

Girls start life on an uneven playing field: Evidence from lowland rural Nepal

SUPPLEMENTARY MATERIALS

Figure S1. Biplot of PCA indexing maternal socio-economic and reproductive capital components

Figure S2. Scatter plot showing how sex ratio in total sample would manifest, depending on the sex ratio in subsample missing data on sex

Table S1. Bias in missing data on child sex

Table S2. Bias in child sex

Table S3. Mixed-effects logistic regression models investigating associations of individual factors associated with the likelihood of having a girl

Figure S1. Biplot of PCA indexing maternal reproductive capital and socio-economic capital components

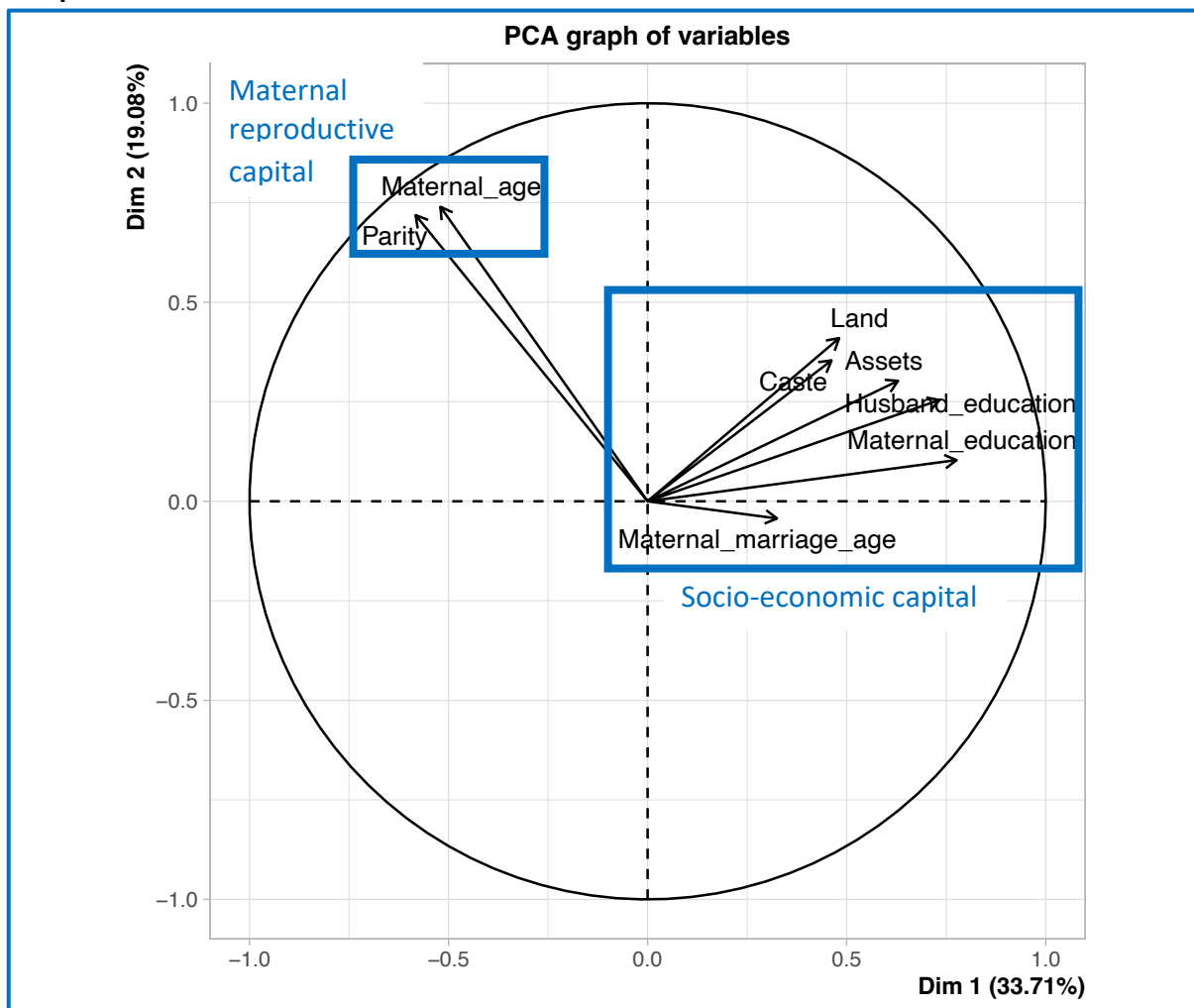
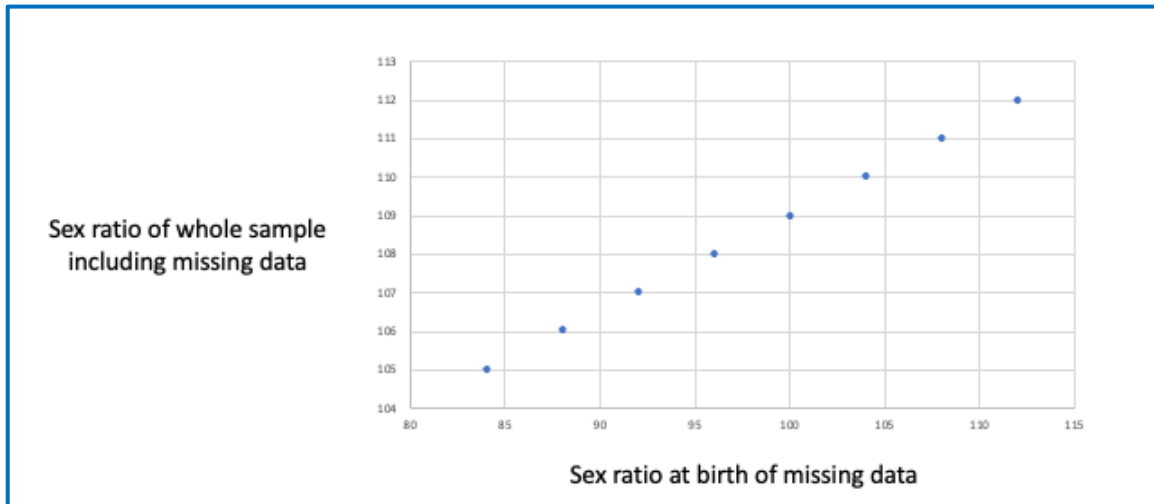


Figure S2. Scatter plot showing how sex ratio in total sample would manifest, depending on the sex ratio in subsample missing data on neonatal sex (n=5,731)



The sex ratio in the sample missing such data (A) would need to be 0.84, compared with 1.12 in the much larger sample providing such data (B, n=18,951), to produce the UN expected 'natural' ratio of 1.05 for the total sample (A+B, n=24,682).

Table S1. Bias in missing data on child sex

	Have data on child sex (n=18,951)		Missing data on child sex (n=5,731)		p-value ^a
	Median	IQR	Median	IQR	
Women's age (y)	21	6	20	5	0.001
	F	%	F	%	p-value ^b
Women's education (y)					0.001
None	12,365	65.5	2,863	58.8	
Primary (1-5 years)	1,927	10.2	524	10.8	
Lower-secondary or higher (≥6 years)	4,600	24.3	1,481	30.4	
Women's marriage age (y)					0.001
≤14 years	5,703	35.0	1,401	29.5	
15 years	4,181	25.7	1,217	25.6	
16-17 years	4,718	29.0	1,500	31.6	
≥18 years	1,684	10.3	629	13.3	
Women's height (cm)					0.295
≤144.9 cm	2,257	15.4	260	16.8	
145-154.9 cm	9,504	64.7	994	64.1	
≥155 cm	2,938	20.0	296	19.1	
Parity (no. of births)					0.001
0	6,679	35.5	2,100	44.4	
1	5,074	26.9	1,293	27.3	
2	3,702	19.7	745	15.7	
≥3	3,373	17.9	594	12.6	
Husband's education (y)					0.001
None	9,242	48.9	2,197	45.1	
Primary (1-5 years)	2,180	11.5	557	11.4	
Lower-secondary or higher (≥ 6years)	7,470	39.5	2,113	43.1	
Caste affiliation (n=5,695)					0.001
Disadvantaged: Muslim	3,678	19.4	1,029	18.1	
Disadvantaged: Dalit	3,064	16.2	1,041	18.3	
Middle: Janjati, Terai castes	8,078	42.6	2,246	39.4	
Advantaged: Yadav, Brahmin	4,131	21.8	1,379	24.2	
Household assets					0.001
1: Poorest	4,677	25.0	1,109	23.2	
2	4,612	24.7	1,101	23.0	
3	4,671	25.0	1,242	26.0	
4: Richest	4,716	25.3	1,329	27.8	
Land-holding					0.001
None	6,775	39.7	1,680	35.8	
≤0.5 hectares	5,231	30.7	1,393	29.7	
0.51-0.99 hectares	2,344	13.7	739	15.8	
≥1 hectare	2,712	15.9	876	18.7	
Access to big bazaar					0.108
≤30 minutes	7,997	49.6	2,271	49.5	
31-89 minutes	6,607	41.0	1,931	42.1	
≥90 minutes	1,514	9.4	388	8.5	

IQR, Interquartile range. F, frequency. %, percentage. ^aKruskal-Wallis Test. ^bChi squared test.

Table S2. Bias in child sex

	Sample used in analysis (<i>n</i> =16,115)		Excluded for missing data on key predictor variables (<i>n</i> =2,836)		<i>p</i> -value ^a
	F	%	F	%	
Child sex					0.446
Boys	8,501	52.8	1,518	53.5	
Girls	7,614	47.2	1,318	46.5	
	Ratio		Ratio		
Sex ratio	111.6		115.2		

F, frequency. %, percentage. ^aChi squared test.

Table S3. Mixed-effects logistic regression models investigating associations of individual factors associated with the likelihood of having a girl

Variable	aOR (95%CI)	p-value
Model 1: Women's age (y)^a n=16,115 Conditional R² 0.004	0.99 (0.98, 0.99)	0.005
Intercept	1.08 (0.92, 1.28)	0.338
Model 2: Parity (no. of births)^a n=16,115 Conditional R² 0.005		
0	1.21 (1.10, 1.32)	0.001
1	1.81 (1.07, 1.30)	0.001
2	1.14 (1.03, 1.27)	0.011
≥3 (ref)	1.00	
Intercept	0.77 (0.69, 0.85)	0.001
Model 3: Women's age and parity^a n=16,115 Conditional R² 0.005		
Women's age (y)	1.00 (0.99, 1.01)	0.918
Parity (no. of births)		
0	1.21 (1.07, 1.38)	0.003
1	1.18 (1.06, 1.33)	0.004
2	1.14 (1.03, 1.28)	0.016
≥3 (ref)		
Intercept	0.76 (0.57, 1.01)	0.055
Model 4: Women's education (y)^a n=16,115 Conditional R² 0.006		
None	1.17 (1.09, 1.27)	0.001
Primary (1-5 years)	1.07 (0.95, 1.20)	0.245
Lower-secondary or higher (≥6 years) (ref)	1.00	
Women's age (y)	1.00 (0.99, 1.01)	0.715
Parity (no. of births)		
0	1.25 (1.10, 1.43)	0.001
1	1.21 (1.08, 1.36)	0.001
2	1.15 (1.03, 1.28)	0.012
≥3 (ref)	1.00	
Intercept	0.69 (0.52, 0.93)	0.014
Model 5: Women's age at marriage (y)^a n=16,115 Conditional R² 0.005		
≤14 years	1.09 (1.01, 1.17)	0.018
≥15 years (ref)	1.00	
Women's age (y)	1.00 (0.99, 1.01)	0.666
Parity (no. of births)		
0	1.27 (1.11, 1.44)	0.001
1	1.22 (1.08, 1.37)	0.001
2	1.16 (1.04, 1.30)	0.008
≥3 (ref)	1.00	
Intercept	0.69 (0.51, 0.93)	0.015
Model 6: Husband's education (y)^a n=16,115 Conditional R² 0.005		
None	1.12 (1.04, 1.19)	0.002
Primary (1-5 years)	1.07 (0.97, 1.19)	0.189
Lower-secondary or higher (≥6years) (ref)	1.00	
Women's age (y)	1.00 (0.99, 1.01)	0.909
Parity (no. of births)		
0	1.23 (1.08, 1.40)	0.001
1	1.20 (1.07, 1.35)	0.002
2	1.15 (1.03, 1.29)	0.011
≥3 (ref)	1.00	
Intercept	0.72 (0.54, 0.96)	0.025
Model 7: Caste affiliation^a n=16,115 Conditional R² 0.005		
Disadvantaged: Muslim	1.12 (1.01, 1.23)	0.025
Disadvantaged: Dalit	1.10 (0.99, 1.22)	0.082
Middle: Janjati, Terai castes	1.04 (0.95, 1.13)	0.384
Advantaged: Yadav, Brahmin (ref)	1.00	

Women's age (y)	1.00 (0.99, 1.01)	0.868
Parity (no. of births)		
0	1.23 (1.08, 1.40)	0.002
1	1.20 (1.07, 1.35)	0.002
2	1.15 (1.03, 1.29)	0.010
≥3 (ref)	1.00	
Intercept	0.70 (0.52, 0.94)	0.019
Model 8: Household assets^a n=16,115 Conditional R² 0.006		
1: Poorest	1.19 (1.09, 1.31)	0.001
2	1.12 (1.02, 1.22)	0.015
3	1.06 (0.97, 1.16)	0.208
4: Richest (ref)	1.00	
Women's age (y)	1.00 (0.99, 1.01)	0.979
Parity (no. of births)		
0	1.23 (1.09, 1.40)	0.001
1	1.20 (1.07, 1.35)	0.002
2	1.15 (1.03, 1.28)	0.011
≥3 (ref)	1.00	
Intercept	0.70 (0.52, 0.93)	0.015
Model 9: Land holding^a n=16,115 Conditional R² 0.005		
None	1.13 (1.03, 1.24)	0.009
≤0.5 hectares	1.04 (0.94, 1.14)	0.464
0.51-0.99 hectares	0.97 (0.87, 1.09)	0.632
≥1 hectare (ref)	1.00	
Women's age (y)	1.00 (0.99, 1.01)	0.933
Parity (no. of births)		
0	1.23 (1.08, 1.40)	0.002
1	1.20 (1.07, 1.35)	0.002
2	1.15 (1.03, 1.29)	0.010
≥3 (ref)	1.00	
Intercept	0.71 (0.53, 0.95)	0.023
Model 10: Accessibility to big bazaar^a n=16,115 Conditional R² 0.005		
≤30 minutes (ref)	1.00	
31-89 minutes	1.00 (0.94, 1.08)	0.899
≥90 minutes	1.04 (0.93, 1.17)	0.493
Women's age (y)		
Parity (no. of births)	1.00 (0.99, 1.01)	0.907
0	1.21 (1.07, 1.38)	0.003
1	1.19 (1.06, 1.33)	0.004
2	1.14 (1.03, 1.28)	0.015
≥3 (ref)	1.00	
Intercept	0.75 (0.56, 1.00)	0.050
Model 11: Maternal height (cm) n=12,495^a Conditional R² 0.005		
≤144.9 cm	1.18 (1.05, 1.33)	0.006
145-154.9cm	1.07 (0.98, 1.17)	0.129
≥155 cm (ref)	1.00	
Women's age (y)	1.00 (0.99, 1.01)	0.899
Parity (no. of births)		
0	1.19 (1.03, 1.38)	0.016
1	1.21 (1.06, 1.37)	0.005
2	1.15 (1.02, 1.30)	0.023
≥3 (ref)	1.00	
Intercept	0.69 (0.50, 0.97)	0.031

Notes: aOR, adjusted Odds Ratio. CI, 95% Confidence Interval. ^an=8,501 boys vs. n=7,614 girls. ^bn=6,633 boys vs. n=5,862 girls. Models include fixed and random effects estimates for geographic clusters and control for trial arm. As associations of trial arm with the odds of having a girl were not statistically significant, they are not reported in the Table.