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The Effect of Life Skills Education programme on spouse selection, child marriage, and age at first birth in Bihar and Uttar Pradesh

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Abstract

This paper utilizes UDAYA longitudinal data collected in 2015-16 and 2018-19 in Bihar and Uttar Pradesh, to evaluate the effectiveness of life skills education programs. The study focused on 6,168 unmarried girls aged 15-19 years, assessing how participation in life skills education influenced their involvement in spouse selection, age at marriage, and early childbearing. Confounding factors, including individual, household, parental, and peer characteristics from the 2015-16 survey, were controlled for. Bivariate and multivariate analyses were employed to investigate these associations. Results indicated that 25% of the girls married between the two survey rounds. Only 23% reported receiving life skills education; however, those who did experienced greater involvement in spouse selection (71% vs. 57%) and a lower percentage of marriages before age 18 (19% vs. 39%), as well as fewer first births before age 18 (10% vs. 18%), compared to those without education. Multivariate analysis confirmed these findings, demonstrating that girls who received life skills education were 1.5 times more likely to participate in spouse selection and had a 53% lower likelihood of early marriage compared to their peers without life skills education. This study shows that life skills education positively influences girls' agency in marriage decisions, thereby delaying early marriage and childbirth.

Keywords

Adolescent girls, Age at first birth, Child marriage, Early marriage, Life skills education, Family life education, Spouse selection

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Introduction

Despite international commitments to adolescents and young people that nations have made, especially in sexual and reproductive health outcomes, developing countries, in particular, still face significant challenges in fulfilling these commitments and supporting young people for a successful transition to adulthood (Jejeebhoy et al., 2013a). In India, the unmet need for sexual and reproductive health services among adolescent women is significant. Evidence suggests that many adolescents in India often transition into adulthood lacking the skills and assets that should have been developed during their adolescence. These assets encompass sexual and reproductive knowledge, education, and agency. Many adolescents marry early, become pregnant as teenagers, and have multiple children, which constrains their agency. Globally, complications from pregnancy and childbirth rank among the leading causes of death for adolescents and young girls (WHO, 2006). In India, 13 percent of adolescents aged 15-19 are ever married, and 7 percent of them have begun childbearing, with four percent of married adolescents experiencing multiple births (IIPS and ICF, 2021). The risk of maternal mortality among adolescent mothers is twice that of mothers aged 25–39 years (Jejeebhoy, 1998). In India, only 30 percent of girls aged 15-24 have any input in their choice of spouse (Jejeebhoy et al., 2013b). The factors contributing to these adverse health outcomes are often social and economic.

To address these issues, there is a growing need for life skills education to ensure adolescents transition into adulthood with informed and healthy choices (Nasheeda et al., 2019; Santhya & Jejeebhoy, 2003; Jejeebhoy et al., 2013a). Life skills education, also known as sex education or family life education, encompasses a comprehensive program designed to provide knowledge and training about the values, attitudes, and practices that influence family relationships (Henry, 2010; McElderry & Omar, 2003; Strasburger, 2000; Avery & Lee, 1964). Life skills programs have proven effective and valuable in various intervention initiatives worldwide, particularly those targeting the prevention of alcohol abuse, drug use, and smoking. These programs have been implemented in diverse settings, including sports and sexual and reproductive health (Botvin & Kantor, 2000; Huang et al., 2012; Mandel et al., 2006; Jones & Lavallee, 2009).

In India, the Ministry of Human Resource Development implemented the Adolescence Education Programme, which provides life skills-based education to students aged 13 to 18 years in schools. The guiding principles of the program focus on building self-esteem, self-confidence, and decision-making abilities in adolescents. The increasing enrolment of girls in schools presents an important opportunity to reach out to them. However, evidence shows that only a minority of adolescent girls (11-26%) received life skills life education in Bihar, Jharkhand, and Uttar Pradesh (Jejeebhoy et al., 2019; Santhya et al., 2017a; 2017b). More unmarried than married girls benefitted from these programs. Furthermore, there is limited evidence regarding the effects of life skills education on spouse selection, age at marriage, and age at first childbirth. Studies using longitudinal data that effectively capture causal relationships are also limited compared to cross-sectional studies. Life skills education programs targeting adolescents, especially girls, are popular and implemented by government and non-governmental organizations in several developing countries, including India. However, most have not been rigorously evaluated. Additionally, available studies tend to report only short-term results based on small sample sizes, without follow-up assessments to fully evaluate the effectiveness of these programs (Nasheeda et al., 2019; UNICEF, 2012). These findings underscore the need for

additional research to investigate the effectiveness of life skills education programs.

However, there is limited evidence on the association between exposure to life skills education and transitions to marriage. The few studies that have explored this issue reported that exposure was associated with the exercise of choice in spouse selection (Banerji et al., 2008; Levitt-Dayal et al., 2002), age at marriage (Levitt-Dayal et al., 2002), and age at first birth (Jejeebhoy et al., 2014) in India. A study using national-level survey data in India found that women who received life skills education had more knowledge and awareness of reproductive health issues compared to their counterparts (Tripathi & Sekher, 2013). However, these studies have predominantly used cross-sectional data, which do not adequately address causal relationships. A rigorous analysis of the effects of early exposure to life skills education on outcomes such as involvement in spouse selection, timing of marriage, and timing of first birth is urgently needed in India. With this backdrop, the present paper examines 1) the effect of participation in life skills education on adolescent girls' exercise of choice in selecting their husbands, 2) the association between participation in life skills education and the timing of marriage, and 3) the effect of participation in life skills education on the timing of first birth.

Data and methods

Data was drawn from the UDAYA longitudinal study of adolescents aged 10-19 in two populous states of India, Bihar and Uttar Pradesh, conducted in 2015-2016 and in 2018-19. The present study focuses on 6,168 unmarried girls aged 15-19 years from the 2015-16 survey, whom we interviewed at both rounds of the survey. Among them, approximately 25% (N = 1,551) got married during the inter-survey period, and 4,617 remained unmarried at the follow-up survey conducted in 2018-19.

Outcome variables: 1) young girls' involvement in the selection of their spouse, 2) girls' age at marriage, 3) girls married below the age of 18 years, and 4) girls' age at first birth.

The explanatory variables: The main variable of interest is exposure to life skills education defined as receiving life skills education in either of the two survey rounds. All other explanatory variables were derived from the 2015-16 survey that control for the confounding effects include 1) individual characteristics (education, agency - independent decision-making and freedom of movement, interactions with frontline workers, and involved in spouse selection); 2) household-level characteristics (religion, caste, the standard of living index, place of residence, state (Bihar/Uttar Pradesh); 3) Parental level factors (education of mother); and 4) peer level factors (number of friends, and group membership).

An independent decision-making agency referred to individuals who had a say in all three decisions, such as the number of years of schooling they should pursue, major household purchases, and the choice to work or stay at home. Freedom of movement was defined as being allowed to visit unescorted in two out of three locations: either a shop or market or a friend or relative within their village or ward, a shop or market or a friend or relative outside their village or ward, and a program (such as a mela, sports event, or adolescent group meetings) within their village or ward.

Bivariate and multivariate analyses were used appropriately based on the nature of the dependent variable. Lagged logistic regressions were used for the analysis of the dependent variables, including young girls' involvement in selecting their spouse, girls who were married before the age of 18, and girls' age at first birth. For the analysis of girls' age at marriage, we employed lagged Cox regression.

Results

Description of the study sample

Table 1 presents the characteristics of girls who remained unmarried, those who got married during the inter-survey period, and the combined sample. Among the household-level characteristics, 24 percent of the adolescent girls belonged to Muslim or other religious groups. The proportion is slightly lower among those who married (20%) compared to those who remained unmarried (25%). The majority of the sample belonged to Other Backward Castes (OBC), at 55%, followed by Scheduled Castes/Tribes at 23%, and General Caste at 22%. A higher proportion of those who married came from OBCs (61% vs. 53% among unmarried individuals), while a larger share of unmarried girls belonged to the General category (26% vs. 13% among married individuals).

The mean standard of living index was slightly higher for those who remained unmarried (23) compared to those who married (19). A higher percentage of unmarried girls lived in urban areas (20%) compared to those who got married (9%), suggesting that early marriage is more prevalent in rural settings. A larger share of the sample was from Uttar Pradesh (74%).

Table 1 Profile of study sample

Characteristics (% or Mean)	Remained Unmarried	Married during inter-survey period	Combined
Household-level			
Religion: Muslim/others (%) *	25.0	20.2	23.7
Caste (%) ***			
Scheduled castes/tribes	21.6	26.1	22.8
Other backward castes	52.5	60.8	54.8
General	26.0	13.0	22.4
Standard of living index (mean)	22.9	19.2***	21.9
Type of place of residence: Urban (%) ***	20.1	8.9	17.0
State of residence (%) ***			
Uttar Pradesh	78.5	61.6	73.9
Bihar	21.5	38.4	26.1
Individual level			
Completed years of education (mean)	10.5	8.7***	10.0
Decision-making agency: Have decision-making in all 3 items (%) ***	25.8	19.4	24.1
Have the freedom to go to at least one of the three places (%) *	23.5	19.8	22.5
Interactions with frontline health workers (%)	10.0	11.1	10.3
Ever attended family life education (%) ***	25.5	15.6	22.8
Involved in spouse selection (Among those who married in the interim) (%)	---	59.1	---
Peer level			
Member of any group (%) *	5.6	3.3	5.0
Number of friends (mean)	3.6	3.8	3.6
Parental level			
Education of mother in years (mean)	3.0	1.4	2.5
Number of girls	4,617	1,551	6,168

At the individual level, on average, girls who remained unmarried had completed more years of schooling (11 years) compared to those who married (9 years), reflecting the role of education in delaying marriage. Approximately one-quarter (24%) of the combined sample reported having decision-making agency, with this proportion being higher among unmarried individuals (26%) compared to those who were married (19%). Similarly, more unmarried girls had the freedom to visit at least one place independently (24% vs. 20% among married). A higher percentage of unmarried girls had attended life skills education (26%) compared to those who married (16%), highlighting the potential protective role of life skills education in delaying marriage. Among those who married, only 59% were involved in choosing their spouse, indicating limited agency in marriage decisions.

At the peer level, group membership and the number of friends were taken into consideration. A slightly higher percentage of unmarried girls were members of a group (6%) compared to those who married (3%), although overall membership was low. The mean number of friends reported by the adolescent girls was 4. At the parental level, the mothers of unmarried girls had higher education levels (3 years) compared to those of married girls (1.4 years).

Bivariate analysis

Table 2 presents the bivariate association between adolescents' participation in life skills education and the dependent variables, including the percentage of girls aged 15-19 years in 2015-16 who were involved in spouse selection, married before the age of 18, and had their first birth before the age of 18. Only 23 percent of the girls reported receiving life skills education. However, those who received life skills education were more likely to be involved in spouse selection (71% vs. 57%), had a lower likelihood of marrying before age 18 (19% vs. 39%), and a smaller percentage had their first birth before age 18 (10% vs. 18%) compared to those who did not receive life skills education.

Table 2 Percentage of girls aged 15-19 years in 2015-16 involved in spouse selection, married before age 18, and had their first birth before age 18, and its association with participation in family life education

	Percentage distribution	Bivariate analysis by family life education
Girls involved in spouse selection [N=1,551]		
No	40.9	56.9***
Yes	59.1	70.7
Girls married before the age of 18 years [N=1,551]		
No	63.9	39.2***
Yes	36.1	18.9
Girls had 1st birth before the age of 18 years [N=729]		
No	82.8	18.4*
Yes	17.2	9.5

Multivariate analysis

Table 3 presents the results of the multivariate analysis, after controlling for all confounding variables. These findings align with the bivariate analysis, except for the variable related to having the first birth before age 18. Girls who received life skills education were 1. 5 times more likely to be involved in spouse selection compared to those who did not. The Cox regression analysis indicates that girls who received life skills education faced a lower risk

of early marriage, with a hazard ratio of 0. 82 (p ≤ 0. 05). Furthermore, logistic regression results imply that girls who received life skills education were less likely to marry before age 18 (OR: 0. 47, p ≤ 0. 001) compared to their peers who did not receive such education. Life skills education was not significantly associated with girls who had children before the age of 18. This may be attributed to the small sample sizes of married girls with children. Among other individual variables, the regression results reveal that each additional year of schooling significantly decreases the hazard of early marriage (HR = 0. 927, p < = 0. 001) and the likelihood of marrying before age 18 (OR = 0. 910, p < = 0. 001).

Table 3 Results of multivariate analysis

	Logistic Regression on girl's involvement in spouse selection	Cox-regression on the timing of marriage	Logistic Regression: Married before the age of 18 years	Logistic Regression: had children before the age of 18 years
	OR	HR	OR	OR
Characteristics				
Household-level				
Religion: Muslim/others (ref=Hindu)	0.970	0.636***	0.356***	0.664
Caste (Ref = General)				
Scheduled castes/tribes	1.101	1.350**	0.841	1.410
Other backward castes	0.867	1.481***	1.170	2.099
Standard of living index	1.017	0.985***	0.993	0.981
Type of residence: Urban (ref = Rural)	1.676**	0.607***	0.594**	1.061
Bihar (Ref=Uttar Pradesh)	0.499***	1.969***	1.848***	2.702***
Individual level				
Completed years of education	1.046*	0.927***	0.910***	0.919*
Decision-making agency: Have decision-making in all 3 situations [ref=No]	1.619*	0.941	1.168	0.820
Have the freedom to go to at least one of the three places [ref=no]	0.960	0.926	0.665	0.852
Interactions with frontline health workers (ref=No)	1.145	0.981	0.723	0.728
Ever attended family life education (ref = no)	1.50*	0.823*	0.468***	0.553
Involved in spouse selection (ref=no)	---	---	0.829	0.830
Peer level				
Member of any group (ref=no)	1.053	0.882	0.361	0.745
Number of friends	0.948	1.032	1.075**	1.063
Parental level				
Education of mother in years	1.039	0.960***	0.969	0.998
Constant	0.961	---	1.421	0.217*
Type of respondents	Ever-married girls	Married and unmarried girls	Ever-married girls	Girls who had children
Number of girls	1,551	6,168	1,551	729

Education also reduces the risk of early childbearing (OR = 0. 919*), highlighting its protective role. Decision-making agency was not significantly associated with early marriage or childbearing. Nevertheless, adolescent girls with decision-making agency are more likely to engage in spouse selection (OR 1. 619, p< 0. 010). The regression results show that having more friends was linked to a higher likelihood of early marriage (OR = 1.075**), possibly reflecting greater exposure to prevailing social norms and peer pressure, such as pressure to have children soon. Regression results confirm that maternal education serves as a protective factor against early marriage, as each additional year of schooling significantly decreases the hazard of early marriage (HR = 0.960, p < 0.001).

Discussions and conclusions

Using data from the UDAYA longitudinal study of adolescents aged 10 to 19 in Bihar and Uttar Pradesh, this study explored the association between exposure to life skills life education and marriage-related agency and transitions among adolescent girls aged 15 to 19 years in 2015-2016. The results indicate that girls' exposure to life skills education is limited, with only 23 percent reportedly having access to it. Despite this limited exposure, it is statistically significantly associated with marriage-related agency and the delay of marriage. These findings align with existing literature on the connection between life skills education and marriage-related agency, as well as the postponement of marriage. For instance, the ability to choose a spouse (Banerji et al., 2008; Levitt-Dayal et al., 2002), age at marriage (Levitt-Dayal et al., 2002), age at first birth (Jejeebhoy et al., 2014), and improved knowledge and awareness of reproductive health issues (Tripathi & Sekher, 2013) in India are all associated with exposure to life skills education.

This study provides evidence that life skills education positively influences girls' autonomy regarding marriage decisions while also delaying early marriage and childbirth. These findings have important implications for adolescent programs such as Rashtriya Kishor Swasthya Karyakram (RKSK), the School Health Program under Ayushman Bharat (Ministry of Health & Family Welfare and Ministry of Human Resource & Development, 2018), SABLA - Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (Ministry of Women and Child Development, 2010), and the Adolescent Education Program (National Council of Educational Research and Training, 2013) providing insights into strengthening interventions aimed at reducing child marriage. The findings also highlighted the importance of education, economic well-being, urban residence, and autonomy in delaying marriage and childbearing. Policy efforts should focus on enhancing girls' education, expanding life skills programs, and addressing regional disparities.

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