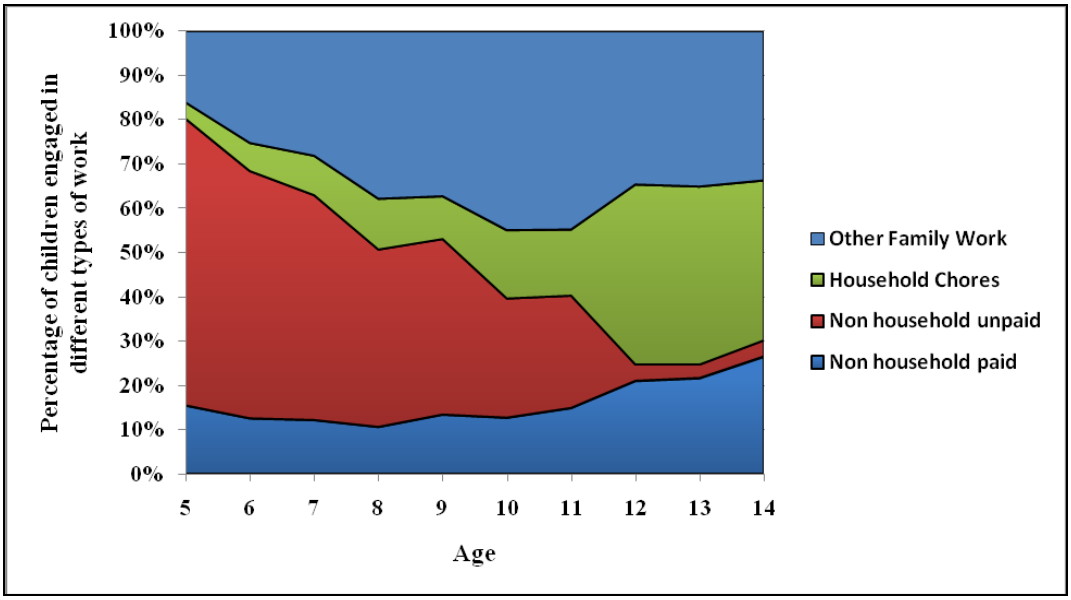


Note: Percentage not attending school includes children in the ages 6-14 years

WPR in the age group 12-14 is highest in Arunachal Pradesh with 31% (figure 2). Apart from this, the states like Madhya Pradesh (23%), Bihar, Rajasthan (22% each), Jharkhand, Uttar Pradesh (20% each), Gujarat, Orissa (19% each) and Karnataka (18%) have a high percentage of children engaged in labour market. Figure 2 further shows that children (aged 12-14) from Andhra Pradesh and Delhi work for eight hours in a day. The most disadvantaged children in terms of school attendance are in the states of Bihar and Orissa (30% each), followed by Rajasthan (28%), Andhra Pradesh (26%), Uttar Pradesh (25%). Nonetheless, in Kerala both the duration of work and percentage of out of school children are lowest.

Figure 3 depicts the percentage of children (aged 5-14 in single years) engaged in different types of work. It is evident that chid work participation in paid (cash or kind) work for non household members, other family work (farm or business or selling goods in the street) and household chores increases with the increase in the age of the child. However, a steep decline has been noticed in unpaid work for non houshold members especially after age 11.

Figure 3: Percentage of Working Children in Single Years (5-14) by Different Types of Work in India and States, 2005-06



It is clear from table 1 that a substantial proportion of children from age group 12-14 years is engaged in household chores (7%), other family work (6%) and paid work for non household members (4%), however unpaid work is almost nil (0.6%) in this age group. Conversely, unpaid work is highest among the younger age group children aged 5-11 (4%). State-wise results suggests that 5-11 years age group children engaged in paid work is highest in Gujarat (6%) followed by Assam (3%) and Andhra Pradesh (2%). Among children aged 12-14 paid work is highest in Andhra Pradesh (10%) followed by Karnataka (8%), Orissa (7%), West Bengal (6%), Madhya Pradesh, Assam and Gujarat (5% each). Interestingly, the state of Gujarat has the highest percentage of children engaged in unpaid work too in both the age groups. The results further show that the percentage of children engaged in household chores and other family work is highest in Arunachal Pradesh (6% and 14% in 5-11 and 12-14 age groups respectively) and lowest in Kerala and Tamil Nadu. Among major states Bihar, Jharkhand, Rajasthan, Madhya Pradesh, Gujarat have a high proportion of children engaged in household chores whereas Arunachal Pradesh, Rajasthan, Uttaranchal, Gujarat, Uttar Pradesh, Bihar, Orissa are the states having a high child participation in other family work.

Table 1: Percentage of Children Engaged in Different Types of Work in the Seven Days Preceding the Survey, by Age Group, India and States, NFHS, 2005-06.

States and Union Territory	5-11				12-14			
	Non household[1]		Household chores	Other family work[2]	Non household[1]		Household chores	Other family work[2]
	Paid work	Unpaid work			Paid work	Unpaid work		
Andhra Pradesh	2.3	0.8	0.5	3.7	9.7	0.1	3.8	6.9
Arunachal Pradesh	0.9	1.4	5.5	9.9	3.4	1.3	14.1	19.2
Assam	3.0	4.2	0.6	3.5	4.9	0.4	5.8	4.8
Bihar	1.1	1.5	2.5	4.9	2.8	1.0	12.9	7.3
Chhattisgarh	0.3	0.1	1.2	2.3	1.9	0.0	3.6	3.3
Delhi	1.4	12.6	0.7	1.3	2.4	1.4	3.1	1.5
Goa	0.4	0.6	0.4	1.4	1.8	0.0	1.3	1.3
Gujarat	6.0	26.9	1.7	7.6	4.5	3.2	8.2	6.6
Haryana	1.5	4.9	1.8	1.4	1.7	0.4	6.3	2.5
Himachal Pradesh	0.4	0.3	1.0	3.3	0.7	0.3	3.0	2.9
Jammu and Kashmir	0.5	0.3	0.8	3.1	1.6	0.1	2.5	5.6
Jharkhand	1.4	1.3	2.4	2.3	4.2	0.2	11.9	4.6
Karnataka	0.9	0.2	1.0	2.3	7.8	0.1	6.9	5.9
Kerala	0.8	2.4	0.1	0.3	0.8	0.1	0.7	0.6
Madhya Pradesh	1.0	2.4	1.4	3.2	4.9	0.5	11.8	8.3
Maharashtra	1.7	3.4	0.7	3.0	3.7	0.3	3.5	5.0
Manipur	0.8	4.5	0.8	2.6	0.9	0.8	3.9	4.5
Meghalaya	0.3	0.2	3.1	0.7	1.8	0.0	11.9	1.6
Mizoram	0.2	0.1	0.9	2.4	1.2	0.0	4.2	0.6
Nagaland	0.6	0.6	2.8	1.5	1.9	0.2	10.8	3.4
Orissa	1.5	0.9	1.4	4.7	7.4	0.0	6.4	6.4

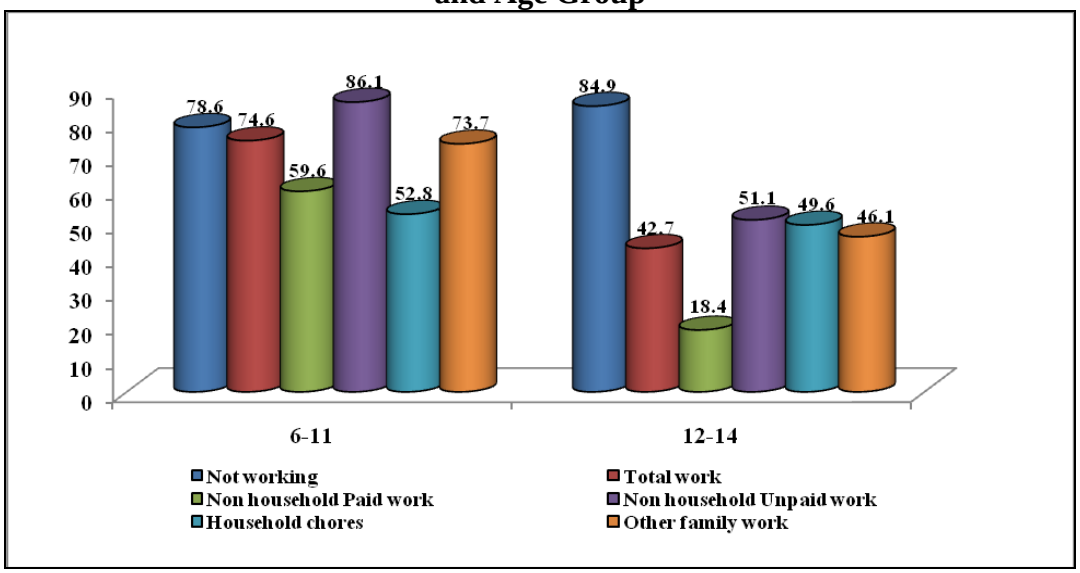
Punjab	1.8	9.3	0.5	1.6	2.2	0.8	4.0	2.7
Rajasthan	1.4	9.4	2.2	8.3	2.4	1.3	10.3	11.5
Sikkim	0.4	0.4	1.3	2.8	2.0	0.2	7.4	2.0
Tamil Nadu	0.6	5.4	0.3	0.9	2.4	0.0	1.8	1.1
Tripura	1.3	10.1	2.2	3.2	2.8	1.3	6.4	3.9
Uttar Pradesh	0.7	2.3	1.1	4.9	3.5	0.7	8.4	8.4
Uttaranchal	0.9	1.4	2.0	9.7	2.0	0.0	7.5	9.7
West Bengal	1.3	1.6	1.2	4.2	5.7	0.5	4.7	4.6
India	1.5	4.2	1.5	4.7	4.2	0.6	7.1	6.3

Note: [1] Any work, paid or unpaid, for someone who is not a member of the household by children age 5-11 and for 14 or more hours by children age 12-14. [2] Includes any work on the farm, in a business, or selling goods in the street by children age 5-11 and for 14 or more hours by children age 12-14.

3.2 School Attendance Rate

School attendance rate of working children falls due to more work pressure, irrespective of the type of work they are engaged in (figure 4). It is observed that the older age group children (12-14 years) experience a sharp decline in the school attendance rate of working children. For instance, school attendance rate drops to 43% among working children from 85% when the child is not engaged in any of the work activities. The difference in the school attendance rate of working and not working is extremely high among paid workers followed by children engaged in other family work and household chores.

Figure 4: School Attendance Rate among Children (aged 6-14) by their Work Status and Age Group



3.3 School Attendance Status

Table 3 presents the percent distribution of children aged 6-11 and 12-14 years according to their school attendance status by type of work. A linear relation could be seen between work participation and never entered in school, the proportion of never entered in school is very

high among working children, especially among children engaged in paid work and household chores in 6-11 age group and all types of work in the age group 12-14 years. Furthermore, among working children aged 12-14 years those who have ever attended the school, percentages of both drop out and left out 2+ years prior to the survey are very high. This percentage further accentuates among children engaged in paid work. Also, percentage advanced declines to almost half among working children (55%) in the later age group.

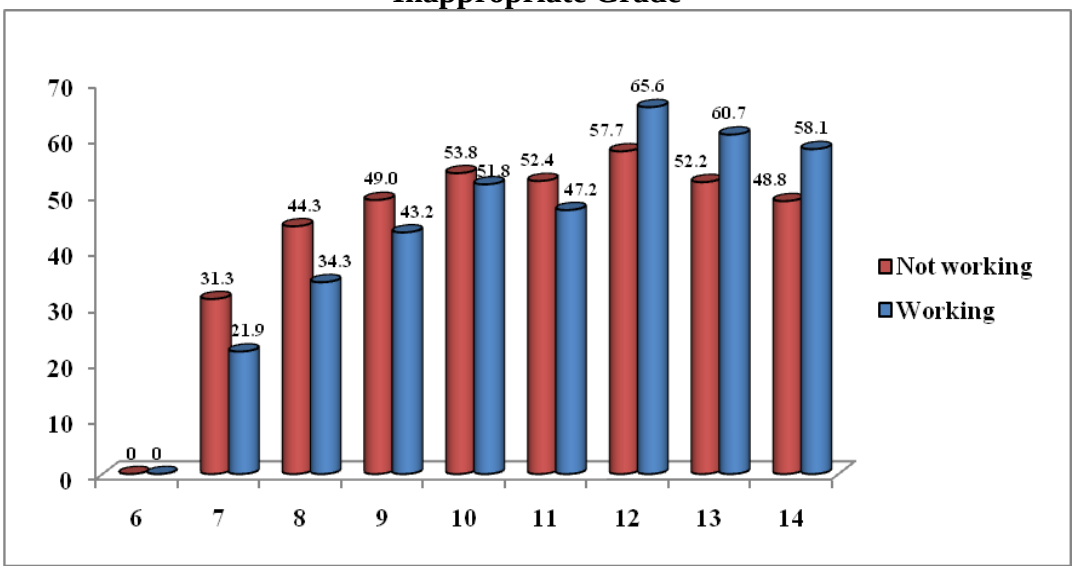
Table 2: School Attendance Status among Working and Non Working Children (6-14 years) by Age Group in India, NFHS, 2005-06

School attendance status	Not working	Paid work	Unpaid work	Household chores	Other family work	Total work	N
6-11							
Never attended	19.5	25.4	11.8	36.0	19.9	19.3	14506
Ever attended	80.5	74.6	88.2	64.0	80.1	80.7	60066
Among ever attended							
Entered school	15.5	5.3	7.8	5.7	6.5	7.2	8737
Advanced	80.0	70.4	86.8	74.8	83.1	82.5	48212
Repeating	2.3	4.1	3.1	2.1	2.4	2.8	1420
Dropout	0.5	7.9	0.7	8.4	2.3	2.7	427
Left school 2+ years ago	1.8	12.4	1.5	9.1	5.7	4.8	1270
12-14							
Never attended	7.6	32.2	21.5	26.5	22.3	25.1	3948
Ever attended	92.4	67.8	78.5	73.5	77.7	74.9	33950
Among ever attended							
Entered school	0.5	0.7	0.0	0.7	0.2	0.5	168
Advanced	89.7	26.0	63.8	66.0	58.2	55.5	28861
Repeating	1.8	0.5	1.6	1.0	1.1	1.0	564
Dropout	2.4	15.5	11.4	7.6	10.3	10.6	1182
Left school 2+ years ago	5.7	57.4	23.2	24.8	30.2	32.4	3175

3.4 Appropriate Grade according to Age

Results from figure 5 suggest that the percentage of children in inappropriate grade is higher among not working children till age 11. After that a sharp increase in inappropriate grade is seen among working children. This is due to the fact that burden of work is more among the children aged 12 or more as compared to their younger counterparts.

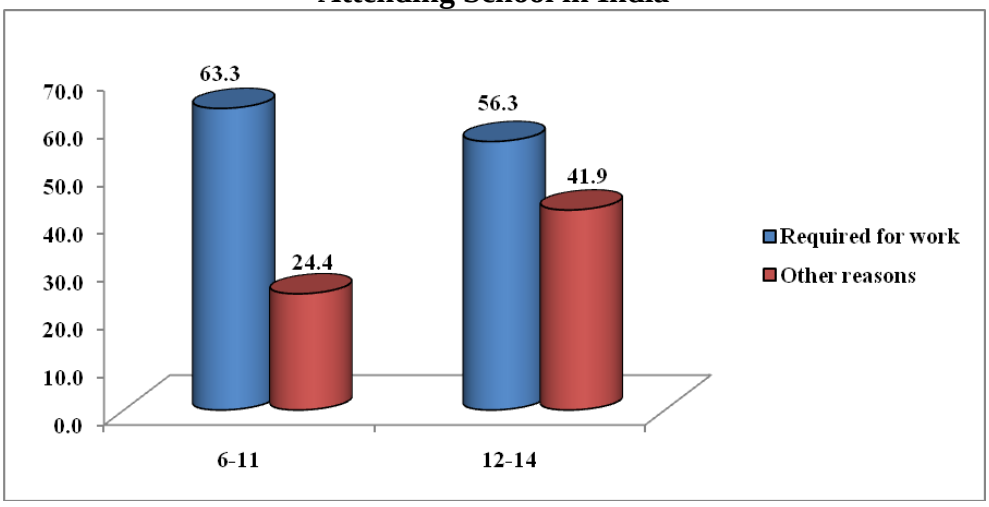
Figure 5: Percentage of Working and Not Working Children aged 6-14 in Inappropriate Grade



3.5 Main Reasons for Not Attending School

Various reasons for not attending school are grouped into two categories- (i) required for work (ii) other reasons (figure 6). Among working children aged 6-11 and 12-14 years, 63% and 56% respectively reported that they are not attending school as they are required for work. This indirectly shows that child work is one of the pertinent reasons among children for not attending school.

Figure 6: Percentage of Children Aged 6-11 and 12-14 Years by Reason for Not Attending School in India



3.6 Factors Affecting Child's Activity in India

Table 3 gives the results of multinomial logistic regression models in terms of relative risk ratios (RRRs). RRR[1] presents the relative risk of work only relative to study only i.e. P_1/P_4,

the RRR^2 presents the relative risk ratio of combining work and study relative to study only i.e. P_2/P_4 while the third equation (RRR^3) shows the relative risk ratio of doing neither work nor study relative to study only i.e. P_3/P_4.

Results provide ample evidence state that the probability of older children to work only is more than thrice (3.42), however the chances of combining study and work and doing neither work nor study is less than study only (0.89 and 0.45 respectively). It is observed that females are slightly at the greater risk of work only (1.35) and being idle doing nothing (1.21) and have a less chance of combining study and work (0.94) compared to study only. Death of either of the parents increases the risk of doing only work to almost twice (2.04) and combining work and study (1.21) than only studying.

Additionally, it is found Muslim children are more at the risk of work only and doing nothing (2.33 and 2.24 respectively) while Christian children are more likely to remain idle (1.12) and less likely to work (0.75) and combine work and study (0.72) compared to Hindu children. Similarly, children belonging to Scheduled Tribes are more likely to engage in work only (1.69) followed by sitting idle (1.25) and combining work and study (1.26). The chances of combining work and study is more among children from Other Backward Classes (1.22) whereas other activity status do not differ significantly from study only. However, the children belonging to other caste category are at lowest risk of work only (0.68), followed by remaining idle (0.72) and combining work and study (0.91). Like social status, the risk of work only shows a steep decline with the increase in wealth index (0.44 and 0.15 among middle and rich class children). Similarly, chances of remaining idle decreases from 0.57 in middle class to 0.40 among rich class children. Among rich children, the chances of atleast combining study and work (0.75) is higher than doing neither studies nor work and doing only work. It has been further found that compared to nuclear families, children from non-nuclear families are more likely to do neither work nor study (1.11) whereas the risk of work only and combining work and study do not differ significantly from study only.

It is also seen that rural children are more at the risk of combining work and study (1.35) whereas less at the risk of work only and neither work nor study (0.82 each). Compared to the children from northern part of India, the risk of engaging in work only and combining work and study is lesser among children from other regions like Central, East, North-east and South. However, the chance of combining work is higher and work only is lesser than study only. In contrast, to other regions the children from Central region are more at the risk of remaning idle than engaged in studies only.

In model II the direction of all the other control variables are similar to model I, whereas other variables depicts that, as compared to first order child subsequent order children have lesser chances of work only (0.91, 0.78 and 0.76) and combining work and study (0.91, 0.85 and 0.85) but a higher chances of neither work nor study (1.02, 1.10 and 1.24). The presence of four or more siblings in the houeshold increases the risk of work only and combining work and study but reduces the chances of remaining idle compared to study only.

Relative risk ratio for mother's and father's education is significantly associated with child's activity status. However, the impact of mother's education is more than that of father's. Results suggest that children of educated mother are at less risk of getting engaged in work (0.50, 0.34 and 0.32 for primary, middle and higher respectively) followed by doing nothing (0.69, 0.76 and 0.82) and combining work and study (0.92, 0.88 and 0.53 for secondary and higher education respectively) than children of illiterate mother. It is very interesting to note that mother's employment in any sector increases the chances of work or atleast combining studies with work. For instance, in service sector increases the risk of work only (1.84) and combining work and school (1.57) whereas reduces the risk of neither work nor study (0.89). For father's occupation the results are other way round and the employment of father in service or skilled or unskilled labour decreases the risk of work and the children of father's who are employed in skilled/unskilled jobs increases the risk of remaining idle.

Table 3: Multinomial Logistic Regression Models Showing Relative Risk Ratio for Differentials in Child' Activity by Background Characteristics in India, NFHS, 2005-06

	Model I			Model II		
Covariates	RRR1	RRR2	RRR3	RRR1	RRR2	RRR3
Age group (5-11®)						
12-14	3.42***	0.89***	0.45***	2.84***	0.81***	0.39***
Sex (Male®)						
Female	1.35***	0.94**	1.21***	1.35***	0.91**	1.23***
Orphan hood (No®)						
Yes	2.04***	1.21***	1.03			
Religion (Hindu®)						
Muslim	2.33***	0.77***	2.24***	1.88***	0.70***	1.89***
Christian	0.75***	0.72***	1.12**	0.82	0.67***	1.20***
Caste (Scheduled caste®)						
Scheduled tribe	1.69***	1.26***	1.29***	1.37***	1.12	1.24***
Other backward caste	1.04	1.22***	0.97	1.06	1.20***	1
Others	0.68***	0.91*	0.72***	0.85*	1.03	0.80***

Wealth Index (Poor®)						
Middle	0.44***	1.03	0.57***	0.63***	1.13**	0.66***
Rich	0.15***	0.75***	0.40***	0.35***	1.01	0.55***
Household structure (Nuclear®)						
Non nuclear	0.98	0.98	1.11***	0.92	0.97	1.15***
Region (North®)						
Central	0.49***	0.63***	1.03	0.56***	0.61***	1.10**
East	0.71***	0.56***	1.38***	0.81**	0.57***	1.48***
North-east	0.37***	0.63***	0.71***	0.40***	0.73***	0.80***
West	0.77***	1.25***	0.79***	0.99	1.24***	0.88**
South	0.54***	0.32***	0.70***	0.66***	0.31***	0.75***
Place of residence (Urban®)						
Rural	0.82***	1.35***	0.82***	0.73***	1.12**	0.84***
Birth Order (First order child®)						
Second order				0.91	0.91*	1.02
Third order				0.78***	0.85***	1.10**
Four or more order				0.76***	0.85**	1.24***
Number of siblings (Single®)						
One sibling				0.97	1.11	0.75***
Two siblings				0.99	1.19	0.60***
Three siblings				1.23	1.26*	0.55***
Four or more siblings				1.90***	1.50***	0.66***
Mother's education (Illiterate®)						
Primary				0.50***	0.92	0.69***
Secondary				0.34***	0.88**	0.76***
Higher				0.32**	0.55***	0.82**
Father's education (Illiterate®)						
Primary				0.59***	1.09*	0.63***
Secondary				0.44***	1.01	0.59***
Higher				0.28***	0.91	0.54***
Mother's occupation (Unemployed®)						
Service				1.84***	1.57***	0.89**
Farm				1.48***	1.46***	0.95*
Skilled/unskilled				1.91***	1.50***	0.83***
Father's occupation (Unemployed®)						
Service				0.65**	0.9	1.11
Farm				0.89	1.16	1.09
Skilled/unskilled				0.68**	0.93	1.22*
Log pseudolikelihood		-105205.5			-80108.5	

Note: ***p<0.01; **p<0.05; and *p<0.1; RRR1- Relative Risk Ratio for work only by study only; RRR2- Relative Risk Ratio for work and study by study only; RRR3- Relative Risk Ratio for doing neither work nor study by study only; Dependent variable- Child's activity (P0-study only,P1-work only,P2-study and work,P3-neither work nor study); ®-Reference category.

4 Discussion and Conclusion

The expert committee of the population projection projected number of child population aged 5-14 years in 2008 as 236,911,000 (GOI 2006). Based on this total number, as per NFHS-3 we have estimated the prevalence of child work as 11.8%. According to this, presently there are 28 million child workers in India who work for either their own households or for others. The absolute magnitude of 28 million child workers or relative magnitude of one in eight children aged 5-14 years makes child labour a vexed reality of Indian society. The present paper provides a number of insights on the child work participation and its association with schooling in India. It shows that child workers lose almost 13 percent (aged 5-11) and 25 percent (aged 12-14) of their time in work. Assuming nine hours of sleep, six hours of schooling and at least two hours for daily activities like bathing, brushing etc. the working children are left with very few or no time for playing. Therefore, there is a need to initiate steps and programmes to facilitate free time for play and recreational activities, which is conducive to the mental and physical development of children.

The results construed a wide disparity across the states of India in terms of child work participation rate, duration of work and school attendance rate in the two age groups. Among children aged 5-11 years, Gujarat has a highest percentage of child workers irrespective of the type of work. However, the states of Arunachal Pradesh and Bihar have high percentage of child workers, high mean duration of work and low school attendance. Among older age group children (12-14 years), Arunachal Pradesh has highest percentage of working population, with larger duration of work and a high out of school population. States of Bihar, Rajasthan, Jharkhand, Karnataka and Andhra Pradesh have a high percentage and mean duration of child work commensurate with a lower school attendance. It is suggested that the policies and programmes should be focussed in these high risk states.The requirement of the children to work is an important bottleneck for school attendance. It is evident that for most of the working children the reason reported for not attending school is their requirement for work.

Results manifest that there is a negative association between child work and educational attainment. Among working children proportion of children never entered in school is very high. Among them who ever entered school, left out 2+ years prior to survey and dropout rates are also very high. Further, working children enrolled in school are found to be in lower grades according to their age. This shows that children get onerous with the work so some of them choose not to even enter the school. While others

those who get enrolled in the school are left with small number of hours for studies, which may have an inimical effect on their academic performance. This results in loss of their interests in studies resulting into higher percentage of left outs/drop-outs. Earlier studies have also found the similar types of results (Akabayashi and Psacharopoulos 1999; Binder and Scrogin 1999; Heady, 2000; Orazem and Gunnarsson 2003; Psacharopoulos 1997; Ray and Lancaster 2004).

School attendance among children engaged in paid work and household chores has been found to be very low. Lower school attendance among paid workers focuses on the fact that children involved in paid work are bound to work for full time and this consequently reduces their chances of school attendance to almost nil. In addition, the low school attendance among girls in India may explain the lower school attendance among children engaged in household chores as the percentage of female child is more in household chores.

The findings suggest that children put in an increasing amount of time on more productive activities as their age increases, or get engaged in household chores to release their parents to work outside. This finding is in correspondence to earlier study (Antony and Gayathri 2002). Family resources are stretched by having many children at home; as a result some children, especially those are of first order, are forced out of school and concomitantly get involved into the work force, while some combine work and study. This is in correspondence with the some of the recent studies in which it is noted that child work participation rates are higher among those families that had higher number of siblings (Patrinous and Psacharopolos 1997).

Moreover, children of educated parents engage in studies only rather doing work or combining work and study because educated parents know the value of education. The results are consistent with the studies of Das and Vemuri (1992) and Mishra and Pande (1995). Employment of mother and father has differential effects on the activity status of children. Father's employment reduces the chances of child work as it debars the children to engage in early employment merely for the subsistence of family. However, mother's employment renders children burdened by doing household chores and taking care of the siblings during her absence hence, it increases the likelihood of work or atleast combining work and study. It is also noteworthy that orphan-hood, low socio-economic status and poverty play an important role in pushing the children in the labour force at an early age. Albeit the early engagement of children into work instead of attending school further

deteriorates the financial condition in the long run among the socio-economically deprived families. It pushes them into the vicious cycle of poverty still the children from the lower social-economic strata continue to bear the burden of work on their tender shoulders (George 1990; Kulshreshtha 1978; Sakamoto, 2006).

Results construed a negative impact of work on the schooling of children in terms of higher drop-outs, left-outs and inappropriate grade. Therefore, immediate attentions are needed for improvement in education of working children by the provision of schooling at flexible timings. Additional help from school side for the working children in the form of additional coaching that may reduce drop outs or failure rates. Schoolings should be encouraged more for girls, as school attendance among household chores is least and girls are mainly found to be engaged in household chores. This paper suggests that efforts to prohibit child work should be blended with the efforts to create educational motivation among parents.

Notes

1 Any type of work performed by children below 14 years of age that deprives them of their childhood and their dignity, which hampers their access to education and acquisition of skills and which is performed under conditions harmful to their health and their development is termed as child labour (International Labour Organisation, 1986).

2 According to UNICEF's definition (i) any child age 5-11 who, in the seven days preceding the survey, worked for someone who is not a member of the household, with or without pay, or did household chores for 28 or more hours, or engaged in any family business and (ii) any child age 12-14 years who, in the seven days preceding the survey, worked for someone who is not a member of the household, with or without pay, for 14 or more hours, or did household chores for 28 or more hours, or engaged in any other family work for 14 or more hours is considered to be a child worker (Fares and Raju, 2007; IIPS and ORC Macro, 2007).

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