



Shifts toward equitable gender attitudes among adolescents and their impact

Evidence from
the UDAYA Longitudinal Study in
Bihar, India



The Population Council conducts research and delivers solutions to improve lives around the world. Big ideas supported by evidence: It's our model for global change.

For more information, please contact:

Population Council
Zone 5A, Ground Floor
India Habitat Centre, Lodi Road
New Delhi, India 110 003
Phone: 91-11-24642901
Email: info.india@popcouncil.org
Website: www.popcouncil.org

Suggested citation:

Patel, S. K., K. G. Santhya, and N. Haberland. 2020. *Shifts toward equitable gender attitudes among adolescents and their impact: Evidence from the UDAYA Longitudinal Study in Bihar, India. Policy Brief.* New Delhi: Population Council.

Acknowledgements

The authors are grateful to Paul Hewett of the Population Council, Priya Nanda of the Gates Foundation, and Anand Sinha of the Packard Foundation for their insightful comments on earlier versions of this brief, and to the Bill & Melinda Gates Foundation and the David & Lucile Packard Foundation for financial support for the UDAYA study. The authors would like to acknowledge the contributions of other members of the UDAYA study team at the Population Council and a special thanks goes to Shilpi Rampal for her contributions in preparing the figures and infographics. We would also like to thank Annu Kurien, our technical editor for her editorial contributions which have made the brief more readable and accurate.

Background

Gender role attitudes adopted by adolescent boys and girls affect behaviours and practices related to their development, health, and well-being, not only during adolescence but also in adulthood (Marston and King, 2006; WHO, 2012). Although the influence of gender norms and the assumption of gender roles begin in childhood, gender attitudes undergo heterogeneous changes in adolescence and during the transition to adulthood (Fan and Marini, 2000; Moors, 2003; Cunningham et al., 2005). Despite the significance of this construct, many questions remain regarding the development and mutability of gender role attitudes among young people in low- and middle-income countries such as India.

Drawing on data from the Bihar component of the UDAYA study (Understanding the lives of adolescents and young adults in Bihar and Uttar Pradesh), this policy brief explores:

- Girls' and boys' gender role attitudes and how these attitudes shift over time;
- Differentials in the attitudes of those who experienced transitions such as exit from school, entry into paid work, and entry into marriage;
- Factors that help adolescents form gender egalitarian attitudes;
- The association between adoption of egalitarian gender attitudes and incidence of selected outcomes related to marriage and sexual and reproductive health.

The UDAYA Study

The UDAYA study—a longitudinal study of adolescent boys and girls in Bihar and Uttar Pradesh—conducted by the Population Council in 2015–16 and 2018–19, with the support of the Bill and Melinda Gates Foundation and the David and Lucile Packard Foundation, offers a unique opportunity to examine adolescents' gender role attitudes, whether and how these attitudes change, and their influence during adolescents' transition to adulthood.

UDAYA sought to explore the situation and needs of younger (10–14 years) and older (15–19 years) adolescents and assess factors that determine the nature of their transition from adolescence to young adulthood (see www.projectudaya.in for more details about the study). A total of **10,433** boys and girls were interviewed at wave 1

Key Findings

- Girls' and boys' gender role attitudes became more egalitarian as they transitioned from early to late adolescence.
- Gender role attitudes hardly improved over time among older adolescents.
- While boys' gender role attitudes were unrelated to school continuation, entry into paid work, or transition to marriage, girls' attitudes were associated with school continuation and transition to work.
- Exposure to digital media helped boys and girls develop gender egalitarian attitudes, and interactions with frontline workers and participation in adolescent-focused programmes, additionally, positively influenced girls' attitudes.
- Young women who expressed gender egalitarian attitudes in adolescence were more likely than others to delay marriage and use modern contraceptive methods, and they were less likely to experience spousal violence.

in 2015–16 and **8,467** of these boys and girls were re-interviewed at wave 2 in 2018–19 (see Population Council, 2020 for more details). The main reasons for loss to follow-up were migration of the participant (8% for boys and 5% for girls) and refusal by the participant or his/her parent or guardian for an interview (4% each for boys and girls).

Findings presented in this brief draw on data from respondents who were interviewed at both waves (N=8,467). We note that the wave 1 characteristics of those who were re-interviewed and those who were not at wave 2 differed; a larger proportion of respondents who were re-interviewed resided in rural areas, belonged to disadvantaged castes and the Hindu religion, compared with respondents who were not re-interviewed.

Five context- and age-appropriate questions were posed to respondents to assess their gender role attitudes at both waves of the survey (see Annexure 1 for questions). We created an additive index that summarised participants' responses to these questions with the value of the index ranging from 0 indicating inequitable views to 5 indicating adherence to highly egalitarian attitudes ($\alpha=0.51$).¹

¹We acknowledge that the Cronbach's alpha is not very strong; it may be partially due to the small number of questions available for constructing the index.

Our analysis consists of a comparison of gender role attitudes scores at wave 1 and wave 2 for adolescents who were interviewed in both waves; we also conducted bivariate analysis, Chi-square test, and McNemar tests.² We also fitted a fixed effects model with age, engagement in paid work, household wealth index, current enrolment in school, years of schooling completed, marital status, membership in adolescent groups, participation in political activities, participation in adolescent programmes, having future aspirations, parent-adolescent communication, experience of discriminatory practices at home, having a role model, interaction with frontline workers, access to digital media, and size of peer network. We used the analytical sample of adolescents who were aged 15–19 and unmarried at wave 1 and interviewed at both waves in the fixed effects regression models.

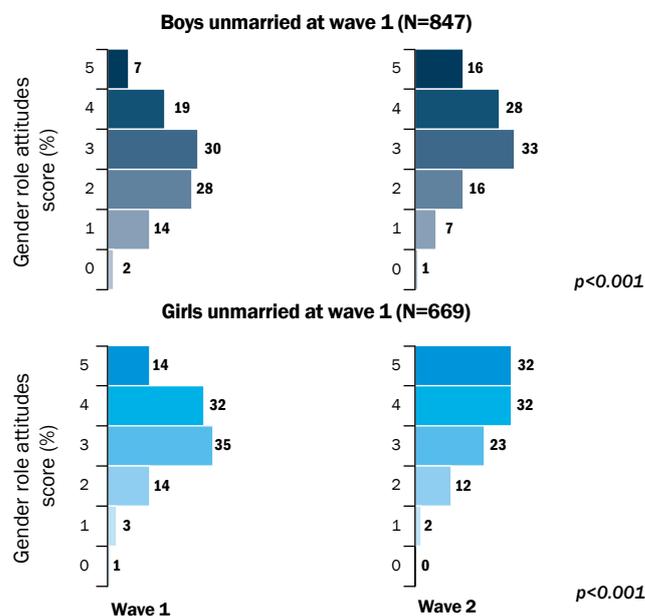
Results

Key Finding 1

Girls' and boys' gender role attitudes became more egalitarian as they transitioned from early to late adolescence

Our analysis shows that gender role attitudes became more egalitarian during the inter-survey period among younger adolescents, that is, boys and girls who were aged 10–14 at wave 1 ($p < 0.001$) (Figure 1A). The proportion of adolescents who scored 4 or 5 on the index of gender role attitudes increased by 18 percentage points for both boys and girls (from 26% at wave 1 to 44% at wave 2 among boys and from 46% at wave 1 to 64% at wave 2 among girls).

Figure 1A: Bivariate comparison of gender role attitudes score[#] at wave 1 and wave 2 among adolescents aged 10–14 at wave 1 and aged 13–17 at wave 2, Bihar, 2015–16 and 2018–19



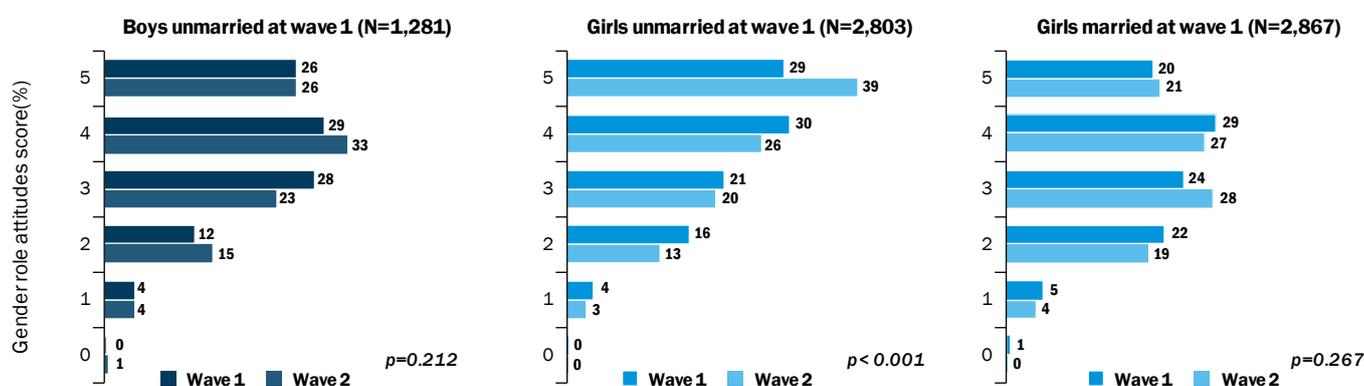
Notes: All Ns are unweighted. [#]The value of the index of gender role attitudes ranged from 0 indicating inequitable views to 5 indicating adherence to highly egalitarian attitudes.

Key Finding 2

Gender role attitudes hardly improved over time among older adolescents

While gender role attitudes of unmarried girls who were aged 15–19 at wave 1 became more egalitarian over time, those of boys and married girls of similar age remained largely stable (Figure 1B). The proportion of boys, for instance, who scored 4 or 5 on the index of gender role attitudes remained similar in both waves—55 percent at wave 1 and 59 percent at wave 2.

Figure 1B: Bivariate comparison of gender role attitudes score at wave 1 and wave 2 among adolescents aged 15–19 at wave 1 and aged 18–22 at wave 2, Bihar, 2015–16 and 2018–19



Note: All Ns are unweighted.

²All means, medians, and percentages indicated in the tables and figures have been weighted using normalised weights for the total population. However, in order to show the total number of adolescents and young adults interviewed, unweighted numbers of respondents (Ns) are provided. Because numbers are unweighted and percentages are weighted, we caution readers against deriving numbers based on the percentages provided in the tables and figures.

Key Finding 3

While boys' gender role attitudes were unrelated to school continuation, entry into paid work, or transition to marriage, girls' attitudes were associated with school continuation and transition to work

Previous studies in high-income countries have observed that gender role attitudes are modified by experience of critical life events such as exit from school, entry into work roles, and transition to marriage and parenthood (Grinza et al., 2017; Katz-wise et al., 2010). We examined the association between gender role attitudes and experience of such transitions as exit from school, entry into paid work and marriage, using bivariate and fixed effects regression analyses for those aged 15–19 at wave 1.

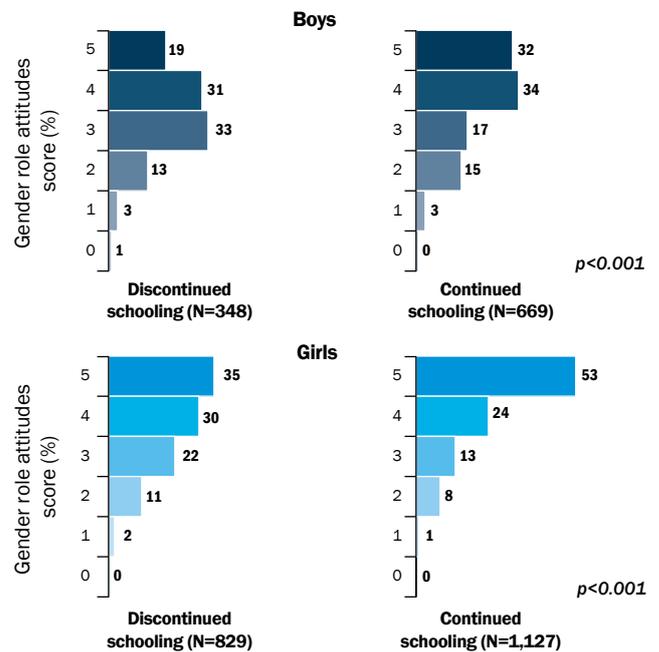
Schooling Status

Figure 2A shows findings from the bivariate analysis on the association between schooling status during the inter-survey period and gender role attitudes at wave 2 among adolescents aged 15–19 and enrolled in school at the time of the wave 1 survey. Bivariate results show that boys and girls who discontinued schooling during the inter-survey period were less egalitarian than those who continued schooling (50% versus 66% among boys and 65% versus 77%). The fixed effects regression analysis³, however, showed a different pattern: surprisingly, girls who continued to be in school were 11 percentage points less likely to score high on the gender role attitude index compared with those who discontinued schooling (regression coefficient=-0.110, $p=0.025$), while no such association was observed among boys. Although UDAYA did not collect data on classroom dynamics, studies in a variety of settings, including in Bihar, have shown that class room dynamics, as shaped by the teachers' attitudes and behaviours, can either reinforce traditional values or can promote new ideas and behaviours (Aikman and Unterhalter, 2013; Chisamy et al., 2012; NRC and Institute of Medicine, 2005; Santhya et al., 2015; Stromquist and Fischman, 2009) and that classroom dynamics was associated with girls' gender role attitudes and agency more often than boys' (Santhya et al., 2015).

Transition to Work

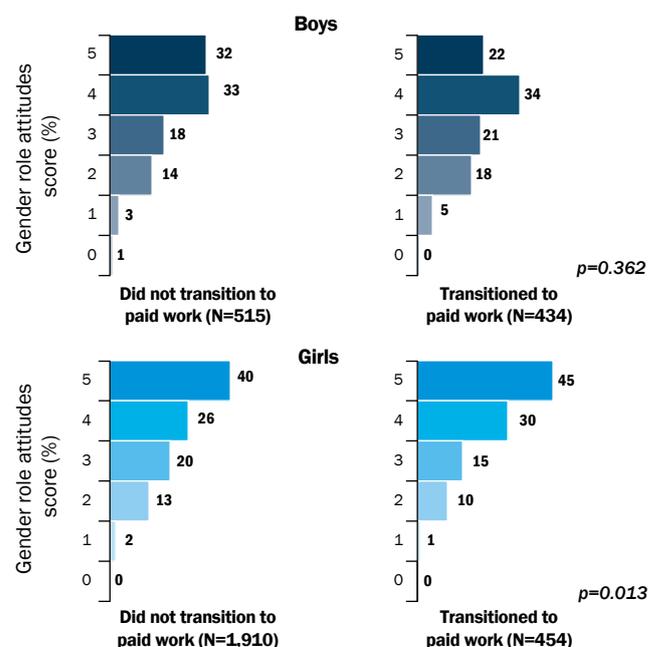
Figure 2B shows findings from the bivariate analysis on the association between transition to work during the

Figure 2A: Bivariate comparison of gender role attitudes score at wave 2 by schooling status during the inter-survey period among adolescents aged 15–19 years¹ at wave 1, Bihar, 2018–19



Notes: All Ns are unweighted. ¹The analysis is restricted to boys and girls aged 15–19, unmarried, and enrolled in school at the time of the wave 1 survey.

Figure 2B: Bivariate comparison of gender role attitudes score at wave 2 by transition to paid work during the inter-survey period among adolescents aged 15–19 years¹ at wave 1, Bihar, 2018–19



Notes: All Ns are unweighted. ¹The analysis is restricted to boys and girls aged 15–19, unmarried, and had never engaged in paid work at the time of the wave 1 survey.

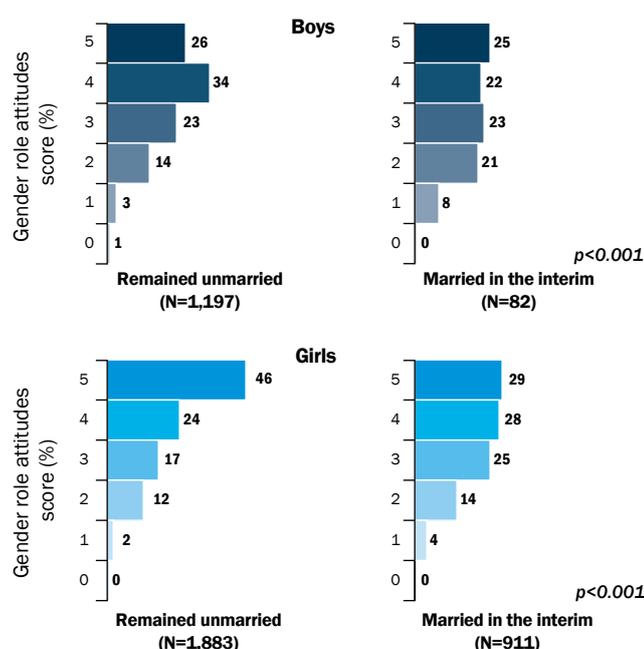
³While the bivariate analysis was restricted to those who were enrolled in school at the time of the wave 1 survey (N=1,017 for boys and N=1,956 for girls), the fixed effects regression was fitted for all boys and girls interviewed at both waves (N=2,562 for boys and N=5,606 for girls).

inter-survey period and gender role attitudes at wave 2 among adolescents aged 15–19 who had never engaged in paid work at the time of the wave 1 survey. The bivariate analysis results show that boys who transitioned to paid work during the inter-survey period were somewhat less egalitarian than their non-working counterparts at wave 2 (56% versus 65%). In contrast, girls who transitioned to work were more egalitarian than those who did not transition to work during the inter-survey period (75% versus 65%). The results of the fixed effects regression analysis⁴ show that girls who transitioned to work were 13 percentage points more likely to score high on the gender role attitude index than those who did not (regression coefficient=0.132, $p=0.041$), but no such association was observed in the fixed effects model for boys.

Marital Status

Figure 2C presents findings from the bivariate analysis on the association between transition to marriage during the inter-survey period and gender role attitudes at wave 2 among adolescents aged 15–19 who were unmarried at the time of the wave 1 survey. While boys and girls who got

Figure 2C: Bivariate comparison of gender role attitudes score at wave 2 by transition to marriage during the inter-survey period among adolescents aged 15–19 years¹ at wave 1, Bihar, 2018–19



Notes: All Ns are unweighted. ¹The analysis is restricted to boys and girls aged 15–19 and unmarried at the time of the wave 1 survey.

⁴While the bivariate analysis was restricted to those who had never engaged in paid work at the time of the wave 1 survey (N=949 for boys and N=2,364 for girls), the fixed effects regression was fitted for all boys and girls interviewed at both waves (N= 2,562 for boys and N=5,606 for girls).

married during the inter-survey period were less egalitarian than those who did not (47% versus 60% among boys and 57% versus 70% among girls), transition to marriage was unrelated to gender role attitudes in the fixed effects regression analysis.

Key Finding 4

Exposure to digital media helped boys and girls develop gender egalitarian attitudes, and interactions with frontline workers and participation in adolescent-focused programmes, additionally, positively influenced girls' attitudes

Multivariate analysis identified several significant factors that promote gender egalitarian attitudes among boys and girls. Noticeably, older adolescents who were exposed to digital media were significantly more likely to express gender egalitarian attitudes compared with their counterparts who were not exposed to these media (regression coefficient 0.227, $p=0.001$ for boys and 0.163, $p=0.001$ for girls). Additionally, older girls who interacted with frontline workers (regression coefficient=0.122, $p=0.009$) and participated in adolescent-focused programmes (regression coefficient =0.188, $p=0.000$) were more likely than their respective counterparts to express gender egalitarian attitudes.

Key Finding 5

Young women who expressed gender egalitarian attitudes in adolescence were more likely than others to delay marriage and use modern contraceptive methods, and they were less likely to experience spousal violence

We examined the relationship between expression of gender egalitarian attitudes at wave 1 and selected outcomes at wave 2, using multivariate distributed lagged regression analyses. Effects on age at marriage and exercise of choice in spouse selection were examined among girls who were aged 15–19 and unmarried at wave 1. Compared with girls who expressed gender inequitable views, those who expressed egalitarian attitudes were 58 percent more likely to delay marriage until 18 years of age; however, no significant effect of gender attitudes was observed on spouse selection. Effects on current use of modern contraceptive methods and experience of marital violence were assessed among girls who were married during the inter-survey period and

those who were already married at wave 1. Compared with girls who expressed gender inequitable views, those who expressed egalitarian attitudes were 11 percent more likely to report current use of modern contraceptive methods and 25 percent less likely to report marital violence at wave 2.

Policy and Programme Recommendations

The UDAYA study provides rigorous evidence on the mutability and effects of equitable gender attitudes among a representative longitudinal cohort of boys and girls in Bihar. While more equitable attitudes are arguably important in and of themselves, findings suggest that they may contribute to better health and well-being, and, critically, that they are amenable to change. This latter point aligns with findings from rigorous evaluations in diverse settings that have demonstrated that it is possible to shift the gender attitudes of adolescents—female and male, older and younger (Bandiera et al., 2020; Ozler et al., 2020; Santhya et al., 2019). This means that through programme and policy interventions, we can shift gender attitudes toward greater equity and, in so doing, contribute to improved health and rights.

A Invest in evidence-based programmes that promote gender equitable attitudes

While it may be that gender views are more malleable at younger ages, they do not become immutable at older ages. Evidence from rigorous evaluations demonstrate that programmes can shift gender attitudes, and evidence from UDAYA demonstrates that such shifts can have multi-sector pay-offs, including girls' increased contraceptive

use and decreased experience of intimate partner violence.

B Promote adolescent programmes and interactions with frontline workers

Our findings also provide evidence of the benefits of promoting adolescent programmes and encouraging interactions with frontline workers.

C Universalise access to digital media and use digital platforms to promote egalitarian gender norms

The role that digital media seems to play in contributing to more equitable gender attitudes calls for efforts to reduce the digital divide and to use digital platforms to promote egalitarian gender norms.

D Pilot test innovative approaches to inculcate gender egalitarian attitudes among boys

Our findings that most programme-related variables did not influence gender role attitudes of boys emphasise the need for pilot testing innovative approaches to inculcate gender egalitarian attitudes among boys.

E Support research exploring how current enrolment in school affects gender attitudes

Our findings call for further research to understand the pathways through which current enrolment makes gender attitudes among girls more inequitable, but has no effect on boys' gender attitudes in this context.

References

- Aikman, S. and E. Unterhalter. 2013. "Gender equality, capabilities and the terrain of quality education." in *Education Quality and Social Justice in the Global South: Challenges for Policy, Practice and Research*, eds. L. Tikly and A.M. Barrett. New York: Routledge, pp. 25–39.
- Bandiera, O., N. Buehren, R. Burgess, et al. 2020. "Women's empowerment in action: Evidence from a randomized controlled trial in Africa," *American Economic Journal: Applied Economics* 12(1): 210–59.
- Chisamya, G., J. DeJaeghere, N. Kendall, et al. 2012. "Gender and education for all: Progress and problems in achieving gender equity," *International Journal of Educational Development* 32(6): 743–755.
- Cunningham, M., A.M. Beutel, J.S. Barber, et al. 2005. "Reciprocal relationships between attitudes about gender and social contexts during young adulthood," *Social Science Research* 34(4): 862–92.
- Fan, Pi-Ling and M.M. Marini. 2000. "Influences on gender-role attitudes during the transition to adulthood," *Social Science Research* 29(2): 258–83.
- Grinza, E., F. Devicienti, M. Rossi, et al. 2017. *How entry into parenthood shapes gender role attitudes: New evidence from longitudinal UK data*. IZA Discussion Papers 11088, Institute of Labor Economics (IZA).
- Katz-Wise, S. L., H.A. Priess, and J.S. Hyde. 2010. "Gender-role attitudes and behaviour across the transition to parenthood," *Developmental Psychology* 46(1): 18–28, <https://doi.org/10.1037/a0017820>.
- Marston, C. and E. King. 2006. "Factors that shape young people's sexual behaviour: A systematic review," *The Lancet* 368(9547): 1581–86.
- Moors, G. 2003. "Estimating the reciprocal effect of gender role attitudes and family formation: A log-linear path model with latent variables," *European Journal of Population* 19(2): 199–221.
- National Research Council and Institute of Medicine. 2005. *Growing up Global: The Changing Transitions to Adulthood in Developing Countries*. Washington, DC: The National Academic Press.
- Ozler, B., K. Hallman, M.F. Guimond, et al. 2020. "Girl Empower – A gender transformative mentoring and cash transfer intervention to promote adolescent wellbeing: Impact findings from a cluster-randomized controlled trial in Liberia," *SSM – Population Health* 10:100527, <https://doi.org/10.1016/j.ssmph.2019.100527>.
- Population Council. 2020. *UDAYA – Understanding the Lives of Adolescents and Young Adults: Bihar Factsheet 2018–19*. New Delhi: Population Council.
- Santhya, K.G., A.J.F. Zavier, and S.J. Jejeebhoy. 2015. "School quality and its association with agency and academic achievements in girls and boys in secondary schools: Evidence from Bihar, India," *International Journal of Educational Development* 41: 35–46
- Santhya, K.G., S.J. Jejeebhoy, R. Acharya, et al. 2019. "Transforming the attitudes of young men about gender roles and the acceptability of violence against women, Bihar," *Culture, Health & Sexuality* 21(12): 1409–1424, <https://doi.org/10.1080/13691058.2019.1568574>.
- Stromquist, N.P. and G.E. Fischman. 2009. "Introduction – from denouncing gender inequities to undoing gender in education: Practices and programmes toward change in the social relations of gender," *International Review of Education* 55(5–6): 463–82.
- World Health Organization. 2012. *Preventing Early Pregnancy and Poor Reproductive Outcomes among Adolescents in Developing Countries*. Geneva: World Health Organization.

Annexure

Annexure 1: Questions used to assess gender role attitudes

Questions	
A.	Is it more important to educate boys than girls?
B.	Should boys do as much domestic work as girls?
C.	Is it wrong for a girl to have male friends?
D.	Do girls like to be teased by boys?
E.	Should girls be allowed to decide when they want to marry?
F.	Are giving the kids a bath and feeding the kids women's responsibility only?
G.	Should father/husband alone/mainly decide how household money is to be spent?



***For more information, please visit
www.projectudaya.in***