Education Trajectories:
From Early Childhood to Early Adulthood in India

Renu Singh and Protap Mukherjee

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Young Lives

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The authors

Renu Singh has over 25 years' experience in teaching, teacher education, education policy analysis and research, both in India and abroad. Trained as a Montessorian and special educator, her doctoral study was on the inclusion of marginalised children. Her special interests remain early childhood development, teacher education, inclusion and gender. She has held a number of prestigious positions at NGOs, including Save the Children, and in university departments. She has also advised the Indian Government by serving on a variety of working groups, committees and boards. She is currently the Country Director at Young Lives India and Visiting Professor at Jamia Millia Islamia University, New Delhi.

Protap Mukherjee is a Quantitative Research Associate at Young Lives India. He has an MSc in Geography from Banaras Hindu University, Varanasi and an MPS (Master of Population Studies) from the International Institute for Population Sciences (IIPS), Mumbai. He also has research experience at Jawaharlal Nehru University, New Delhi. Before joining Young Lives, he worked at IIPS, the National Population Stabilisation Fund, Microsoft Corporation India and Jawaharlal Nehru University.

Acknowledgements

Summary

This report draws upon Young Lives longitudinal data gathered in Andhra Pradesh and Telangana to trace the educational trajectories of two cohorts of children since 2002. From this data, it is clear that huge disparities exist in educational outcomes for children, based on wealth index, gender, location and dynamic poverty status. Stratification of better-off children and boys into private low-fee charging schools adds further to the inequity.

Disparity begins in early childhood and we find that a large majority of children in urban areas were attending private schools, with only 9 per cent of the wealthiest children enrolled in public schools. Using poverty dynamics analysis we find that the percentage of children who were not enrolled in school at age 5 is 18 percentage points lower for those from chronically poor households, and that only 1.4 per cent of children from these households were enrolled in private school, as against 58 per cent of those from least-poor households. These differences impact on learning outcomes at a young age: while children attending a private preschool achieved an average score in PPVT (Peabody Picture Vocabulary Test – an instrument used to measure receptive vocabulary) of 33.3, public preschool children scored only 21.7. Children attending private preschools therefore appear to have an advantageous start compared to those attending public preschools (either because of characteristics of the schools themselves, or the children's background characteristics), something which then has long-term effects on their mathematics achievement at ages 8 and 12.

While enrolment among both the Younger Cohort (born in 2001-02) and Older Cohort (born in 1994-95) at age 8 was close to universal (99.3 per cent and 98.3 per cent respectively), by the age of 12 there was a larger number of the Younger Cohort enrolled in school (97.4 per cent) compared to the Older Cohort (90.8 per cent). In addition to this, we also observe a slow but steady increase in enrolment to private schooling, particularly for children from the wealthiest families and socially advantaged groups of children: in 2009, 50.5 per cent of the Younger Cohort were enrolled in private schools, but only 24.7 per cent of the Older Cohort at the same age (8 years) in 2002. This is a trend that has been also observed across other Indian states and internationally, raising potential concerns about the segregation of poorer children in public schools.

Concurrently, we also find that the number of children who are 'overage' (i.e. they are older than expected for the grade they are in) is much higher among the Younger Cohort at age 8 and age 12 than the Older Cohort at the equivalent age, which is very surprising. Since 2010, as a result of the Right to Education Act (RTE Act), there is a 'no detention' policy in schools which we would expect to have led to a decrease in repetition of grades. The increase in private school enrolment could be a possible reason for this continuation, since these privately run schools, particularly in rural areas, remain unregulated.

Despite increasing enrolment, we observe a dip in learning levels for the 12-year-olds in 2013, as against 12-year-olds in 2006. Mathematics test scores remain lower for Younger Cohort children, raising issues related to learning outcomes and suggesting that the focus to date has been on access rather than quality assurance.

At age 15, approximately 23 per cent of the Older Cohort children were no longer enrolled in school. This highlighted both gender and poverty dimensions: while two out of five girls from chronically poor households were likely to not be enrolled in school at age 15, only one out of ten girls were out of school among the least-poor households. In terms of cognitive

achievement scores for mathematics and reading at age 15, the pattern is similar to that observed for middle childhood, with relatively small differences by gender, but large differences seen by place of residence, maternal education and baseline wealth index. Overall enrolment in private schools at age 15 is marginally higher (27.7 per cent) than observed at age 12 for the Older Cohort, but with very large differences according to wealth status, level of maternal education and caste. More boys are found to be enrolled in private schools than girls across the wealth quintiles, with three out of four boys and more than half the girls (57 per cent) belonging to the consistently least-poor households enrolled in private schools at age 15. We also find that more girls had dropped out of school by age 15, among chronically poor households (46.6 per cent), compared to a much smaller proportion (9.1 per cent) from the least-poor households.

By age 19, around 71 per cent of the Older Cohort had completed secondary education and around 28 per cent of the sample had dropped out of school – the majority of whom were girls, belonged to the poorest quintile, had mothers with low levels of education, and lived in rural areas. There are very large differences in dropout rates by age 19 among girls and boys belonging to households with differing dynamic poverty status: among chronically poor households, more girls (46.6 per cent) than boys (33.3 per cent) were found to have dropped out of school, compared to the least-poor households where fewer girls (9.1 per cent) than boys (11.9 per cent) had dropped out. We also find that huge disparities exist among those in full-time study at age 19, as well as in mathematics scores. These are associated with background characteristics such as level of maternal education, caste, and baseline wealth index, while gender plays a relatively small role. Only 37 per cent of children were in tertiary education, and there was a clear gender bias in favour of boys.

This report highlights the increasing inequities and lack of opportunities afforded to children, particularly girls, from chronically poor households. The low educational achievement for children from economically and socially disadvantaged backgrounds needs to be addressed urgently to ensure that education becomes an equaliser rather than a source of increasing division. This would need consistent policies, programmes and public investment targeting educationally vulnerable children from an early age.

Some policy recommendations are:

- It is critical to focus on early years and ensure that preschool and primary teachers are effectively trained to develop early literacy, so that children acquire skills and retain interest in learning.

- Given the increase in private school enrolment of children from better-off households, it is important that the Sustainable Development Goals' focus on 'quality education' must become an inherent right for every child irrespective of gender, caste, ethnicity, religion, socio-economic background, ability, or location.

- Since gender disparity in schooling increases as children grow older, safety nets and social protection for the poorest households must be made available.

- There is a strong case for an autonomous department of standards and evaluation to be set up and quality standards developed and implemented across all schools. A 'common school system' may be the best way forward to ensure that the education system is able to promote equity and social justice.

1. Introduction

Since independence in 1947, India has formulated policies and programmes to give impetus to formal education from primary to tertiary level. As home to 19 per cent of the world's child population, India boasts of the largest education system in the world, catering to approximately 198.9 million students at elementary level (Grades I-VIII) and 59.6 million students at the secondary and senior secondary levels (IX-XII) (U-DISE 2015). However, despite considerable progress in enrolment at primary level, retention and smooth transition of children from primary to secondary schools and beyond, along with achieving desirable learning levels, remain challenges.

This paper draws upon evidence gathered by Young Lives since 2002 on educational trajectories of children in Andhra Pradesh and Telangana in southern India to analyse some critical issues that need policy attention, such as disparity in educational outcomes related to gender, wealth status of household, location, and caste disadvantage. The paper comes at an opportune time, when India is poised to meet the goal of providing 'inclusive, equitable quality education' and 'lifelong learning opportunities' as envisaged in Sustainable Development Goal 4. In order to do undertake the analysis, we take a dynamic view of the educational evolution of two cohorts of children from the two states that were born around 1994 (Older Cohort) and 2001 (Younger Cohort), examining them at different stages of development while undertaking cross-cohort comparisons of the two cohorts at the same age. We also draw upon other state and national research studies. Section 2 provides a background of the education system in India and Section 3 outlines the Young Lives methodology. The subsequent sections then provide evidence related to pre-primary/early childhood, middle childhood/early adolescence, late adolescence, and early adulthood.

2. Background of the education system in India

India is a vast country comprising 29 states and seven union territories with diverse socio-cultural contexts and widely varying geographical and climatic conditions. Under a federal structure, the Central Government and the states share responsibilities for the planning and implementation of national development programmes. There are well-defined constitutional provisions and mechanisms for sharing of resources and responsibilities between the Central Government and the states. The Constitution was amended in 1976 to change education from a state subject to a concurrent one, which implies that the responsibility for development of education is shared by the Central Government and state governments. Five-Year National Development Plans guide the plans for education, with the key aims of the Twelfth Five-Year Plan (2012-17) being to reduce dropout rates at the elementary level to below 10 per cent, and raise the gross enrolment ratio (GER) at the secondary level to over 90 per cent and to over 65 per cent at the higher secondary level.

There are four broad stages of school education in India – primary, upper primary, secondary and higher secondary. The primary and upper primary stages constitute the elementary stage. The national system of education envisages a 10+2 pattern of school education; five years of primary, three years of upper primary, two years of secondary, and two years of higher

secondary education. At the tertiary level undergraduation may be for three to four years duration, followed by Master's degree of two years. The pre-primary stage, which is critical for laying the foundation for primary education, is currently not a part of the formal education structure; while the primary and upper primary classes together are called 'elementary classes' and are covered under the Right to Free and Compulsory Education Act, 2010.

2.1   Policy background

Article 45 of the Indian Constitution states that the state shall endeavour to provide within ten years of commencement of the constitution free and compulsory education to all children up to the age of fourteen years by 1960 (Government of India, 2007). However, since Article 45 remained a directive principle, this commitment was only realised when Article 21-A was inserted in Part III of the constitution after the 86th Amendment Act in 2002. It reads:

> 21-A Right to Education: The State shall provide free and compulsory education to all children of the age of six to fourteen years in such manner as the State may, by law, determine.

The Education Commission (1964-66), also known as the Kothari Commission, recommended a common school system of public education as the basis of building up the National System of Education with a view to bringing the different social classes and groups together and thus promoting the emergence of an egalitarian and integrated society. This was followed by the National Policy on Education (1968) which established a common structure of education throughout the country, while the National Policy of Education (1986) proposed the National Literacy Mission, which was launched in 1988, emphasising the removal of disparities and equalisation of educational opportunities of disadvantaged groups such as Scheduled Castes, Scheduled Tribes and minorities. Building on this further was the Programme of Action (1992), which accorded an unqualified priority to Universalisation of Elementary Education (UEE) and received a further fillip with the Jomtien Declaration in 1990, which addressed universalisation of access and promotion of equity as essential goals for basic education. This was followed by the District Primary Education Programme (DPEP) in 42 districts nationwide, funded by the World Bank, which promoted decentralised management. Sarva Shiksha Abhiyan (SSA) was yet another centrally sponsored scheme which began in 2002, aiming for universalisation of elementary education with the goals of: (a) all children in elementary school; (b) bridging gender and social gaps; (c) all children retained in elementary education; and (d) education of satisfactory quality.

In India, schools are broadly grouped into three categories: (1) public or government schools run by various state education departments, which are government owned and controlled and which do not charge fees; (2) private aided schools, which are schools managed by private bodies but which receive government funds to pay teachers' salaries, which also do not charge fees; and (3) private unaided schools, which are privately managed, do not get any aid from the government, and charge students fees. Private unaided schools frame their own admission rules and fee structure, and tuition fees vary from Rs. 30 to Rs. 3,000 per month depending on the location and services provided by the school. It is critical to mention that private schools are not homogeneous and that is why one can find very low-fee charging schools in rural areas and urban slums of India and internationally competitive high-fee charging schools in urban areas, catering to rich students (Singh and Sarkar 2012).

A major development relating to education sector in India in the past few years has been the establishment of constitutional and legal underpinnings for achieving universal elementary education. A huge milestone in educational policy was the Right of Children to Free and Compulsory Education Act 2009 (popularly called Right to Education Act or RTE Act) legislated in August 2009, which came into effect on 1 April 2010 (as a consequence of the 86th Amendment Act), whereby India made a legal commitment to provide free and compulsory education for children aged 6-14 years. The main features of the Act included the proviso that states would identify out-of-school children between 6 and 14 years and provide them with an age-appropriate placement. Furthermore, norms for infrastructure and pupil-teacher ratio at primary and upper primary level were specified and unaided private schools were asked to reserve 25 per cent of places for children from economically weaker backgrounds. Figure 1 presents the structure of the Indian education system.

Figure 1.   *Structure of education in India*
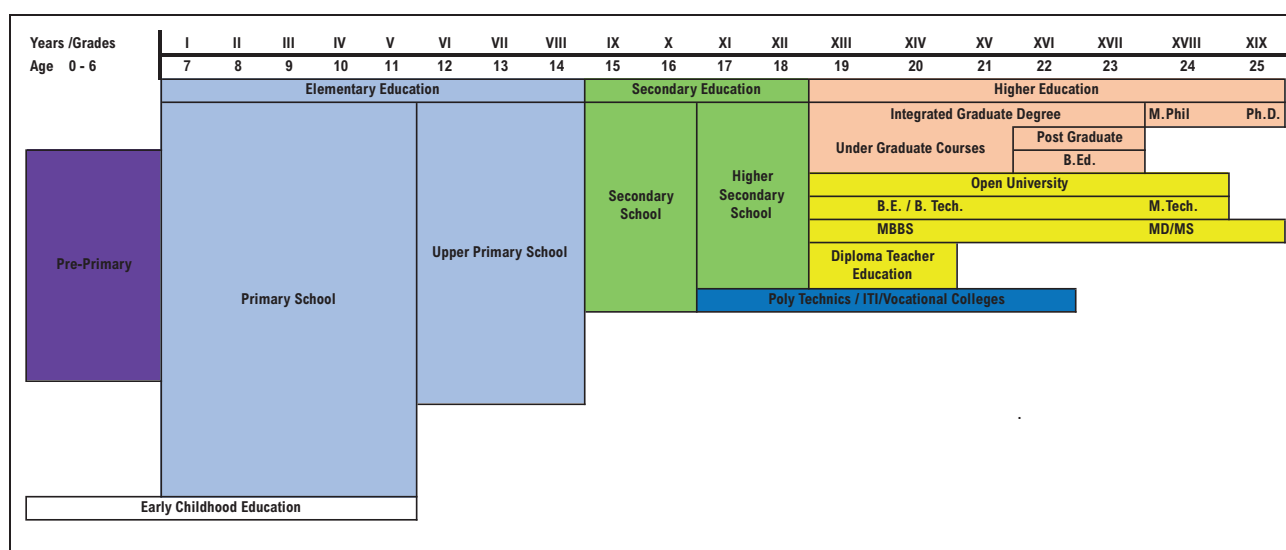
One of the major omissions of RTE Act was that it did not address the critical foundation years of children below the age of 6. This was in direct contradiction to the Supreme Court's historic Unnikrishnan judgment in 1993, which gave *all* children up to 14 years of age a fundamental right to education. The court contended that the fundamental right to life (Article 21) of the Constitution should be read in 'harmonious construction' with the Directive in Article 45 to provide free and compulsory education to children aged 0-14 years, including those below 6 years old. However, the 86th Constitutional Amendment Act, Article 21A, limited the fundamental right to education to 6-14 years and furthered this huge mistake by not recognising the importance of the early years. The Twelfth Five-Year Plan by the Ministry of Human Resource Development (MHRD) also emphasised the need to maintain continuity from early childhood care and education (ECCE) to early primary grades to ensure a smooth transition for children through integrated 'early learning centres' covering preschool and Grades 1 and 2. ECCE received a boost in 2013 with the formulation of the National Policy on ECCE, accompanied by a National Curriculum Framework and Quality Standards (MWCD 2013). India has the unique distinction of having the largest publicly sponsored integrated programme for children below 6 years old in the world: the Integrated Child Development Services (ICDS), with 1.3 million Anganwadis or ECCE centres established across most areas in the country. The programme offers a package of six services, with ECCE or non-formal preschool education one of these, delivered through a single Anganwadi worker and a

helper. The recently restructured ICDS scheme also made a clear statement regarding converting all Anganwadi centres into 'vibrant ECCE centres'.

Secondary education

Acknowledging that secondary education is a key link between basic education and economic development, preparing adolescents to learn life skills and participate in the growth process, policymakers have in recent years turned their attention towards achieving universal secondary education. The Central Advisory Board of Education Committee Report (2005) highlighted that 'universal secondary education is a precondition for equitable social development, widening participation in India's democratic functioning, building up of an enlightened secular republic, and be globally competitive' (14). To meet the challenge of dramatically improving equitable access to secondary education, as well as the quality of the education provided, the Government of India launched a centrally sponsored scheme for secondary education, Rashtriya Madhyamik Shiksha Abhiyan (RMSA) (MHRD 2009). From a historical perspective, the significance of RMSA lies in the fact that for the first time, the Central Government has begun to support the states to increase access to, and improve the quality of, secondary education, thereby bestowing on secondary education the attention it deserves (RMSA 2014). The scheme seeks to enhance enrolment in Grades 9 and 10 by providing a secondary school within a reasonable distance of every habitation, to improve the quality of the education at secondary level by ensuring that all secondary schools conform to prescribed norms, to remove gender, socio-economic and disability barriers, and to achieve near-universal enrolment at secondary level education with the GER exceeding 90 per cent by 2017 (the end of the Twelfth Five-Year Plan).

Vocational education

As shown in Figure 1, vocational education is covered under polytechnics, industrial training institutes (ITIs) and secondary schools. Vocational education has received a strong fillip under the National Skill Development Policy (2009) which set the target of providing skills training of 500 million people by 2022, out of which about 50 million people are expected to become skilled through programmes within the education sector. During 2013-14, 955,000 people were covered under vocational education and skilling programmes. The National Skill Qualification Framework (NSQF) was notified in December 2013 by the National Skill Development Authority (NSDA), which was set up as an autonomous agency to coordinate and harmonise the skill development initiatives. In 2014, the centrally sponsored scheme of "Vocationalisation of Higher Secondary Education" was revised and renamed "Vocationalisation of Secondary and Higher Secondary Education". It aims to integrate general academic education, vocational education, vocational training, and higher education as a comprehensive system and introduces vocational education from Grade 9 onwards, while offering performance-based incentives to government-aided and recognised private unaided schools to promote vocational education. Furthermore, to give impetus to skill development, the Ministry for Skill Development and Entrepreneurship was set up in 2014 to help create an appropriate ecosystem that facilitates imparting employability skills to the growing workforce over the next few decades. A new National Policy for Skill Development and Entrepreneurship (2015) supersedes the 2009 policy, in order to meet the challenge of improving skills at scale with speed, standard (quality) and sustainability.

Higher education

Higher education is on the 'concurrent list' in the Indian Constitution, meaning that it is a shared responsibility between the Central Government and state governments. Higher education institutions consist of universities and affiliated colleges that can award degrees to students after they complete 12 years of schooling. These institutions of higher learning are funded by the Central Government through the University Grants Commission (UGC), one of the statutory bodies, by the state governments, or are privately owned. India has a three-tier degree structure with bachelor, master and research degrees. Universities also offer shorter programmes at certificate and diploma-level. The Twelfth Five-Year Plan seeks to increase gross enrolment ratio (GER) in higher education to 21 per cent by 2017 and 30 per cent by 2020. Rashtriya Uchchatar Shiksha Abhiyan (RUSA), a centrally sponsored scheme, was launched in 2013 and aims at providing strategic funding to eligible state higher educational institutions and improving quality by adopting a national quality assurance framework. The statutory body for technical education is the All India Council for Technical Education (AICTE). AICTE decides on standards for technical courses conducted at institutions such as polytechnics, universities, Indian Institutes of Technology (IITs) and regional engineering colleges. Technical and vocational education courses are offered at industrial training institutes.

Teacher education

The centrally sponsored scheme on teacher education that has been implemented through state governments and union territories since 1987 (following NPE 1986) emphasises the significance and need for a decentralised system for the professional preparation and support of teachers. The scheme was modified in 2012, keeping in mind teacher requirements and preparation for compliance with the RTE Act 2009. The scheme aims to help establish and nurture capacities in a range of institutions and programmes of teacher education. These include both pre-service and in-service interventions, along with evolution of training plans and models, material development, research, monitoring and evaluation.

The National Council of Teacher Education (NCTE), established by an Act of Parliament in 1993, has the statutory powers to award recognition to teacher education institutions, and to develop teacher education programmes at diploma, bachelor and master level. While diploma courses need not be run in colleges of higher learning, both BEd and MEd can only be conducted through colleges affiliated with universities. NCTE developed the National Curriculum Framework of Teacher Education (2009) which articulated the new vision of teacher education as:

Understand the self and others, one's beliefs, assumptions, emotions and aspirations; develop the capacity for self-analysis, self-evaluation, adaptability, flexibility, creativity and innovation.

Develop habits and the capacity for self-directed learning, have time to think, reflect, assimilate and articulate new ideas; be self-critical and to work collaboratively in groups.

Engage with subject content, examine disciplinary knowledge and social realities, relate subject matter with the social milieu of learners and develop critical thinking.

Develop professional skills in pedagogy, observation, documentation, analysis and interpretation, drama, craft, story-telling and reflective inquiry (2009: 24)

In 2015, keeping in view recommendations from the Justice Verma Commission Report (2012) aimed at improving the quality of teacher education , a two-year BEd programme was initiated across all states for teaching upper primary and secondary classes, while a two-year DEd programme prepares teachers for primary classes.

Private sector participation

Over the past decade there has been a growing participation of the private sector throughout the education system, in the form of the establishment of schools and colleges across urban and rural areas at various levels. In 2013-14, 75.9 per cent of the 1.45 million schools imparting elementary education (Grades 1–8) in India were managed by various levels of government, while the private-unaided school share remained at 17.4 per cent and private aided schools constituted 4.69 per cent. In Andhra Pradesh, government schools constituted 75.5 per cent of primary and upper primary schools, while private unaided schools constituted 24 per cent and private aided only 3 per cent.

At the secondary level, private schools make up an even larger share of the total number of schools. In 2013-14, the share of government schools nationally was close to 41.6 per cent, with private aided constituted 17.3 per cent and private unaided 38 per cent, while in Andhra Pradesh the government, private aided and private unaided share was 52.5 per cent, 3.5 per cent and 42.2 per cent respectively.

At the higher education level too, the private sector plays a dominant role, with 267 out of 757 universities reported by MHRD 2014-15 to be privately owned. At college level, private unaided colleges have a 61 per cent of share of the total number in the country, while private aided colleges occupy 15 per cent and government colleges 23.9 per cent. In Andhra Pradesh and Telangana, private unaided colleges occupy an even greater share than the national average, at 82.8 per cent and 82.3 per cent respectively (AISHE 2014-15).

2.2   National statistics

Table 1 shows the national data on educational institutions at various levels of education. There has been an exponential increase in the number of schools as well as colleges in the country, demonstrating the remarkable investment in institution building since 2000-01. Between 2000-14 the total number of primary schools (schools with only primary section) increased by 34.5 per cent (from 638,738 to 858,916 schools). The total number of schools imparting only upper primary education has increased by 185.9 per cent (from 206,269 to 589,796), while the total number of schools imparting elementary education (schools with primary or upper primary sections, schools with primary and upper primary sections, and secondary/higher secondary schools with primary and or upper primary section) has increased by 71.4 per cent (from 845,007 to 1,448,712) during the same period (UNESCO-UIS 2015).

Table 1.   *Educational institutions in India between 1950 and 2014*

Year	in '00s				in absolute number	
	Primary	Upper primary	Secondary	Higher secondary	Colleges	University
1950–51	2,097	136	NA	74	578	27
1960-61	3,304	497	NA	173	1,819	45
1970-71	4,084	906	NA	371	3,277	82
1980-81	4,945	1,186	NA	516	6,963	110
1990-91	5,609	1,515	NA	798	5,748	184
2000-01	6,387	2,063	877	384	10,152	254
2005-06	7,726	2,885	1,060	536	16,982	350
2006-07	7,849	3,056	1,122	574	19,812	371
2007-08	8,056	4,451	1,138	592	23,099	406
2008-09	8,091	4,764	1,221	642	27,882	440
2009-10	8,099	4,938	1,222	717	25,938	436
2010-11	8,272	5,350	1,312	720	32,974	621
2011-12	8,424	5,696	1,283	841	34,852	642
2012-13	8,538	5,778	2188	1,196	35,829	665
2013-14	8,589	5,897	2266	1,026	36,671	712

Source: U-DISE, NUEPA, Statistics of Higher and Technical Education, AISHE, MHRD 2014.

In the same period (2000-14), enrolment in primary and upper primary (i.e. elementary classes) rose from 156.6 million in 2000-01 to 198.9 million in 2013-14 (NUEPA 2014 b), an overall increase of 42.3 million. The gender gap in enrolment also began to close during this period, with enrolment of girls increasing by 28.8 million (from 67.3 million to 96.1 million) while that of boys increased by 13.5 million (from 89.3 million to 102.8 million).

Figure 2.   *Enrolment in elementary education (Classes I–VII) 2000-01 to 2013-14*
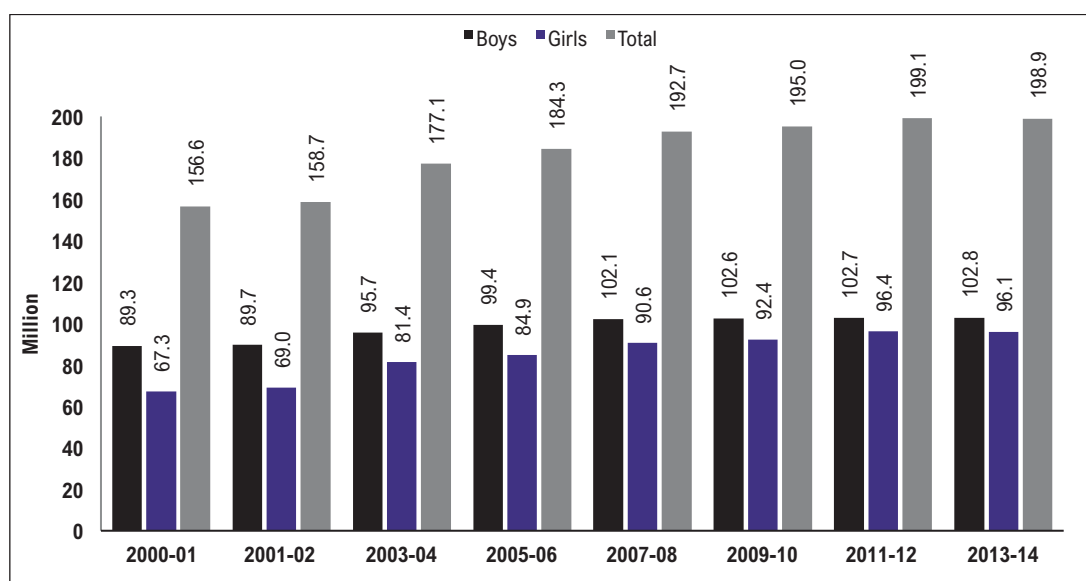
Source: Statistics of School Education, 2007-08, MHRD, GoI; Educational Statistics at a Glance, 2011, MHRD, GoI; Statistics of School Education, 2010-11, MHRD, GoI; and U-DISE, NUEPA.

ASER (2015) reports that, between 2007 and 2013, total enrolment in primary schools in the country peaked in 2011 at 137 million, while upper primary enrolment grew from 51 million to around 67 million. During this period, enrolment in government schools (Grades 1-8) declined

by about 11.7 million, from 133.7 million to 121 million. In contrast, the enrolment in private schools increased dramatically by 27 million, from 51 million to 78 million.

Availability of quality teachers is crucial to ensure that the goals of quality education are met. Table 2 shows the efforts that have been made by state governments to recruit teachers in the last decade, particularly at upper primary, secondary and senior secondary levels.

Table 2. *Number of teachers in primary, upper primary, secondary schools and higher education in India 1950 to 2014 (in thousands)*

Year	Primary	Upper primary	Secondary	Higher secondary
1950-51	538	86	NA	127
1960-61	742	345	NA	296
1970-71	1,060	638	NA	629
1980-81	1,363	851	NA	926
1990-91	1,616	1,073	NA	1,334
2000-01	1,896	1,326	1,006	756
2005-06	2,184	1,671	1,123	1,032
2006-07	2,323	1,717	1,173	1,075
2007-08	2,315	1,780	1,175	952
2008-09	2,229	1,899	1,194	1,024
2009-10	2,217	1,778	1,185	1,145
2010-11	2,099	1,887	1,247	1,261
2011-12	2,254	2,057	1,163	1,303
2012-13	2,656	2,427	944	1,799
2013-14	2,684	2,513	1,286	1,785

Source: Statistics for School Education, UDISE- NUEPA.

Between 1950 and 2013-14, the gross enrolment rate in elementary education increased substantially, especially in upper primary schools.

Table 3. *Gross enrolment rate for primary and upper primary from 1950 to 2013-14*

Year	Primary (I - V) 6-10 years old			Upper primary (VI - VIII) 1 -13 years old		
	Boys	Girls	Total	Boys	Girls	Total
1950-51	60.6	24.8	42.6	20.6	4.6	12.7
1960-61	82.6	41.4	62.4	33.2	11.3	22.5
1970-71	95.5	60.5	78.6	46.5	20.8	33.4
1980-81	95.8	64.1	80.5	54.3	28.6	41.9
1990-91	94.8	71.9	83.8	80.1	51.9	66.7
2000-01	104.9	85.9	95.7	66.7	49.9	58.6
2005-06	112.8	105.8	109.4	66.7	49.9	58.6
2006-07	114.6	108.0	111.4	75.2	66.4	71.0
2007-08	115.3	112.6	114.0	77.6	69.6	73.8
2008-09	114.7	114.0	114.3	81.5	74.4	78.1
2009-10	115.5	115.4	115.5	84.5	78.3	81.5
2010-11	115.4	116.7	116.0	87.7	83.1	85.5
2011-12	106.8	109.3	108.0	72.9	76.3	74.5
2012-13	104.8	107.2	106.0	80.6	84.6	82.5
2013-14	100.2	102.7	101.4	86.3	92.8	89.3

Source: Statistics of School Education, U-DISE, NUEPA.

The number of out-of-school children at the national level in the 6-14 age group was estimated at 32 million in 2001 (Census 2001). Three studies commissioned by MHRD have revealed a huge reduction in this number, which came down to 13.45 million in 2005-06 and

6.04 million in 2013-14 (SRI-IMRB survey). SRI-IMRB survey (2014) found a higher proportion of girls (3.23 per cent) were out of school than boys (2.77 per cent), while more children from rural areas (3.13 per cent) were out of school than in urban areas (2.54 per cent). The social composition of out-of-school children (SRI-IMRB 2006) indicates that 9.5 per cent of Scheduled Tribes (STs), 8.2 per cent of Scheduled Castes (SCs), and 5.6 per cent of Other Backward Class (OBC) and Other Castes (OC) children were out of school in 2006; these fell to 4.2 per cent, 3.2 per cent and 2.5 per cent for STs, SCs and OBC/OC respectively in 2014 (Figure 3). Despite this reduction in the number of out-of-school children across social groups, ST, SC and children with disabilities are still found to be more vulnerable in comparison to OBC and OC children. In particular, national data shows that there are 21,39,943 children with disabilities in the 6-13 age group, out of whom 6,00,627 or 28.07 per cent remain out-of-school.

With regards to school dropout rates too, there are also differences according to children's place of residence. Overall, figures show that 2.5 per cent of children are found to have dropped-out of school in urban areas, in comparison to 3.1 per cent in rural areas. Gender differences in out-of-school population still persist, with 3.2 per cent of girls dropping out of school by the age of 13 compared to 2.8 per cent of boys. As per 2014 estimates, the highest proportion of out-of-school children within the 6-13 age group is estimated to be in the East zone (4.0 per cent) and the lowest within the South zone (0.97 per cent).

Figure 3. *Percentage of dropped-out children (aged 6-13 years) by caste and disability in India 2006-14*
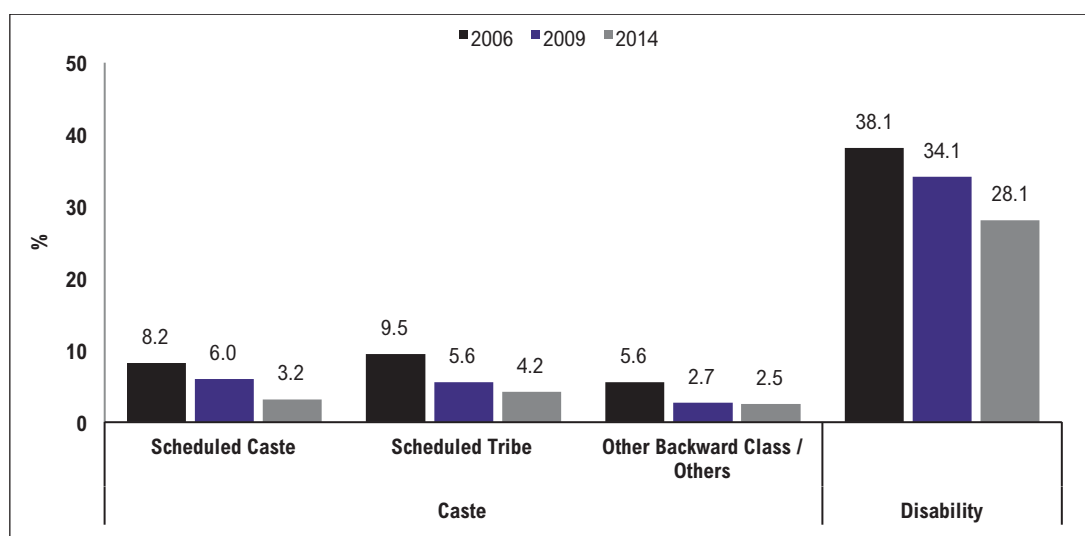
Source: Census 2001, reports of IMRB Survey 2005, 2009, 2014.

Between 2000 and 2014, enrolment in secondary/higher secondary education increased from 27.6 million to 59.6 million, while the GER rose by 24.9 percentage points to 76.6 per cent (for secondary education) and by 24.4 percentage points to 52.2 per cent for higher secondary. Despite this progress, more than 16 million young adolescents of lower secondary school age were not enrolled in school in 2011 (UNESCO-UIS 2015). Meanwhile the net enrolment rate (NER) was 45.6 per cent in secondary education (age 14-15) (U-DISE, NUEPA, 2015), and 30.4 per cent in higher secondary education (age 16-17) (U-DISE, NUEPA, 2015). At the higher education level, enrolment rates also increased, with the GER for higher education

doubling between 2004-05 and 2012-13, although much still needs to be done to increase the GER from a low 21.1 per cent in 2012-13.

Table 4.   *Gross enrolment rate for secondary and higher education for boys and girls from 2001 to 2013-14*

Year	Secondary (IX - X) 14-15 years			Higher secondary (XI - XII) 16-17 years			Higher education 18-23 years		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2001–02	NA	NA	NA	NA	NA	NA	9.3	6.7	8.1
2002–03	NA	NA	NA	NA	NA	NA	10.3	7.5	9
2003–04	NA	NA	NA	NA	NA	NA	10.6	7.7	9.2
2004–05	57.4	45.3	51.7	30.8	24.5	27.8	11.6	8.2	10.0
2005–06	57.6	46.2	52.2	31.4	25.2	28.5	13.5	9.4	11.6
2006–07	58.6	47.4	53.5	31.5	26.1	28.9	14.5	10.0	12.4
2007–08	62.6	53.2	58.2	36.3	30.4	33.5	15.2	10.7	13.1
2008–09	64.2	55.0	59.8	37.0	31.2	34.3	15.8	11.4	13.7
2009-10	66.7	58.7	62.9	38.3	33.3	35.9	17.1	12.7	15.0
2010–11	69.0	60.9	65.2	42.2	36.1	39.3	20.8	17.9	19.4
2012–13	69.55	66.59	68.13	41.9	39.5	40.8	22.3	19.8	21.1
2013–14	76.8	76.5	76.6	52.8	51.6	52.2	NA	NA	NA

Source: Statistics for Higher and Technical Education, DISE and AISHE.

Excellent progress has been made in the gender parity of education, particularly at elementary level where the Gender Parity Index (GPI) increased from 0.41 and 0.22 in 1950-51 (for primary and upper primary classes respectively) to 1.03 and 1.08 in 2013-14. This progress is also seen at secondary level, where the GPI reached 1.00 and 0.98 in 2013-14 at secondary and higher secondary level respectively, although a gender gap remains in higher education, where the GPI was 0.89 in 2012-13.

Table 5.   *Gender Parity Index for primary, upper primary, secondary and higher education from 1950 to 2013*

Year	Primary (I - V)	Upper primary (VI - VIII)	Secondary (IX - X)	Higher secondary (XI - XII)	Higher education
1950–51	0.41	0.22	NA	NA	NA
1960-61	0.50	0.34	NA	NA	NA
1970-71	0.63	0.45	NA	NA	NA
1980-81	0.67	0.53	NA	NA	NA
1990-91	0.75	0.61	NA	NA	NA
2000-01	0.82	0.75	NA	NA	NA
2005-06	0.94	0.88	0.8	0.8	0.69
2006-07	0.94	0.9	0.81	0.83	0.69
2007-08	0.98	0.91	0.85	0.84	0.7
2008-09	0.99	0.93	0.86	0.85	0.72
2009-10	1.00	0.94	0.88	0.87	0.74
2010-11	1.01	0.95	0.89	0.86	0.86
2011-12	1.01	0.99	0.93	0.92	0.88
2012–13	1.03	1.05	0.99	0.98	0.89
2013-14	1.03	1.08	1.00	0.98	NA

Source: Statistics of School Education, U-DISE, NUEPA, Statistics for Higher and Technical Education, and AISHE.

The next section provides education statistics related to undivided Andhra Pradesh, as Young Lives research has been conducted there since 2002.[1]

2.2.1 Undivided Andhra Pradesh

Elementary level enrolment in undivided Andhra Pradesh has remained almost constant in 2011-13, with a GER of 96.74 at primary and 83.57 at upper primary level in 2013-14.

Figure 4. *Enrolment in elementary education in undivided Andhra Pradesh.*
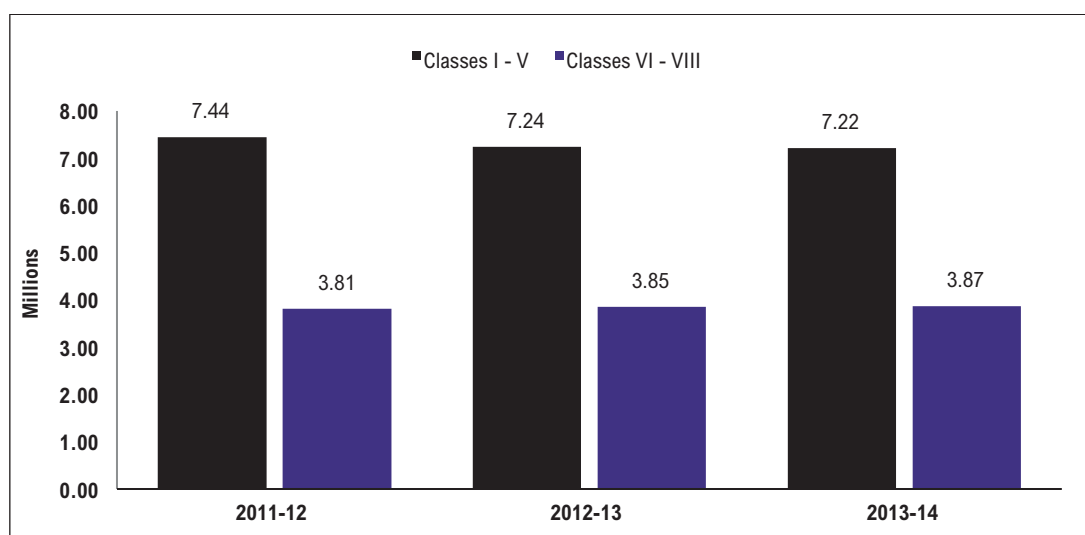
Source: DISE 2013-14, NUEPA, New Delhi.

Meanwhile, undivided Andhra Pradesh had an NER of 78.31, 62.25 and 43.5 at primary, upper primary and secondary level respectively, all of which were lower than the national average in both 2012-13 and 2013-14.

Table 6. *NER at elementary and secondary level in Andhra Pradesh and India in 2012 and 2013*

State	2012-13			2013-14		
	Primary	Upper primary	Secondary	Primary	Upper primary	Secondary
Andhra Pradesh	81.78	60.12	41.31	78.31	62.25	43.56
India	90.78	64.24	41.90	88.08	70.20	45.6

Source: UDISE and SEMIS, NUEPA.

In Andhra Pradesh in 2013-14, 42.9 and 37.8 per cent of children enrolled at primary and upper primary level were studying in private unaided schools, while 51.7 and 57.6 per cent were enrolled in government schools. A much smaller proportion (3.2 and 3.57 per cent respectively) attended private aided schools (DISE 2013-14).

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1   We do not have statistics for Telangana and Andhra Pradesh before 2014-15, therefore the statistics are provided for undivided Andhra Pradesh.

2.2.1.1 Learning levels in Andhra Pradesh

The concern around low levels of learning highlighted earlier is also an issue in Andhra Pradesh. The Annual Status of Educational Report (ASER) (2014) provides evidence for the learning levels of children studying in rural Andhra Pradesh in Grade 5 across government and private schools. The study found that only 56 per cent of children in government schools and 57 per cent of private school children could read a Grade 2 level text accurately, highlighting the low level of reading proficiency among the children (see Figure 5).

Figure 5. *Percentage of children in Standard V who can read Standard II level text in Andhra Pradesh, by school type from 2010 to 2014*
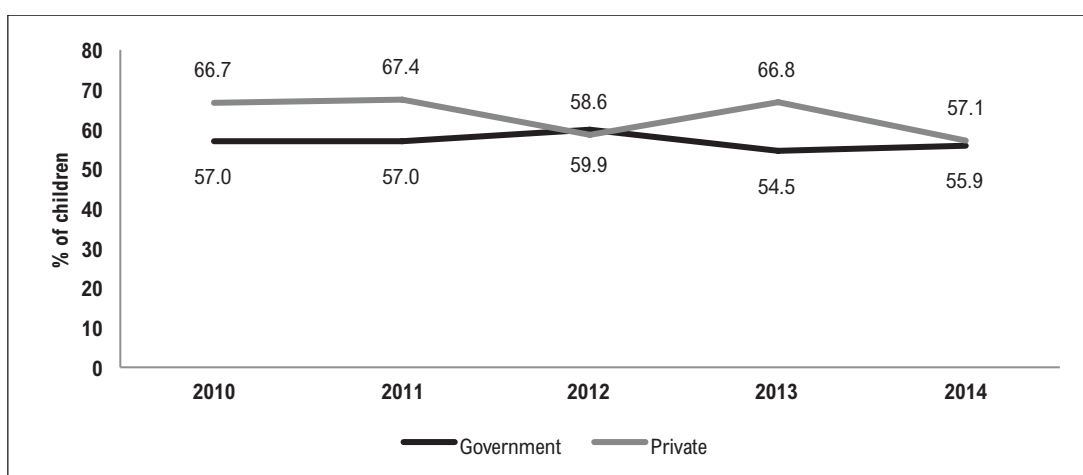
Source: ASER 2014.

ASER findings similarly demonstrate low levels of numeracy among children in the state. Figure 6 captures the declining trend in private school children's ability to do division sums in Grade 5, showing a decrease of 10.5 percentage points since 2010, with 38.4 per cent of children in private schools demonstrating computation skills in division as compared to 35 per cent of children in government schools.

Figure 6. *Percentage of children in Standard V who can do division in Andhra Pradesh, by school type from 2010 to 2014*
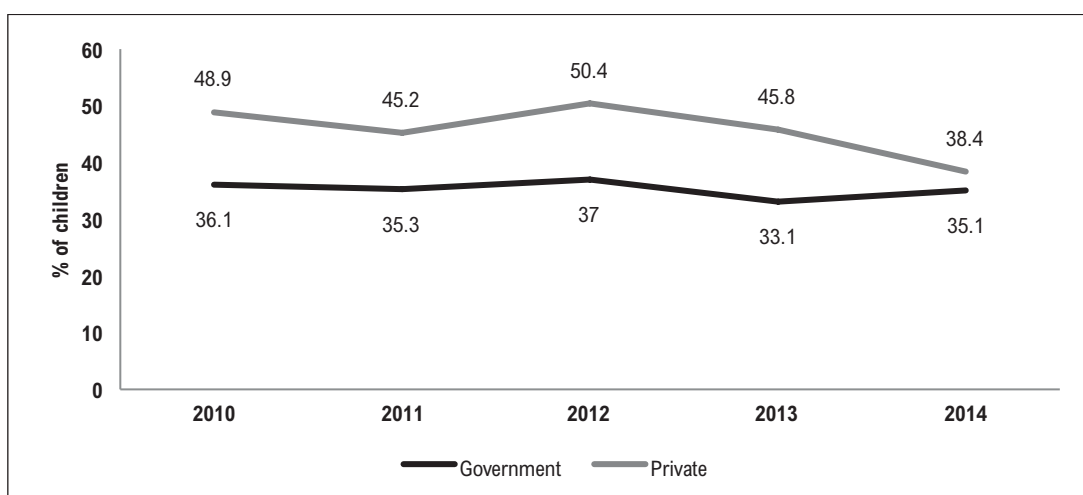
Source: ASER 2014.

As described in the previous section, Sarva Shiksha Abhiyan (SSA) launched in 2001, followed by the Right to Education Act (RTE) in 2009, and has made huge strides towards ensuring access to schooling for even remote habitations. Furthermore, a lot of progress had been made towards gender equity and enrolment of socially disadvantaged children. However, despite these positive steps, NER at upper primary level shows that a large number of children continue to drop out of school. In addition, although the transition rate from primary to upper primary shows no gender disparity at 89.99 per cent and 89.50 per cent for girls and boys respectively, the transition rate from elementary to secondary school remains lower for girls, at 89.28 per cent, as compared to 93.76 per cent for boys (UDISE, NUEPA 2014c). Examination of the elementary-to-secondary transition by caste shows very low transitions from elementary to secondary education among both girls and boys belonging to STs (85.47 per cent for boys and 83.25 per cent for girls) and Muslims (79.96 per cent for boys and 79.68 per cent for girls), while high gender disparities exist among OBCs (94.18 per cent for boys and 88.49 per cent for girls) and SCs (92.18 per cent for boys and 87.67 per cent for girls). Those children on multiple axes of disadvantage are even less likely to remain in education: Muslim and ST girls are least likely to transition successfully from elementary to secondary school and this gets worse at senior secondary level, where the overall transition rate is only 68.91 per cent in 2013-14. Clearly huge disparities exist between social groups as children move from primary to secondary and senior secondary education, and it is important to move beyond focussing on access to smooth transitions and retention of the most disadvantaged children, with issues related to quality of education taking centre stage.

3. Methodology

3.1   Data

This study analysed data from the international longitudinal study on childhood poverty conducted by Young Lives. Young Lives has followed 12,000 children over 15 years from India, Ethiopia, Vietnam and Peru. Young Lives follows two cohorts of children, the Younger Cohort (born around 2001) and the Older Cohort (born around 1994). The study has information about the family and the child from four rounds of surveys carried out in 2002, 2006, 2009 and 2013. The Young Lives study in Andhra Pradesh has collected data on two cohorts of children: 1,008 children born between January 1994 and June 1995, and 2,011 children born between January 2001 and June 2002. The children are located in twenty sites across seven districts in the former united Andhra Pradesh. The four rounds of household survey provide rich information about the socio-economic background of the children's households, parental expectations/aspirations for the children, and also detailed child-specific data including cognitive and psycho-social tests and education related information. Additionally, in 2010-11 school survey data was collected from a sub-sample of 953 Younger Cohort children who were 9 years old, studying in 249 schools located across nine districts of Andhra Pradesh. Stratified sampling was utilised to ensure representation of rural, urban, public, and private aided and unaided schools (Singh and Sarkar 2015). In this study we present information about the four household surveys of both cohorts and the school survey.

Table 7. *Young Lives design (approximate ages in years by round and cohort)*

	Round 1 (2002)	Round 2 (2006)	Round 3 (2009)	Round 4 (2013)
Older Cohort	8	12	15	19
Younger Cohort	1	5	8	12

Source: Young Lives Study (2002, 2006, 2009, 2013).
Note: The school survey was carried out in 2010, only for a subsample of the Younger Cohort.

3.2 Tests in the Young Lives study

In order to have information about learning achievement at different ages, Young Lives has administered tests in mathematics, reading comprehension and receptive vocabulary in several rounds to both cohorts. This section explains the main characteristics of the tests which we refer to in this report.[2]

3.2.1 Tests administered to both cohorts

Peabody Picture Vocabulary Test (PPVT): This test measures children´s vocabulary. In the test, the examiner shows four pictures and asks the child to choose the picture that represents the word read by the examiner. In the Young Lives study, we used the PPVT -III adapted for use in Telugu. This test has 125 items and was administered to the Younger Cohort in Rounds 2, 3 and 4; and to the Older Cohort in Rounds 2 and 3. In the analysis in this paper, we have only used scores of children who answered PPVT in Telegu since it is not possible to compare scores for those who answered in English.

3.2.2. Tests administered to the Younger Cohort

Maths test in Round 3 (2009-10): This test was divided in two sections. The first section had nine items that measured basic operations, counting, knowledge of number, and number discrimination. The second section had 20 items that included addition, subtraction, multiplication and division with whole numbers.

Maths test in school survey (2010): The mathematics achievement test consists of two sections. The first section aimed at measuring basic quantitative and number concepts. It included seven items on number identification, seriation and simple problem sums, with no time limit. The second section consists of 14 items which include two-digit and three-digit addition, subtraction, multiplication and division with a time limit of 60 minutes.

Maths test in Round 4 (2013): This test had 29 items aimed to assess skills in basic mathematics operation with numbers (addition, subtraction, percentages and fractions), using both whole numbers and decimals, as well as skills in solving mathematics problems.

Reading test in Round 4 (2013): This test had two types of item. The first part had six items where children had to link either a word or a sentence with one of the three images that best represented that word/sentence, thereby measuring word and sentence comprehension. The second part had 18 items, aimed to measure reading comprehension, where children had to answer comprehension questions related to three texts.

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2   For psychometric characteristics of tests in Round 3, see Cueto and Leon (2013).

3.2.3. Tests administered to the Older Cohort

Maths test in Round 3 (2009-10): This test was divided into two sections. The first section had 20 items dealing with addition, subtraction, square roots, multiplication and division, using fractions and whole numbers. The second part had 10 items on mathematics problem-solving, measurement, basic knowledge of geometry and data interpretation; these items were taken from the TIMMS[3] and PISA[4] publicly released set.

Reading in Round 3 (Cloze): In this test Older Cohort children were asked to read a sentence and complete the missing words. This test measures knowledge in vocabulary and comprehension. The test had 24 items.

Maths test in Round 4 (2013): This test included 30 items that measured the child´s ability to perform basic mathematics operations with two or more digits of decimals, fractions and whole numbers. It also measured the ability to use and apply math concepts in real-life situations.

Reading test in Round 4: This was a Telegu reading comprehension timed test which had two parts. The first part measured child´s ability to read a word and simple text comprehension. The second part included items aimed to measure reading comprehension by requiring children to retrieve information and make inferences based on three narrative texts. This test had 24 items in total.

Table 8.   *Summary of tests used in the report*

Cohort	R1 (2002)	R2 (2006)	R3 (2009)	R4 (2013)
Older Cohort	-	PPVT	PPVT, maths and reading (Cloze)	Maths and reading
Younger Cohort	-	PPVT	PPVT and maths	PPVT and maths

3.3   Sample

The original sample was randomly selected from 20 sentinel sites or clusters in undivided Andhra Pradesh. Undivided Andhra Pradesh was divided into three regions — Coastal Andhra, Rayalaseema and Telangana – and administratively was divided into 23 districts, which are further sub-divided into 1,125 mandals (a local term for an administrative division in Andhra Pradesh and Telangana). Since Young Lives is a study about childhood poverty, the sample mandals and villages in Andhra Pradesh were selected in 2001 using a semi-purposive sampling strategy to identify regional variations and cover all disadvantaged groups (Kumra, 2008). As Table 9 shows, in Round 1 there were 2,011 children in the Younger Cohort (YC) and 1,008 in the Older Cohort (OC); in Round 4, 1,915 children remain in the YC and 952 in the OC (attrition rates of 4.8 per cent and 5.6 per cent respectively). The attrition rate has been comparatively low due to the tracking exercise undertaken between rounds, and in this report, we use panel data related to 1,910 Younger Cohort children and 951 Older Cohort children in order to analyse trends of educational variables for the same group of children over time.[5]

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3   The Trends in International Mathematics and Science Study (TIMSS) is a series of international assessments of the mathematics and science knowledge of students around the world.

4   PISA, a collaborative effort among OECD member countries, assesses youth outcomes in three domains – reading literacy, mathematical literacy, and scientific literacy – through common international tests.

5   For cognitive achievement of children (as measured by different tests), sample sizes may be smaller as not all children appeared in the tests.

Table 9.   *Number of children by round and cohort*

	Round 1 (2002)	Round 2 (2006)	Round 3 (2009)	Round 4 (2013)	Panel
Younger Cohort	2,011	1,950	1,930	1,915	1,910
Older Cohort	1,008	995	977	952	951

3.4.   Main variables

Given the background context summarised in the introduction, we focus on inequality as the main issue of analysis. Table 10 shows the main variables that are included in the inequality analysis, along with samples for each category that have been used for the analysis.

1. *Gender*: Disparities between boys and girls have been widely analysed in India. In all levels of education, there is a significant presence of gender disparity, particularly across wealth terciles and as children move to higher grades, as previous studies in India using Young Lives data have also presented (Singh and Mukherjee 2015; Woodhead et al. 2009). Gender is a relevant variable for analysis nationally and internationally.

2. *Place of residence*: In India, disparities related to development indicators in general and education in particular are significantly prominent between rural and urban areas.[6] Rural areas in Andhra Pradesh are also not receiving all the benefits of developmental processes that an urban centre can benefit from. Moreover, rural areas of Andhra Pradesh are also characterised by a larger Scheduled Caste/Scheduled Tribes population who remain very vulnerable on all developmental indicators.

3. *Maternal education:* Using Young Lives data, several studies have shown that maternal education is significantly associated with completion of secondary school education (Singh 2014; Singh and Mukherjee 2015). In this study, we divided maternal education into the following categories: mothers with no formal education; completed primary; completed middle; and completed secondary and above levels of education.

4. *Baseline wealth index:* This index is a composite score based on assets at home, access to public services and quality of the house infrastructure. We include in the analysis the wealth index calculated from the first round of Young Lives survey in 2002 (when the Younger Cohort was around 1 and the Older around 8 years old), divided in quintiles, using the top and the bottom quintile.

5. *Castes:* Much research undertaken in India has examined the association between developmental indicators and castes. Previous studies show that among all the caste groups, Scheduled Caste and Scheduled Tribes remain the most vulnerable, and the least likely to gain from the growth witnessed by the country in recent years. They are in the most disadvantaged position, followed by Backward Class (OBC), whereas Other Castes remain the more privileged and socially and educationally advantaged caste (see Table A1 in Appendix A). In this report, we examine the association between caste and education at all levels.

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6   According to Census of India, urban areas are defined as either places with a Municipality, Corporation or Cantonment or Notified Town Area or all other places with the following criteria: (1) a minimum population of 5,000; (2) at least 75% of the male working population was non-agricultural; and (3) a density of population of at least 400 per square kilometre (1,000 per square mile). On the other hand, the village generally follows the limits of a revenue village that is recognised by the normal district administration. It may have one or more hamlets (censusofindia.gov.in).

6. *Dynamic poverty status:* Young Lives panel data enable us to examine poverty mobility of households across time, including shifts of households across poverty levels. In this report, we have examined the educational indicators in response to the dynamic poverty status of children from both cohorts. Only two categories of dynamic poverty status of the households have been considered: households which remained in the bottom tercile between Round 1 (2002) and Round 4 surveys (2013), termed 'chronically poor'; and households which remained consistently in the top tercile between Round 1 and Round 4 surveys, termed 'consistently least-poor' households.

7. *Gap analysis:* This report is focused on measuring inequalities and gaps between various groups of children based on gender, caste and other background variables. Across various life stages such as early childhood, early and late adolescence we measure gaps by difference between the highest and lowest values in a group. This report also examines the gaps in educational indicators between consistently least-poor and chronically poor children. The gaps between these two groups (i.e. difference between consistently least-poor and chronically poor children) have been presented in the tables to explore differences in educational outcomes for children who were in chronically poor as well as least-poor households. To extend the analysis further, the gender dimensions of both chronically poor and consistently least-poor households are also presented in all the tables.

Table 10. *Number of children by group and cohort*

	Younger Cohort	Older Cohort
Gender		
Boys	1,026	469
Girls	884	482
Place of residence		
Urban	457	225
Rural	1,453	726
Maternal education		
No education	1,127	648
Primary	176	100
Middle	170	82
Secondary and above	427	98
Baseline wealth index (R1)		
Top quintile	372	190
Bottom quintile	386	191
Caste		
Scheduled Caste	351	204
Scheduled Tribe	283	105
Backward Class	890	439
Other Castes	386	203
Dynamic poverty status		
Consistently least poor		
– Boys	247	101
– Girls	187	99
Chronically poor		
– Boys	187	102
– Girls	179	88

Source: Young Lives, both cohorts, R1 to R4 (2002-13).

3.4.1. Early childhood: preschool years

Over the past few decades, early childhood education has become a priority in policy-making, mainly because it is known that education in this stage of life has long-term effects, even at secondary level (Singh and Mukherjee 2015). Education for All (EFA) included early childhood education as the first goal, showing in the last EFA Global Monitoring Report that even though, on average, enrolment has increased there has been an uneven progress and quality still needs to be improved (UNESCO 2015).

In this section we capture preschool attendance of the Younger Cohort children who turned 5 years old in the Round 2 survey (for preschool attendance of the Older Cohort, see Appendix B and Appendix E). Table 11 shows the enrolment in preschool of Young Lives children aged five in 2006. Data shows that the Younger Cohort had a higher enrolment in preschools as compared to the Older Cohort, and were more likely to attend private preschool, disaggregated by variables mentioned earlier.

Table 11. *Enrolment in preschool at age 5 (2006)*

Younger Cohort	Public (%)	Private (%)	Didn't Attend (%)
Younger Cohort average	33.8	20.4	45.8
Gender			
Boys	30.4	21.0	48.6
Girls	37.7	19.8	42.5
Gap	-7.3	1.2	6.1
Place of residence			
Urban	7.9	56.7	35.5
Rural	41.9	9.0	49.1
Gap	-34.0	-47.7	-13.6
Maternal education			
No education	41.4	7.5	51.1
Primary	33.5	15.3	51.1
Middle	31.2	27.7	41.2
Secondary and above	15.0	53.9	31.2
Gap	26.5	46.4	20.0
Baseline wealth index (R1)			
Top quintile	8.9	60.0	31.2
Bottom quintile	46.1	2.9	51.0
Gap	-37.2	57.1	-19.9
Caste			
Scheduled Caste	40.7	10.3	49.0
Scheduled Tribe	46.6	6.7	46.6
Backward Class	32.5	20.6	47.0
Other Caste`	21.0	39.4	39.6
Gap	25.7	32.7	9.4
Dynamic poverty status			
Consistently least poor	9.2	58.1	32.7
– Boys	7.7	54.7	37.7
– Girls	11.2	62.6	26.2
Chronically poor	47.8	1.4	50.8
– Boys	46.0	2.1	51.9
– Girls	49.7	0.6	49.7
Gap (Least poor – poor)	-38.6	56.7	-18.1
Older Cohort Average	41.0	18.9	40.1

Source: Young Lives, Younger Cohort, R2 (2006).

As expected, children in the top wealth quintile, those from urban areas, with mothers with secondary and above education, and from Other Castes were more likely to attend private preschools. In India, relatively well-off families prefer to send their children to private preschools as such preschools are considered to be of better quality than public preschools. Woodhead et al. (2009) highlighted that young children experience very early differentiation in their experiences and education opportunities, which are strongly shaped by factors such as where they live and their household poverty levels.

In rural areas, 42 per cent of children are seen to be attending public preschools, while the situation is reversed in urban areas, where 57 per cent of children are enrolled in private preschools. Based on wealth index, a huge disparity exists between children from the top and bottom quintiles. While only 9 per cent of children from the top quintile were enrolled in public schools as against 60 per cent in private schools, this was reversed with only 3 per cent attending private schools and 46 per cent children attending public schools from the bottom quintile.

The results obtained from analysis of chronically and least-poor households reveals that 58 per cent of children who belong to the consistently least-poor households were enrolled in private preschools, whilst only 1.4 per cent of the children from households who were chronically poor were enrolled in private preschool. As expected, the percentage of children enrolled in public preschool from consistently non-poor households is much lower (at 9.2 per cent) than children from chronically poor households (at 47.8 per cent). Furthermore, the percentage of children who were not enrolled in any preschool at the age of 5 is higher in the chronically poor households as compared to consistently least-poor households, with an 18 percentage point gap between children from these households.

The gender dimensions of this variable show some interesting results regarding preschool enrolment at age 5. In consistently least-poor households, the percentage enrolment in both private and public preschools (62.6 and 11.2 respectively) is higher among girls than boys (54.7 and 7.7 respectively), but in chronically poor households while more girls attended public preschools, more boys were enrolled in private preschools. It is also interesting to note that a higher percentage of boys than girls were not enrolled in preschools at age 5 for both consistent top and bottom wealth index households, although the difference is small.

Concerning achievement in early childhood, Table 12 shows the score in the Peabody Test (PPVT) of receptive vocabulary.[7] The results are presented as percentage of correct items for those children who took the examination in Telegu language only for comparability. Children at age 5 had an average score of 22.

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7   PPVT results for both Younger Cohort at age 5, 8 and 12 and Older Cohort at age 12 and 15 by different background variables are presented in Appendix F.

Table 12. *Score in PPVT at age 5 (2006)*

	Younger Cohort at age 5 (2006)
Average	22.1
Gender	
Boys	22.3
Girls	21.9
Gap	0.4
Place of residence	
Urban	29.7
Rural	19.9
Gap	9.8
Maternal education	
No education	17.6
Primary	23.7
Middle	25.0
Secondary and above	32.1
Gap	-14.6
Baseline wealth index (R1)	
Top quintile	33.6
Bottom quintile	18.4
Gap	15.2
Caste	
Scheduled Caste	18.0
Scheduled Tribe	27.4
Backward Class	19.9
Other Caste	26.5
Gap	- 9.4
Dynamic poverty status	
Consistently least poor	31.1
– Boys	31.5
– Girls	31.4
Chronically poor	18.7
– Boys	19.4
– Girls	18.4
Gap (Least poor – poor)	12.4
Pre-school attendance	
Private	33.3
Public	21.7
No preschool	17.1
Gap	16.2

Source: Young Lives, Younger Cohort, R2 (2006)

Children from more educated mothers, top quintile households and urban areas performed better in comparison to their counterparts. There is a relatively small difference between boys and girls. The gap between Scheduled Tribes and Scheduled Caste is 9.3 percentage points and surprisingly Scheduled Tribe children perform better than all groups at this age on PPVT. These results are relevant as the age of testing coincides with the end of preschool. Analysis of the PPVT scores by the types of preschool attended shows that children who attended private preschools (33.3) scored better than children who attended public preschool (21.7) with a gap of 11.6. In this category, children with the lowest scores were those who did not attend any preschool (17.1).

These differences in PPVT score are further accentuated by the differentials between children at age 5 from consistently least-poor households and those belonging to chronically poor households. On average, children from consistently least-poor households had an average score of 33.1, whereas children from chronically poor households had an average score of 18.7.

3.4.2 Middle childhood: primary and upper primary school

Since children in India are expected to enter Grade 1 of primary school by age 6, in this section we present information on the age at which children were enrolled in primary and upper primary school, using Round 3 and 4 data for the Younger Cohort and Round 1 and 2 for the Older Cohort. Table 13 shows almost universal enrolment patterns at ages 8 and 12 years for the Younger Cohort, at 99.1 and 97.2 per cent at age 8 and 12 respectively. This is higher than enrolment at either age for the Older Cohort (97.6 and 89.2 per cent respectively).

Table 13. *Enrolment at ages 8 and 12 by cohort*

	Younger Cohort		Older Cohort	
	Enrolment at age 8 (2009)	Enrolment at age 12 (2013)	Enrolment at age 8 (2002)	Enrolment at age 12 (2006)
Average	99.1	97.2	97.6	89.2
Gender				
Boys	99.3	97.4	98.3	90.8
Girls	98.8	96.9	96.9	87.6
Gap	0.6	0.4	1.4	3.3
Place of residence				
Urban	99.8	98.7	97.8	95.1
Rural	98.8	96.7	97.5	87.3
Gap	1.0	2.0	0.3	7.8
Maternal education				
No education	98.7	95.6	97.2	85.6
Primary	98.9	98.3	98.0	98.0
Middle	100.0	99.4	98.8	98.8
Secondary and above	99.8	99.8	99.0	98.0
Gap	1.3	4.1	1.8	12.3
Baseline wealth index (R1)				
Top quintile	99.7	99.5	98.4	96.3
Bottom quintile	97.7	94.8	96.3	78.5
Gap	2.1	4.6	2.1	17.8
Caste				
Scheduled Caste	98.6	97.7	98.5	85.3
Scheduled Tribe	98.9	96.1	95.2	86.7
Backward Class	98.9	96.5	97.7	88.4
Other Caste	100.0	99.0	97.5	96.1
Gap	1.4	2.9	3.3	10.8
Dynamic poverty status				
Consistently least poor	99.8	99.8	98.0	96.5
– Boys	100.0	99.6	99.0	97.0
– Girls	99.5	100.0	97.0	96.0
Chronically poor	97.0	95.4	95.8	78.4
– Boys	97.8	94.7	98.0	81.4
– Girls	96.1	96.1	93.2	75.0
Gap (Least poor – poor)	2.8	4.4	2.2	18.1

Source: Young Lives, both cohorts, R1 to R4 (2002-13)

Analysis of school enrolment data shows that many of the inequalities in enrolment which were visible for the Older Cohort have reduced or disappeared entirely. Gender analysis of school enrolment shows that at age 12, the male-female gap for Younger Cohort is almost negligible (0.4 percentage points), and considerably lower than that for the Older Cohort at the same age in 2006, when there was gender gap of 3.3 percentage points. The highest gap in enrolment was observed between poorest quintile and top (least poor) quintile households (17.8 percentage points) among Older Cohort children at age 12, a gap which was still present, although considerably lower, for the Younger Cohort (4.6 percentage points).

Further analysis of enrolment at ages 8 and 12 by dynamic poverty status shows that the enrolment remained at the same level (99.8) for consistently least poor Younger Cohort children (suggesting there was no dropout during this period. For the same group of children among the Older Cohort, enrolment dropped by 1.5 percentage points between the ages of 8 and 12. Among the chronically poor children too, the dropout rate between age 8 and 12 is much larger among the Older Cohort (as seen in Table 13) in comparison to that seen for this group in the Younger Cohort.

Since children are supposed to enter Grade 1 by age of 6, we use the education data from the Young Lives household survey to calculate the proportion of children who are 'overage' at each grade level. Even in primary, children could be behind their normative grade (i.e. overage) due to late entry, grade repetition, or temporarily abandoning school.[8] Table 14 presents the percentage of children who are overage by age 8 and 12 for both Younger and Older Cohorts, based on the premise that children should be 6 years old in Grade 1.

Children from more educated mothers, top quintile households and urban areas performed better in comparison to their counterparts. There is a relatively small difference between boys and girls. The gap between Scheduled Tribes and Scheduled Caste is 9.3 percentage points and surprisingly Scheduled Tribe children perform better than all groups at this age on PPVT. These results are relevant as the age of testing coincides with the end of preschool. Analysis of the PPVT scores by the types of preschool attended shows that children who attended private preschools (33.3) scored better than children who attended public preschool (21.7) with a gap of 11.6. In this category, children with the lowest scores were those who did not attend any preschool (17.1).

These differences in PPVT score are further accentuated by the differentials between children at age 5 from consistently least-poor households and those belonging to chronically poor households. On average, children from consistently least-poor households had an average score of 33.1, whereas children from chronically poor households had an average score of 18.7.

3.4.2 Middle childhood: primary and upper primary school

Since children in India are expected to enter Grade 1 of primary school by age 6, in this section we present information on the age at which children were enrolled in primary and upper primary school, using Round 3 and 4 data for the Younger Cohort and Round 1 and 2 for the Older Cohort. Table 13 shows almost universal enrolment patterns at ages 8 and 12 years for the Younger Cohort, at 99.1 and 97.2 per cent at age 8 and 12 respectively. This is higher than enrolment at either age for the Older Cohort (97.6 and 89.2 per cent respectively).

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8   Officially, grade repetition is not allowed in Grade 1.

Table 13. *Enrolment at ages 8 and 12 years by cohort*

	Younger Cohort		Older Cohort	
	Enrolment at age 8 (2009)	Enrolment at age 12 (2013)	Enrolment at age 8 (2002)	Enrolment at age 12 (2006)
Average	99.1	97.2	97.6	89.2
Gender				
Boys	99.3	97.4	98.3	90.8
Girls	98.8	96.9	96.9	87.6
Gap	0.6	0.4	1.4	3.3
Place of residence				
Urban	99.8	98.7	97.8	95.1
Rural	98.8	96.7	97.5	87.3
Gap	1.0	2.0	0.3	7.8
Maternal education				
No education	98.7	95.6	97.2	85.6
Primary	98.9	98.3	98.0	98.0
Middle	100.0	99.4	98.8	98.8
Secondary and above	99.8	99.8	99.0	98.0
Gap	1.3	4.1	1.8	12.3
Baseline wealth index (R1)				
Top quintile	99.7	99.5	98.4	96.3
Bottom quintile	97.7	94.8	96.3	78.5
Gap	2.1	4.6	2.1	17.8
Caste				
Scheduled Caste	98.6	97.7	98.5	85.3
Scheduled Tribe	98.9	96.1	95.2	86.7
Backward Class	98.9	96.5	97.7	88.4
Other Caste	100.0	99.0	97.5	96.1
Gap	1.4	2.9	3.3	10.8
Dynamic poverty status				
Consistently least poor	99.8	99.8	98.0	96.5
– Boys	100.0	99.6	99.0	97.0
– Girls	99.5	100.0	97.0	96.0
Chronically poor	97.0	95.4	95.8	78.4
– Boys	97.8	94.7	98.0	81.4
– Girls	96.1	96.1	93.2	75.0
Gap (Least poor – poor)	2.8	4.4	2.2	18.1

Source: Young Lives, both cohorts, R1 to R4 (2002-13)

Analysis of school enrolment data shows that many of the inequalities in enrolment which were visible for the Older Cohort have reduced or disappeared entirely. Gender analysis of school enrolment shows that at age 12, the male-female gap for Younger Cohort is almost negligible (0.4 percentage points), and considerably lower than that for the Older Cohort at the same age in 2006, when there was gender gap of 3.3 percentage points. The highest gap in enrolment was observed between poorest quintile and top (least poor) quintile households (17.8 percentage points) among Older Cohort children at age 12, a gap which was still present, although considerably lower, for the Younger Cohort (4.6 percentage points).

Further analysis of enrolment at ages 8 and 12 by dynamic poverty status shows that the enrolment remained at the same level (99.8) for consistently least poor Younger Cohort children (suggesting there was no dropout during this period. For the same group of children among the Older Cohort, enrolment dropped by 1.5 percentage points between the ages of 8 and 12. Among the chronically poor children too, the dropout rate between age 8 and 12 is

much larger among the Older Cohort (as seen in Table 13) in comparison to that seen for this group in the Younger Cohort.

Since children are supposed to enter Grade 1 by age 6, we use the education data from the Young Lives household survey to calculate the proportion of children who are 'overage' at each grade level. Even in primary, children could be behind their normative grade (i.e. overage) due to late entry, grade repetition, or temporarily abandoning school.[9] Table 14 presents the percentage of children who are overage by age 8 and 12 for both Younger and Older Cohorts, based on the premise that children should be 6 years old in Grade 1.

Table 14. *Overage at ages 8 and 12 by cohort*

	Younger Cohort		Older Cohort	
	Overage at age 8 (2009)	Overage at age 12 (2013)	Overage at age 8 (2002)	Overage at age 12 (2006)
Average	42.6	46.7	29.7	33.9
Gender				
Boys	50.0	53.7	30.3	34.6
Girls	34.1	38.6	29.1	33.2
Gap	15.9	15.1	1.2	1.4
Place of residence				
Urban	39.9	42.2	35.1	37.6
Rural	43.5	48.1	28.1	32.6
Gap	3.6	-5.9	7.1	4.9
Maternal education				
No education	46.2	52.2	30.8	35.5
Primary	39.3	48.9	23.2	29.9
Middle	40.0	38.8	32.9	33.3
Secondary and above	35.4	34.4	24.5	22.9
Gap	10.9	17.7	9.7	12.6
Baseline wealth index (R1)				
Top quintile	34.2	33.9	32.8	33.3
Bottom quintile	44.3	54.4	36.9	45.3
Gap	10.1	-20.5	-4.1	-12.0
Caste				
Scheduled Caste	42.4	46.4	31.8	37.4
Scheduled Tribe	49.5	59.4	39.8	47.3
Backward Class	40.1	44.2	25.2	28.9
Other Caste	43.6	43.5	32.2	34.5
Gap	9.4	15.8	14.6	18.4
Dynamic poverty status				
Consistently least poor	37.3	38.0	27.0	25.9
– Boys	43.3	44.1	32.7	30.6
– Girls	29.4	29.9	21.2	21.1
Chronically poor	46.9	57.1	38.8	46.3
– Boys	57.1	65.2	38.0	47.0
– Girls	36.2	48.6	39.8	45.5
Gap (Least poor – poor)	-9.6	-19.1	-11.8	-20.4

Source: Young Lives, both cohorts, R1 to R4 (2002-13).

Not surprisingly, for both Younger and Older Cohorts, the proportion of overage children increases as they grow older, which may be attributed to the repetition of grades. Given that

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9 Officially, grade repetition is not allowed in Grade 1.

the Right to Education Act (2009) stipulated a 'no-detention policy' from Grades 1-8, we would assume that there would be fewer overage children among the Younger Cohort (who were affected by the policy) than the Older Cohort. However, our findings do not substantiate this – rather they suggest the opposite. Table 14 shows that 46.7 per cent of children in the Younger Cohort are overage at age 12 in 2013 as compared to 33.9 per cent of Older Cohort children in 2006. Cross-cohort comparison also shows that many more rural children and boys are overage among the Younger Cohort at ages 8 and 12, as compared to the Older Cohort. While the gender gap in the proportion of overage children is 16 percentage points for the Younger Cohort in 2010, it was only 1.2 percentage points for the Older Cohort in 2006.

In addition, for the Younger Cohort at age 12 there are large inequalities in the proportion of overage children linked with wealth, maternal education and caste. The results for Younger Cohort children also reveal that the percentage of overage children was higher in chronically poor households (57.1 per cent) than consistently least-poor households (38 per cent) in 2013, with a gap of 19.1 percentage points. It is also important to note that the percentage of overage children at age 12 in 2006 (Older Cohort children) was lower than percentage overage in 2013, although the percentage gap between consistently least poor and chronically poor grew marginally during the same period.

For children belonging to both consistently least poor and chronically poor households, more boys are found to be overage at ages 8 and 12 across both cohorts, with particularly high numbers among the Younger Cohort.

A deeper analysis of school progression of Young Lives Younger Cohort children by years and grades may be helpful to understand the overage phenomenon better (see Table 15).

Table 15. *Number of children attending school across years and grades (Younger Cohort)*

Grade	2004 (3 Yrs)	2005 (4 Yrs)	2006 (5 Yrs)	2007 (6 Yrs)	2008 (7 Yrs)	2009 (8 Yrs)	2010 (9 Yrs)	2011 (10 Yrs)	2012 (11 Yrs)	2013 (12 Yrs)
Pre-primary	375	994	1201	589	249	107				
First grade primary	3	39	385	849	495	231	66	18	8	2
Second grade		3	30	354	775	469	217	71	19	8
Third grade			4	26	332	749	525	214	77	22
Fourth grade				3	23	313	736	517	219	74
Fifth grade					3	22	300	729	506	228
Six grade						3	22	294	718	499
Seventh grade							1	22	291	710
Eighth grade								1	21	285
Ninth grade									1	22
Tenth grade										1
% of children in schools	19.8	54.2	84.8	95.3	98.3	99.2	97.7	97.7	97.4	96.9

Source: Young Lives, Younger Cohort, R1 to R4 (2002-13).

Drawing upon the educational history of the Younger Cohort captured in multiple survey rounds, Table 15 reveals that enrolment in preschools started at age 3, with a large number of children attending more than one year of preschool. At age 6, 589 children remained enrolled in pre-primary classes, and interestingly even at age 8, 107 children were found enrolled in preschool and 231 in Grade 1 – clearly all overage for their respective classes. Examining the educational history data for Younger Cohort children also allows us to understand patterns of enrolment and dropout – for example we can see that enrolment

peaked at 97.7 per cent at age 10 (2011) and then decreased marginally to 96.9 per cent enrolment in 2013, highlighting that a small number of children had dropped out of school by age 12. From this data we can also observe 23 children who are definitely underage, studying in secondary classes (Grades 9 and 10) at age 12.

Since enrolment in private schools is one of the possible causes that is attributed to grade repetition (Galab et al. 2014), Table 16 analyses enrolment in private schools for both cohorts at age 8 and 12. The analysis clearly demonstrates that more children among the Younger Cohort were enrolled in private schools as compared to the Older Cohort at both ages. In particular, there was a huge influx of Younger Cohort children (age 8) to private schools in 2009 (44 per cent), when compared to the Older Cohort at the same age in 2002 (23 per cent) (Galab et al. 2010).Although private school enrolment for the Younger Cohort decreases by 2.6 percentage points between 2009 and 2013, it remains almost 16 percentage points higher than that for the Older Cohort in 2006.

Table 16. *Enrolment in private school at age 8 and 12 for Younger and Older Cohort*

	Younger Cohort at age 8 (2009)	Younger Cohort at age 12 (2013)	Older Cohort at age 8 (2002)	Older Cohort at age 12 (2006)
Average	43.9	40.5	23.6	24.3
Gender				
Boys	50.5	46.6	24.7	27.5
Girls	36.3	33.5	22.4	21.2
Gap	14.2	13.1	2.3	6.3
Place of residence				
Urban	81.2	72.2	67.6	63.7
Rural	32.2	28.8	9.9	12.4
Gap	49.0	43.4	57.7	51.3
Maternal education				
No education	28.4	23.9	12.3	13.7
Primary	42.6	34.5	32.0	31.0
Middle	57.6	49.3	43.9	47.6
Secondary and above	79.6	77.7	73.5	69.4
Gap	51.2	53.8	61.2	55.7
Baseline wealth index (R1)				
Top quintile	86.0	80.0	72.1	70.5
Bottom quintile	15.8	11.6	3.7	5.8
Gap	70.2	68.4	68.4	64.7
Caste`				
Scheduled Caste	29.6	18.1	10.3	9.3
Scheduled Tribe	23.7	18.1	11.4	14.3
Backward Class	43.6	41.9	20.3	21.6
Other Castes	72.5	67.7	50.2	50.2
Gap	48.9	49.6	39.9	40.9
Dynamic poverty status				
Consistently least poor	85.9	81.8	66.0	65.5
– Boys	87.4	82.2	69.3	72.3
– Girls	84.0	81.3	62.6	58.6
Chronically poor	13.9	6.9	4.2	3.7
– Boys	20.3	8.8	2.9	5.9
– Girls	7.3	5.0	5.7	1.1
Gap (Least poor – poor)	72.0	74.9	61.8	61.8

Source: Young Lives, both cohorts, R1 to R4 (2002-13).

While the total enrolment rate has increased by only 1.6 per cent for the Younger Cohort compared to the Older Cohort, the proportion enrolled in private schools has doubled between the two cohorts. Given that private schools charge fees, it is no surprise that there are gaps in private school enrolment by caste, maternal education, wealth, and place of residence. However, such gaps do lead to serious equity concerns, with increased enrolment far from evenly distributed and gender-based school choices more prevalent (Woodhead et al. 2011). This is evident by the fact that a 74.9 percentage points gap existed in private enrolment at age 12 in 2013 between children from households that are consistently least poor and chronically poor , an increase from the 61.8 per cent gap which was present in 2006 between the same groups in the Older Cohort. Boys were more likely than girls to be enrolled in private schools at age 12 in both the top and bottom wealth terciles in 2013, although the gap between boys' enrolment between chronically poor and least-poor households was 73.4 percentage points.

It is important to highlight that the majority of private unaided schools carry the 'English medium' tag and many parents chose these schools for their children since they believed they were of good quality. Language of instruction at school is a relevant issue as it influences children's ability to grasp concepts that are taught. Almost 85 per cent of the Young Lives sample had Telegu as their mother tongue. Table 17 shows 64 per cent of children whose mother tongue was Telegu reported attending a school where the medium of instruction remained Telegu, while 36 per cent attended a school with English as the medium of instruction at the age of 12. On the other hand, among children with Urdu as their mother tongue, 68.5 per cent attended a school where the medium of instruction was English, while the remaining Urdu-speaking children attended schools with Telegu as the medium of instruction.

Table 17. *Language of instruction during primary for the Younger Cohort at age 12, in percentage (2013)*

Language at home	Language of instruction at school		
	Telegu (%)	English (%)	Total (N)
Telegu	63.6	36.4	1,512
Urdu	31.5	68.5	92
Odiya	70.6	29.4	17
Kannada	81.8	18.2	66
Others*	81.0	19.0	121

Note: *Others include children speaking Hindi, Marathi, Tamil and Tribal languages at home.

As mentioned above, analysis has revealed changing patterns between student background and the type of school they attend. Woodhead et al. (2013) show that although private schooling is predominantly urban, expansion has been most rapid in rural areas, with private school enrolment trebling between 2002 and 2009. The most financially and socially advantaged children (categorised as 'Other Castes') constitute the largest group accessing private schools, with a 25 per cent increase and making up 70 per cent of all private school students. Enrolment of children from Backward Classes is also on the rise and has doubled, albeit from a lower starting point. Private schools charge fees and thus tend to have a student population with families that have more economic resources. Singh and Bangay (2014) found that across all quartiles and for both Younger and Older Cohorts studying in private schools, educational expenditure remained significantly higher. Within the private school sector, the richest quartile was observed to spend 1.7 times more at primary and

twice as much at secondary level when compared to the poorest quartile. This highlights the variance in fees charged by schools within the private school sector. Furthermore, among members of the richest quartile who send their children to public schools, spending was almost 13 times the amount the poorest quartile spent on education expenses at primary level.[10] Considering that public schools do not charge fees, the difference can be accounted for by the money spent by better-off families on after-school tuition.

Differences are also found regarding the infrastructure across private and public schools. Table 18 presents information about school infrastructure in public and private schools, and in general, we can see that public schools have fewer or poorer facilities. In a system that promotes equity, public schools should have higher resources as they cater to more children.

Table 18. *Percentage of students attending schools with selected characteristics (2011)*

School Infrastructure	Private schools (%)	Public schools (%)
Drinking water	95.9	68.0
Toilets	83.3	64.3
Separate staff room	61.1	20.0
Library	39.0	3.5
Playgrounds	69.0	76.9
Covered space for assembly	13.5	0.7

Source: Young Lives school survey (2011)

Table 19 highlights characteristics of teachers, drawing upon analysis from the school survey conducted in 250 schools (118 private unaided and 109 public schools). We can see that public school teachers had more years of teaching experience and a higher number had professional teaching qualifications compared to teachers in private schools.

Table 19. *Percentage of mathematics teachers with selected characteristics (2011)*

Teachers' characteristics	Private schools (%)	Public schools (%)
Average age	28.3	33.0
Attended university	83.6	79.7
Years of experience	4.6	7.7
Have B.Ed /Dip.Ed. /M.Ed	57.2	82.3
Have Master's degree and above	6.3	0.5
In-service training during the last academic year	4.4	59.6
Lecturing as a teaching method	47.2	53.9
Questioning individual students	10.8	6.8
Almost every exercise/piece checked	81.9	40.5

Source: Singh and Sarkar 2012.

However, classroom observations carried out during the primary school survey in 2010 found that lecturing seemed to be the norm in close to half of both the private and public schools observed. The fact that around 80 per cent of teachers in private schools were found to have regularly corrected almost every exercise given to children, as against only 40.5 per cent of teachers in public schools, suggests that a wide gap exists in terms of providing vital feedback that children need to enhance learning (Singh and Sarkar 2012).

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10 Educational expenses in government schools at primary level consist primarily of after-school tuition fees, as government schools.

Ultimately, it is important to understand the academic achievement of children studying across public and private schools, given that good quality teaching as perceived by the parents appears to be the most compelling reason for selecting a type of school (Singh and Sarkar 2012). Table 20 presents information on the mathematical abilities of Young Lives children across both cohorts.[11] Despite many more children being enrolled in private schools among the Younger Cohort, the average mathematics score for the Younger Cohort is lower by 12.4 percentage points as compared to scores of the Older Cohort at the same age. Whilst gaps between girls and boys are negligible, the gaps by caste, maternal education, and wealth are larger, with Other Castes and top wealth quintile children performing better than the other children.[12]

Table 20. *Achievement in mathematics at age 12 (2013)*

	Younger Cohort at age 12 (2013)	Older Cohort at age 12 (2006)	Differences in cross-cohorts' achievement scores
Average	52.8	65.3	-12.4
Gender			
Boys	52.9	66.5	-13.6
Girls	52.8	64.1	-11.3
Gap	0.1	2.3	
Place of residence			
Urban	59.0	71.3	-12.3
Rural	50.9	63.4	-12.5
Gap	8.1	7.9	
Maternal education			
No education	46.1	60.8	-14.6
Primary	54.9	73.7	-18.7
Middle	59.4	72.8	-13.4
Secondary and above	67.4	83.0	-15.6
Gap	-21.3	-22.2	
Baseline wealth index (R1)			
Top quintile	65.1	76.0	-10.8
Bottom quintile	42.4	60.2	-17.8
Gap	22.7	15.8	
Caste			
Scheduled Caste	48.5	58.0	-9.5
Scheduled tribe	46.6	73.0	-26.4
Backward Class	53.0	63.2	-10.2
Other Caste	61.0	73.1	-12.1
Gap	-12.4	-15.1	
Dynamic poverty status			
Consistently least poor	66.2	76.3	10.1
– Boys	65.2	78.5	-13.4
– Girls	67.6	74.1	-6.5
Chronically poor	39.7	59.5	-19.8
– Boys	39.6	58.8	-19.3
– Girls	39.9	60.2	-20.4
Gap (Least poor – poor)	26.5	16.8	

Note: The score is based on three common items in the mathematics test.
Source: Young Lives study (2006, 2013).

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11 Some findings related to mathematics achievement scores are in Appendix C, Figures C1 to C3, and Table C1.

12 The statistical association between mathematics scores at age 12 (Younger Cohort) and wealth is shown in Appendix D.

The analysis of achievement in mathematics by dynamic poverty status shows that children from consistently least-poor households scored an average of 66.2 per cent at age 12 in 2013, which was 26.5 percentage points higher than the average scores of children from chronically poor households (39.7 per cent) among the Younger Cohort.

There are no substantial gender differentials in mathematics achievement scores observed among children belonging to consistently least-poor households, although girls perform marginally better than boys among chronically poor households in the Younger Cohort at age 12, and a 2.6 percentage point gender gap was observed in favour of girls among chronically poor Older Cohort children in 2006.

Table 21 shows the percentage of correct answers of three common items in the maths test given to both cohorts at age 12, which are intended to be aimed specifically at the abilities of children at this age. It is clear that the learning levels of children have declined among 12 year olds in 2013 as compared to 12 year olds in 2006. This is a matter of policy concern, since despite progress towards universalisation of school enrolment at the elementary level, there does not seem to be enough emphasis on learning outcomes.

Table 21. *Percentage of correct answers (common items of mathematics)*

Younger Cohort (2013)	Older Cohort (2006)	Item
59.0%	74.1%	Which of these is equal to 342?
75.2%	83.1%	Which of these is name for 9740?
24.4%	38.6%	A piece of rope 204 cm long is cut into 4 equal pieces. Which of these gives the length of each piece in centimetres?

Source: Young Lives study (2006, 2013)

3.4.2 Late adolescence: secondary school

Looking at enrolment at age 15 (Table 22), we find that on an average 77.7 per cent of Older Cohort children were enrolled in schools (i.e. close to 22 per cent had already dropped out of school by this stage).

Table 22. *Enrolment at age 15*

	Older Cohort at age 15 years (2009) (%)
Average	77.7
Gender	
Boys	81.0
Girls	74.5
Gap	6.5
Place of residence	
Urban	87.1
Rural	74.8
Gap	12.3
Maternal education	
No education	71.9
Primary	90.0
Middle	92.7
Secondary and above	94.9
Gap	23.0
Baseline wealth index (R1)	
Top quintile	92.6
Bottom quintile	67.0
Gap	25.6
Caste	
Schedule Caste	76.5
Scheduled Tribe	76.2
Backward Class	74.9
Other Caste	85.7
Gap	10.8
Dynamic poverty status	
Consistently least poor	92.0
– Boys	94.1
– Girls	89.9
Chronically poor	68.9
– Boys	73.5
– Girls	63.6
Gap (Least poor – poor)	23.1

Source: Young Lives, Older Cohort, Round 3, 2009.

Table 22 also reveals that at age 15, there was 6.5 percentage point gender gap in enrolment in favour of boys. As expected, percentage enrolment at age 15 is higher in urban areas than rural areas and with increasing mothers' educational levels, the enrolment of children also increases. Children from the Other Castes category and from top wealth quintile households show higher enrolment than children from Backward Classes and from the poorest quintile.

The analysis of enrolment at age 15 by dynamic poverty status of children shows that there was a substantial enrolment gap of 23 percentage points between consistently least poor children (92 per cent) and chronically poor children (69 per cent). Gender gaps in enrolment in favour of boys were visible in both consistently least poor and chronically poor children, but we find that the gap was much larger among children who remain chronically poor (9.9 percentage points) over time. Thus we find that, while two out of five girls from chronically

poor households were likely to not be enrolled in school at age 15, only one out of ten girls were out of school among the least-poor households. This highlights the gender differences within the relationship between poverty and education.

Children are expected to move on to secondary schools after completing Grade 8 around the age of 15. Table 23 presents information on the percentage of Older Cohort children who are overage by age 15. The proportion who are overage at age 15 is higher than observed at age 12 (see Table 14), although the patterns are quite similar to those presented before. Relatively little difference is found by gender and urban/rural location as compared to gaps across other variables such as maternal education, castes and wealth. The difference is particularly large by caste groups, and we find that 48 per cent of Scheduled Tribe and 48 per cent of children from the bottom wealth quintile are overage.

Table 23.   *Overage at age 15*

	Older Cohort at age 15 years (2009) (%)
Average	36.0
Gender	
Boys	36.8
Girls	35.1
Gap	1.7
Place of residence	
Urban	38.3
Rural	35.2
Gap	3.1
Maternal education	
No education	37.8
Primary	30.0
Middle	36.8
Secondary and above	26.9
Gap	10.9
Baseline wealth index (R1)	
Top quintile	35.2
Bottom quintile	48.4
Gap	-13.2
Caste	
Schedule Caste	41.7
Scheduled Tribe	48.8
Backward Class	30.7
Other Caste	35.1
Gap	18.1
Dynamic poverty status	
Consistently least poor	27.7
– Boys	33.7
– Girls	21.3
Chronically poor	49.6
– Boys	50.7
– Girls	48.2
Gap (Least poor – poor)	-21.9

Source: Young Lives, Older Cohort, Round 3, 2009.

The highest percentage of overage children at age 15 is observed among children belonging to chronically poor households (49.6 per cent), 21.9 percentage points higher than the percentage of overage children from consistently least-poor households. Interestingly, there are marginal gender differences (2.5 percentage points) in the percentage of overage children from chronically poor households, whereas a 12.4 percentage points gender gap is visible among children from consistently least-poor households, where a third of the boys are overage, compared to one out of five girls.

Table 24 shows that overall enrolment in private schools at age 15 is marginally higher (4.3 per cent) than observed at age 12 (see Table 16), but with very large differences found by top and bottom wealth quintile, maternal education and caste. More boys are found to be enrolled in private schools than girls across all quintiles, with 75 per cent of boys and 57 per cent of girls in consistently least-poor households enrolled in private schools at age 15.

Table 24.   *Enrolment in private school at age 15*

	Older Cohort at age 15 (2009) (%)
Average	27.7
Gender	
Boys	32.0
Girls	23.4
Gap	8.6
Place of residence	
Urban	57.3
Rural	18.5
Gap	38.8
Maternal education	
No education	17.6
Primary	36.0
Middle	52.4
Secondary and above	68.4
Gap	50.8
Baseline wealth index (R1)	
Top quintile	68.4
Bottom quintile	9.4
Gap	59.0
Caste	
Scheduled Caste	12.3
Scheduled Tribe	16.2
Backward Class	26.0
Other Caste	52.7
Gap	40.4
Dynamic poverty status	
Consistently least poor	66.0
– Boys	75.2
– Girls	56.6
Chronically poor	5.8
– Boys	7.8
– Girls	3.4
Gap (Least poor – poor)	60.2

Source: Young Lives, Older Cohort, Round 3, 2009.

The largest gap in terms of enrolment in private school at age 15 is observed between children from consistently least-poor households (66 per cent) and those from chronically poor households (5.8 per cent). Only 8 per cent of boys and 3 per cent of girls from chronically poor households were enrolled in private schools. As we have already seen from the analysis of school type enrolment at younger ages, stratification of children into private and public schools based on household poverty, gender and caste is apparent among the Older Cohort at age 15.

Table 25 shows that by age 15, 67.8 per cent of the sample had finished elementary education, 9.9 per cent were still in the process of completing elementary school and 22.3 per cent had dropped out of school, with more dropping out in rural areas (25.2 per cent). Similar patterns to those previously discussed are apparent in the proportions of children completing elementary education, with children with more educated mothers, from other castes and top quintile more likely to complete elementary schooling on age.

Table 25. *Highest level of education at age 15 (Older Cohort)*

	Completed elementary on age (%)	Completed elementary overage (%)	Still in elementary (%)	Dropped-out (%)
Undivided Andhra Pradesh	49.7	18.1	9.9	22.3
Gender				
Boys	51.2	18.3	11.5	19.0
Girls	48.3	17.8	8.3	25.5
Gap	2.8	0.5	3.2	-6.5
Place of residence				
Urban	53.8	21.8	11.6	12.9
Rural	48.5	16.9	9.4	25.2
Gap	5.3	4.8	2.2	-12.3
Maternal education				
No education	44.8	16.7	10.5	28.1
Primary	63.0	19.0	8.0	10.0
Middle	58.5	25.6	8.5	7.3
Secondary and above	69.4	18.4	7.1	5.1
Gap	-24.6	-1.7	3.4	23.0
Baseline wealth index (R1)				
Top quintile	60.0	22.6	10.0	7.4
Bottom quintile	34.6	18.9	13.6	33.0
Gap	25.5	3.8	-3.6	-25.6
Caste				
Scheduled Caste	44.6	19.1	12.8	23.5
Scheduled tribe	39.1	20.0	17.1	23.8
Backward Class	51.9	15.0	8.0	25.1
Other Caste	55.7	22.7	7.4	14.3
Gap	-11.1	-3.5	5.4	9.2
Dynamic poverty status				
Consistently least poor	66.5	18.5	7.0	8.0
– Boys	62.4	22.8	8.9	5.9
– Girls	70.7	14.1	5.1	10.1
Chronically poor	34.7	18.4	15.8	31.1
– Boys	36.3	17.7	19.6	26.5
– Girls	33.0	19.3	11.4	36.4
Gap (Least poor - poor)	31.8	0.1	-8.8	-23.1

Source: Young Lives, Older Cohort, Round 3, 2009.

The largest gap in terms of completion of elementary schooling on age was observed between children from consistently least-poor households (66.5 per cent) in comparison to children from chronically poor households (34.7 per cent). Furthermore, more girls from consistently least-poor households are found to complete elementary education on age than boys, while the situation is reversed among children from chronically poor households. This is indicative of the fact that gender differences exist even among girls based on the wealth status of households.

Analysis of achievement levels for the Older Cohort reveals that the pattern is similar to that observed in middle childhood, with relatively small differences by gender, with girls outperforming boys, and large differences seen by place of residence, maternal education and baseline wealth index. Table 26 presents the results for mathematics and reading.[13]

Table 26. *Achievement in mathematics and reading (Cloze) tests of the Older Cohort at age 15 (2009)*

	Mathematics (%)	Cloze (%)
Average	13.9	18.3
Gender		
Boys	13.8	17.8
Girls	14.0	18.8
Gap	0.2	1.0
Place of residence		
Urban	20.4	28.1
Rural	11.8	14.6
Gap	8.6	13.5
Maternal education		
No education	12.1	15.6
Primary	16.3	19.8
Middle	18.6	23.1
Secondary and above	18.1	26.5
Gap	6.5	10.9
Baseline wealth index (R1)		
Top quintile	19.7	27.1
Bottom quintile	12.3	16.9
Gap	7.4	10.2
Caste		
Scheduled Caste	10.6	15.2
Scheduled Tribe	12.4	19.4
Backward Class	15.3	19.0
Other Castes	14.8	18.9
Gap	2.9	4.2
Dynamic poverty status		
Consistently least poor	19.7	24.9
– Boys	18.0	22.5
– Girls	21.3	27.2
Chronically poor	12.6	17.5
– Boys	11.1	15.9
– Girls	14.3	19.3
Gap (Least poor – poor)	7.1	7.4

Source: Young Lives, Older Cohort, Round 3, 2009.
Note: Scores are presented as percentages to facilitate understanding. The mathematics test has 30 items and the reading (Cloze) test, 24 items.

13 For reading, we used a technique called Cloze, where children have to complete sentences with missing words in a way that they will be meaningful.

Children from consistently least-poor households performed better in mathematics and Cloze tests at age 15 compared to children from chronically poor households. Interestingly, girls performed better in both mathematics and Cloze tests than boys across both groups, although the scores of girls in richer households remained higher. This suggests that those girls who are able to transition to secondary education are perhaps likely to do better than boys.

3.4.4 Early adulthood

This section presents data on Young Lives children from the Older Cohort in 2013, when they were around 19 years old and therefore would be expected to have completed their senior secondary schooling (Grade 12). Table 27 shows that 71.5 per cent of the Older Cohort had completed secondary education, with only 45.7 per cent completing 12 years of schooling by the expected age. Finishing school on time is more likely for children from Other Castes, children with mothers with higher levels of education, and those from wealthier homes. It is important to note that by age 19, around 28% of the sample had dropped out of school, the majority of whom were girls, belonged to the poorest quintile, had mothers with low levels of education and lived in rural areas.

Table 27.   *Completed secondary education by age 19 (Older Cohort)*

	Completed secondary on age (%)	Completed secondary overage (%)	Still in secondary (%)	Dropped-out (%)
Undivided Andhra Pradesh	45.7	25.8	0.5	28.0
Gender				
Boys	49.0	27.1	0.6	23.2
Girls	42.5	24.5	0.4	32.6
Gap	6.5	2.6	0.2	-9.3
Place of residence				
Urban	55.6	25.8	0.4	18.2
Rural	42.7	25.8	0.6	31.0
Gap	12.9	0.0	-0.1	-12.8
Maternal education				
No education	38.1	26.5	0.5	34.9
Primary	56.0	28.0	1.0	15.0
Middle	62.2	25.6	1.2	11.0
Secondary and above	76.5	18.4	0.0	5.1
Gap	-38.4	9.6	1.2	29.8
Baseline wealth index (R1)				
Top quintile	63.7	24.7	0.0	11.6
Bottom quintile	30.4	26.2	0.0	43.5
Gap	33.3	-1.4	0.0	-31.9
Caste				
Scheduled Caste	37.8	28.4	1.0	32.8
Scheduled tribe	41.0	28.6	0.0	30.5
Backward Class	45.6	24.8	0.2	29.4
Other Caste	56.7	23.7	1.0	18.7
Gap	-18.9	4.8	-1.0	14.1
Dynamic poverty status				
Consistently least poor	64.0	24.5	1.0	10.5
– Boys	61.4	25.7	1.0	11.9
– Girls	66.7	23.2	1.0	9.1
Chronically poor	29.0	31.1	0.5	39.5
– Boys	34.3	31.4	1.0	33.3
– Girls	22.7	30.7	0.0	46.6
Gap (Least poor – poor)	35.1	-6.6	0.5	-29.0

Source: Young Lives, Older Cohort, Round 4, 2013.

The largest gap regarding completion of secondary education on age is seen between children from consistently least-poor households (64 per cent) and those belonging to chronically poor households (29 per cent). There are very large differences in dropout rates seen among girls and boys belonging to households with different levels of poverty: more girls (46.6 per cent) than boys (33.3 per cent) dropped out of school among chronically poor households, whilst fewer girls (9.1 per cent) than boys (11.9 per cent) dropped out from the least-poor households.

Dropping out of school becomes a relevant topic for policy and research during late adolescence. Further analysis of when boys and girls dropped out is necessary to plan targeted preventative interventions. Table 28 shows that the highest incidence of school dropout occurred by Grade 8 (67.5 per cent), with a steep increase in both boys and girls dropping-out in the grades leading up to this (Grades 6-8). During secondary schooling, a further 32.5 per cent of the children dropped out, something which may be explained by the Grade 10 Board Exam which many children may not expect to pass. Further gender analysis of school dropout reveals that, 62.8 per cent boys and 70.1 per cent girls dropped out of school before reaching Grade 8 or entering secondary education. Interestingly, fewer girls dropped out in Grades 9 and 10, compared to boys.

Table 28. *Grade in which child dropped out of school*

Elementary education	Overall (%)	Boys (%)	Girls (%)
Grade 2	0.9	1.1	0.8
Grade 3	3.6	2.1	4.6
Grade 4	6.8	8.5	5.4
Grade 5	5.9	5.3	6.2
Grade 6	13.5	12.8	13.8
Grade 7	11.7	12.8	10.8
Grade 8	25.2	20.2	28.5
Secondary education			
Grade 9	11.3	14.9	9.2
Grade 10	21.2	22.3	20.8
Total	100	100	100

Source: Young Lives study (2013)

It is also important to highlight that, by age 19, around 39.7 per cent of Older Cohort children had enrolled either in universities or technical or vocational institutes. As shown in Table 29, however, there are differences observed on who went to what type of institution. Table 29 shows that children with more educated mothers (67.3 per cent), those with a high wealth index (54.7 per cent) and those located in urban areas (46.7 per cent) were more likely to be enrolled in universities. On the other hand, only 7.6 per cent of children were enrolled in vocational courses at age 19, mostly from Scheduled Caste households.

Table 29. *Type of tertiary education at age 19 (2013)*

	University (%)	Institute (technical or vocational) (%)
Average	32.1	7.6
Gender		
Boys	33.7	10.2
Girls	30.5	5.0
Gap	3.2	5.2
Place of residence		
Urban	46.7	5.8
Rural	27.5	8.1
Gap	19.2	2.3
Maternal education		
No education	23.3	7.6
Primary	44.0	3.0
Middle	47.6	9.8
Secondary and above	67.3	11.2
Gap	44.0	8.2
Baseline wealth index (R1)		
Top quintile	54.7	7.9
Bottom quintile	16.8	5.2
Gap	37.9	2.7
Caste		
Scheduled Caste	20.6	9.3
Scheduled Tribe	30.5	5.7
Backward Class	30.3	7.3
Other Castes	48.3	7.4
Gap	27.7	3.6
Dynamic poverty status		
Consistently least poor	53.0	10.0
– Boys	50.5	14.9
– Girls	55.6	5.1
Chronically poor	17.9	4.7
– Boys	22.5	4.9
– Girls	12.5	4.5
Gap (Least poor – poor)	35.1	5.3

Source: Young Lives, Older Cohort, Round 4, 2013.

The relationship between the type of tertiary education attended at age 19 and dynamic poverty status reveals that 53 and 10 per cent of children from consistently least-poor households are enrolled in universities and technical/vocational institute respectively, compared to only 17.9 and 4.7 per cent of children from chronically poor households. The gaps in enrolment in universities and vocational institutes between consistently least poor and chronically poor are 35.1 and 5.3 percentage points respectively.

Regarding university enrolment, more girls (55.6 per cent) are found to be enrolled than boys (50.5 per cent) in consistently least-poor households, although more boys are enrolled in vocational institutes. However, among children from chronically poor households, higher numbers of boys are enrolled in both universities (22.5 per cent) and vocational institutes (4.9 per cent) than girls (12.5 per cent and 5.3 per cent respectively).

Table 30 presents the results of a mathematics and reading tests administered to Young Lives children at age 19.[14] The gap between boys and girls was relatively small in comparison to gaps among other variables. The largest difference in mathematics score at age 19 was found to be related to maternal education, followed by rich and poor households and between Other Caste and Scheduled Caste children.

Table 30. *Achievements in mathematics and reading tests among the Older Cohort at age 19 (2013)*

	Mathematics (mean scores)	Reading (mean scores)
Average	40.5	59.8
Gender		
Boys	44.8	62.2
Girls	36.3	57.5
Gap	8.5	4.7
Place of residence		
Urban	48.1	64.5
Rural	38.1	58.3
Gap	10.0	6.2
Maternal education		
No education	35.7	56.8
Primary	45.7	63.0
Middle	52.9	66.2
Secondary and above	59.3	71.7
Gap	23.6	14.9
Baseline wealth index (R1)		
Top quintile	51.9	67.0
Bottom quintile	30.4	52.9
Gap	21.5	14.1
Caste		
Scheduled Caste	33.9	57.1
Scheduled Tribe	35.8	57.8
Backward Class	40.2	58.8
Other Caste	50.0	65.6
Gap	16.1	8.5
Dynamic poverty status		
Consistently least poor	53.1	67.6
– Boys	56.3	68.5
– Girls	49.9	66.7
Chronically poor	29.8	53.2
– Boys	34.3	57.2
– Girls	24.5	48.5
Gap (Least poor – poor)	23.3	14.4

Note: Scores are presented as a percentage of correct answers over total possible score. The mathematics test has 29 items; the reading test has 24 items.
Source: Young Lives, Older Cohort, Round 4, 2013.

Analysis of these learning achievement data with dynamic poverty status show that children from consistently least-poor households performed better in both mathematics and reading tests at age 19 compared to children belonging to chronically poor households. Gender

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[14] Language test in Telegu.

analysis reveals that girls' performances in both mathematics and reading tests at age 19 are relatively poorer than their male counterparts, irrespective of their poverty status – something which is markedly different to girls' performance at age 15, where they fared better than boys.

Many of the children at 19 were engaged in work (35.9 per cent) and were no longer pursuing their academic studies. Figure 7 shows their occupational situation, with more boys than girls enrolled in tertiary education or the 'only work/ full time paid work' category. At 19 , 37 per cent of the girls were married, with close to 28 per cent getting married before the legal age of eighteen (Singh andVennam,2016)

Interestingly, only a marginal difference (3.7 per cent) was found between male and female enrolment in universities, although more boys were found to be combining education and work at tertiary level.

Figure 7. *Adolescent´s occupational situation at age 19 (2013)*
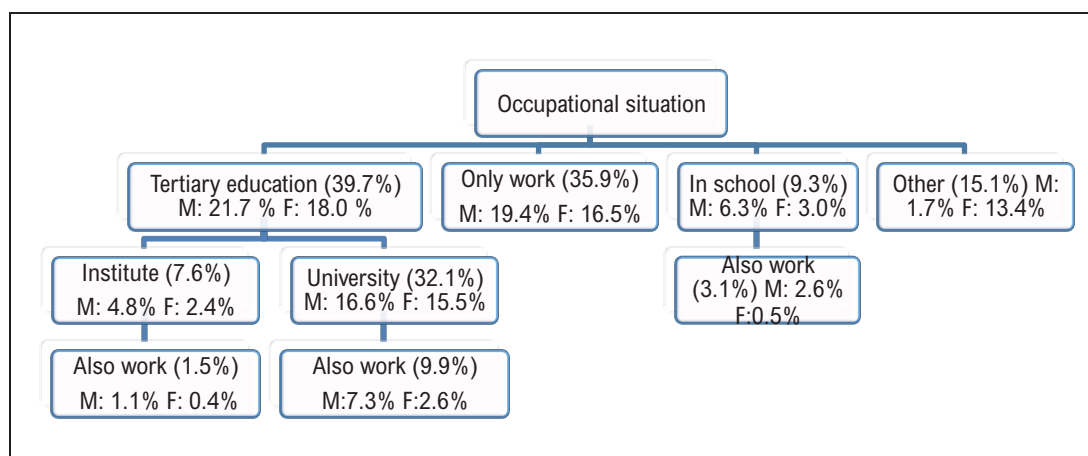
Source: Young Lives, Older Cohort, Round 4, 2013.
Notes: F = female; M = male
*In school includes children who were enrolled in Grade 9 to Grade 12 in 2013.

Table 31 shows that, among girls who were studying full time at age 19, less than 7 per cent were married, whilst 53 per cent of the married girls were working full time. Perhaps more importantly, 66 per cent of girls whose occupation was classified as 'Other' (e.g. not full-time education or full-time work or a combination of both) were married, indicating that the majority of the married girls were engaged in other activities.

Table 31. *Marital status and occupation of the Older Cohort female children at age 19 (2013)*

|	Unmarried (%)	Married (%)	Sample
Studying full-time	93.4	6.6	168
Working full-time	47.4	52.6	156
Working and studying	100.0	0.0	35
Not studying or working	34.2	65.8	123
Total	63.9	36.1	482

4. Educational outcomes: gaps over time

The key longitudinal findings for both Younger and Older Cohorts at ages 8, 12 and 15 are:

1. A decline in learning achievement across time, despite increase in enrolment

Despite an increase in the enrolment of children at age 12 into elementary school, learning outcomes (as measured by mathematics test scores) had declined over the same period. This is a matter of policy concern, and suggests that a focus on learning outcomes is necessary to ensure that the poorest children are given an opportunity to learn.

Figure 8.   *Mathematics scores at age 12*
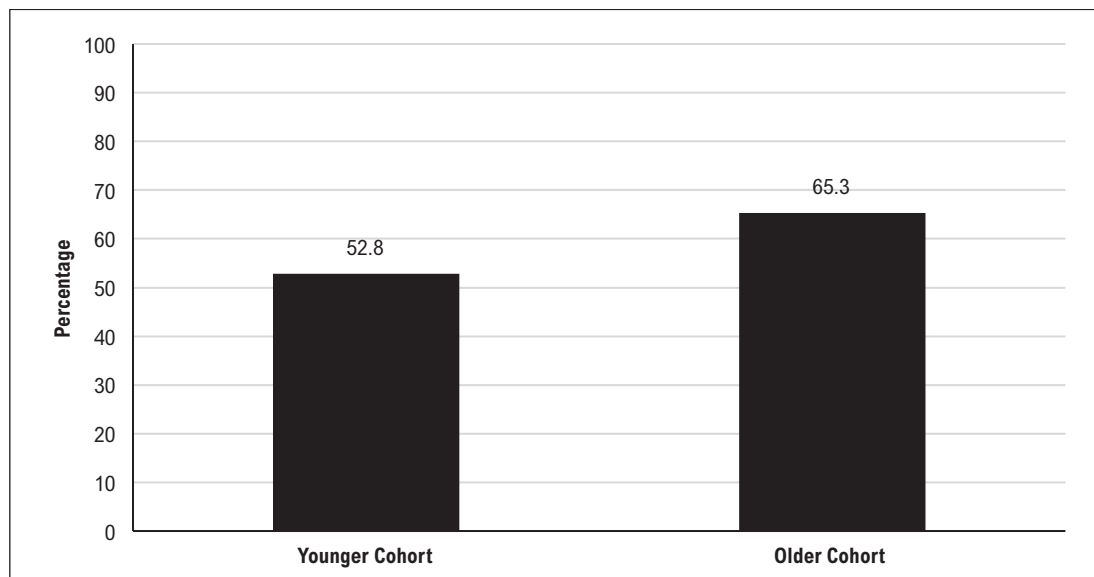
Source: Young Lives, Younger Cohort (Round 4, 2013) and Older Cohort (Round 2, 2006).

2. Many more children are overage in elementary school

While the proportion of overage children seems to be increasing as the Older Cohort children move from elementary to secondary education (Figure 9), it is surprising that the percentage of overage children was much higher for the Younger Cohort at both age 8 as well as at age 12 than it had been for the earlier cohort. Given the 'no-detention' policy instituted as part of the RTE Act, this is unexpected and extremely difficult to explain. It is potentially related to the increased number of Younger Cohort children attending private schools, which are not closely regulated for implementation of the 'no detention' policy, and where children moving into these schools may be asked to repeat classes.
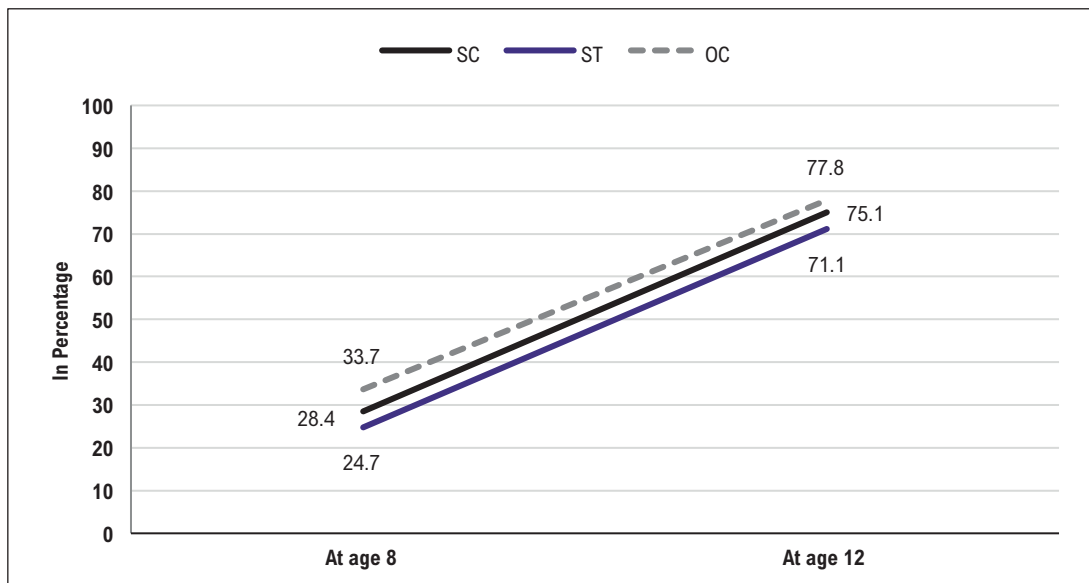
Figure 9. *Overage by age and cohort*
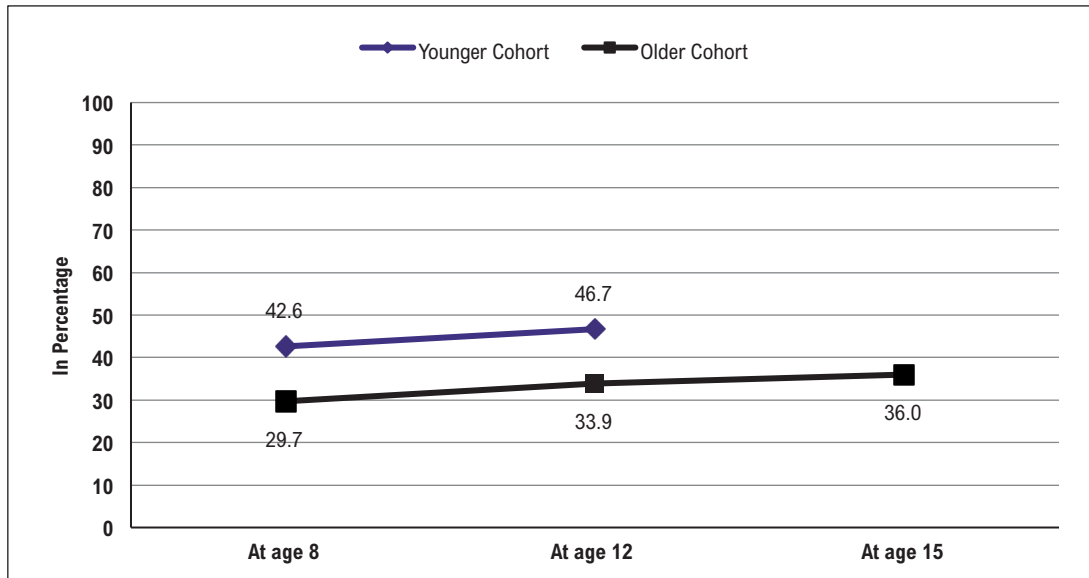
Source: Young Lives, both cohorts, R1 to R4 (2002-13).

3. Gaps in PPVT scores diminishing across caste groups

Figure 10 shows how the gap between the PPVT scores of Scheduled Caste, Scheduled Tribes and Other Caste Younger Cohort children diminishes over time.

Figure 10. *PPVT score by caste (SC, ST, and OC) by age for Younger Cohort*
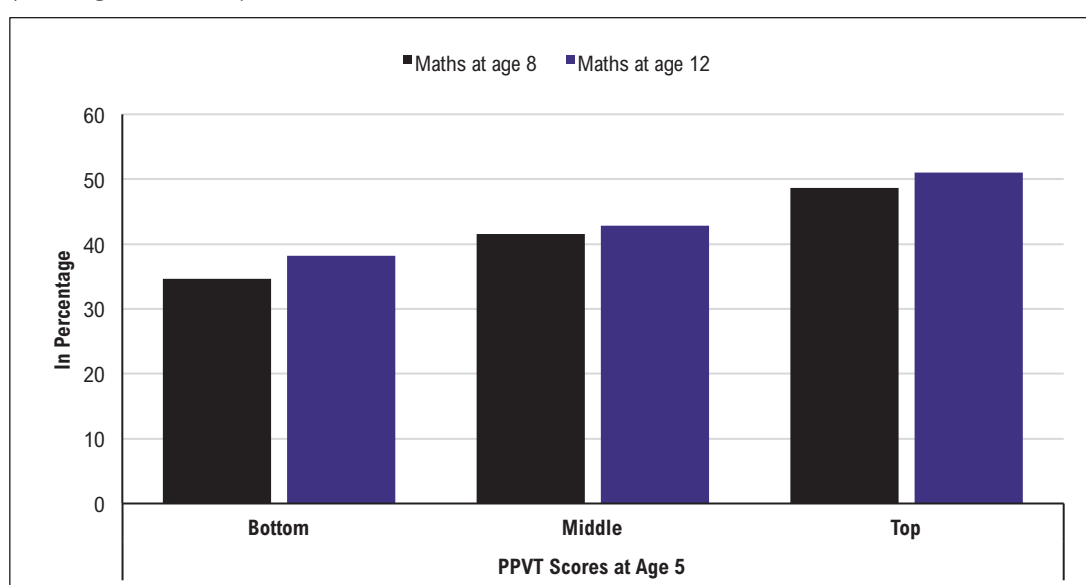

Source: Young Lives, Younger Cohort, R3 to R4 (2009 -2013).

Notes: Scores are presented as a percentage of correct answers over total possible score.

*Ravens scores have been taken for Older Cohort children at age 8.

4. PPVT score at age 5 has a strong association with mathematics score at age 8 and 12

The relationship between PPVT scores at age 5 and mathematics scores at later ages for the Younger Cohort is shown in Figure 11. This implies that the receptive vocabulary skills at age 5 may be highly predictive for skills in mathematics, even after seven years. This association has been observed in other studies, and is known as the Mathew Effect; the main idea, as applied to education, is that children with higher skills at an early age will tend to learn at higher levels than children with lower skills.

Figure 11. *Mathematics score at age 8 and 12 by terciles of PPVT score at age 5 (Younger Cohort)*

Source: Young Lives, Younger Cohort, R2 to R4 (2006 -2013).

Note: Scores are presented as percentages to facilitate understanding.

5. Achievements and challenges in education

This report has presented the main characteristics of the Indian education system, and then built upon this context by describing findings relating to educational outcomes at different ages by selected background variables using Young Lives longitudinal data from Andhra Pradesh and Telangana. The advantage of the Young Lives dataset is two-fold: it allows us to understand the evolution of children over time, and to compare indicators across two cohorts of children from the same groups/categories at the same age but at different points in time. In doing this analysis, our emphasis has been on understanding how educational opportunities and outcomes are linked with the socio-economic and individual characteristics of children. We have focused on gender, caste, place of residence, maternal education, and examined both static and dynamic poverty. The findings presented have also benefited from the review of other existing literature and studies which complement the scenario of the

Indian education system and also point towards the challenges ahead. Below are some of the key ideas that come out of the analysis presented in this report, with suggestive policy implications in the Indian context:

1. **Enrolment at elementary and secondary level has shown marked improvement over the past decade.** Overall progress is evident in enrolment at all levels of education; however, enrolment is higher at primary level, and becomes progressively lower at upper primary, secondary and tertiary levels, which is an indication of increasing dropout rates with higher levels of education.

2. **Increasing disparity due to enrolment of children from less poor families into private schools.** Enrolment into private schools has doubled for 8 year olds in 2010 as compared to 2002. Children with certain characteristics are found to be more likely to be enrolled in private schooling, leading to socio-economic and aspirational disparities across the education available to children within different households. For example, boys, children from urban areas, children belong to other castes, and children who have a mother with a higher level of education are more likely to be enrolled in private fee-charging schools. It is clear from our analysis that children who belong to the consistently least-poor households are more likely to be enrolled in school (and particularly in private school) as compared to children from chronically poor households between 2002 and 2013.

3. **More overage children in recent times.** More children are found to be overage among the Younger Cohort children at age 8 and 12 in 2010 and 2013 than was the case for the Older Cohort children in 2002 and 2006. This is a serious issue, as there is 'no detention' policy in India as an outcome of Right to Education Act (2009), and it may be due to due to the larger number of children changing schools and moving to private schools.

4. **Learning achievement has declined over time.** Importantly, Younger Cohort children at age 12 (2013) performed worse in the mathematics achievement test compared to Older Cohort children at the same age (2006). This finding may indicate that, while a larger number of children are accessing school, lack of attention to quality and learning has resulted in worse learning outcomes for children as the number of children in school increases. Teacher inability to deal with increased diversity in the classroom may well be a cause of this; however, further studies would be required to test this hypothesis. In addition, we observe huge disparities in achievement scores by gender, caste, place of residence, and both static and dynamic poverty.

5. **It is critical to invest in pre-school education, since gaps in achievement are evident by the age of 5.** This report also indicates that attending preschool in early years is helpful in cognitive achievement at age 5 as measured by PPVT scores. Not only that, children who attended private preschools did better in terms of average PPVT scores, followed by children who attended public preschool. The worst performers in PPVT scores at age 5 were those children who did not attend any preschool. It is also interesting that children with lower scores at an early age tend to have lower achievement levels later at school. They are also more likely to discontinue education (Singh and Mukherjee 2016). The effects of preschool in general, and of private preschool in particular, on achievement scores also exacerbates existing disparities, as certain advantaged groups of children such as boys, urban children, children belonging to Other Castes and least-poor households are more likely to be enrolled in private preschools than their counterparts.

6. **Educational opportunities and investments in basic education are distributed in an unfair way**. The infrastructure facilities of private schools seem to be better than those of public schools, although teachers in public schools were better qualified than those in private low-fee charging schools. In terms of teaching, many more teachers were observed to check and provide feedback to students in private schools than in public schools, although both public and private schools were using the lecture method of teaching.

7. **Increasing number of children drop out as they transition to secondary education**. In our sample we found that around 28 per cent of children had dropped out of secondary school by age 19. Again, the factors linked with dropping out of secondary schooling are linked largely with households' level of poverty along with other factors like gender, caste and mothers' level of education. Child labour at age 12 and writing and reading ability at age 8 emerge as important determinants of secondary school completion (Singh and Mukherjee, 2016).

8. **Access to tertiary education is highly segregated.** In India, there are two types of post-secondary studies: university (colleges/ universities) and technical institutes. Enrolment in tertiary education is determined by many factors, like gender status, residential status, poverty at households and mother's education and aspiration.

The above scenarios indicate the progress and challenges within the education system in India. The low educational achievement for children from economically and socially disadvantaged parts of society needs to be addressed urgently to ensure that education becomes an equaliser. The educational outcomes of children at different ages are mostly found to be linked with household poverty, along with additional factors like gender, caste and location. This requires consistent policies, programmes and public investment targeting educationally vulnerable children from an early age. We conclude that the educational system may be reinforcing inequalities since it does not provide equal opportunities for all; ideally, it should prioritise the opportunities of children and young adults who we know are more likely to have poor educational outcomes.

From the 'life-course' perspective, the focus should be on early years of education. The link between early literacy and secondary school completion requires policy attention (Singh and Mukherjee 2015). It is critical that preschool and primary teachers are effectively trained to develop early literacy to ensure children both acquire skills and retain interest in learning. The ongoing process to formulate a new National Policy on Education is an opportunity which must be seized in this regard.

We also see that, within the Young Lives sample, children in private schools seem to perform better academically, despite better-qualified and more experienced teachers working in government schools. In this context it is critical that education policies at macro and micro level serve to promote inclusion, not exclusion, for children from lower castes or poorer areas. It has increasingly become clear that Education For All (EFA) goals cannot be achieved merely by achieving universal enrolment. Quality education must also become an inherent right for every child irrespective of gender, caste, ethnicity, religion, socio-economic background, ability, or location.

Children in private schools had better mathematics scores than children in government schools, which is perhaps not surprising since the private system caters to more advantaged children. However, we continue to see this difference in maths scores when we control for children's previous achievement and several household, child, class and school-level

characteristics (Singh and Sarkar 2012). Delivering the quality education required under Education For All commitments and managing the equity implications of a rapidly growing private school system raises some important challenges: (1) raising quality across the board – including ensuring common quality standards within government and private schools; (2) greater accountability mechanisms, enabling government schools to meet the aspirations and educational needs of the children and their families that they are meant to serve; (3) ensuring different children are not segregated by sector depending on their location, ethnicity, gender or family wealth, so that education fulfils the potential to become equalising, not reinforcing, of existing divisions.

We see that gender differences become more significant as children get older, but boys are also not always advantaged – particularly for those belonging to chronically poor households. Policies to reduce gender-based differences are required and engagement with civil society and communities and families is necessary to reduce gender-based discrimination.

For education to become an equaliser, systemic reform is required to safeguard against the stratification of schools. Regulatory mechanisms must be introduced at the state, district and sub-district levels, to promote school effectiveness. There is a strong case for an autonomous department of standards and evaluation to be set up at the Central and state level and quality standards developed and implemented across all schools. A 'common school system' may be the best way forward to ensure that the education system is able to promote equity and social justice. Also, education does not always compensate for background disadvantage, and may reinforce inequalities. Well-designed school curricula that focus on supporting all children can help to narrow gaps in achievement.

Social protection is a key way of underpinning pro-poor policy, but must be well-designed, targeted and implemented, and must take into account how programmes are perceived. Benchmarks and regulatory mechanisms need to be developed and implemented for quality assurance – in both government and private schools. One way to achieve this would be to create an autonomous body for assessment of schools and learning levels of children in every state. This information should be in the public domain to foster greater accountability of all schools.

On the policy side, Young Lives research highlights serious equity concerns with children having very different educational opportunities because of their household wealth level, location or gender, with government schools often the only option available to the poorest households. Polices must take a holistic approach in response to the multidimensional nature and consequences of inequality.

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Appendices

Appendix A

Table A1. *Profiling of castes from Young Lives (all in percentages)*

Caste	Place of residence		Mother's education		Mean Wealth Index	
	Urban	Rural	No formal education	Secondary and above education	Baseline Wealth Index (2002)	Current Wealth Index (2013)
Older Cohort						
Scheduled Caste	13.7	86.3	88.2	2.9	0.33	0.54
Scheduled Tribe	8.3	91.7	79.3	8.5	0.32	0.52
Backward Class	24.4	75.6	70.8	9.7	0.41	0.62
Other Castes	45.2	54.8	42.6	23.2	0.53	0.69
Younger Cohort						
Scheduled Caste	15.1	84.9	69.8	15.2	0.36	0.53
Scheduled Tribe	6.5	93.5	77.7	8.6	0.25	0.47
Backward Class	23.2	76.8	62.6	20.3	0.41	0.60
Other Castes	50.9	49.1	29.3	45.4	0.55	0.69

Appendix B

Table B1. *Enrolment in preschool by type of school*

		Older Cohort	Younger Cohort
Undivided Andhra Pradesh	Private	31.6	37.7
	Public	68.4	62.3
Urban	Private	80.8	87.8
	Public	19.2	12.2
Rural	Private	13.8	17.7
	Public	86.2	82.3

Appendix C

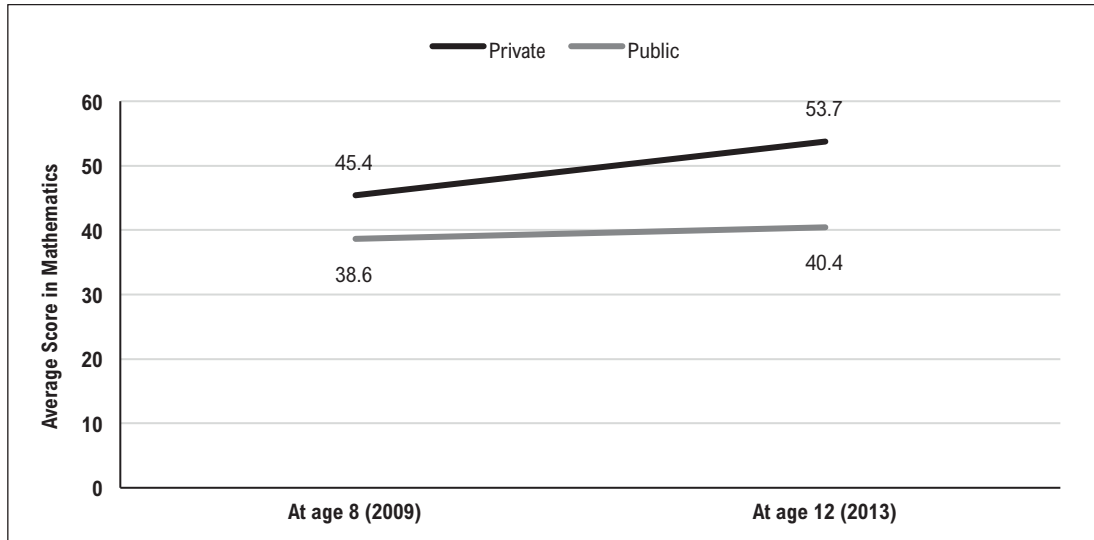**Figure C1.** *Average mathematics score by private and public school among Younger Cohort children*

Table C1. *Average mathematics score by gender among Younger Cohort children*

	At age 8 (2009)	At age 12 (2013)
Boys	41.9	44.0
Girls	41.0	44.0

Figure C2. *Average mathematics score by place of residence among Younger Cohort children*
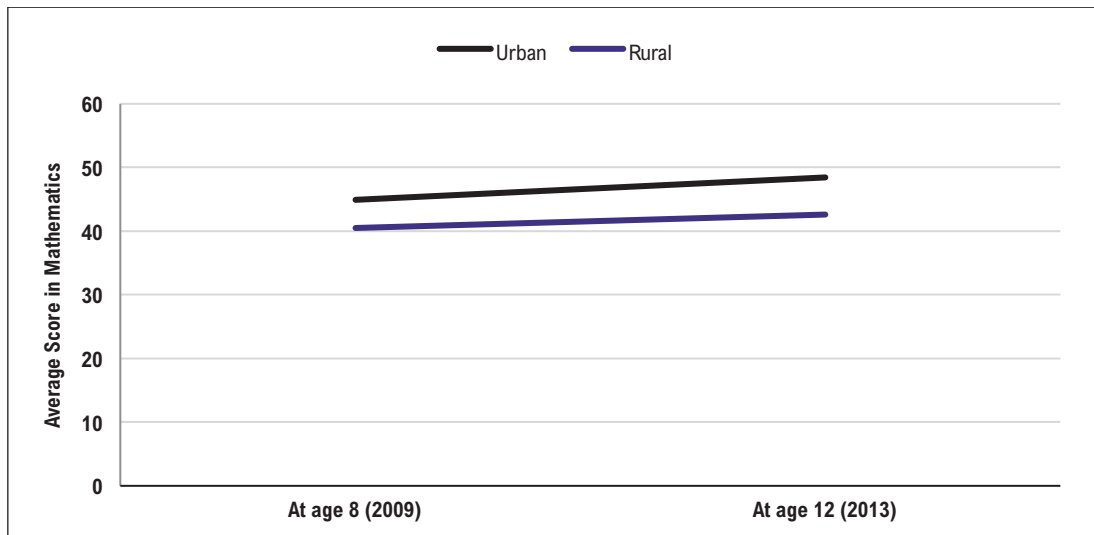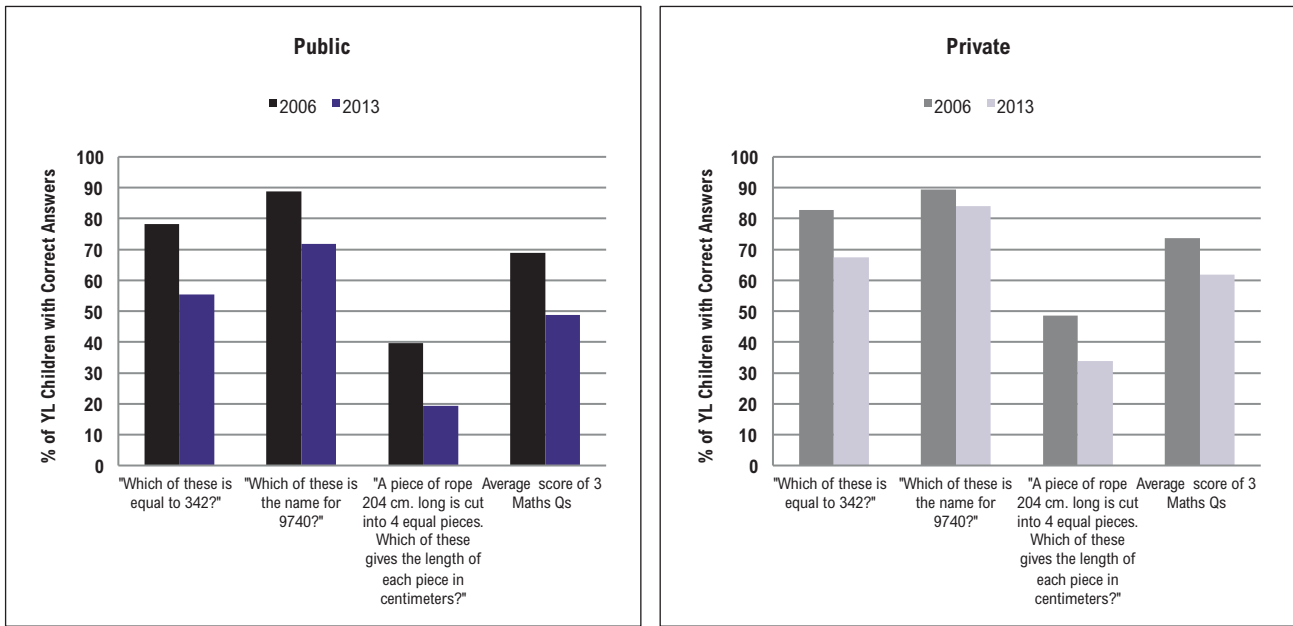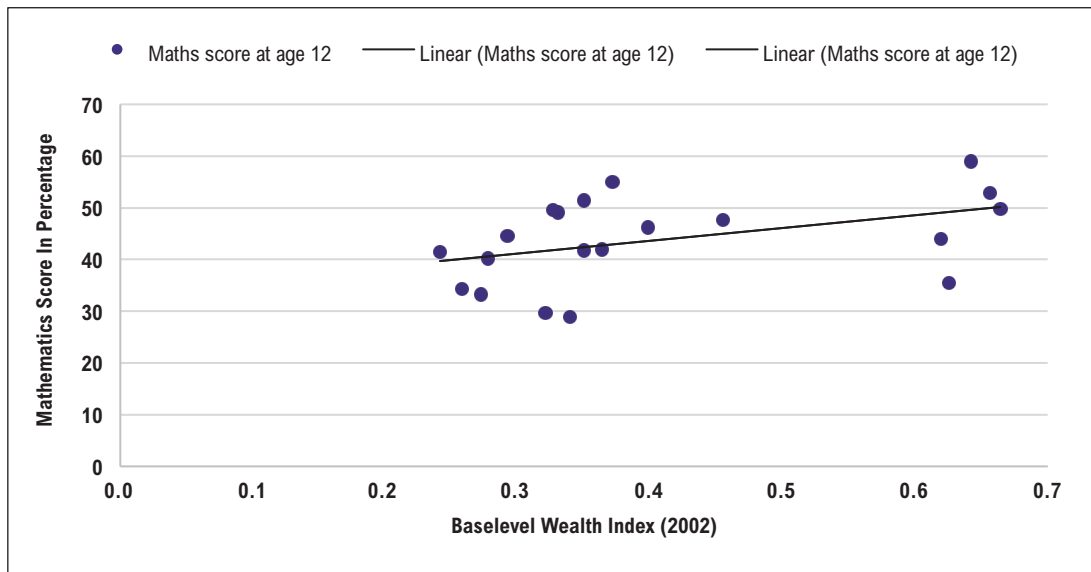
Figure C3. *Learning outcomes of 12-year-old Older and Younger Cohort children in public and private schools*

Appendix D

Figure D1. *Association between mathematics scores and wealth index per pupil at age 12, by clusters, Younger Cohort*

Note: Pearson correlation 0.43

Appendix E

Table E1. *Attendance rate at preschool at age 5 (Older Cohort)*

Older Cohort	Public school	Private school	Not attending school
Average	41.0	18.9	40.1
Gender			
Boys	35.6	20.0	44.4
Girls	46.3	17.8	35.9
Gap	10.7	2.2	8.5
Place of residence			
Urban	12.9	54.2	32.9
Rural	49.7	8.0	42.3
Gap	36.8	46.2	9.4
Maternal education			
No education	46.6	8.3	45.1
Primary	36.0	28.0	36.0
Middle	34.2	39.0	26.8
Secondary and above	14.3	66.3	19.4
Gap	32.3	58.0	25.7
Baseline wealth index (R1)			
Top quintile	10.0	60.0	30.0
Bottom quintile	55.5	1.6	42.9
Gap	45.5	58.4	12.9
Caste			
Scheduled Caste	48.0	6.4	45.6
Scheduled Tribe	57.1	11.4	31.4
Backward Class	41.5	16.0	42.6
Other Caste	24.6	41.9	33.5
Gap	32.5	35.5	12.1
Dynamic poverty status			
Consistently least poor	16.5	57.5	26.0
– Boys	11.9	59.4	28.7
– Girls	21.2	55.6	23.2
Chronically poor	54.2	2.6	43.2
– Boys	52.0	2.9	45.1
– Girls	56.8	2.3	40.9
Gap (Least poor – poor)	-37.7	54.9	-17.2

Appendix F

Table F1. *PPVT score over time (percentages)*

	Younger Cohort at age 5 (2006)	Younger Cohort at age 8 (2009)	Younger Cohort at age 12 (2013)	Older Cohort at age 12 (2006)	Older Cohort at age 15 (2009)
Average	22.0	28.7	75.2	72.2	74.9
Gender					
Boys	22.2	30.0	75.4	73.2	74.7
Girls	21.7	27.1	74.9	71.2	75.1
Gap	0.5	2.9	0.6	2.0	0.4
Place of residence					
Urban	29.0	33.2	77.4	79.9	87.4
Rural	19.8	27.3	74.5	69.8	70.9
Gap	9.2	6.0	3.0	10.1	16.5
Maternal education					
No education	17.7	25.9	72.3	68.6	72.4
Primary	23.7	29.5	76.5	76.0	77.9
Middle	24.4	31.9	78.7	79.7	79.8
Secondary and above	31.5	34.2	80.8	87.5	81.8
Gap	13.9	8.3	8.5	18.9	9.3
Baseline wealth index (R1)					
Top quintile	32.7	35.1	79.5	81.2	85.9
Bottom quintile	18.2	23.2	69.8	66.6	72.0
Gap	14.5	11.9	9.7	14.5	13.9
Caste					
Scheduled Caste	18.0	28.4	75.1	66.9	71.8
Scheduled Tribe	27.4	24.7	71.1	79.8	75.1
Backward Class	19.9	27.9	75.4	70.6	74.7
Other Castes	26.5	33.7	77.8	76.8	78.2
Gap	9.3	9.0	6.8	12.9	6.5
Dynamic poverty status					
Consistently least poor	31.1	34.7	80.2	81.7	83.0
– Boys	31.0	36.1	79.5	81.0	82.1
– Girls	31.4	32.8	81.1	82.4	83.9
Chronically poor	18.7	22.7	68.7	66.5	71.6
– Boys	19.5	23.2	69.0	66.7	71.4
– Girls	17.8	22.1	68.4	66.3	71.9
Gap (Least poor – poor)	12.4	12.0	11.5	15.1	11.4

Note: Scores are presented as percentages to facilitate understanding. The test has 125 items.

Appendix G. Timeline of key educational initiatives and policies

1986 National Policy on Education 1986 (NPE 1986) adopted.

1987 Several large centrally-assisted schemes/programmes such as 'Operation Blackboard' and the scheme for restructuring and reorganisation of teacher education launched.

1988 National Literacy Mission (NLM) launched

1992 National Policy on Education 1986 revised.

1994 District Primary Education Programme (DPEP) launched to universalise primary education in selected districts.

1995 Centrally-assisted National Programme of Nutritional Support to Primary Education, popularly known as the Mid-Day Meal Scheme (MDMS) launched.

1999 A separate Department of School Education and Literacy created within the Ministry of Human Resource Development, Government of India.

2001 Sarva Shiksha Abhiyan, the flagship programme for universalisation of elementary education, launched.

2002 The Constitution (Eighty-sixth Amendment) Act, 2002: (i) inserted Article 21-A into the Constitution of India to provide free and compulsory education for all children aged six to 14 years as a fundamental right; (ii) substituted Article 45, which now stated "The State shall endeavour to provide early childhood care and education for all children until they complete the age of six years".

2003 National Youth Policy, 2003 formulated.

2004 Education Cess introduced for raising additional financial resources needed to fulfil Government's commitment to universalise elementary education.

2005 National Curriculum Framework (NCF-2005) for school education formulated.

2007 Eleventh Five-Year Plan (2007-12) launched.

2009 (i) The Right of Children to Free and Compulsory Education Act, 2009 enacted;

(ii) The revised National Curriculum Framework for teacher Education formulated; (iii) The Rashtriya Madhyamik Shiksha Abhiyan (RMSA) launched in March 2009, with the vision of making secondary education of good quality available, accessible and affordable to all young persons in the age group 15-16 years; (iv) Revised Centrally-sponsored Scheme of Inclusive Education for the Disabled at Secondary Stage approved; (v) The Centrally-Sponsored Scheme "Construction and Running of Girls' Hostel for Students of Secondary and Higher Secondary Schools approved.

2010 (i) The Right of Children to Free and Compulsory Education (RTE) Act 2009 came into force from 1 April 2010; (ii) All states/union territories notified of State RTE Rules. Central RTE rules apply to union territories without legislation.

2011 The revised Centrally-Sponsored Scheme "Vocationalisation of Higher Secondary Education" approved.

2012 The Twelfth Five-Year Plan (2007-2012) launched.

2013 (i) National Early Childhood Care and Education (ECCE) Policy adopted; (ii) The Integrated Child Development Services, the flagship programme of Government of India for ECCE restructured and strengthened.

2014 National Youth Policy, 2014 adopted.

Education Trajectories: From Early Childhood to Early Adulthood in India

This report draws upon Young Lives longitudinal data gathered in Andhra Pradesh and Telangana to trace the educational trajectories of two cohorts of children since 2002. From this data, it is clear that huge disparities exist in educational outcomes for children, based on wealth index, gender, location and dynamic poverty status. Stratification of better-off children and boys into private low-fee charging schools adds further to the inequity.

This report highlights the increasing inequities and lack of opportunities afforded to children, particularly girls, from chronically poor households. The low educational achievement for children from economically and socially disadvantaged backgrounds needs to be addressed urgently to ensure that education becomes an equaliser rather than a source of increasing division. This would need consistent policies, programmes and public investment targeting educationally vulnerable children from an early age.

Some policy recommendations are:

- It is critical to focus on early years and ensure that preschool and primary teachers are effectively trained to develop early literacy, so that children acquire skills and retain interest in learning.

- Given the increase in private school enrolment of children from better-off households, it is important that the Sustainable Development Goals' focus on 'quality education' must become an inherent right for every child irrespective of gender, caste, ethnicity, religion, socio-economic background, ability, or location.

- Since gender disparity in schooling increases as children grow older, safety nets and social protection for the poorest households must be made available.

- There is a strong case for an autonomous department of standards and evaluation to be set up and quality standards developed and implemented across all schools. A 'common school system' may be the best way forward to ensure that the education system is able to promote equity and social justice.

Young Lives
An International Study of Childhood Poverty

About Young Lives

Young Lives is an international study of childhood poverty, involving 12,000 children in 4 countries over 15 years. It is led by a team in the Department of International Development at the University of Oxford in association with research and policy partners in the 4 study countries: Ethiopia, India, Peru and Vietnam.

Through researching different aspects of children's lives, we seek to improve policies and programmes for children.

Young Lives Partners

Young Lives is coordinated by a small team based at the University of Oxford, led by Professor Jo Boyden.

- *Ethiopian Development Research Institute, Ethiopia*

- *Pankhurst Development Research and Consulting plc, Ethiopia*

- *Centre for Economic and Social Studies, Hyderabad, India*

- *Save the Children India*

- *Sri Padmavathi Mahila Visvavidyalayam (Women's University), Andhra Pradesh, India*

- *Grupo de Análisis para el Desarollo (GRADE), Peru*

- *Instituto de Investigación Nutricional, Peru*

- *Centre for Analysis and Forecasting, Vietnamese Academy of Social Sciences, Vietnam*

- *General Statistics Office, Vietnam*

- *Oxford Department of International Development, University of Oxford, UK*

Contact:
Young Lives
Oxford Department of
International Development,
University of Oxford,
3 Mansfield Road,
Oxford OX1 3TB, UK
Tel: +44 (0)1865 281751
Email: younglives@younglives.org.uk
Website: www.younglives.org.uk

Young Lives