

Influencing youths' aspirations and gender attitudes through role models: Evidence from Somali schools

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Research Questions

- Can exposing children to young people (men and women) of similar backgrounds who are pursuing higher education positively impact their education aspirations?
- Can exposure to young women pursuing higher education affect children's gender attitudes toward equality in education and the labor market?
- *Some related studies:* Bernard et al. (2014), Riley (2017), Bjorvatn et al., (2019), Dhar et al. (2020), Porter and Serra (2020).

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- **Our study:** Young men and women currently enrolled in college visited classrooms in randomly selected primary schools in Somalia (RCT) to talk about their success stories.
- **Outcomes measured 6 months later (short-term) and 2 years later for a subset of students (longer-term):** 1) Aspiration to a college education; 2) gender attitudes related to education and labor market participation.

The role model intervention

- We worked with **Save the Children International**, which was conducting a study in 46 primary schools in two Somalian regions in partnership with the Ministry of Education.
- We conducted a role model intervention in 22 schools.
- Each of the treated schools received a visit from one **male college student** and one **female college student** (our role models) on the *same day*.
- Within each treatment school, we randomly selected the grades to be visited by a male or a female role model.
- **Timeline**
 - **Intervention:** *April-May 2018.*
 - **First Endline Data Collection:** *Oct-Nov 2018.*
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 - **First Endline Data Collection:** *Oct-Nov 2018.*
 - **Second Endline Data Collection** (graduating class only): *Apr 2020.*
- **Data:** Short questionnaire (2 pages) on:
 - Education Aspirations; Gender attitudes; Demographics.
- **Sample size:** About 1700 students in 2018 (grades 5 to 8) and about 800 in 2020 (grade 8 only).

Related studies

- Role model effects through movies and tv shows:
 - Focus on education outcomes (Riley, 2017), entrepreneurial aspirations (Bernard et al., 2014; Bjorvatn et al., 2019), women empowerment (Jense and Oster, 2009, La Ferrara et al. 2012) and behavior (Kerney and Levine, 2015).
- Role model effects through teachers in developed countries: Carrell et al. (2010) Lim and Meer (2019)
- Role model effects through exposure to successful and inspiring women:
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 - Beaman et al. (2012), Porter and Serra (2019);
- Literature on women's labor force participation and gender norms:
 - Working mothers (Fernandez, 2007) and working mother's peers' (Olivetti et al. 2018) affect women's labor force participation;
 - Men with working moms are more likely to have working wives (Fernandez et a. 2004);
 - Serving with women in the military changes gender attitudes (Dahl et al., 2017);
 - Intervention in India to affect gender norms: Dhar et al. (2018).

Context

- Literacy rates in Somalia are among the lowest in the world;
 - UNDP estimates 48% were able to read and write in 2011;
 - Gross enrolment rate=41% in 2017;
 - Primary education (grades 1 to 8) has mandatory since 1975;
 - Only 30% of children enrolled at primary education level.

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- Gender norms are biased against women:
 - Gender Inequality index (reproductive health, women empowerment and economic activity)=0.779, among the worst in the world;
 - The % of primary school participation for girls between 2007 and 2010 was 23% versus 42% for boys;.
 - Very few female teachers: 14% of teachers in primary and 4% in secondary schools.

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- SCI was involved in two Somalian regions (Puntland and South-Central) in partnership with the Ministry of Education.

Implementation

- We used **pairwise randomisation**:
 - We stratified schools by region and sorted on number of grades and total enrolled students, then conduct pairwise matching (Imbens and Ruben, 2017).
- Within each pair, we randomly selected one school to be treated.
 - We treated 4 grades per school and randomized the gender of the role model (2 male + 2 female)
 - Grades 4 and 6 (in Spring 2018) were treated in all treatment schools

Implementation

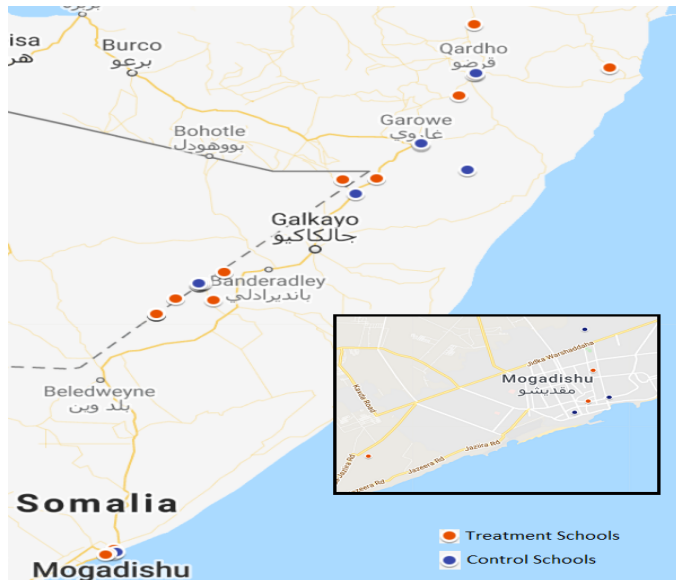
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		Grades							# Schools	
		P1	P2	P3	P4	P5	P6	P7		P8
Topmost grade	P4									4
	P5									3
	P6									2
	P7									4
	P8									10

Implementation

- We identified role models with the help of the head teachers of the schools under study
- Before the visits, we held a day-long coaching session where we instructed the role models to structure their speeches:
 - Introduction;
 - Challenges they experienced while in school, and how did they overcame them;
 - Failures and what they would have done differently;
 - Future plans and prospects.

Implementation

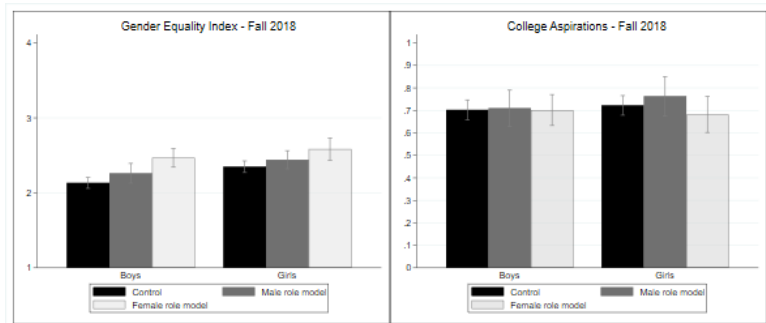


Balance tests

	Control	Treatment	Difference
Baseline School Characteristics - Spring 2018			
School fees?	0.421	0.318	-0.103
Age of school	9.895	7.864	-2.031
Girl friendly space?	0.211	0.182	-0.029
Number classrooms	8.632	7.727	-0.904
Number female teachers	1.842	1.364	-0.478
Total students enrolled	231.737	238.727	6.990
Boys enrolled	120.211	128.955	8.744
Girls enrolled	111.526	109.773	-1.754
Student-teacher ratio	29.213	35.112	5.899
Number of grades	7.000	6.455	-0.545
<i>Number of Schools</i>	<i>19</i>	<i>22</i>	<i>41</i>
Student Characteristics - Full sample - Fall 2018			
Female student	0.503	0.474	-0.029
Age	14.618	14.597	-0.020
Missed school due to poverty	0.130	0.085	-0.045***
Close female relative went to college	0.044	0.076	0.032***
Grade 5	0.340	0.335	-0.004
Grade 6	0.314	0.280	-0.034
Grade 7	0.282	0.292	0.010
<i>Observations</i>	<i>751</i>	<i>939</i>	<i>1,690</i>

Results: Full Sample - 2018

Figure: Aspirations and Gender Attitudes, Fall 2018



Index based on (dis)agreement with: 1) “More encouragement in a family should be given to sons than daughters to go to college”; 2) “It is more important for boys than girls to do well in school”; 3) “Boys are better leaders than girls”, 4) “Girls should be more concerned with becoming good wives and mothers than desiring a professional career.”

Results: Full Sample - 2018

	Gender attitude (1)	Gender attitude (2)	College aspirations (3)	College aspirations (4)
Female Role Model	0.357** (0.166)	0.363*** (0.129)	0.022 (0.060)	0.027 (0.064)
Male Role Model	0.031 (0.136)	0.062 (0.165)	0.034 (0.111)	0.047 (0.109)
Female	0.277*** (0.080)	0.288*** (0.086)	-0.003 (0.026)	-0.008 (0.027)
Female*Female Role Model	-0.024 (0.221)	-0.036 (0.233)	-0.040 (0.046)	-0.064 (0.047)
Female*Male Role Model	-0.052 (0.167)	-0.008 (0.168)	0.027 (0.105)	0.047 (0.100)
Female RM + Female*Female RM=0	0.050**	0.038**	0.752	0.538
Male RM + Female* Male RM=0	0.880	0.695	0.265	0.282
Grade fixed-effects	yes	yes	yes	yes
Pair fixed-effects	no	yes	no	yes
School controls	yes	no	yes	no
Student controls	yes	yes	yes	yes
Observations	1690	1690	1690	1690

Robust standard errors clustered at the grade-school level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

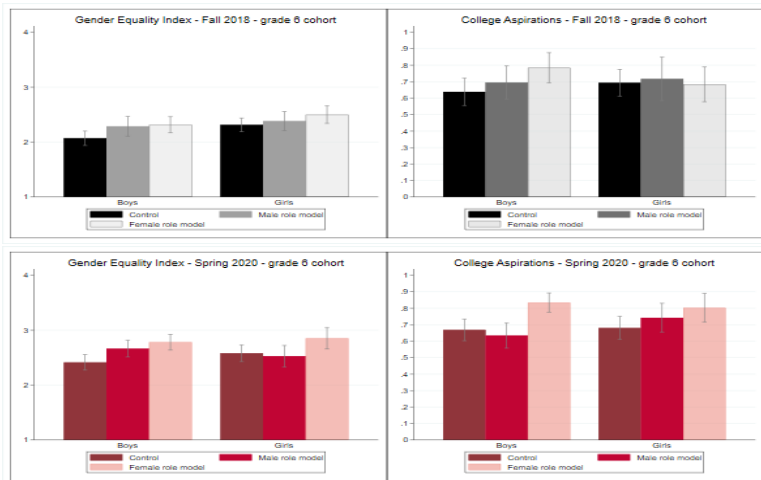
Results: Full Sample - 2018

	(1)	(2)	(3)	(4)
	Gender	Gender	Aspire	Aspire
	Attitude	Attitude	College	College
	(Girls)	(Boys)	(Girls)	(Boys)
Female RM	0.346 (0.136) [.059, .073]	0.352 (0.130) [.025, .035]	-0.0407 (0.069) [.633, .660]	0.017 (0.065) [.803, .825]
Male RM	0.093 (0.158) [.580, .608]	0.242 (0.146) [.927, .941]	0.129 (0.075) [.099, .116]	0.021 (0.104) [.828, .848]
Observations	823	867	823	867

In square brackets we report 95% confidence interval of p-value for treatment effect coefficient based on randomization inference using `ritest` in Stata 16 . Standard errors clustered at the school level in parentheses. All regressions include pair and class fixed effects.

Results: Short- and longer-term for grade 6 cohort

Figure: 2018 and 2020 results - Grade 6 cohort



Results: Short- and longer-term for grade 6 cohort

	Gender attitude (2018) (1)	College aspirations (2018) (2)	Gender attitude (2020) (3)	College aspirations (2020) (4)
Female Role Model	0.363* (0.206)	0.145** (0.066)	0.191 (0.270)	0.142 (0.084)
Male Role Model	0.126 (0.199)	0.059 (0.166)	0.119 (0.249)	-0.021 (0.094)
Female	0.318** (0.149)	0.053 (0.050)	0.158 (0.154)	0.009 (0.046)
Female * Female RM	0.004 (0.206)	-0.147** (0.065)	-0.040 (0.249)	-0.053 (0.104)
Female * Male RM	-0.170 (0.260)	-0.090 (0.148)	-0.141 (0.215)	0.106 (0.069)
Female RL + Female*Female RM=0	0.078*	0.973	0.484	0.478
Male RM + Female* Male RM=0	0.774	0.670	0.932	0.389
School controls	yes	yes	yes	yes
Student controls	yes	yes	yes	yes
Observations	490	490	829	829

Robust standard errors clustered at the grade-school level (columns 1 to 4) or at the school level (columns 5 and 6) in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Summary

- We conducted a small-scale and cheap role model intervention in elementary schools in Somalia.
- Male or female college students visited randomly selected grades for about 1 hour, in randomly selected schools in Spring 2018.
- Visits by female role models had a strong and large impact on boys and girls' attitudes toward gender equality 6 months later (Fall 2018).
- Two years later, we collected data on the graduating class only (grade 6 at the time of the intervention):
 - Similar effects but not statistically significant;
 - Smaller sample size and larger intra-cluster correlation;
 - Hoping to conduct one more round of data collection in Spring 2022.