



Original article

Promoting Gender Egalitarian Norms and Practices Among Boys in Rural India: The Relative Effect of Intervening in Early and Late Adolescence

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A B S T R A C T

Purpose: Although the importance of exposing adolescent boys to gender transformative programs has been recognized, such programs are limited in India. Studies that assessed the relative effect of intervening in early compared with late adolescence are even more limited. This article examines the differential effect of exposing boys to a gender transformative program in early and late adolescence on their gender role attitudes and practices.

Methods: We used data from a cluster randomized trial of a gender transformative life-skills education cum sports-coaching program for younger boys (aged 13–14 years) and older boys (aged 15–19 years) (N = 962) and used generalized estimating equation model to examine the differential effect.

Results: The intervention had a greater effect in helping younger than older boys to espouse gender-egalitarian attitudes ($\beta = .669$; $p < .001$ vs. $\beta = .344$; $p < .001$) and attitudes rejecting men's controlling behaviors ($\beta = .973$; $p < .003$ vs. $\beta = .453$; $p < .088$), men's perpetration of wife beating ($\beta = .423$; $p < .002$ vs. $\beta = .282$; $p < .035$), and violence on unmarried girls ($\beta = .332$; $p < .038$ vs. $\beta = .306$; $p < .045$). Younger boys had higher odds of reporting that their peers would respect them for acting in gender-equitable ways (odds ratio [OR] = 2.15; $p < .003$) compared with older boys (OR = 1.78; $p < .014$). However, younger boys had lower odds of intervening to stop incidents of violence that they had witnessed, compared with older boys (OR = 2.17; $p < .03$ vs. OR = 2.56; $p < .002$). These differences remained significant even when difference in regular exposure to the intervention was adjusted.

Conclusions: Gender transformative programs are likely to be more effective in changing traditional attitudes and practices among boys if they target them during early adolescence compared with late adolescence.

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**IMPLICATIONS AND
CONTRIBUTION**

This study has contributed to identifying the stages at which adolescent boys are most receptive to consider alternative notions of masculinity and femininity. It calls for targeted efforts to bring younger boys (and girls) into the ambit of ongoing adolescent health and development programs in India.

Conflicts of interest: The authors have no conflicts of interest to disclose.

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Socialization into ideologies and practices of male dominance and women's submissiveness may reveal itself very early, and therefore, early adolescence is considered an opportune time to intervene with gender transformative programs [1–7]. Also acknowledged in the global literature is the importance of

working with men and boys to transform traditional gender norms and notions of masculinity and femininity [1,6]. The need for gender transformative programs targeting younger and older boys cannot be overemphasized in gender-stratified settings similar to India where as many as 45% of adolescent boys justified wife beating in 2015–2016 [8–13].

In India, a few recent interventions such as the Stepping Stones intervention, Program H, the Parivartan program, and the Do Kadam program have shown that exposure to gender transformative programs can modify adolescent boys' gender role attitudes, improve their relationships with friends and partners, and reduce their perpetration of physical and sexual violence [11,14–18]. However, little is known about the extent to which effects of these interventions varied between younger boys (aged 10–14 years) and older boys (aged 15–19 years), although it is well recognized that the situation and needs, including malleability of risk factors, differ between younger and older boys [19–21].

The Do Kadam program mentioned previously offers a unique opportunity to examine the acceptability and feasibility of targeting a wide age range of adolescent boys together in a gender transformative life skills program and the differential effect of the program among younger and older boys. The intervention, comprising gender transformative life skills education sessions and sports (cricket) coaching sessions, was conducted among boys aged 13–21 years who were members of government-sponsored youth clubs. It sought to promote egalitarian gender attitudes and abhorrence of violence against women and girls (VAWG). Table 1 provides a detailed description of the Do Kadam program. The program was delivered to younger and older boys together in each intervention club. Project staff members supported peer mentors to communicate difficult concepts, provided hands-on on-the-job training as needed, helped organize events, and reviewed attendance records to ensure fidelity, but ensuring the fidelity was not always possible (more details about the intervention are available in the study reports and article by Jejeebhoy et al. [17], Santhya et al. [18], and Jejeebhoy & Santhya [22]). The evaluation of the intervention showed that it succeeded in changing boys' gender role attitudes and notions of masculinity, attitudes about men's controlling behaviors, attitudes about VAWG, and perceptions about peer reactions to boys acting in gender-equitable ways.

Drawing on data from the evaluation of the Do Kadam program, this article examines the extent to which acceptability of the intervention and its effect on gender role attitudes and practices of boys differed between younger boys (aged 13–14 years) and older boys (aged 15–19 years); We acknowledge that early adolescence spans the ages 10–14 years.

Methods

Study setting

The Do Kadam intervention was conducted in rural areas of Patna district in the state of Bihar, India. The state recorded the highest prevalence of marital violence in India, with 44% of married women reporting ever experience of such violence in 2015–2016 [13]. As many as 18% of boys aged 10–19 years in Bihar had ever witnessed their father beating their mother, and 55%–69% had ever experienced violence perpetrated by a parent since age 10 years [9]. Moreover, 41% of adolescent boys aged 15–19 years justified wife beating [13].

Study design

The Do Kadam intervention used a cluster randomized trial design with panel surveys of boys aged 13–21 years from intervention and control clubs (15 each in the two arms) at baseline and endline and repeated in-depth interviews with selected baseline participants in the intervention arm conducted before, during, and at the conclusion of the intervention. The process of selecting 30 Nehru Yuva Kendra Sangathan program (NYKS) clubs from among the 102 clubs in Patna district and allocating them to intervention and control arm is presented schematically in Figure 1, and the geographical location of the intervention and control clubs is presented in Figure 2 (more details about the selection and allocation of clubs into intervention and control arms are available in the study reports and article by Jejeebhoy et al. [17] and Santhya et al. [18]).

At baseline (May to July 2013), of the 1,316 unmarried young men enrolled in these clubs, we interviewed 1,149 boys (87%); the remaining boys could not be interviewed, as they were not available in the village (even after making three visits, 109 boys), expressed their lack of interest in joining the program or refused to participate in the survey (57 boys), and one was incapacitated to participate in the interview. At endline (January to March 2015), 90% of baseline respondents were reinterviewed ($N = 1,033$). Loss to follow-up was mainly due to migration (73%–75% of boys who were lost to follow-up) and refusal by the respondent or his parents (14%–16%). The socio-demographic characteristics of boys who were interviewed and those lost to follow-up were similar.

Of boys interviewed at both baseline and endline, 38% were aged 13–14 years ($N = 393$), and 55% were aged 15–19 years ($N = 569$) at baseline, and our analysis focuses on these boys ($N = 962$). The remaining respondents were aged 20–21 years at baseline. We drew on the survey data for analysis presented in this article; we did not use qualitative data because there was only one respondent in aged 13–14 years at baseline among those interviewed in-depth. The follow-up rates were similar for younger (92%) and older (89%) boys. We note that the original study was not designed to pursue the subgroup analysis presented in this article; however, the sample size achieved in the original study (1,149 boys) was much larger than the minimum required (450 boys) for individual-level regression analysis for effect modification. A post power calculation showed that the sample size was adequately powered to conduct regression analysis (estimated power of 81%).

The Population Council's Institutional Review Board approved the study protocol.

Key outcomes

The main outcome measure was boys' attitudes relating to gender roles and VAWG, measured using five related indicators: (1) an index of gender role attitudes and notions of masculinity; (2) percent of boys reporting that their peers would respect boys who behave in gender equitable ways, which indirectly measured their confidence to act in gender equitable ways; (3) an index of attitudes rejecting men's controlling behaviors over sister, wife, or girlfriend; (4) an index of attitudes rejecting men's perpetration of wife beating; and (5) an index of attitudes rejecting men's/boys' perpetration of violence against unmarried adolescent girls. We included boys' reactions when witnessing violence against a girl as a secondary outcome.

Table 1
A brief description of the Do Kadam program

Main components	<ul style="list-style-type: none"> • Development of a gender transformative life skills curriculum • Capacity building of peer mentors for imparting the curriculum • Transaction of life skills curriculum • Sports (cricket) coaching • Community events
Contents of the life skills education curriculum	<ul style="list-style-type: none"> • Age-appropriate information on growing up (physical maturation, emotional development, sexual and reproductive health, vocational and career opportunities, where to seek help if needed information, and services for sexual and reproductive health matters, education, and career-related matters) • Sessions to promote critical thinking about gender roles and violence and the consequences of VAWG (power, respect, and consent in relationships; gender roles and attitudes; forms of VAWG; rights of women and girls; respectful behavior toward women and girls; communication and negotiation skills to resolve conflict). • Introspection into young men's own behavior (teasing, verbal harassment, unwanted touch, forced sex, and so on against girls and ways in which young men can intervene to stop VAWG)
Selection, capacity-building and mentoring of peer mentors	<ul style="list-style-type: none"> • Two club members with leadership, communication, and sports skills selected and trained to conduct the life skills education and sports sessions in each club • Peer mentors underwent <ul style="list-style-type: none"> ○ A 4-d training workshop before the launch of the intervention ○ Three 2-d refresher training workshops over the course of the intervention
Curriculum transaction methodology, frequency, duration	<ul style="list-style-type: none"> • Supportive supervision by project staff and a cricket coach on a regular basis • Participatory learning sessions—case studies, role play, and group discussions • Weekly sessions of 2-h duration—1 h for life skills education and 1 h for cricket coaching • 42 weekly sessions over a period of 18 mo
Sports coaching	<ul style="list-style-type: none"> • Cricket-coaching sessions, 35 sessions • Discussions about the importance of commitment to the team, complying with rules and regulations of the sport, team spirit, and the spirit of fairness • A cricket kit given to each club in both intervention and control clubs^a • A cricket league tournament organized in both intervention and control clubs at the completion of the project^a
Community events	<ul style="list-style-type: none"> • 20 community events to engage communities (painting and essay competitions on themes related to VAWG and ways to prevent violence in their community; slow cycling and gender power walks aimed at encouraging a violence-free community and preventing gender discrimination; a public pledge-taking ceremony in which all club members pledged to end VAWG).

VAWG = violence against women and girls.

^a No other activities were organized in the control clubs.

Questions used to construct these indicators drew on validated instruments used in previous studies [18]. We created additive indexes for three of the five domains and observed Cronbach's alpha ranging between .70 and .86 showing high reliability for each measure. We have also conducted factor analysis for testing the validity of the instrument. Factor matrix with rotation showed that the eigenvalues greater than one for all the factors and were found to explain substantial amount of variance.

We measured boys' gender role attitudes and notions of masculinity based on their response to nine statements pertaining to such topics as the importance of educating girls compared with boys, girls having male friends, girls' right to decide the timing of their marriage, the need for paying dowry, husbands' authority over household matters, and sharing responsibilities between husbands and wives. We created an additive index, each item taking a value of zero if the response

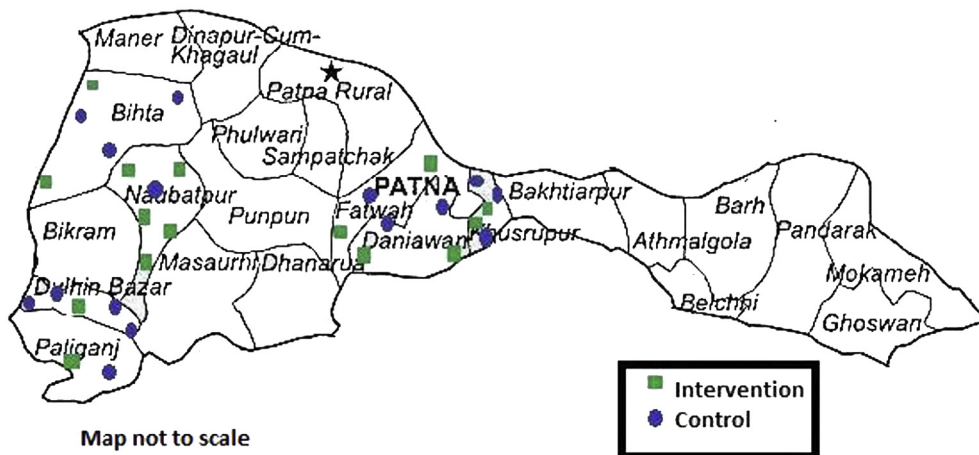


Figure 1. Geographical location of the intervention and the control clubs in Patna district, Bihar.

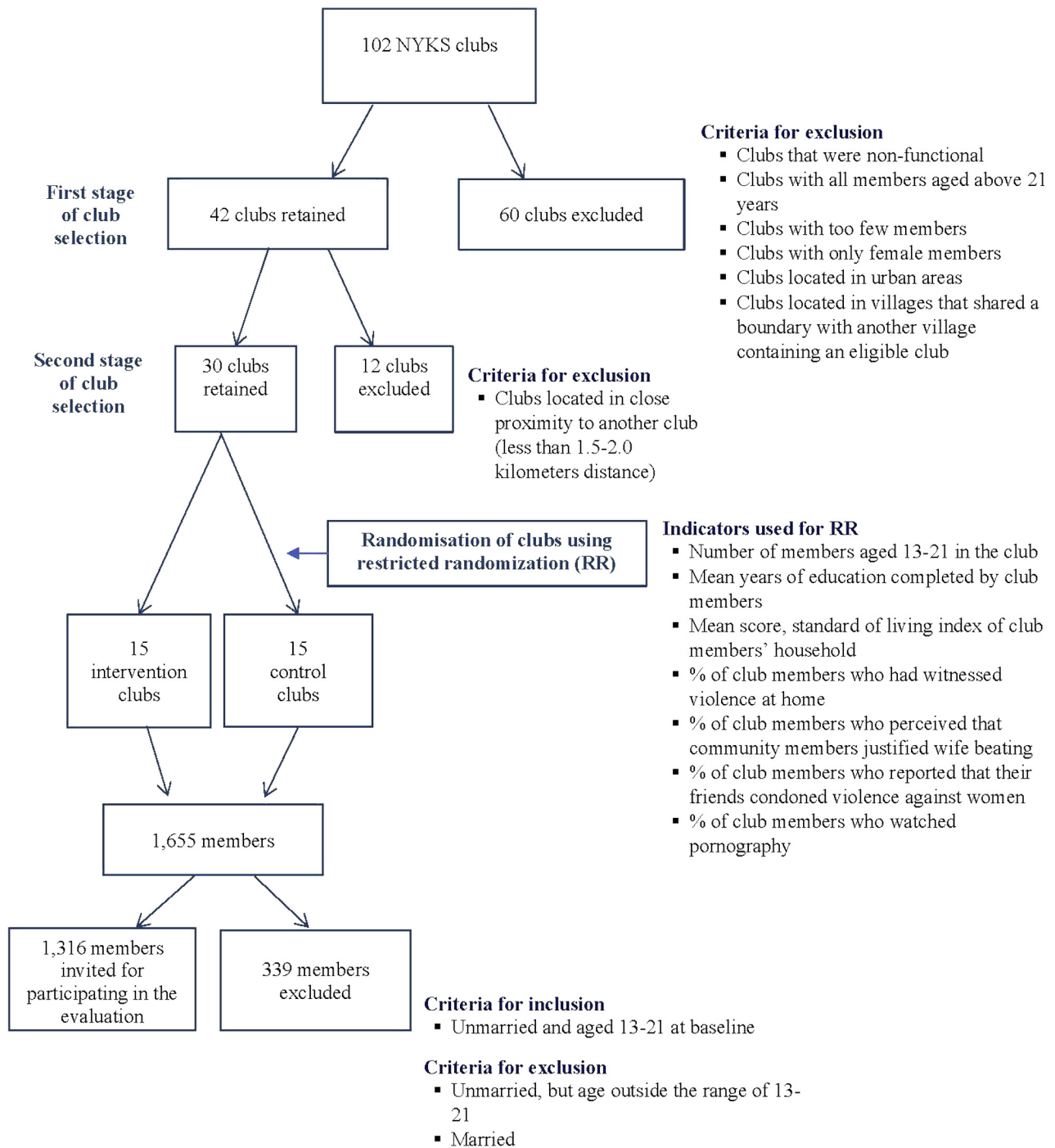


Figure 2. Schematic presentation of selection and allocation of youth clubs into intervention and control arms.

was gender inequalitarian and one if gender egalitarian. The internal consistency of the index, as measured by Cronbach's alpha, was high (.70), and the value of the index ranged from 0 indicating least equitable attitudes to 9 indicating most equitable attitudes. We explored perceptions of boys regarding peer reactions to boys who acted in gender-equitable ways by enquiring them about whether they believed that their peers would respect them if they discussed their personal problems

with their friends, if they helped their mother in housework, if they walked away from a fight, and if a man refused to beat his wife even if she "disobeyed" him. We created a summary measure that reflects the percentage of boys who perceived that their peers would respect boys who act in gender equitable ways in at least three of the four situations posed. We explored the perceptions of boys about the perceived right of men and boys to control the practices of the females in their life by enquiring

them about whether a boy/man is justified in limiting the socialization, mobility, and attire of his sister, girlfriend, and wife. A summary measure was created by summing items representing respondents' rejection of attitudes justifying a man's or boy's perceived right to exercise control over the behaviors of his sister, wife, or girlfriend (1 if he rejected a man's or boy's perceived right to exercise control, and 0 if he agreed that a man or boys should exercise control). The index value ranged from 0 indicating least rejecting attitudes to 9 indicating most rejecting attitudes, and the internal consistency was high (Cronbach's alpha .86). We explored boys' attitudes about men's perceived right to beat their wife in four selected situations (if her husband suspects her of being unfaithful, she goes out without informing her husband, she disobeys her husband, and she makes a mistake). We created a summary measure by summing the number of situations in which boys expressed attitudes rejecting a man's perceived right to beat his wife (1 if attitudes rejected the perpetration of violence and 0 if attitudes justified violence). The index value ranged from 0 indicating least rejecting attitudes to 4 indicating most rejecting attitudes, and Cronbach's alpha was .81. We asked boys about their attitudes toward a boy's or man's perceived right to beat an unmarried adolescent girl in selected situations (if she talks to a boy, goes out to play, stays out late, does not help with housework, does not obey her elders, and has an affair with a boy). We created an additive index value of which ranged from 0 indicating least rejecting attitudes to 6 indicating most rejecting attitudes, and Cronbach's alpha was .85. Finally, we included the percentage of boys who reported taking action to stop the perpetration of any incident of verbal abuse or physical violence they had witnessed in the 6 months preceding the interview; these incidents included others making dirty comments about a girl, teasing a girl, spreading sexual rumors about a girl, or perpetrating unwanted touch on a girl, such as pushing, grabbing, or shoving a girl deliberately.

We note that the outcomes and the factors that might affect these outcomes were well balanced between treatment arms for the overall sample and the subsamples of younger and older boys at baseline (more details about the outcomes are available in the study reports and article by Jejeebhoy et al. [17] and Santhya et al. [18]).

Analysis

We applied generalized estimating equations (GEE) models to assess the differential effect of the intervention among younger and older boys. We used individual-level regression and included an interaction term between timing of exposure to the intervention, that is, early and late adolescence, and treatment arms, that is, intervention and control, in the model to examine effect modification by timing of exposure to the intervention. Of the four subgroups—younger boys in intervention arm ($N = 188$), older boys in intervention arm ($N = 290$), younger boys in control arm ($N = 205$), and older boys in control arm ($N = 279$)—older boys from the control clubs served as reference group. The four subgroups differed significantly in terms of outcome measures, regularity of exposure to the intervention, and such covariates as religion, years of schooling, engagement in paid work, and household wealth index at baseline (not shown in table). We adjusted for these baseline differences in the GEE models—one in which baseline differences in outcome measures and covariates were controlled for (model 1) and one in which difference

in regularity of exposure to the intervention was additionally controlled for (model 2).

For dichotomous outcome, the GEE model can be written as follows:

$$\text{logit}(\pi_{ijk}) = \log\left(\frac{\pi_{ijk}}{1 - \pi_{ijk}}\right) = \alpha + \beta_i + \delta_{it} + \sum_l \gamma_l Z_{ijkl}$$

where, π_{ijk} is a parameter related to the outcome of interest and refers to the k th individual in the j th cluster in the i th treatment arm; β_i is the intervention effect, δ_{it} is the interaction term that estimates, for the i th treatment arm, the differential effect of i th treatment arm relative to control arm ($i = 0$) with respect to exposure to the intervention in early and late adolescence, and γ_l represents the effects of a set of individual-level covariates $Z_1 Z_2 Z_3 Z_4 \dots Z_l$. The term α is the intercept that represents the average outcome in the control arm when all covariates are set to zero [23].

Results

Baseline characteristics of study participants

Table 2 show that the characteristics of younger and older boys differed significantly. Older boys were more educated than younger boys (9.5 vs. 7.3; $p < .000$); a larger proportion of older than younger boys had engaged in paid work in the year preceding the interview; and the household wealth status was better for older than younger boys (24.6 vs. 9.4; $p < .00$). The family environment and social life were characterized by violence for large proportions of both younger and older boys: 62%–67% had witnessed parental violence or experienced violence perpetrated by parents, and 60%–69% had witnessed a boy/man in their community perpetrating violence against a girl in the 6 months preceding the interview.

Younger and older boys differed significantly in terms of outcome indicators as well. Younger boys were less likely than older boys to uphold egalitarian gender role attitudes and notions of masculinities (mean score 5.3 vs. 5.9; $p < .000$) and reject men's controlling behaviors (mean score of 2.5 vs. 3.2; $p < .000$), men's perpetration of wife beating (mean score of 1.8 vs. 2.1; $p < .000$), and violence against unmarried adolescent girls (mean score of 2.8 vs. 3.3; $p < .000$). However, a similar proportion of younger and older boys perceived that their peers would respect boys who acted in gender equitable ways (18% each). Few boys who had witnessed any verbal or physical violence perpetrated against a girl in the 6 months before the interview took action to stop it, with older boys more likely than younger boys to have intervened (23% vs. 13%; $p < .000$).

Acceptability of the intervention among younger and older boys

We measured the acceptability of the intervention by asking endline survey participants in the intervention arm about their frequency of participation in the intervention activities. A similar proportion of younger and older boys in the intervention arm had participated in one or more life skills sessions (84% and 79%, respectively; $p = .22$), one or more sports sessions (77% and 74%, respectively; $p = .76$), and community events organized as part of the program (52% and 49%, respectively; $p = .76$; Table 3). Although regular participation in life skills sessions did not differ significantly between younger and older boys (71% vs. 63%;

Table 2
Characteristics of younger and older boys who participated in the study, baseline survey

Baseline characteristics	Overall	Younger boys	Older boys	p value
Religion: % Hindu	94.4	96.4	93.1	.028
Mean years of schooling	8.6	7.3	9.5	.000
% Engaged in paid work in the year preceding the interview	18.3	9.4	24.6	.000
Mean score, household wealth index (range 0–56)	23.7	22.6	24.4	.000
Witnessed parental violence or experienced violence perpetrated by parents	63.8	61.9	66.7	.128
Witnessed a boy/man in their community perpetrating verbal abuse with sexual content, physical or sexual abuse against a girl in the 6 mo preceding the interview	65.2	60.1	68.7	.001
Mean score, index of gender role attitudes and notions of masculinity (range: 0–9, Cronbach's alpha: .70)	5.7	5.3	5.9	.000
Boys who perceived that their peers would respect boys who acted in gender equitable ways (%)	17.9	17.8	18.1	.908
Mean score, index of attitudes rejecting men's controlling behaviors	2.9	2.5	3.2	.000
Mean score, index of attitudes rejecting wife beating	2	1.8	2.1	.000
Mean score, index of attitudes rejecting men's perpetration of violence on an unmarried adolescent girl	3.1	2.8	3.3	.000
Reaction when witnessing violence against a girl in the 6 mo preceding the interview (%)				
Did not witness incidence of violence	34.8	40.0	31.3	
Did not take any action to stop the incidence	46.5	43.2	47.0	<.000
Took action to stop the incidence	18.7	12.7	22.9	
Number of respondents	962	393	569	

$p = .20$), a larger proportion of younger than older boys had attended sports sessions regularly (65% vs. 54%; $p < .05$).

Effect of the intervention on gender role attitudes and practices among younger and older boys

Table 4 shows that the intervention was more effective among younger than older boys. Model 1 results show that after adjusting for baseline differences in outcomes and covariates, the mean number of gender-egalitarian attitudes espoused by younger boys was .67 higher and by older boys was .34 higher in intervention clubs than those espoused by older boys in control clubs ($p < .001$). The mean number of situations in which boys rejected men's controlling behaviors was .97 higher among younger boys in intervention clubs compared with older boys in control clubs, although no such difference was observed among

Table 3
Younger and older boys' attendance in intervention activities, intervention arm, endline survey

Activities	Younger boys	Older boys	p value
Life skills education sessions			
Attended one or more sessions	83.5	79.0	.22
Regularity of participation			
Attended regularly (whenever the session was held/once a week or two to three times a month)	70.7	62.8	
Attended irregularly (one to two sessions a month or less frequently)	12.8	16.2	.20
Never attended	16.5	21.0	
Sports sessions			
Attended one or more sessions	76.6	73.8	.76
Regularity of participation			
Attended regularly (whenever the session was held/once a week or two to three times a month)	65.4	54.1	
Attended irregularly (one to two sessions a month or less frequently)	11.2	19.7	.03
Never attended	23.4	26.2	
Community events			
Participated in community events organized as part of the intervention	52.1	48.6	.45
Number of respondents	188	290	

older boys in intervention clubs ($p < .003$). Although the intervention succeeded in helping both younger and older boys to uphold attitudes rejecting men's perpetration of wife beating ($\beta = .423$ with $p < .002$ vs. $\beta = .282$ with $p < .035$) and violence on unmarried adolescent girls ($\beta = .332$ with $p < .038$ vs. $\beta = .306$ with $p < .045$), the effect was greater among younger than older boys as evident from the coefficients. The intervention positively affected boys' perceptions about peer reactions to boys acting in gender-equitable ways; odds of boys reporting that their peers would respect them for acting in gender-equitable ways were higher for younger (OR = 2.15; $p < .003$) than older boys (OR = 1.78; $p < .014$) in intervention arm. In contrast, older boys had higher odds of intervening to stop incidents of violence against a girl that they had witnessed in the 6 months before the interview compared with younger boys (OR = 2.56; $p < .002$ vs. OR = 2.17; $p < .03$).

Model 2 in which we additionally controlled for differences in the regularity of exposure to the intervention between younger and older boys, the differences in effect size among younger and older boys remained for the most part.

Finally, no changes were observed in younger boys in control arm compared with older boys in control arm.

Discussion

The importance of investing in early adolescence is widely acknowledged [4–7,24]. Reviews of evidence on younger adolescents in developing countries have called for research that could identify the ages and stages at which adolescents are most receptive to question gender roles and consider alternative views, and efforts to design, implement, and evaluate diverse gender transformative programs to build an evidence base on programs addressing gender norms, equity, and rights targeted at young adolescents [4,24]. Likewise, recent reviews of interventions for men and boys and adolescents more generally have called for a better understanding of age trans- portability of prevention interventions and differential effectiveness analysis to understand which interventions are most effective with which populations [18,25]. Our analysis, taking advantage of a recently concluded successful cluster randomized trial of gender transformative life skills and sports

Table 4
Effect of the intervention on gender role attitudes and practices among younger and older boys, endline survey

Indicators	Model 1			Model 2		
	Younger boys, intervention arm	Older boys, intervention arm	Younger boys, control arm	Younger boys, intervention arm	Older boys, intervention arm	Younger boys, control arm
Mean score, index of egalitarian gender role attitudes and notions of masculinity (range: 0–9, Cronbach's alpha: .70)						
β coefficient (95% CI)	.669** (.29, 1.05)	.344** (.14, .55)	.261 (–.07, .59)	.830*** (.45, 1.20)	.573*** (.31, .84)	.246 (–.08, .57)
p value (robust standard error)	.001 (.194)	.001 (.105)	.125 (.169)	.000 (.191)	.000 (.134)	.138 (.166)
Percent of boys reporting that their peers would respect boys behaving in gender-equitable ways						
OR (95% CI)	2.152** (1.29, 3.58)	1.784* (1.13, 2.83)	1.095 (.67, 1.79)	2.641** (1.48, 4.70)	2.31** (1.41, 3.78)	1.06 (.64, 1.76)
p value (robust standard error)	.003 (.559)	.014 (.419)	.717 (.273)	.001 (.791)	.001 (.582)	.796 (.272)
Mean score, index of attitudes rejecting men's controlling behaviors (range: 0–9, Cronbach's alpha: .86)						
β coefficient (95% CI)	.973** (.33, 1.62)	.453 (–.07, .97)	.41 (–.15, .97)	1.42** (.69, 2.15)	1.08 (.42, 1.75)	.37 (–.17, .91)
p value (robust standard error)	.003 (.328)	.088 (.265)	.152 (.290)	.000 (.371)	.001 (.342)	.182 (.280)
Mean score, index of attitudes rejecting wife beating (range: 0–4, Cronbach's alpha: .81)						
β coefficient (95% CI)	.423** (.15, .69)	.282* (.02, .54)	.061 (–.20, .32)	.581*** (.35, .81)	.496*** (0.18, .80)	.048 (–.20, .303)
p value (robust standard error)	.002 (.138)	.035 (.133)	.640 (.131)	.000 (.118)	.002 (.157)	.713 (.130)
Mean score, index of attitudes rejecting men's perpetration of violence on unmarried adolescent girls (range: 0–6, Cronbach's alpha: .85)						
β coefficient (95% CI)	.332* (.02, .65)	.306* (.01, .61)	–.081 (–.31, .22)	.52** (.21, .82)	.561** (.17, .94)	–.087 (–.39, .21)
p value (robust standard error)	.038 (.159)	.045 (.152)	.605 (.153)	.001 (.156)	.004 (.196)	.569 (.154)
Told perpetrator to stop or intervened himself or reported the incident						
OR (95% CI)	2.17** (1.079, 4.40)	2.56** (1.43, 4.59)	1.481 (.67, 3.23)	2.68** (1.32, 5.45)	3.34*** (1.80, 6.19)	1.44 (.66, 3.14)
p value (robust standard error)	.03 (.781)	.002 (.762)	.325 (.591)	.006 (.931)	.000 (1.053)	.352 (.573)

Model 1: All coefficients/ORs were adjusted for baseline level of household wealth index, engagement in paid work in the year preceding the baseline, religion and mean number of years in school, and baseline level of the outcome indicator.

Model 2: All coefficients/ORs were adjusted for baseline level of household wealth score, engagement in paid work in the year preceding the baseline, religion and mean number of years in school, baseline level of the outcome indicator and the extent of regular participation in intervention activities.

Reference category: older boys from control arm; generalized estimating equations regression coefficients (β coefficient); generalized estimating equations ORs.

CI = confidence interval; OR = odds ratio.

* $p < .05$; ** $p < .01$; *** $p < .001$.

coaching program targeted at boys in ages 13–21 years in a highly age- and gender-stratified rural setting in India, sought to fill some of these gaps.

Our analysis shows that the intervention was acceptable to both younger and older boys and that delivering the program to all boys aged 13–21 years together did not inhibit younger boys from participating fully in the program.

Our findings highlight that gender transformative programs are likely to be more effective in changing traditional norms and attitudes among boys and laying the groundwork for reductions in the perpetration of violence against women and girls, if they target boys during early adolescence compared with late adolescence. Of the five indicators that we used to measure gender role attitudes of boys, a significant positive effect was observed on all five indicators among younger boys and on four indicators among older boys. Moreover, the effect size was larger for younger than older boys for four of five indicators. These findings reiterate that it is necessary to reach boys when their expectations, attitudes, and beliefs about gender stereotypes and sexuality are developing and before they explore and experiment with their beliefs about gender roles in intimate relationships [26,27].

The odds of intervening to stop incidents of violence witnessed were higher for older than younger boys in our study. Our finding is consistent with observations from a cross-sectional study among Korean students that reported that younger students were less likely than older students to intercede in bullying situations [28] and findings from a meta-analysis that showed that bystander intervention programs were more effective among older than younger students [29], but contests findings from other studies that reported a reverse association [30,31]. Although the study did not collect data that allow further exploration of this relationship, the finding suggests that violence prevention programs targeting younger boys may need to create a sense of security among younger boys that they are protected themselves from their peers who perpetrate violence against girls as well as teach them social skills, for example, empathy, assertion, and cooperation that are found to be relevant for bystander interventions [32]. Findings from our analysis should be interpreted with the limitations in mind. All sessions, except sessions on sexual matters, were held jointly for younger and older boys. Although our analysis has shown that joint sessions did not inhibit younger boys from participating in the intervention, our analysis could not answer whether it would have been more acceptable and more effective if the program was held separately for younger and older boys. Also, the original study did not include 10- to 12-year-olds; therefore, our findings should not be generalized for very young adolescents.

Our study also raises a number of research questions that need to be answered in future studies. Similar to most evaluations of interventions to engage young men [19], the parent study from which data presented in this analysis were drawn had a shorter follow-up period; therefore, studies are required to assess the extent to which newly internalized gender egalitarian notions are sustained over time. Research is also needed to assess whether the intervention has any effect on boys' perpetration of violence as they transition into sexual life in the future.

There are several programs for adolescents and young people in India. Notable examples include the recently launched Rashtriya Kishor Swasthya Karyakram (RKSK; the National Adolescent Health Program) of the Ministry of Health and Family Welfare and the NYKS of the Ministry of Youth Affairs and Sports. The

RKSK program aims to empower youth through group mechanisms, build the skills of boys and girls in each village to empower adolescents with health-promoting information, change hierarchical gender role attitudes, and serve as links between adolescents and the health system [33]. The NYKS program, likewise, seeks to promote citizenship, skill development, personality development, and engagement in sports among the young [34]. Both these programs have recognized the importance of reaching out to boys and girls early; the reality, however, is different, and these program activities tended to concentrate on those aged 15 years and older. Although these programs offer potential platform for incorporating components and curriculum from the Do Kadam intervention and lessons learned from its implementation, a concerted effort to target younger adolescents is called for.

Limitations notwithstanding, our findings suggest the potential value of investing early with intervention models to change deeply entrenched gender role attitudes and attitudes justifying the entitlement of men and boys to perpetrate violence on women and girls.

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