

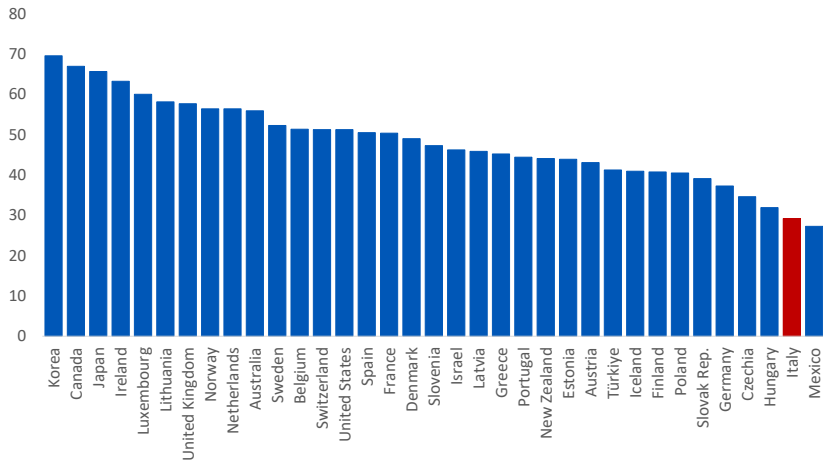
Effects of a Matched Savings Program to Tackle School Dropout in Italy

Davide Azzolini

Valedictory Randomised Controlled Trials in the Social Sciences
Conference
20th and 21st May 2025, York

Italy: Low higher attainment

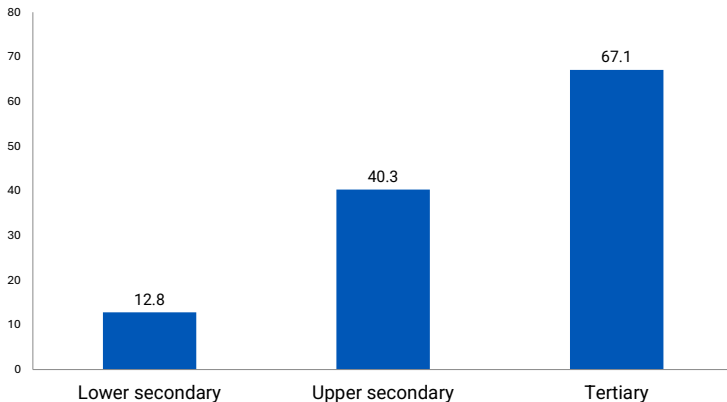
Figure: 25-34 year olds with a tertiary education degree (%)



Source: OECD 2022.

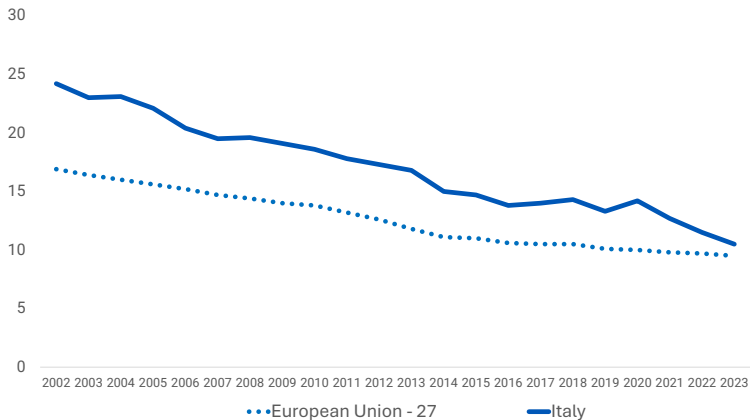
Italy: Wide social disparities in highered

Figure: 25-34 years olds holding a tertiary degree (%), by parents' education



Italy: Historically high early school leaving

Figure: 18-24 year olds leaving school with no upper secondary education (%)

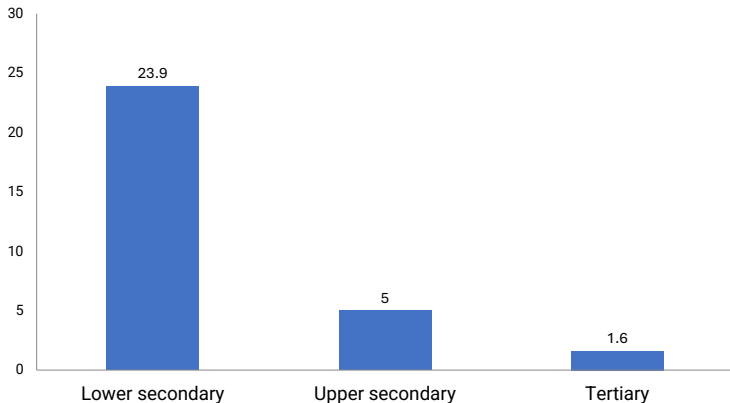


Source: Eurostat, various years.

Education system

Italy: Wide social disparities in early school leaving

Figure: 18-24 year olds leaving school with no upper secondary education (%), by parents' education



Source: ISTAT 2023.

Factors behind social inequality in education

- The direct costs of education in Italy
 - Public secondary education is free of charge
 - Public university average tuition fee: 2,000 euros a year, varies based on income
- Beyond fees, there are indirect costs and opportunity costs
- ... and family aspirations & expectations are further important mechanisms

The Italian constitution

[...] Those who are capable and deserving, even if lacking financial means, have the right to attain the highest levels of education. The Republic ensures this right through scholarships, family allowances, and other measures. (Art. 34)

The reality...

- Higher education
 - ✓ Means-tested grants
 - ✓ Tuition waiver
 - ✗ Underfunded
 - ✗ Uncertain and unreliable
 - ✗ Activated too late
- Secondary education
 - ✓ Contribution to buy books and scholarships
 - ✗ Very minimal and marginal support

This presentation

- The potential of **matched-savings accounts programs** as a financial aid tool to increase low-income youths' completion of upper secondary education →

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- Matched Savings Program offering a 4:1 match rate
- Students w/ low incomes attending grade 6
- Randomized Controlled Trial, N=576

Co-financed by: Impresa Sociale Con i Bambini, Fondazione Compagnia di San Paolo, Fondazione Cassa di Risparmio di Firenze, Fondazione di Sardegna, Fondazione Tercas

Outline

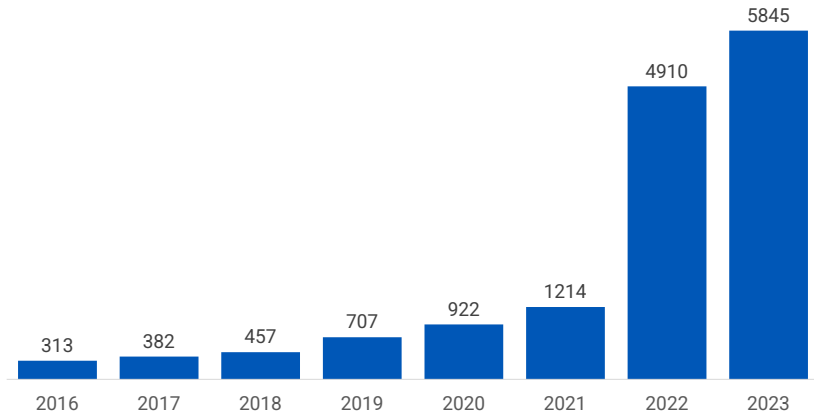
- 1 Background
- 2 The program
- 3 Findings
- 4 Conclusions

Matched Savings Programs

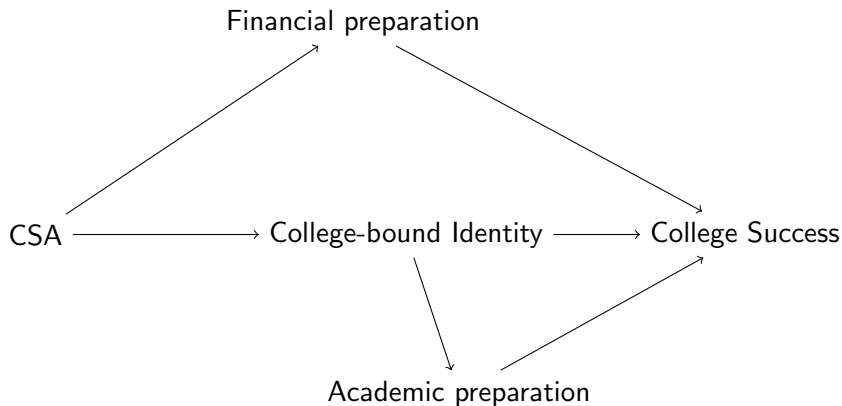
- **Individual Development Accounts** (Sherraden 1991) → provide low-income families with an incentivized savings account to help them invest in **long-term assets** (e.g. home ownership, microenterprise, or **education**)
 - Implemented in the US, Singapore, Canada and the UK, as well as in other developing countries
- **Children's Savings Accounts** (Elliott & Lewis 2018) → targeted to children's post-secondary education:
 - Start early (also at birth)
 - Often include matches and/or progressive incentives (e.g., initial seed)

Children's Savings Accounts (CSAs)

Figure: Number (thousands) of children with a CSA, US (2016-2023)



Pathways from CSA programs to college success



Source: Beverly et al. 2013

Existing evidence on CSAs

Experimental evidence (Emrey-Arras 2020, Elliott 2024):

- ↑ Savings for college (Beverly et al 2016; Long & Bettinger 2017)
 - ↑ Child social emotional development (Huang et al. 2014)
 - ↑ Parents' educational expectations (Kim et al 2015)
 - ? Post-secondary education access and attainment (Long & Bettinger 2017)
- No studies on programs addressing secondary education

Evidence from *Percorsi*

The program:

- Goal: post-secondary education
- Manager: Foundation (*Ufficio Pio*), Torino (NW Italy)
- Target: Low-income students in the last two years of high school

Experimental evaluation (N=716)

- Positive effect on college enrollment & persistence, esp. for vocational school students
- Ongoing: effect on college completion and labor market outcomes

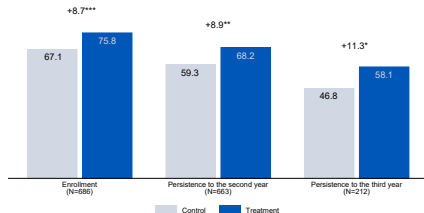
JOURNAL OF POLICY ANALYSIS AND MANAGEMENT

Research Article

Increasing College Going by Incentivizing Savings: Evidence from a Randomized Controlled Trial in Italy

Alberto Martini, Davide Azzolini, Barbara Romano, Loris Vergolini

First published: 28 September 2020 | <https://doi.org/10.1002/pam.22260> | Citations: 2



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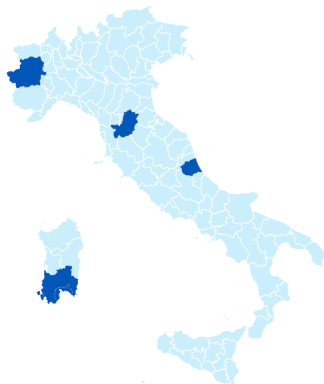
Co-financed by: Impresa Sociale Con i Bambini, Fondazione Compagnia di San Paolo, Fondazione Cassa di Risparmio di Firenze, Fondazione di Sardegna, Fondazione Tercas. Partners: Un Sogno per Tutti Cooperativa Sociale; Associazione Vides Main onlus; Caritas Teramo Atri; Consorzio solidarieta' aprutina societa' cooperative; Cooperativa Sociale le Api; Diaconia Valdese; Fondazione Solidarieta' Caritas onlus; Il Mio Mondo Societa' Cooperativa Sociale; Il Nostro Pianeta; Ufficio Pio Della Compagnia di San Paolo.

The program

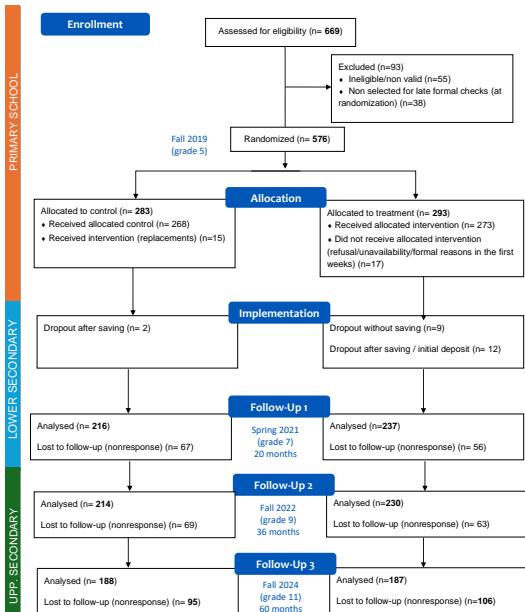
- Goal: Raising low-income students' high school (HS) completion
- Saving account:
 - Saving from 1 to 6 euros weekly, for four years (max 1,000 euros)
 - 4:1 match rate
 - Matched money (max 4,000 + 1,000 saved) for allowed education-related expenditures (e.g. fees, transportation, computer, internet, extra-school activities, etc.)
- Other student services: financial education/assistance; educational support & guidance
- Timeline: Between 2019 and 2024

Sample

- 576 6th grade students from low-income families
- 8 out of 10 experience material deprivation
- 2 out of 10 have tertiary educated parents
- 5 out of 10 are children of immigrants
- Sites: Turin, Florence, South Sardinia and Teramo



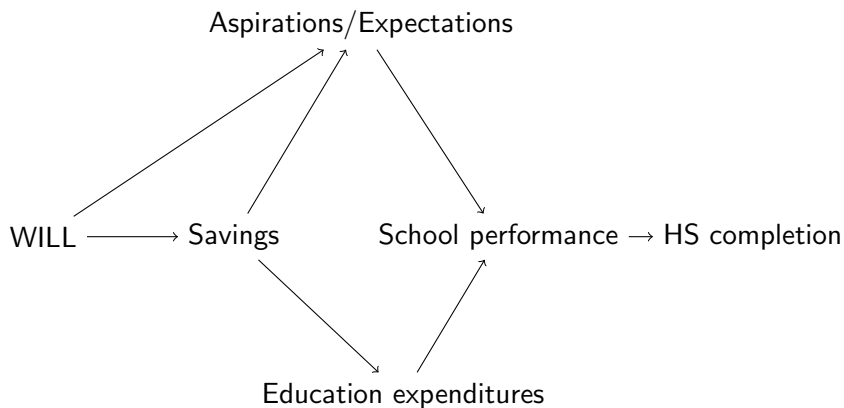
RCT design



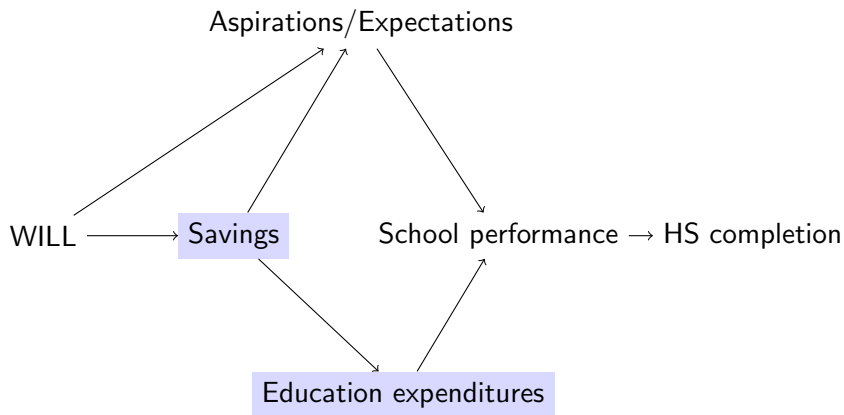
Integrity & estimation

- **Statistical equivalence** of the randomized groups (t-tests) ✓
- **Overall attrition** (FUS1: 21.4%; FUS2: 22.9%; FUS3: 35.1%)
- **Differential attrition** (FUS1: 4.6pp; FUS2: 2.9pp; FUS3: 2.9pp) ✓
- **Intent-To-Treat (ITT)** estimated through **linear regressions** controlling for randomization strata
 - + baseline covariates as robustness checks
 - + heterogeneity by family income

WILL - Logical framework

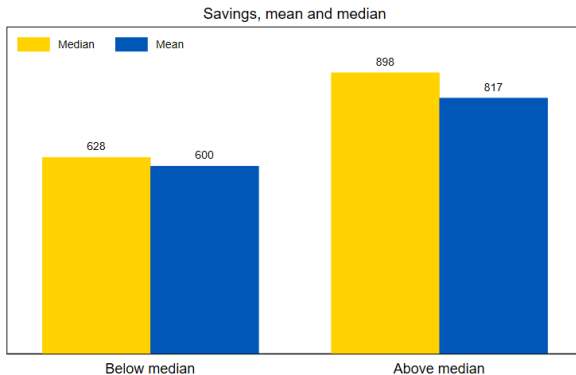


WILL - Logical framework



Savings (implementation data)

- 94% made at least one deposit
- Average savings: 718 euros
- Families with higher incomes save more



Savings behavior and hardships, 20 months

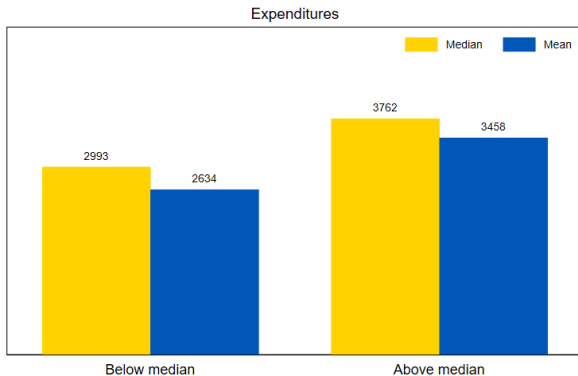
- After 20 months, treatment group families show higher % of savers
- No side effects on reported material hardships

Table: Savings and material hardships

	(1)	(2)
	Has saved last 12 months	N material hardships (0-9)
Control mean	.458	2.122
ITT	.117*** [.026 - .209]	-.014 [-.391 - .362]
Observations	449	449

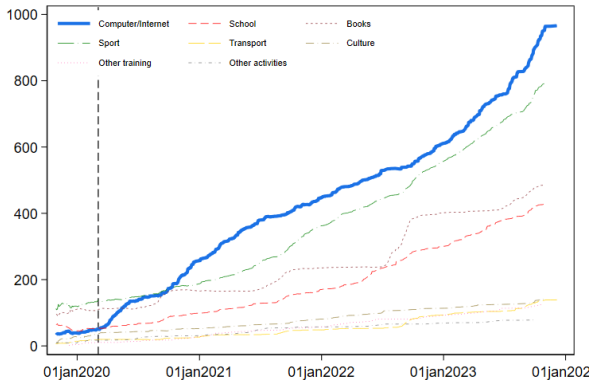
Expenditures (implementation data)

- 87% made at least one purchase
- Average expenditure: 3,080 euros, significant differences based on income



Expenditures (implementation data)

- 87% made at least one purchase
- Average expenditure: 3,080 euros, significant differences based on income
- High incidence of digital technologies, sports, and books



Edtech availability & extra-school activities

- 44% more students have a dedicated PC/tablet
- 28% more families have a fast internet connection

Table: Edtech availability during COVID (Spring 2021)

	(1)	(2)
	Own PC/tablet	High-speed internet
Control mean	.430	.313
ITT	.192*** [.101 - .282]	.089** [.001 - .176]
Observations	456	448

Edtech availability & extra-school activities

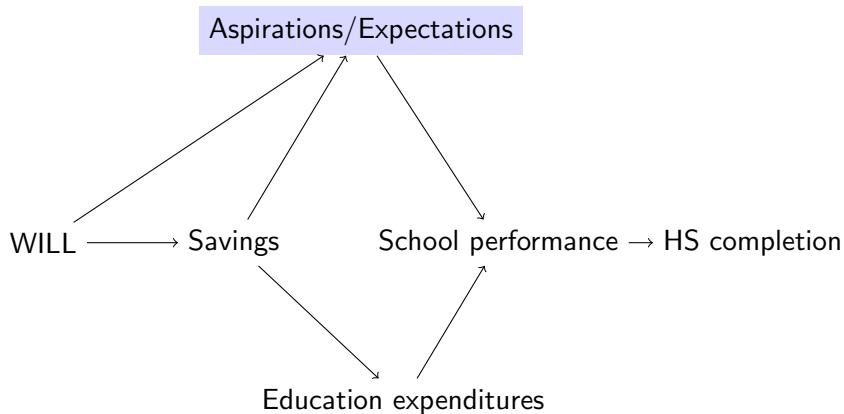
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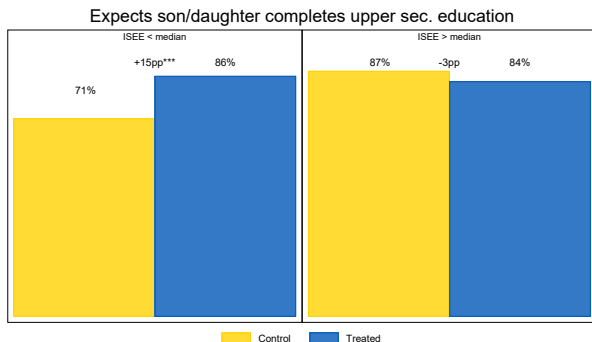
- Extra-school activities (Fall 2022)
 - 17% more students do sport
 - No effects on other activities

WILL - Logical framework

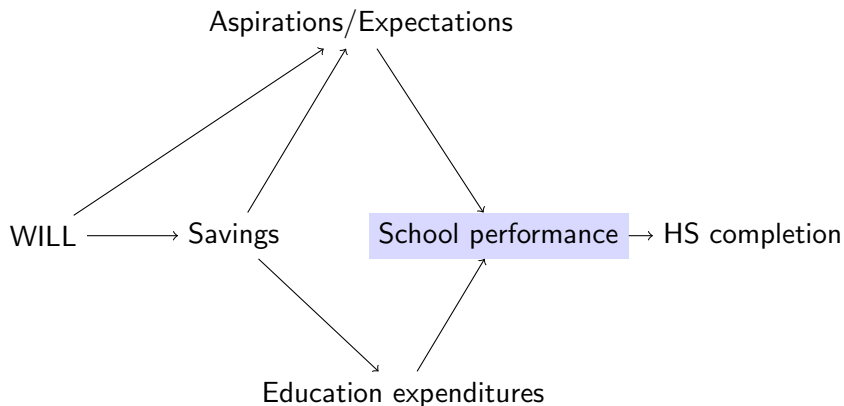


Educational aspirations and expectations (FUS1, 20 months)

- On average, no effect on parents or children's aspirations and expectations
- But strong positive effects among lower-income parents
- No effect on parent's level of involvement in children's education



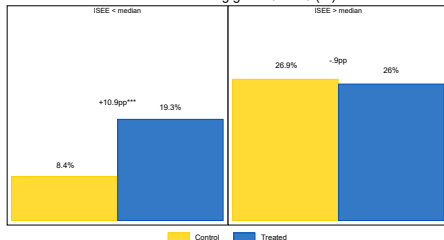
WILL - Logical framework



School performance (FUS2, 36 months)

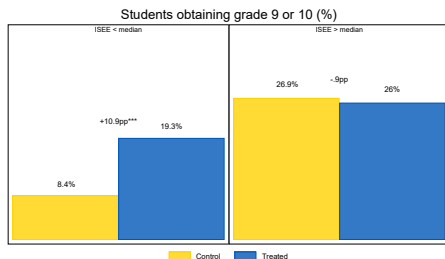
- In the whole sample, marginally sign. effect on the middle school final exam (grade 8); strongly significant among low incomes

Students obtaining grade 9 or 10 (%)



School performance (FUS2, 36 months)

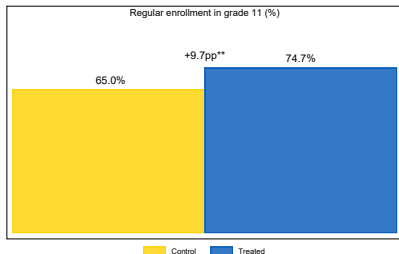
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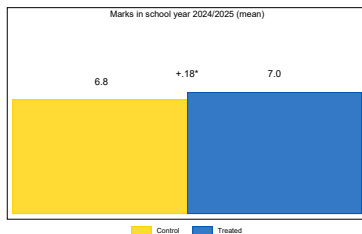
- No effect on school track choice, grade 9
- No effect on irregular school attendance (skipping school/some lessons, arriving late to school) in grade 9 (and subsequent grades)

School performance (FUS3, 60 months)

- Regular school progress: 17% higher probability of being enrolled in grade 11 vs. in a lower grade or out of school



- Marks in school year 24/25: Small positive effect (+3%)



- Expectation to complete high school: insignificant effect (yet this is strongly predicted by regular school progression & marks)

Summary of findings

- Positive effects on a number of intermediate outcomes, predictive of school completion:
 - Families **save more for education**, with no effect on material deprivation
 - Students **better equipped with edtech** and do more **sport**
 - Lower-income families increase their **educational expectations**
 - Higher **marks** (especially among lower incomes)
 - ... Higher likelihood of **regular school progress**

Concluding remarks

- Italy's has record-high levels of inequality in education participation
- The existing financial aid policy needs substantial improvement
- Matched savings programs show promise
- Evaluation evidence being collected from other programs (i.e., Percorsi, WILL-TO, PUOI)
- Open questions:
 - ? Scalability
 - ? Progressivity in the financial mechanism
 - ? Channels and mechanisms
 - ? Effects on financial literacy & future orientation

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Appendix

Italian education system

Grade					Age		
	Master Degree (Laurea Magistrale) ISCED 5A				22		
	Bachelor degree (Laurea) ISCED 5A				21		
					20		
					19		
13			Technical Schools (Istituti tecnici) ISCED 3a/3b	General schools (Licei) ISCED 3a/3b	18		
12					17		
11					Regional vocational training courses ISCED 3b/3c	Vocational schools (Istituti professionali) ISCED 3a/3b	16
10							15
9	14						
8	Lower secondary school (Scuola secondaria di primo livello) ISCED 2a				13		
7					12		
6					11		
5					10		
4	Primary school (Scuola primaria) ISCED 1				9		
3					8		
2					7		
1					6		
	Pre-school (Scuola d'infanzia) ISCED 0				5		
					4		
					3		

Group equivalence at baseline

Table: Balancing test: group means, t-tests and F-test

Covariates	(1)	(2)	(3)
	Control	Treatment	p-value
Female	0.438	0.457	0.644
Foreign born	0.081	0.085	0.861
Foreign citizenship	0.329	0.314	0.708
Household size	4.350	4.174	0.116
Income (ISEE)	5553.9	6013.1	0.237
Parents' high school	0.565	0.553	0.764
Parent foreign born	0.498	0.485	0.745
Parent aspires HE	0.827	0.840	0.682
Parent expects HE	0.668	0.686	0.642
Italian grade	8.471	7.913	0.231
Math grade	8.469	7.944	0.260
Observations	283	293	576
F-test: $F(11, 549)=0.68$; Prob >F = 0.7540			

Group equivalence at FUS1

Table: Balancing test: group means, t-tests and F-test

Covariates	(1)	(2)	(3)
	Control	Treatment	p-value
Female	0.463	0.468	0.909
Foreign born	0.074	0.080	0.809
Foreign citizenship	0.338	0.321	0.696
Household size	4.269	4.236	0.794
Income (ISEE)	5802.8	6174.1	0.398
Parents' high school	0.579	0.570	0.846
Parent foreign born	0.495	0.477	0.694
Parent aspires HE	0.838	0.852	0.674
Parent expects HE	0.690	0.709	0.660
Italian grade	7.914	7.911	0.971
Math grade	7.929	7.983	0.611
Observations	216	237	453
F(11, 430)=0.36; Prob >F=0.9716			

Group equivalence at FUS2

Table: Balancing test: group means, t-tests and F-test

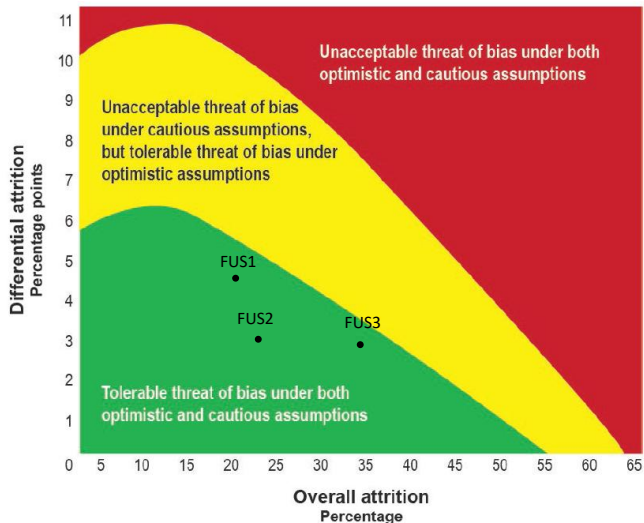
Covariates	(1)	(2)	(3)
	Control	Treatment	p-value
Female	0.453	0.448	0.909
Foreign born	0.075	0.070	0.833
Foreign citizenship	0.341	0.313	0.530
Household size	4.346	4.165	0.133
Income (ISEE)	5919.7	6297.9	0.406
Parents' high school	0.598	0.583	0.740
Parent foreign born	0.472	0.457	0.745
Parent aspires HE	0.818	0.852	0.329
Parent expects HE	0.654	0.700	0.303
Italian grade	8.302	7.917	0.367
Math grade	8.278	7.987	0.496
Observations	214	230	444
F(11, 426)=0.79; Prob >F = 0.6483			

Group equivalence at FUS3

Table: Balancing test: group means, t-tests and F-test

Covariates	(1)	(2)	(3)
	Control	Treatment	p-value
Female	0.468	0.433	0.498
Foreign born	0.096	0.075	0.471
Foreign citizenship	0.324	0.310	0.767
Household size	4.319	4.187	0.304
Income (ISEE)	6318.9	6451.7	0.792
Parents' high school	0.601	0.588	0.801
Parent foreign born	0.479	0.455	0.640
Parent aspires HE	0.846	0.840	0.870
Parent expects HE	0.681	0.684	0.940
Italian grade	7.910	7.963	0.635
Math grade	7.931	8.032	0.365
Observations	188	187	375
F(12,185) = 0.99; Prob >F = 0.461			

Attrition



Source: What Works Clearinghouse