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Does it take a village? Fostering gender equity among early adolescents in Nepal

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Abstract:

Background: Gender inequity contributes to a range of poor health outcomes. Early adolescence presents a window of opportunity for gender transformative interventions to shift inequitable gender norms, attitudes and behaviors.

Objective: The objective of this study is to evaluate a set of individual, family and community interventions to increase gender equity among very young adolescents (VYAs) in rural Nepal.

Methods: Two communities received the individual-level *Choices* intervention as well the family and community *Voices* and *Promises* interventions (CVP). Two comparison communities received only *Choices*. Samples of 1200 VYAs and 600 parents were interviewed at baseline before implementation and at end line 1 year later.

Results: In both CVP and *Choices* only areas most measures of gender norms, attitudes, and behaviors improved, suggesting a positive effect of the individual-level intervention. Increases in norms, attitudes, and behaviors reported by VYAs were generally greater in CVP areas compared to *Choices* areas, suggesting an added benefit from the family and community interventions. Parent-reported measures did not demonstrate an intervention effect of the family and community interventions. Uneven evaluation results, particularly among parents, may reflect implementation challenges such as the compressed 3-month intervention period due to the 2015 earthquakes and subsequent political unrest.

Conclusion: Overall findings are encouraging and suggest that adding family and community interventions may improve gender equity.

Keywords: gender norms, gender transformative programing, Nepal, social norms, very young adolescents

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Introduction


The sustainable development goals mandate the promotion of gender equity as a global health priority [1]. Gender inequity can result in poor outcomes from childhood through adulthood for girls and boys. Prior research has shown that gendered social expectations for men and women relate directly to health behaviors [2], [3], [4]. Specifically, inequitable gender norms contribute to a range of poor health and protection outcomes, including prevention of HIV and STIs, intimate partner violence, and parenting, as well as other health behaviors [5], [6], [7].

Addressing gender inequities is particularly pressing in Nepal. Social norms around son preference persist and contribute to differential educational and economic opportunities for girls [8]. Previously, girls in Nepal experienced a persistent gender gap in educational and economic opportunities [9], and in access to healthcare [10]. Recent gains in gender parity in child health indicators and in primary and secondary school enrollment may expand opportunities for the next generation of girls [11], [12].

Increasing gender equity in Nepal is likely to improve the health of women and their families. Traditional norms governing gender and sexuality constrain access to sexual and reproductive healthcare services for adolescents and women of all ages [13], [14], [15]. About 40% of young women in Nepal are married by the age of 18 and almost one in four give birth before the age of 18 [16]. Increased contraceptive use may improve maternal and child health by delaying first birth, reducing unintended pregnancies, and improving birth spacing.

The pubertal transition marks social development and maturation during which boys and girls face intensifying expectations to adhere to gender norms [17]. This developmental window provides an opportunity to

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intervene with very young adolescents (VYAs) to shift the trajectory of developing gender norms, attitudes and behaviors [18]. VYAs are influenced not only by proximal individual-level factors, but also by family, school, and their community [19]. The most effective strategies to influence health outcomes for VYAs entail intervention at these various levels [20]. Gender socialization for VYAs occurs not only through individual-level influences, but also through important contexts, including the family [17].

Globally few interventions evaluate shifts in gender norms among VYAs [17]. A systematic review of interventions conducted among boys and men suggested that these approaches may be effective in improving gender equity [21]. Some programs intervening specifically with VYAs have shown tentative success in shifting gender norms [22], [23]. One such program is *Choices* from Nepal in which a pilot evaluation indicated positive effects on VYAs' gender attitudes and behaviors [24]. Evaluated gender transformative programs for early adolescents, however, are few and have been implemented in widely varying contexts leading to a dearth of successful strategies that support individual-level change with early adolescents and intervene at the family and community levels.

In this paper, we present findings from a multi-level gender transformative intervention with three specific approaches for VYAs, their families, and their communities in the Terai district of rural Nepal. Specifically, the purpose of the study was to evaluate added benefits of working at family and community levels while engaging VYAs at the individual level to improve gender equity and attitudes. The family-level intervention, *Voices*, and the community-level intervention, *Promises*, have not been previously described in the literature. We compare outcomes that occur when VYAs engage in the individual-level *Choices* intervention alone, which has previously been piloted [24], to outcomes when parents and communities participate in *Voices* and *Promises*.

Materials and methods

Sample

The study was conducted in Nepal in the Kapilvastu district, where Save the Children's sponsorship programs are operational. Four Village Development Committees (VDCs) were identified where it would be feasible to implement the intervention and conduct the study. These VDCs had existing child clubs and community-based organizations available for implementation. They were also strategically selected so that VDCs assigned to intervention and control groups were not served by the same community-based organization to avoid contamination. VDCs were not selected for this study if they were receiving another gender norms intervention, which was being implemented in the district at the time. Two VDCs were assigned to receive the *Choices*, *Voices*, and *Promises* (CVP) interventions while two received only *Choices*. VDCs were matched on socioeconomic and geographic characteristics, such as access to schools and roads, to minimize differences between the intervention and control groups. A quantitative survey was implemented in both CVP and *Choices* only areas with very young adolescents (VYAs) ages 10–15 who were participating in the *Choices* intervention within preexisting child clubs and their parents at baseline before intervention implementation, and 1 year later after the interventions were completed. At baseline, samples of 1200 VYAs and 600 parents were interviewed. The same VYAs ($n = 1200$) were re-interviewed at end line, as well as a sample of 600 parents. In some cases a different parent completed the survey at end line than at baseline. The baseline and end line surveys were similar and consisted of questions relating to sociodemographic characteristics, as well as social norms, attitudes, and behaviors in several domains of gender equity. The study was approved by Georgetown University's Institutional Review Board (2015/0047) and the Nepal Health Research Counsel (Reg no. 57.2015). Parents provided consent for their own and children's participation; children provided assent to participate.

Measures

For both VYAs and parents, candidate measures of norms, attitudes, and behaviors were assessed in five gender-related domains: Gender equity in education; gender equity in household chores and resource sharing; delaying marriage for girls; supportive and loving relationships; and gender equity in aspirations for girls and boys. Standard measures of these constructs have not been previously established, particularly for VYAs. We assessed eight potential scales using the parent data with α ranging from 0.15 to 0.83 and nine potential scales by gender for VYAs with α ranging from 0.25 to 0.82 for girls and from 0.04 to 0.91 for boys. We eliminated scales that did not demonstrate internal consistency, single items with $>90\%$ endorsement, and measures with $>10\%$ missing. We then assessed construct validity through associations with theoretically related constructs (e.g. norms, attitudes and behaviors within a single domain should be theoretically associated). VYA measures were retained if associated with at least two theoretically related constructs. Parent measures were retained if associated with

any theoretically related construct due to the low number of remaining potential measures. None of the measures in the supportive and loving relationships domain were of sufficient quality to include in our analysis. Full detail on these quality assessments is forthcoming in a future publication. The higher quality measures that were included in the final analysis are described in greater detail below.

Measures: VYAs

For VYAs, we identified measures of norms, attitudes, and behaviors in three gender equity domains. All measures were coded so that higher values indicated greater gender equity. For example, if a statement indicated a gender inequitable attitude, disagreement with the attitude was coded as one and agreement as zero.

In the gender equitable education domain, VYAs indicated whether they disagreed with the attitude that ‘it is more important for a girl to help at home and learn household activities than to spend time studying.’ We also assessed a dichotomous measure of behavior in this domain. For girls, this measure was whether a girl had ever told a parent that it is important for her to continue studying. For boys, the measure was whether a boy had ever told a parent that it is important for his sister to continue studying.

We assessed three measures in the domain of gender equitable household chores and resource sharing. The first measure was disagreement with the norm that ‘boys who help with chores are considered weak by their friends.’ The second measure was agreement with the norm that ‘my parents admire boys who help their sisters with household chores.’ We also assessed disagreement with the attitude that ‘boys should have more free time than girls.’

For the gender equity in aspirations domain, we assessed two measures; a multi-item attitudinal scale about gender roles and a dichotomous behavioral item. The scale was based on a card sort activity. VYAs were given eleven different cards with pictures of different roles or jobs, such as cooking, taking care of children, deciding on financial matters, and working outside the home. They were asked to sort activities into piles according to whether they thought these were roles for women, men, or either. Responses were coded as one if VYAs indicated that both women and men could do the job, and zero if they indicated that only one gender could do the job. The scale was assessed separately by gender and found to have good internal consistency for both girls ($\alpha = 0.77$) and boys ($\alpha = 0.91$). For the behavioral measure of gender equity in aspirations, VYAs were asked whether they had talked about their hopes for the future with a sibling or a friend in the last month. There were no VYA measures in the supportive and loving relationships domain or in the delaying marriage domain of sufficient quality to include in the analysis.

The main independent variables for VYAs were their location from a *Choices* only area or from a CVP intervention area, along with whether the survey occurred at baseline or end line. We also assessed self-reported demographic characteristics, which included gender, age, and marital status.

Measures: parents

Only two parent measures were included in the final analysis, as several candidate parent measures failed to demonstrate sufficient construct validity for inclusion. These two measures were both in the delaying marriage for girls domain: Agreement with the attitude that marrying girls at an early age is bad for the community; and for parents with daughters, the age at which they wanted their daughter to marry.

Parent demographic characteristics included gender, age, religion (Hindu, Muslim, or other), and occupation (agricultural, work in the home, or other).

Qualitative data

For complementary insight into participants’ experiences with the interventions, qualitative data was collected through focus group discussions (FGDs) and individual in-depth interviews (IDIs) with VYAs and parents following the intervention. In total 29 girls participated in IDIs. One FGD each was conducted with mothers and fathers in the *Choices* only and CVP areas respectively, with an additional fifth FGD conducted in the *Choices* only area with mothers and fathers. Interview guides were developed collaboratively by the research teams in the US and Nepal, and revised during interviewer training. The guides were designed to elicit discussion of social norms related to prioritizing girls’ education over household chores, gendered distribution of household tasks and resources, early marriage and relationships. The guides also elicited discussion of gendered aspirations, intergenerational communication and assessment of the interventions.

We used various interviewing techniques such as photo elicitation and acting out vignettes with small dolls. For example, parents were shown a picture of a family and told a story about a mother and father discussing how quickly their daughter is growing up and whether they should start arranging her marriage, now that she had reached the age of 14. Participants were asked to complete the story, and reflect on how they might react in such a situation.

IDIs and FGDs were recorded, transcribed, and translated into English. The resulting transcripts were coded by hand using content analysis to identify emerging themes, which provide context and meaning to the quantitative results. Representative quotations are provided in the results to illustrate these findings.

Interventions

This study was designed to test three intervention components that address gender equitability at the individual, family, and community levels. *Choices*, the individual-level intervention, was developed to fit into Save the Children's ongoing sponsorship work with children in child clubs that typically meet once a week for 2 h. *Choices* was implemented in all study areas and includes nine sessions of curriculum-based activities implemented directly with VYAs that address gender inequity and power; how gender equity is actionable; how boys can be respected if they treat girls as equals; how social norms restrict boys from treating girls as equals; how boys and girls can express emotions and realize their hopes and dreams; and understanding the roles of boys in empowering girls to achieve their dreams. *Choices* has previously been described, evaluated and published the literature [24]. For this study, a community-based organization implemented the *Choices* intervention. Organization staff participated in a 3-day interactive training, after which they selected 72 older adolescent *Choices* facilitators from child clubs in the implementation areas. The facilitators were trained by the partner organization in a 5-day training on *Choices* and received a program manual.

The family-level *Voices* and the community-level *Promises* interventions were implemented only in two of the four VDCs. For the *Voices* intervention, six 10-min videos were developed based on six behaviors: (a) gender equitable division of household tasks; (b) equal homework time and (c) equal food for boys and girls; (d) encouraging daughters as well as sons to attend school as; (e) commitment to not discuss daughters' marriage; and (f) equally bring hope to girls and boys. The videos used testimonials from parents, community leaders and children, with the goal of influencing parents to adopt new behaviors. Parents of VYAs participating in *Choices* were concurrently invited to attend *Voices* sessions in which they viewed the videos as a group and participated in a discussion facilitated by a trained community mobilizer. *Voices* was developed in 2014 using small group discussions with parents of VYAs. The intervention was originally designed for implementation in three sessions, with two videos viewed and discussed per session. Because of implementation challenges, including the 2015 earthquake and political strikes, *Voices* was compressed into two sessions, with three videos discussed at each. Implementation of *Choices* was also compressed from once a month for 9 months, to once a week for 3 months.

The community-level *Promises* intervention involved public display of large posters designed to spark conversation about gender equity within the community with the goal of keeping girls in school. Six posters were sequentially designed to (a) raise community awareness of hopes and dreams of girls; (b) build a sense of common experience among parents; (c) demonstrate tangible benefits; (d) suggest emotional benefits; (e) identify actions to achieve these benefits; and (f) validate actions by respected community leaders. Volunteer community influencers were selected in each ward and specifically invited to the unveiling of the posters to catalyze discussion of the poster topics through their own networks. Extension workers from the implementing organization facilitated a community-based discussion of each poster. A final poster was displayed as part of a culminating community celebration at the end of the intervention and was designed to encourage commitment of parents and create a critical mass for group action. *Promises* was developed starting in 2011 and was piloted in 2012 with a mixed-methods process evaluation that indicated positive changes in fathers' attitudes about their daughters' futures and community perceptions of gender equitability.

Analysis

To evaluate the effect of the *Choices* intervention, we assessed changes in measures of gender norms, attitudes, and behaviors from baseline to end line in all VDCs. For dichotomous measures, we estimated logistic regression models with an indicator for whether the survey was collected at baseline or end line to assess these changes. We also estimated adjusted models that included the intervention area, gender, and age. For the two continuous dependent variables, we estimated linear regression models.

To assess the effect of the *Voices* and *Promises* interventions, we took a difference of differences approach. We included an interaction term between the intervention area and the baseline/end line measure in each model.

The regression coefficient for this interaction term indicates whether there was a significant difference in the change in the measure from baseline to end line in the CVP areas compared to in the *Choices* only areas. As for the *Choices* analyses, these models were also adjusted for gender and age. All quantitative analyses were conducted using Stata 14.

Results

Sample description

The sample of very young adolescents (VYAs) interviewed at baseline in the areas that participated only in *Choices* was similar in demographic characteristics to the sample interviewed in the areas that participated in *Choices*, *Voices*, and *Promises* (CVP) (Table 1). In each group, the samples were evenly split by gender. The mean age of VYAs in the *Choices* only areas was 12.0 years (SD = 1.4) and mean age in the CVP areas was 12.1 (SD = 1.4) ($p = 0.22$). Very few VYAs were married in the *Choices* only areas (1.7%) and in the CVP areas (1.3%) ($p = 0.64$).

Table 1: Baseline demographic characteristics of VYAs in control and intervention areas.

Characteristic	Control: <i>Choices</i> (n = 600)	Intervention: <i>Choices</i> , <i>Voices</i> , <i>Promises</i> (n = 600)	p-Value
Gender, % (n)			0.87
Male	49.7 (298)	50.3 (302)	
Female	50.3 (302)	49.7 (298)	
Age, mean (SD)	12.0 (1.4)	12.1 (1.4)	0.22
Age group, % (n)			0.34
10–12	61.8 (371)	59.2 (355)	
13–15	38.2 (229)	40.8 (245)	
Married, % (n)			0.64
No	98.3 (590)	98.7 (592)	
Yes	1.7 (10)	1.3 (8)	

There were significant demographic differences between the parents who were interviewed in the *Choices* only areas and in the CVP areas (Table 2). Specifically, a greater proportion of women were interviewed in the *Choices* only areas (65%) than in the CVP areas (55%). Parents in the *Choices* only areas were more likely to be Hindu (93%) than parents in the CVP areas (78%), while those in the CVP areas were more likely to be Muslim (18%) than those in the *Choices* only areas (6%) ($p < 0.001$). Parents in the *Choices* only areas were less likely to report working in agricultural occupations (67%) than parents in the CVP areas (86%).

Table 2: Baseline demographic characteristics of parents in control and intervention areas.

Characteristic	Control: <i>Choices</i> (n = 300)	Intervention: <i>Choices</i> , <i>Voices</i> , <i>Promises</i> (n = 300)	p-Value
Gender, % (n)			0.01
Male	34.7 (104)	44.7 (134)	
Female	65.3 (196)	55.3 (166)	
Age, mean (SD)	39.8 (10.1)	39.4 (8.3)	0.56
Age group, % (n)			0.001
<40	54.0 (161)	47.7 (143)	
40–49	28.9 (86)	42.3 (127)	
50+	17.1 (51)	10.0 (30)	
Religion, % (n)			<0.001
Hindu	93.0 (278)	79.7 (239)	
Muslim	6.4 (19)	18.3 (55)	
Other	0.7 (2)	2.0 (6)	
Occupation, % (n)			<0.001
Agricultural	67.4 (201)	85.7 (257)	
Work in home	24.8 (74)	8.3 (25)	
Other	7.7 (23)	6.0 (18)	

Effect of choices

To assess the overall effect of the *Choices* intervention, gender measures at end line were compared to gender measures at baseline for participants across all areas regardless of participation in *Voices* and *Promises*. Most measures of VYA gender norms, attitudes, and behaviors reflected an overall improvement from baseline to end line in both *Choices* only and CVP areas, suggesting an overall positive effect of *Choices* on gender equity (Table 3).

Table 3: Effects of *Choices* on VYA attitudes and behaviors related to education, household chores and resource sharing and aspirations.

Measure	Baseline (n = 1200)	End line (n = 1200)	End line vs. baseline	
			OR/beta [95% CI]	aOR/beta [95% CI] ^a
Gender equitable education				
Attitude: It is more important for a girl to help at home and learn household activities than to spend time studying, % (n) disagree	58.8 (685)	80.6 (965)	2.90 [2.41–3.48] ^b	3.22 [2.64–3.94] ^b
Behavior: Have you ever told your parents (guardian) that it is important for your sisters/you to continue studying? mean (SD)	78.1 (898)	80.9 (949)	1.19 [0.97–1.45]	1.22 [0.98–1.50]
Gender equitable household chores and resource sharing				
Norm: Boys who help with chores are considered weak by their friends, % (n) disagree	51.3 (614)	78.2 (934)	3.41 [2.85–4.08]	3.56 [2.94–4.30]
Norm: My parents admire boys who help their sisters with household chores, % (n) agree	88.0 (1052)	90.3 (1074)	1.28 [0.99–1.66]	1.31 [1.00–1.73]
Attitude: Boys should have more free time than girls, % (n) disagree	45.5 (542)	71.9 (860)	3.06 [2.59–3.63] ^b	3.44 [2.86–4.13] ^b
Gender equity in aspirations for girls and boys				
Attitude: Card sort gender role scale, mean (SD)	3.7 (2.9)	8.2 (3.1)	4.43 [4.19–4.67] ^b	4.47 [4.22–4.71] ^b
Behavior: How often did you talk about your hopes for the future with a sibling or friend your age in the last month? % (n) ever	71.9 (858)	84.1 (1005)	2.07 [1.70–2.53] ^b	2.12 [1.72–2.62] ^b

^aAdjusted for parent intervention area, VYA gender, and VYA age. ^bp < 0.001

With respect to gender equitable education, VYAs' disagreement with a gender inequitable attitude increased from 59% at baseline to 81% at end line, reflecting a 2.9-fold increase in the odds of disagreement (OR = 2.90, 95% CI: 2.41–3.48), which remained statistically significant after adjusting for potential confounding (aOR = 3.22, 95% CI: 2.64–3.94). Reports of behaviors relating to gender equity in education were 78% at baseline and 81% at end line, with no statistically significant increase.

In the domain of gender equity in household chores and resource sharing, VYAs reported improvements in one norm and an attitude. Disagreement with the inequitable social norm that boys who help with chores are considered weak by their friends increased from 51% at baseline to 78% at end line, reflecting a 3.6-fold increase in odds of disagreeing with this inequitable norm after adjusting for potential confounders (aOR = 3.56, 95% CI: 2.94–4.30). Endorsement of the equitable norm that parents admire boys who help their sisters with household chores was 88% at baseline and 90% at end line with no statistically significant increase. Disagreement with the inequitable attitude that boys should have more free time than girls increased from 46% at baseline to 72% at end line, corresponding to a 3.4-fold increase in adjusted odds (aOR = 3.44, 95% CI: 2.86–4.13).

Measures of VYAs' attitudes and behaviors relating to gender equity in aspirations both exhibited significant improvement from baseline to end line. The card sort gender role scale mean scores increased from 3.7 (SD = 2.9) at baseline to 8.2 (SD = 3.1) at end line, reflecting an adjusted increase in scores of 4.5 points (95% CI: 4.2–4.7).

Results for the effect of *Choices* on parents' attitudes and behaviors relating to delaying marriage for girls were mixed (Table 4). There was no change from baseline to end line in parents agreeing that marrying girls at an early age is bad for the community (87% vs. 88%). The mean age that parents indicated that they wanted their daughters to marry increased from 19.4 (SD = 2.2) at baseline to 20.0 (SD = 2.1) at end line, reflecting an adjusted increase of 0.6 years (95% CI: 0.3–0.8), or approximately 7 months.

Table 4: Effects of *Choices* on parent attitudes and behavior related to delayed marriage.

Measure	Baseline (n = 600)	End line (n = 600)	End line vs. baseline	
			OR/beta [95% CI]	aOR/beta [95% CI]
Delayed marriage for girls				
Attitude: Marrying girls at an early age is bad for the community, % (n) agree	87.0 (517)	88.0 (528)	1.09 [0.77–1.54]	1.10 [0.78–1.56]
Behavior: At what age would you like your daughter to marry? mean (SD)	19.4 (2.2)	20.0 (2.1)	0.59 [0.31–0.87] ^b	0.56 [0.28–0.85] ^b

^aAdjusted for parent intervention area, parent gender, and parent age. ^bp < 0.001.

Effect of voices and promises

Comparisons of VYA responses in the *Choices, Voices, Promises* (CVP) areas to those in the *Choices* only areas suggest positive intervention effects in the gender equitable education and gender equitable household chores and resource sharing domains (Table 5). Disagreement with the inequitable attitude about education increased more in the CVP areas than in the *Choices* only areas (p < 0.001). The gender equitable education measure declined from 86% to 80% in the *Choices* only areas and increased from 69% to 82% in the CVP areas, also suggesting a positive intervention effect (p < 0.001). In the gender equitable household chores and resource sharing domain, both norms exhibited a significant positive intervention effect (p < 0.001). There was no significant difference in the improvement in the attitudes in this domain (p = 0.88).

Table 5: Effects of *Voices* and *Promises* on VYA attitudes, norms and behavior related to education, household chores and aspirations.

Measure	<i>Choices</i> only (%)		<i>Choices, Voices, Promises</i> (%)		Intervention Effect ^a	p-Value
	Baseline (n = 600)	End line (n = 601)	Baseline (n = 600)	End line (n = 599)		
Gender equitable education						
Attitude: It is more important for a girl to help at home and learn household activities than to spend time studying, n (%) disagree	69.7 (414)	81.8 (491)	47.5 (271)	79.3 (474)	2.15 [1.48–3.13]	<0.001
Behavior: Have you ever told your parents (guardian) that it is important for your sisters/you to continue studying? mean (SD)	86.4 (509)	79.5 (473)	69.3 (389)	82.4 (476)	3.39 [2.23–5.13]	<0.001
Gender equitable household chores and resource sharing						

Norm: Boys who help with chores are considered weak by their friends, n (%) disagree	66.6 (399)	79.6 (477)	36.0 (215)	76.8 (457)	3.01 [2.09–4.33]	<0.001
Norm: My parents admire boys who help their sisters with household chores, n (%) agree	94.5 (566)	84.3 (499)	81.4 (486)	96.3 (575)	19.1 [10.2–35.8]	<0.001
Attitude: Boys should have more free time than girls, n (%) disagree	59.3 (351)	82.6 (495)	31.9 (191)	61.1 (365)	1.03 [0.72–1.47]	0.88
Gender equity in aspirations for girls and boys						
Attitude: Card sort gender role scale, mean (SD)	3.8 (3.1)	9.1 (2.4)	3.6 (2.6)	7.2 (3.4)	–1.64 [–2.11 to –1.17]	<0.001
Behavior: How often did you talk about your hopes for the future with a sibling or friend your age in the last month? n (%) ever	80.7 (481)	91.7 (551)	63.0 (377)	76.4 (454)	0.72 [0.47–1.11]	0.14

^aIntervention effect indicates logistic or linear regression interaction term between end line time period and intervention area.

We did not see a significantly positive *Voices* and *Promises* intervention effect in the domain of gender equity in aspirations for girls and boys based on VYA responses. Scores on the card sort gender role scale increased in both areas, but the increase was greater in the *Choices* only areas than in the CVP areas, indicating a negative intervention effect ($p < 0.001$). The behavior in this domain improved in both areas, but there was no significant difference in this improvement ($p = 0.14$).

For parent responses in the domain of delayed marriage for girls, we did not observe a positive intervention effect (Table 6). The attitude about delaying marriage increased in the *Choices* only areas but declined slightly in CVP areas. In both areas, the age that parents wanted their daughters to marry increased, from 19.5 to 20.4 in the *Choices* only area and from 19.4 to 19.7 in the CVP areas. This increase was greater in the *Choices* only areas ($p = 0.04$).

Table 6: Effects of *Voices* and *Promises* on parent attitude and behavior related to delayed marriage.

Measure	<i>Choices</i> only (%)		<i>Choices, Voices, Promises</i> (%)		Intervention effect ^a OR [95% CI]	p-Value
	Baseline (n = 300)	End line (n = 300)	Baseline (n = 300)	End line (n = 300)		
Delayed marriage for girls						
Attitude: Marrying girls at an early age is bad for the community, n (%) agree	80.3 (236)	87.7 (263)	93.7 (281)	88.3 (265)	0.29 [0.14–0.61]	0.001
Behavior: At what age would you like your daughter to marry? mean (SD)	19.5 (2.6)	20.4 (2.5)	19.4 (1.9)	19.7 (1.7)	–0.60 [–1.17 to –0.04]	0.04

^aIntervention effect indicates logistic or linear regression interaction term between endline time period and intervention area.

Qualitative data: very young adolescents

Analysis of the in-depth interviews with girls reveals that they recognize and articulate the gender inequities in their lives. At the same time, they indicate that expectations for male and female roles are becoming more

equitable, especially in the areas of education and timing of marriage. Girls explain that their lives are more difficult than their brothers', but note that gendered expectations vary by family. Pressure to conform to social expectations was illustrated by one girl's story of neighbors who criticize equitable gender roles enacted in her home, "You are giving girls time to study and giving more work to boys? Don't do that. Boys are valuable in our society. Girls need to work and boys need to study." Another girl explained that she and her brother share roles equally, but then remarked, "It is different in my family. In other families the sister does most of the work and her brother goes out for a walk. He doesn't help his sister with the homework."

The qualitative results suggest that girls are finding their voices, with the help of programs such as *Choices*, "Before I couldn't express myself, but after participating in *Choices* I can talk openly without any fear." Girls are advocating for themselves and some parents accept their request to continue studying and delay marriage. One girl remarked, "My parents talked about my marriage at age 12 or 13. I am now 14 years. I will not marry now. I told them I will marry after I complete my education and reach my goals. Then I will marry. My parents said okay."

Qualitative data: parents

Parents in all of the groups reported that they observed changes in their children as a result of participating in *Choices*. They reported that their sons are now more helpful, daughters are gaining confidence and all are learning the value of treating sons and daughters equally. A father stated, "There has been change. First, the children participated in the training. Then they joined children's club. Now my daughter comes and goes alone like her brother. But before we had to drop her." Mothers observed that their sons are helping with household chores and are more supportive of their sisters. According to one mother, "Before only daughters had to do all the household activities but nowadays both son and daughter get involved and help each other."

Mothers and fathers are learning to parent in a world with moving goalposts. During the focus group discussions they reflected on changing roles, expectations, laws, and economic realities and their worries and hopes for their children. Parents reported that their participation in community discussions [*Voices* and *Promises*] is teaching them the value of treating their sons and daughters equally and helping them to adapt to this new context. Parents also said that they are learning from their children, a promising finding that suggests that children can spread new ideas to their families and communities. In the words of one father, "My daughter teaches me lots of good things. She has taught me that a girl should get married only after reaching 18–19 years." Some parents reported taking actions to keep their girls in school. For example, one father told this story, "My daughter fell in love with a boy and was trying to go with him. I told them to complete their education. I talked to the boy as well, I told him if they study well, when they grow up we will celebrate their marriage ceremony. Both are studying now."

Despite the fact that many parents expressed support for more gender equitable roles and responsibilities, they worry about the opinion of others. Many shared comments like this mother's, "My daughter may not like the system of our society where boys are given priority for education. If any family has an unmarried daughter aged 25, people really say bad things behind their backs."

Discussion

Generally, we find improvements in gender-equity related measures from baseline to end line, reflecting a positive intervention effect of *Choices* over a very brief intervention period (3 months). We also find *Voices* and *Promises* intervention effects in VYA measures for gender equity in education, household chores, and resource sharing. We find less evidence for an effect of *Voices* and *Promises* on gender equity in aspirations and delaying marriage.

The positive *Choices* intervention effects observed correspond to prior studies, but add substantially to the evidence on layering individual level interventions with complementary community and family interventions. The improvements from baseline to end line in all areas where *Choices* was implemented correspond with the pilot evaluation results [24]. These findings, however, are limited by a lack of comparison area where *Choices* was not implemented. Changes in gender measures from baseline to end line may be due to influences other than the interventions. Adding the family and community interventions was associated with several improvements in gender norms, attitudes and behaviors, particularly for VYAs. Findings for parents, however, were limited by few measures of sufficient quality to assess. These results corroborate prior research showing the utility of intervening more broadly with boys and men to shift gender norms [21] and in engaging the broader community in normative change [22].

There are several limitations to our study. First, because this was a community-level intervention, assignment to intervention group was at the VDC level. Because the scope of our study included only four VDCs,

it would not have been meaningful to randomize allocation, so communities were matched rather than randomized. Sociodemographic differences between the populations residing in the *Choices* only and CVP areas may have confounded our assessment of the intervention. Despite this limitation, our study design provides a comparison group for *Voices* and *Promises* beyond a more basic pre-post comparison. Furthermore, we adjust for demographic characteristics to mitigate confounding demographic differences. Future evaluations with a larger number of VDCs would allow for random allocation to the intervention as well as increased power to detect differences at the community level.

While positive CVP effects among VYAs are suggestive of a positive intervention effect for *Voices* and *Promises*, it is unclear why an intervention effect among parents of VYAs in the CVP areas was not observed, although it may be related to study design and implementation challenges. First, despite inclusion of a wide range of gender construct measures in the parent survey, many measures were not usable, largely due to limited range of responses and lack of construct validity. An additional limitation to our analyses is that the research team had difficulty tracking parents and consequently not all of the parents in the end line sample are the same parents who were in the baseline sample. There were also several implementation challenges that underscore the need to be adaptive in rolling out any intervention. Specifically, the major earthquakes in Nepal coincided with the initial trainings and delayed implementation for several months. The subsequent strikes and political unrest led to safety concerns and limited the implementing organization's ability to fully implement the intervention as planned. As a result, the intervention timeline was shortened from the planned 8 months to a compressed 3 months. These implementation challenges may have made the intervention less effective than if implemented according to plan, but also reflect the impressive capacity of local implementers to adapt to difficult circumstances and the potential scalability of the intervention.

A strength of this study is that we report data for several measures of gender norms, attitudes, and behaviors for VYAs and their parents. Measures of gender-related constructs for this age group have not been well developed, particularly in low- and middle-income countries [17]. As we lacked a set of standardized measures that had been well validated among VYAs in Nepal, some domain-specific measures did not work well. For example, several measures were almost universally endorsed at baseline: More than 90% of VYAs endorsed a norm about gender equity in education ("In families I respect, boys and girls get equal time to do homework") and an attitude about gender equity in household chores ("It is more important for a boy to help at home than to spend time hanging out with friends"). Our findings, therefore, will be of interest to those measuring gender-related constructs among VYAs and their parents in a variety of settings.

Our study provides preliminary evidence for the effectiveness of family- and community-based gender transformative interventions. Community-randomized studies could provide additional evidence of effectiveness with larger sample sizes and greater equivalence between intervention and comparison groups. Furthermore, while our study demonstrates intervention implementation in exceptional circumstances, future studies can provide more robust evidence on the intervention effectiveness when rolled out as designed over a 1-year period. Finally, our documentation of the measures we used can inform future research on gender norms, attitudes, and behaviors in early adolescence.

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