

Ensuring adolescents stay-and learn-in school

Background

The Government of India has invested in improving education through two key programmes, the *Sarva Shiksha Abhiyan* established in 2001 for elementary education (class 1–8) and *Rashtriya Madhyamik Shiksha Abhiyan* (RMSA) initiated in 2009 for universal access to, and retention in, secondary education. National statistics indicate that educational attainment levels have increased, and the proportion of children who has never been to school has declined.¹ In Bihar, the Population Council found high levels of enrolment amongst younger adolescents, with limited gender disparity: 94 percent of boys and 90 percent of girls in ages 10–14 years were enrolled in school.² Retention beyond elementary school, however, was low: unmarried girls and boys typically only stayed in school for nine years, and married girls for seven years. Further, learning outcomes – literacy and numeracy – were poor, bringing the quality of education inputs into question. This policy brief focuses on two challenges to preparing Bihar's adolescents for the future:

- Universal enrolment and retention in secondary school
- Improving learning outcomes

KEY FINDINGS

- Despite high enrolment in primary school, secondary school enrolment was low. Amongst adolescents in ages 15–19, about 3 in 4 boys, 2 in 3 unmarried girls, and less than 1 in 7 married girls were currently in school.
- The vast majority of students was enrolled in government schools.
- Thirty percent of boys and 41 percent of unmarried girls reported not attending school regularly.
- Of unmarried adolescents (15–19) who had completed elementary education, about 4 in 5 could read a simple class two Hindi text, while about 3 in 4 boys and 3 in 5 girls could solve a simple division problem.
- Key opportunities for the state are to improve school facilities, enhance teaching quality, and remove the economic and social barriers to enrolling, attending and completing secondary school.

The UDAYA study

Understanding the lives of adolescents and young adults (UDAYA), a programme of research conducted by the Population Council, seeks to explore the situation and needs of younger (10–14 years) and older (15–19 years) adolescents, describe changes in their situation and needs over time, and assess factors that determine how they transition from adolescence to young adulthood. In Bihar, the study includes a longitudinal and cross-sectional component, a policy and programme landscaping and qualitative sub-studies. In 2016, the Population Council collected quantitative data from:

- (a) a sample of adolescents who were first interviewed in 2007 when they were 15–19 years, and were 23–27 years old at the time of this survey
- (b) a fresh sample of unmarried girls and boys (10–14 and 15–19 years) and married girls in ages 15–19 years.

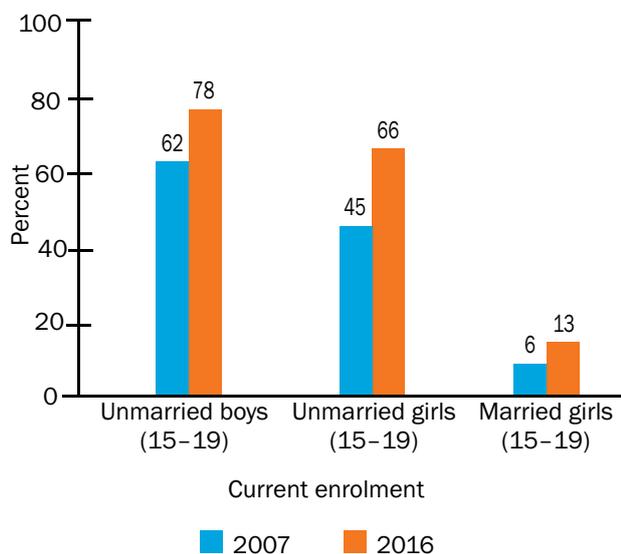
In 2018–19, we will re-interview this group, when they will be in ages 13–17 and 18–22, as well as collect data from a fresh sample of unmarried boys and girls (10–14 and 15–19) and married girls (15–19). This brief presents findings from the landscaping exercise and descriptive and multivariate analyses of:

- (a) the 2016 cross-sectional sample of 10,433 adolescents
- (b) the 2007 sample of 4,696 adolescents, 2,923 of whom were re-interviewed in 2016.

Secondary school: enrolment, attendance and completion

School enrolment in Bihar has improved considerably since 2007. The proportion of adolescents in ages 15–19 currently enrolled in school has increased substantially amongst unmarried boys, unmarried girls and married girls (Figure 1).

Figure 1: School enrolment amongst adolescents, 2007 and 2016



In 2016, approximately 3 in 4 unmarried boys and 2 in 3 unmarried girls (15–19 years) were currently enrolled in school, with a slightly higher proportion of girls who had dropped out compared to boys (Table 1). Eighteen percent of married girls were currently enrolled either in school or distance education – the remainder had either dropped out (53%) or never enrolled (29%).

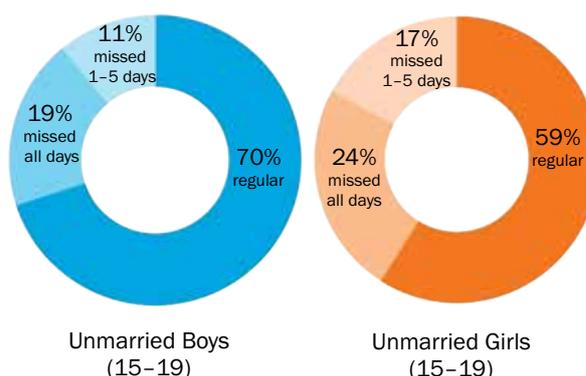
School infrastructure was moderate. In 2016, almost all respondents in ages 15–19 reported the availability of drinking water. The availability of toilet facilities had improved: between 76–88 percent adolescents (15–19) reported having a toilet in their current/last school, compared to 60–73 percent in 2007. Moreover, three-quarters of girls in school in 2016 reported that their school had a separate toilet facility. Four in 5 adolescents had access to a playground, and about 1 in 2 had a library at school. Overall, 39 percent of boys, 42 percent of unmarried girls and 39 percent of married girls in 2016 reported going to a school with all four facilities.

Table 1: Current schooling status, adolescents 15–19 years, 2016

Current schooling status	Unmarried Boys (15–19)	Unmarried Girls (15–19)	Married Girls (15–19)
% currently in school	78.3	66.2	13.4
% in distance education	1.2	5.3	4.6
% dropped out	17.2	20.0	52.6
% never went to school	3.4	8.6	29.4
Total	1,821	3,428	3,408

School attendance was far from regular. Three in 10 boys and about 4 in 10 unmarried girls reported not attending school regularly in the past week (Figure 2). Poor quality teaching, teacher absenteeism, work compulsions (paid work for boys and domestic chores for girls), and lack of interest in schooling were the leading reasons for not attending regularly.

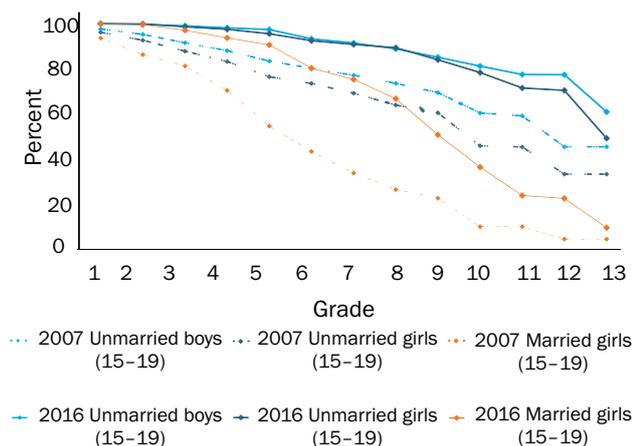
Figure 2: Attendance patterns in the last week, unmarried adolescents (15–19)



Educational attainment, the highest level of schooling completed, has improved considerably in the past decade in Bihar, with a narrowing gender gap between unmarried boys and girls (Figure 3). Overall attainment has also improved for married girls since 2007, although they continued to drop out earlier and attain fewer years of schooling compared to unmarried girls.

Boys reported dropping out of school primarily due to lack of interest in studies or to engage in work, either for the family or outside the home. For unmarried and married girls, housework, affordability, lack of interest and low priority—either they or their parents did not consider school a necessity—were the leading reasons for dropping out.

Figure 3: Cumulative percentage of adolescents (15–19) who completed each year of education, 2007 and 2016ⁱ



What factors are linked with secondary school enrolment and completion?ⁱⁱ

Amongst boys and girls, being currently enrolled in school was associated with having a mother who was educated; being enrolled in a school with all four facilities; and not having engaged in paid work. Higher household wealth was associated with girls being enrolled in school; however, this correlation did not emerge for boys.

UDAYA gained insight into the factors that influenced completion of secondary school through examining changes amongst those initially interviewed in 2007, when they were in ages 15–19. The following factors emerged as correlated with completing class ten or beyond:

- **Family characteristics: socio-economic status and maternal education**

Adolescent girls and boys from better-off families were more likely to have completed tenth class by the follow-up survey in 2016. Boys and girls whose mothers had at least eight years of education were also more likely to have completed secondary school.

- **Marriage**

Amongst girls in ages 15–19 who were unmarried in 2007, a large majority (87%) was married by 2016. Marital status was strongly associated with completion of secondary school: those who remained unmarried by 2016 had higher odds of completing secondary school compared to those who were married, after adjusting for other relevant factors. Amongst unmarried boys (15–19 years) in 2007, about one-half were married by 2016. Those who remained unmarried had higher odds of studying till at least class ten.

- **School infrastructure**

Adolescents enrolled in a school with all four facilities (drinking water, toilet, playground and library) in 2007 had higher odds of secondary school completion by 2016, compared to those who had been in schools with fewer facilities.

- **Engaging in paid work**

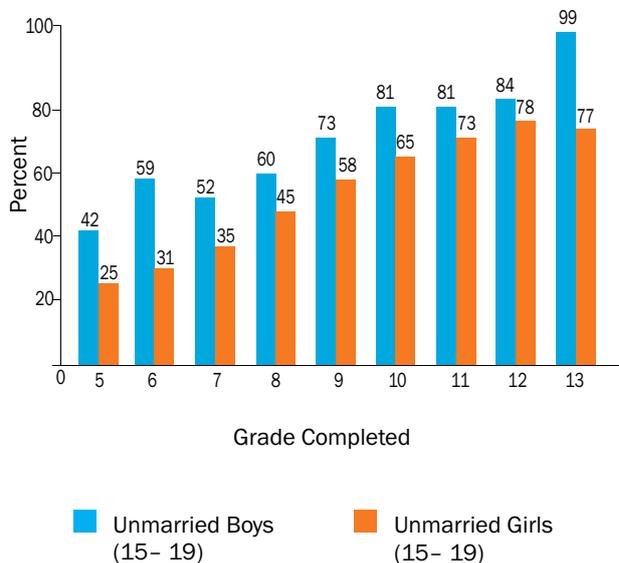
In 2007, a considerable proportion of adolescents in ages 15–19 had already ever worked for remuneration: 49 percent of boys, 27 percent of unmarried girls and 36 percent of married girls. Those who had never engaged in paid work in 2007 were more likely to have completed secondary school by 2016, after accounting for wealth and other demographic characteristics.

Learning outcomes

UDAYA's findings signal a crisis in education quality. For most adolescents, the ability to read in Hindi and solve a division problem was far below the corresponding schooling level.

Amongst adolescents who had completed elementary school or higher, 84 percent of boys, 79 percent of unmarried girls and 71 percent of married girls could read a class two Hindi text—with worse outcomes amongst those who were currently in lower grades (Figure 4). Further, 72 percent of boys, 60 percent of unmarried girls and 43 percent of married girls in ages 15–19 years who had completed at least eight years of schooling could solve a simple division problem.

Figure 4: Ability to solve basic division, by grades completedⁱⁱⁱ



ⁱNote: Nine boys, 24 unmarried older girls, and 19 married older girls who reported that they had completed 14 years or more of education were excluded from this analysis, since children typically are enrolled in Class 1 after they have completed six years of age and are, therefore, unlikely to have completed 14 years of schooling by age 19. ⁱⁱAnalyses conducted on the cohort interviewed in 2007 and 2016 controlled for demographic characteristics (wealth, urban/rural location, caste, religion and maternal education). ⁱⁱⁱData are presented only for unmarried girls and boys.

What factors are associated with learning outcomes^{iv}?

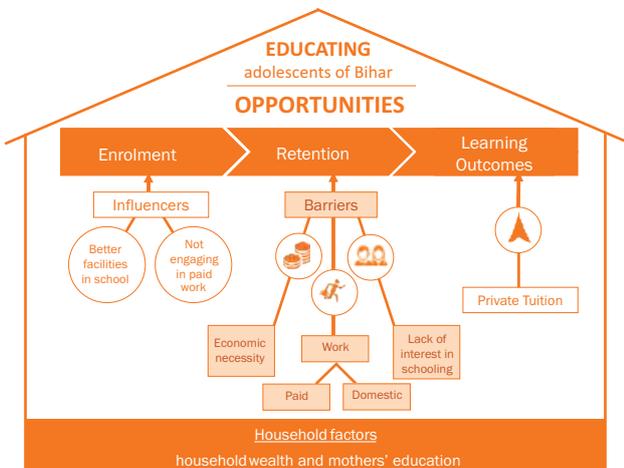
- **Private tuition, for boys**

After adjusting for demographic characteristics, type of school, school infrastructure, and attendance patterns, evidence indicated that receipt of private tuition in the previous month was associated with better performance in reading and division for boys, but not girls. These findings suggest that the quality of input or supplementation afforded by tuition makes a difference, at least to some extent. Neither type of school nor school infrastructure emerged as an independent factor associated with learning outcomes.

- **Maternal education, for girls**

For girls, the ability to read and perform division was associated with their mothers' education level—though not for boys. Girls whose mothers had at least eight years of education were twice as likely to be able to read and perform division. A father's education level did not influence learning outcomes for either girls or boys.

Educating Bihar's adolescents: Opportunities



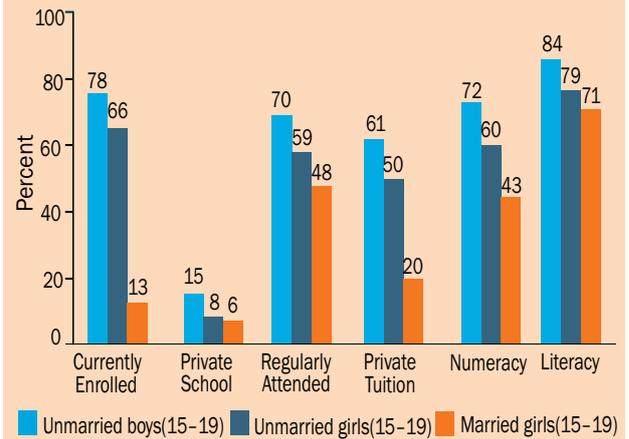
Programme and policy insights

Interviews with programme implementers in Bihar suggested that a key focus of the education department, supported by the political leadership, was to ensure universal enrolment for adolescents under 14 years and promote girls' education. While these efforts have borne success in primary education, secondary schooling faces critical challenges in both retention of students and the quality of teaching. Individual schemes to reward girls who complete secondary school have been

An overview of gender disparities

Girls in ages 15–19 lagged behind boys in every area of education. By secondary school, girls dropped out sooner and in slightly higher proportions. While there was a narrow gap in literacy outcomes, girls performed considerably worse in numeracy. Families appeared to invest less in girls: fewer girls received private tuition compared to boys, and amongst the small proportion in private school, more boys were enrolled.

Figure 5: Gender disparities amongst adolescents 15–19 years



Notes: Currently enrolled is % of all adolescents. Private school enrolment is amongst those who have ever enrolled in school. Regular attendance and private tuition are amongst those currently enrolled in school. Numeracy and literacy are amongst those who have completed class 8 and above.

implemented, while initiatives to hire guest faculty and provide extra classes for girls are planned. However, implementation barriers persist, particularly a shortage of qualified and full-time teachers. Further, despite UDAYA's findings that education schemes have wide reach in Bihar, considerable gaps remain in promoting secondary schooling and removing economic barriers—suggesting the need for re-evaluation of both the content and structure of schemes for secondary schooling.

Invest in first-generation learners

More than 36 percent of unmarried adolescents were first-generation learners: neither their mother nor father had any schooling. Given patterns that indicate higher educational attainment for adolescents whose mothers attended school, an overarching priority must be to target this group of adolescents. Schemes, incentives and media messaging can be tailored to highlight the importance of educating first-generation learners—for families today, future generations and the progress of the state.

^{iv}Statistical analyses controlled for wealth, urban/rural location, caste, religion and maternal education, amongst those who had completed at least five years of schooling.

Recommendations

Invest in secondary schooling

Many adolescents in Bihar have not completed secondary school: UDAYA found that only three-fifths of boys and unmarried girls and one quarter of married girls in ages 18–19 completed class 10. While budgetary allocations have increased for education, improving retention of students from primary into secondary education will require increased, focused investment in older adolescents to improve retention as well as outcomes.

Improve school facilities

Implementation of RMSA provisions for complete school infrastructure – drinking water, functional toilets, a playground and library – is critical. About two-fifths of adolescents in school reported attending a school with these four facilities. Having a fully-equipped school was associated with the likelihood of being enrolled and completing school, compared to students who were enrolled in less-equipped schools.

Support and evaluate quality teaching inputs and curriculum changes

Bihar has initiated several steps to improve quality teaching; evaluating and expanding these interventions is required, as is support to up-scale promising models. Evidence from India indicates promise for interventions such as:

- (a) curricular innovations to ensure materials are appropriate to students' actual learning levels³
- (b) extra support through additional teachers^{4,5} and remedial education through teachers or volunteers^{6,7}
- (c) introducing teacher incentives linked to student performance⁸
- (d) information and communications technology (ICT) based instruction^{6,9} and
- (e) increased parental/community involvement to enhance accountability of teachers and schools.¹⁰

Remove economic and social barriers to enrolment and attendance

Despite wide reach of schemes, economic pressures continue to prevent students from completing school. Experience from

conditional cash transfer schemes for girls such as *Dhanlakshmi* and *Apni Beti Apna Dhan* suggests that incentives may affect girls' aspirations to stay in secondary school and delay marriage. Further implementation calls for restructured incentives, simplified procedures and targeted approaches to include the most vulnerable, along with a focus to promote retention in secondary school as an outcome along with increased age at marriage.^{11,12} More research is required to examine what economic incentives will be effective in retaining both boys and girls, particularly the most vulnerable, in secondary school.

Promote regular school attendance

Regular school attendance must become a high priority for adolescents and their families, potentially through interventions such as: low-cost benefits linked to attendance, monitoring teachers, de-worming, nutritional supplementation, and engaging parents and school management committees.^{10,13}

Engage adolescents and parents to prioritise and celebrate secondary education

Efforts must be made to examine why adolescents lack interest in schooling—a leading reason for discontinuation—as well as to develop programmes that promote a positive environment in school, with parents, and in the household. Particularly for girls, a family's support at home is critical for enrolment and retention. Intensified social messaging and campaigns such as *Beti Bachao, Beti Padhao*, television-based inputs and awareness efforts may promote social norms that value education for the next generation of girls. Evaluating the impact of these efforts will be critical.

Acknowledgements

The authors are grateful to Stephanie Psaki, Priya Nanda, and Diva Dhar for insightful comments, to Madhuri Das for the landscaping report, and to the Bill & Melinda Gates Foundation and the David & Lucile Packard Foundation for financial support for UDAYA.

This brief is based on data collected by the UDAYA study, the report of which is available at www.projectudaya.in.²

For more information about the Population Council's global work in education, please see our website (<http://www.popcouncil.org/research/girls-education>).

References

1. Ministry of Human Resource Development (MOHRD). 2016a. *Educational Statistics at a Glance*. New Delhi: Department of School, Education and Literacy, Government of India.
2. Santhya, K.G., R. Acharya, N. Pandey, et al. 2017. *Understanding lives of adolescents and young adults (UDAYA) in Bihar*. New Delhi: Population Council.
3. Banerjee, A., R. Banerji, J. Berry et al. 2016. Mainstreaming an effective intervention: Evidence from randomized evaluations of "Teaching at the Right Level" in India. *NBER Working Paper No. 22746*. Accessed on 11 August 2017 at <http://www.nber.org/papers/w22746.pdf>.
4. Chin, Aimee. 2005. "Can redistributing teachers across schools raise educational attainment? Evidence from operation black-board in India," *Journal of Development Economics* 78(2): 384–405.
5. Muralidharan, K. and V. Sundararaman. 2013 "Contract Teachers: Experimental Evidence from India," National Bureau of Economic Research (NBER), *working paper 19440*. Accessed on 11 August 2017 (<http://www.nber.org/papers/w19440>).
6. Banerjee, A., S. Cole, E. Duflo et al. 2007. "Remedying education: evidence from two randomized experiments in India," *The Quarterly Journal of Economics* 122(3): 1235–64.
7. Lakshminarayana, R., A. Eble, P. Bhakta et al. 2014. "The support to rural India's public education system (STRIPES) trial: a cluster randomised controlled trial of supplementary teaching, learning material and material support," *PLoS One* 8 (7): e65775.
8. Muralidharan, K. and V. Sundararaman. 2011. "Teacher Performance Pay: Experimental Evidence from India," *Journal of Political Economy* 119(1): 39–77.
9. Linden, L. 2008. "Complement or substitute? The effect of technology on student achievement in India," *JPAL working paper*, Accessed on 11 August 2017 at <https://www.povertyactionlab.org/evaluation/complement-or-substitute-effect-technology-student-achievement-india>.
10. Santhya, K. G., A. J. Francis Xavier, P. Patel et al. 2016. *Engaging Parents to Promote Girls' Transition to Secondary Education: Evidence from a Cluster Randomised Trial in Rural Gujarat, India*. New Delhi: Population Council.
11. Nanda, P., P. Das, N. Datta, et al. 2016. Making change with cash? Impact of a conditional cash transfer program on girls' education in India in *Impact on Marriage: Program Assessment of Conditional Cash Transfers*. Washington DC: ICRW.
12. Sekher, T.V. and F. Ram. 2015. *Conditional Cash Transfers for Girls in India: Assessment of a Girl Child Promotion Scheme from Beneficiary Perspective*. Mumbai: International Institute for Population Sciences (IIPS).

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Suggested Citation

Desai, S., N. Pandey and A.K. Gupta. 2017. *Ensuring adolescents in Bihar stay—and learn—in school. Policy Brief*. New Delhi: Population Council.

Study supported by

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