

Gender, Sibship Size and Unpaid Care Work:

Assessing Heterogeneous Treatment Effects of a Cash Transfer for Education on School Progression

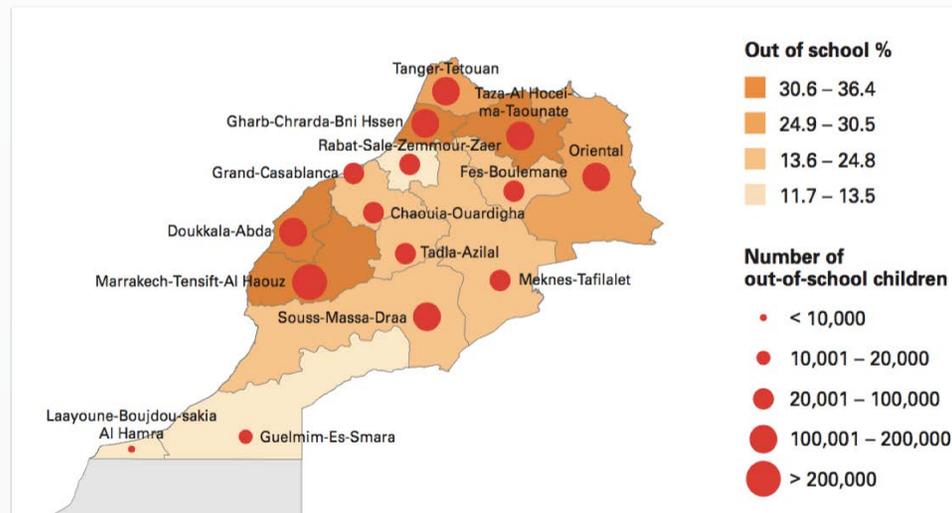
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Context

Morocco: lower middle-income country with GDP per capita of 5,500\$ (PPP) in 2014
Stark **rural-urban** and **gender** differences (DHS 2003)

- ❖ Out of school at secondary school age: 24% in urban areas and 63% in rural
- ❖ Net enrollment rate in rural areas 52% for boys and 26% for girls



Intervention

Morocco's Ministry of Education cluster-randomized control trial entitled "**Tayssir**"
Aim: To increase rural primary school completion rate with a **cash transfer** (~ 5% avg HH monthly consumption) given to HH with children 6-15

- All HH with eligible children in targeted communities
- Poorest communities in the **5 poorest regions**
- Randomization at the school-sector level
- 320 school-sectors with at least 2 communities each
- Four **treatment arms** defined by:
 - ❖ Mother vs. father as transfer recipient
 - ❖ Unconditional vs. conditional transfer

Previous Findings

Benhassine et al. (2015) – *AEJ: Economic Policy*

- ❖ Positive and significant impact on **school enrollment** and **school attendance**
- ❖ Positive but non-significant effect on **test scores**
- ❖ **Unconditional** ("labeled") variant more effective than the conditional

Contribution

1. Assess whether a cash transfer program linked to education influences time spent on **unpaid care work** (UCW) within the household
2. Assess whether such a program influences **grade progression through school** on top of enrollment and attendance
3. Assess whether the impacts of the program on grade progression are **moderated** by time spent on unpaid care work in the house prior to intervention implementation

Data

Publicly available secondary data from the World Bank/JPAL platform

Household surveys

- ❖ Baseline: 2008
- ❖ Endline: 2010

Children as main units of analysis:

- ❖ 10,889 children 6-15 at baseline
- ❖ 951 children (8.73% of baseline sample) dropping out in between
- ❖ Post-attrition sample: 9,938 children

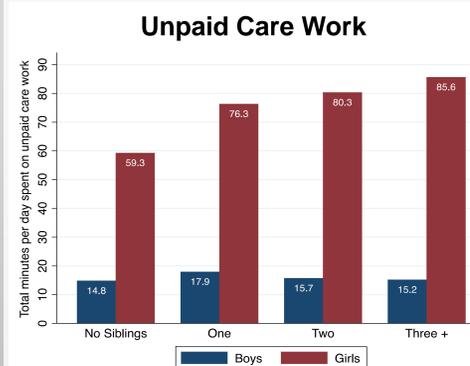
Attrition is higher among control units and boys

Methodology

1. Difference-in-Differences OLS regression for time spent on unpaid care work
2. Ordered logistic and linear probability models (LPM) for school progression outcomes
3. (Treatment*baseline moderator) interaction terms to assess variation in program impact

Descriptives

- Unpaid care work built through **time-use diary** reporting primary and secondary activity each 30-min
- Estimate of **minutes per day** spent on unpaid care work (sum of 10 activities)
- 21% of boys performing any UCW vs 52% of girls
- Female-to-male ratio highest (17:1) for **housework** and washing clothes



Results

(1) Unpaid Care Work (Diff-in-Diff)

	Boys			Girls		
	(1)	(2)	(3)	(1)	(2)	(3)
Time	-4.412*	-4.412*	-4.262*	34.549***	34.441***	35.041***
	(2.274)	(2.274)	(2.318)	(7.329)	(7.325)	(7.370)
Treatment	-0.309	-0.308	0.069	-6.618	-6.414	-1.748
	(2.364)	(2.362)	(2.324)	(5.959)	(5.915)	(5.351)
Time * Treatment	2.401	2.401	2.438	1.865	1.897	1.497
	(2.587)	(2.587)	(2.625)	(7.883)	(7.880)	(7.931)
Number of Siblings		0.007	-0.543	4.673***	2.751*	
		(0.493)	(0.499)	(1.457)	(1.432)	
Constant	16.633***	16.621***	24.812***	83.170***	75.327***	141.554***
	(2.158)	(2.255)	(3.356)	(5.520)	(5.812)	(7.079)
Controls	No	No	Yes	No	No	Yes
N	9,506	9,506	9,412	9,032	9,032	8,971

Time spent on unpaid care work:

- increases **overtime** for girls but not for boys
- increases with number of siblings for girls only
- **does not** change as a result of the treatment

(2) School Progression Outcomes

A. Continued Enrollment/Progression (Ordered Logit)

	Boys			Girls		
	(1)	(2)	(3)	(1)	(2)	(3)
Treatment	1.271**	1.263**	1.307***	1.368***	1.378***	1.483***
	(0.130)	(0.129)	(0.132)	(0.156)	(0.163)	(0.199)
Number of Siblings		0.944	0.944	0.866***	0.865***	
		(0.037)	(0.037)	(0.041)	(0.041)	
Unpaid Care Work (in hours)		0.896*	1.022	0.896***	0.969	
		(0.056)	(0.163)	(0.028)	(0.078)	
Unpaid Care Work * Treatment			0.856		0.909	
			(0.146)		(0.079)	
Controls	No	Yes	Yes	No	Yes	Yes
N	3,925	3,780	3,780	3,241	3,104	3,104

- Outcome: (grade enrolled 2010-grade enrolled 2008)
- Dropout coded as -1 ("worse" than non-progressing)

B. Dropout (LPM)

	Boys			Girls		
	(1)	(2)	(3)	(1)	(2)	(3)
Treatment	-0.050***	-0.046***	-0.047***	-0.073***	-0.079***	-0.083***
	(0.017)	(0.017)	(0.016)	(0.016)	(0.017)	(0.019)
Number of Siblings		0.012**	0.012**	0.027***	0.027***	
		(0.005)	(0.005)	(0.007)	(0.007)	
Unpaid Care Work (in hours)		0.026***	0.025	0.029***	0.025*	
		(0.009)	(0.023)	(0.006)	(0.014)	
Unpaid Care Work * Treatment			0.001		0.005	
			(0.025)		(0.015)	
Constant	0.121***	0.085***	0.085***	0.174***	0.023	0.026
	(0.016)	(0.029)	(0.028)	(0.015)	(0.034)	(0.034)
Controls	No	Yes	Yes	No	Yes	Yes
N	3,925	3,780	3,780	3,241	3,104	3,104

C. Timely Grade Progression (LPM)

	Boys			Girls		
	(1)	(2)	(3)	(1)	(2)	(3)
Treatment	0.024	0.025	0.034	0.055**	0.050*	0.078**
	(0.024)	(0.024)	(0.025)	(0.025)	(0.027)	(0.030)
Number of Siblings		-0.019*	-0.019*		-0.027**	-0.027**
		(0.010)	(0.010)		(0.011)	(0.011)
Unpaid Care Work (in hours)		-0.025*	0.007		-0.040***	-0.011
		(0.014)	(0.032)		(0.009)	(0.018)
Unpaid Care Work * Treatment			-0.039			-0.036**
			(0.035)			(0.016)
Constant	0.556***	0.609***	0.600***	0.559***	0.634***	0.610***
	(0.022)	(0.047)	(0.047)	(0.023)	(0.056)	(0.057)
Controls	No	Yes	Yes	No	Yes	Yes
N	3,925	3,780	3,780	3,241	3,104	3,104

Results continued

(3) Moderation by Baseline Unpaid Care Work

Though the treatment reduces dropout **equally** for children doing vs. not doing unpaid care work, there is a **differential** treatment effect on grade progression for girls.

Findings

- Cash transfer does **not** affect daily time spent on unpaid care work
- Cash transfer also affects grade progression, though impact does not operate equally for boys and girls
- Boys and girls performing unpaid care work are more likely to drop out and follow irregular school paths
- Benefit of the treatment on timely grade progression **halved** for girls overburdened by unpaid care tasks
- As a result of the treatment, girls doing unpaid care work are staying in school more **but not progressing**

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