Online Appendix

Not For Publication

Table A1: Fathers' Characteristics before Treatment (2012)

	Treatment mean	Control mean	Difference in means	Std. error
	(1)	(2)	(3)	(4)
Age	35.053	33.645	1.408	(0.979)
From Quito	0.506	0.513	-0.007	(0.061)
Highest educational level: primary school	0.446	0.505	-0.059	(0.063)
Highest educational level: secondary school	0.516	0.466	0.050	(0.064)
Highest educational level: university	0.038	0.029	0.009	(0.023)
Not religious	0.118	0.094	0.023	(0.039)
Christian	0.843	0.858	-0.015	(0.045)
Worked	0.873	0.870	0.004	(0.041)
Worked full-time	0.938	0.880	0.058	(0.036)
Self-employed	0.828	0.838	-0.011	(0.049)
Worked in the formal sector	0.375	0.460	-0.085	(0.064)
Mean firm size	26.693	42.388	-15.695	(10.792)
F(10, 198) = 1.3881 Prob > F = 0.1879				
Observations	166	115	281	

Notes: Statistics are based on the 2012 survey of parents. Standard errors are presented in parentheses in the column (4); * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. An F-test on the overall significance of the pre-treatment variables is shown at the end of the table.

Table A2: Household Characteristics before Treatment (2012)

	Treatment mean	Control mean	Difference in means	Std. error
	(1)	(2)	(3)	(4)
Family lived in Pisulli	0.675	0.583	0.092	(0.058)
House was owned	0.285	0.122	0.163***	(0.049)
House had drinkable	0.770	0.878	-0.109**	(0.047)
House had electricity	0.970	0.991	-0.022	(0.018)
House had toilet inside	0.430	0.383	0.048	(0.060)
Average number of rooms	3.667	3.209	0.458**	(0.218)
Family who had no vehicles	0.946	0.913	0.033	(0.031)
Family who had bicycles	0.024	0.052	-0.028	(0.022)
Family who had other means of transport	0.030	0.035	-0.005	(0.021)
Family average monthly wage (USD)	248.788	247.807	0.981	(17.250)
F(9, 286) = 3.0513 Prob > F = 0.0017				
Observations	166	115	281	

Notes: Statistics are based on the 2012 survey. Standard errors are presented in parentheses in the column (4); * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. An F-test on the overall significance of the pre-treatment variables is shown at the end of the table.

Table A3: Balancing Tests after Reweighting with Entropy Balancing (2012)

	Treatment mean	Control mean	Difference in means	Std. error
	(1)	(2)	(3)	(4)
A: Child characteristics				
Age	8.633	8.633	0.000	(0.273)
Birth order	1.819	1.819	0.000	(0.274)
Number of children mother had in 2005	1.849	1.849	0.000	(0.326)
Number of young siblings in 2005	0.307	0.307	0.000	(0.094)
B: Mother characteristics				
Age	31.988	31.989	-0.001	(1.035)
Worked	0.470	0.470	0.000	(0.082)
Worked full-time	0.259	0.259	0.000	(0.066)
Mean firm size	10.120	10.123	-0.002	(6.924)
Single before	0.181	0.181	0.000	(0.063)
From Quito	0.560	0.560	0.000	(0.082)
Did not complete primary	0.114	0.121	-0.006	(0.053)
Completed primary	0.392	0.392	0.000	(0.083)
Did not complete secondary	0.295	0.295	0.000	(0.072)
Completed secondary	0.169	0.169	0.000	(0.060)
Started university	0.024	0.024	0.000	(0.027)
C: Father characteristics				
Age	33.873	33.874	-0.001	(1.396)
Worked before	0.873	0.874	0.000	(0.057)
Mean firm size	17.373	17.394	-0.020	(8.161)
Did not complete primary	0.072	0.072	0.000	(0.037)
Completed primary	0.349	0.349	0.000	(0.077)
Did not complete secondary	0.355	0.355	0.000	(0.086)
Completed secondary	0.133	0.133	0.000	(0.051)
Started university	0.036	0.036	0.000	(0.027)
D: Household characteristics				
Parents were married	0.458	0.458	0.000	(0.084)
Parents cohabited	0.343	0.343	0.000	(0.076)
Parents from the same city	0.470	0.470	0.000	(0.083)
Family monthly wage	247.289	247.302	-0.013	(23.870)
Observations	166	115	281	

Notes: Statistics are based on the 2012 survey. Standard errors are presented in parentheses in the column (4); * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A4: Estimated Effects on Fathers' Labor Market Outcomes (2012)

	Not weighted			Weighted		
	(1)	(2)	(3)	(4)	(5)	(6)
Summary index	–0.110	–0.126	–0.113	–0.084	–0.080	–0.097
	(0.103)	(0.104)	(0.105)	(0.128)	(0.108)	(0.105)
Working	–0.017	–0.017	–0.021	–0.023	–0.023	–0.024
	(0.025)	(0.028)	(0.029)	(0.025)	(0.024)	(0.024)
Working full-time	–0.030	–0.034	–0.029	–0.006	–0.006	–0.012
	(0.043)	(0.045)	(0.046)	(0.065)	(0.048)	(0.046)
Working with contract	–0.070	–0.085	–0.063	–0.045	–0.040	–0.051
	(0.065)	(0.070)	(0.071)	(0.089)	(0.084)	(0.082)
Child Controls	No	Yes	Yes	No	Yes	Yes
Household Demographics	No	Yes	Yes	No	Yes	Yes
Household Economics	No	No	Yes	No	No	Yes
Observations	281	281	281	281	281	281

Notes: Each cell reports the estimated treatment effect from a separate regression based on the 2012 survey. Estimated summary indices of corresponding outcomes are reported in shading rows. Columns (1)-(3) present results using the original sample without entropy balancing. Column (4)-(6) stem from the weighted sample adjusted by entropy balancing. Standard errors are presented in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A5: Estimated Effects on Self-esteem, Big Five Personality Traits and Fertility Choices (2012)

	Not weighted			Weighted		
	(1)	(2)	(3)	(4)	(5)	(6)
Summary index†	0.038	0.033	0.045	0.060	0.060	0.063
	(0.065)	(0.067)	(0.068)	(0.083)	(0.090)	(0.083)
Rosenberg scale	0.034	0.019	0.017	–0.006	–0.004	–0.001
	(0.056)	(0.058)	(0.060)	(0.077)	(0.060)	(0.059)
Agreeableness	–0.015	–0.023	–0.017	0.015	0.017	0.017
	(0.067)	(0.070)	(0.072)	(0.101)	(0.088)	(0.082)
Conscientiousness	0.010	–0.014	0.002	0.019	0.018	0.019
	(0.078)	(0.083)	(0.086)	(0.109)	(0.095)	(0.091)
Extraversion	–0.080	–0.062	–0.028	–0.048	–0.053	–0.053
	(0.066)	(0.071)	(0.073)	(0.097)	(0.087)	(0.085)
Neuroticism	0.080	0.092	0.088	0.078	0.082	0.083
	(0.070)	(0.075)	(0.077)	(0.093)	(0.084)	(0.082)
Openness to experience	0.063	0.082	0.091	0.128	0.129	0.130
	(0.075)	(0.081)	(0.083)	(0.117)	(0.103)	(0.100)
Pregnant	–0.017	–0.016	–0.018	–0.043	–0.042	–0.041
	(0.019)	(0.021)	(0.022)	(0.044)	(0.038)	(0.038)
More children (including pregnant women)?	0.068	0.066	0.063	0.011	0.012	0.010
	(0.048)	(0.051)	(0.053)	(0.074)	(0.064)	(0.062)
Child Controls	No	Yes	Yes	No	Yes	Yes
Household Demographics	No	Yes	Yes	No	Yes	Yes
Household Economics	No	No	Yes	No	No	Yes
Observations	281	281	281	281	281	281

Notes: Each cell reports the estimated treatment effect from a separate regression based on the 2012 survey. Estimated summary indices of corresponding outcomes are reported in shading rows. Columns (1)-(3) present results using the original sample without entropy balancing. Column (4)-(6) stem from the weighted sample adjusted by entropy balancing. Standard errors are presented in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

† This summary index is constructed by only outcomes of Rosenberg self-esteem scale and Big Five Personality Traits.

Table A6: Estimated Effects on Fathers' Labor Market Outcomes (Pooled data of 2012 and 2013)

	Not weighted			Weighted		
	(1)	(2)	(3)	(4)	(5)	(6)
Summary index	0.011	–0.026	–0.006	–0.075	–0.062	–0.065
	(0.083)	(0.081)	(0.078)	(0.107)	(0.089)	(0.084)
Working	0.006	–0.008	–0.006	–0.020	–0.015	–0.016
	(0.032)	(0.031)	(0.030)	(0.035)	(0.028)	(0.028)
Working full-time	0.032	0.018	0.023	–0.008	–0.002	–0.003
	(0.043)	(0.044)	(0.043)	(0.049)	(0.043)	(0.041)
Working with contract	–0.023	–0.045	–0.023	–0.057	–0.053	–0.054
	(0.053)	(0.060)	(0.058)	(0.080)	(0.068)	(0.065)
Child Controls	No	Yes	Yes	No	Yes	Yes
Household Demographics	No	Yes	Yes	No	Yes	Yes
Household Economics	No	No	Yes	No	No	Yes
Observations	496	496	496	496	496	496

Notes: Each cell reports the estimated treatment effect from a separate regression based on the 2012 and 2013 survey. Estimated summary indices of corresponding outcomes are reported in shading rows. Columns (1)-(3) present results using the original sample without entropy balancing. Column (4)-(6) stem from the weighted sample adjusted by entropy balancing. Standard errors are presented in parentheses and are clustered at the maternal level; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A7: Characteristics and Pre-program Outcomes of the Treatment Sample and the Sample that Left the Program and Enrolled between 2005 and 2009

	Attrition mean	Attrition mean (≤4 years)	Treatment mean	Difference in means (1)-(3)	Difference in means (2)-(3)
	(1)	(2)	(3)	(4)	(5)
Mother age when enrolled	24.959	25.676	26.185	-1.226	-0.509
				(1.000)	(1.168)
Number of children in 2005	1.616	1.657	1.849	-0.233	-0.192
				(0.163)	(0.203)
Mother lived together with partner	0.804	0.789	0.801	0.002	-0.012
				(0.062)	(0.072)
Mother worked	0.412	0.530	0.470	-0.058	0.060
				(0.055)	(0.073)
Highest educational level: primary school	0.693	0.694	0.687	0.006	0.007
				(0.052)	(0.069)
Highest educational level: secondary school	0.216	0.242	0.169	0.047	0.073
				(0.044)	(0.058)
Highest educational level: started university	0.026	0.048	0.024	0.002	0.024
				(0.018)	(0.026)
Family lived in Pisulli	0.641	0.559	0.675	-0.034	-0.116*
				(0.052)	(0.069)
Child age when enrolled	2.680	2.575	2.696	-0.016	-0.122
				(0.157)	(0.198)
Observations of mothers	172	70	162		
Observations of children	258	111	219		

Notes: The column (1) is is based on the sample of mothers/children who enrolled between 2005 and 2009 and left the program. The column (2) is based on the sample who enrolled between 2005 and 2009 and left in 4 years. The column (3) presents the treatment means based on the 2012 survey. Standard errors are presented in parentheses in the column (4); * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A8: Estimated Effects of Number of Years in the Program on Mothers' Outcomes (2012)

	Not weighted		Weighted	
	(1)	(2)	(3)	(4)
Labor market outcomes				
Works	0.035***	0.029***	0.037***	0.034***
	(0.010)	(0.010)	(0.013)	(0.011)
Working full-time	0.038***	0.037***	0.040***	0.043***
	(0.009)	(0.010)	(0.010)	(0.009)
Working with contract	0.038***	0.039***	0.043***	0.042***
	(0.008)	(0.008)	(0.008)	(0.007)
Average family monthly income	7.794**	8.139**	7.871*	7.993**
	(3.509)	(3.411)	(4.288)	(3.564)
Mothers' economic and social independence				
Manage own money	0.038***	0.037***	0.036***	0. 037***
	(0.010)	(0.011)	(0. 014)	(0. 011)
Participates in voluntary activities	0.013	0.024**	0.012	0.018
	(0.011)	(0.012)	(0.015)	(0.012)
Currently in school	0.012**	0.017***	0.013**	0.014**
	(0.006)	(0.007)	(0.006)	(0.006)
Own or joint decision on own work status	0.022***	0.024***	0.021**	0.023**
	(0.007)	(0.007)	(0.010)	(0.009)
Household decisions- making				
Own/joint decision on child's education	0.017***	0.018***	0.024**	0.024**
	(0.006)	(0.007)	(0.010)	(0.009)
Own/joint decision on own health	0.002	0.001	-0.004	-0.004
	(0.005)	(0.005)	(0.004)	(0.005)
Own/joint decision on on discipline	0.013**	0.013*	0.018*	0.016*
	(0.007)	(0.007)	(0.010)	(0.009)
Own/joint decision on expenditure	0.014*	0.017*	0.023*	0.023**
	(0.008)	(0.009)	(0.013)	(0.010)
Own/joint decision on food expenditure	0.008	0.008	0.010	0.010
	(0.008)	(0.009)	(0.013)	(0.010)
Own/joint decision on having children	0.003	0.005	0.001	0.002
	(0.004)	(0.004)	(0.004)	(0.004)
Own/joint decision on contraceptives	-0.003	-0.001	-0.004	-0.004
	(0.005)	(0.006)	(0.007)	(0.005)
Child Controls	No	Yes	No	Yes
Household Demographics	No	Yes	No	Yes
Household Economics	No	Yes	No	Yes
Observations	281	281	281	281

Notes: Each cell reports the estimated effect of years of treatment on the mothers' outcome from a separate regression based on the 2012 survey. Columns (1)-(2) present results using the original sample without entropy balancing. Columns (3)-(4) stem from the weighted sample adjusted by entropy balancing. Standard errors are presented in parentheses and are clustered at the maternal level; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A9: Estimated Effects of Number of Years in the Program on Mothers' Outcomes (Pooled 2012 and 2013)

	Not weighted		Weighted	
	(1)	(2)	(3)	(4)
Labor market outcomes				
Works	0.035***	0.026**	0.033**	0.031***
	(0.009)	(0.010)	(0.013)	(0.011)
Working full-time	0.035***	0.033***	0.039***	0.041***
	(0.009)	(0.009)	(0.009)	(0.009)
Working with contract	0.033***	0.033***	0.038***	0.038***
	(0.007)	(0.007)	(0.006)	(0.006)
Mothers' economic and social independence				
Manage own money	0.029***	0.026***	0. 022**	0.024***
	(0.008)	(0.009)	(0.011)	(0.009)
Participates in voluntary activities	0.008	0.013	0.005	0.005
	(0.008)	(0.009)	(0.012)	(0.009)
Currently studying	0.009*	0.010*	0.013***	0.013***
	(0.005)	(0.005)	(0.005)	(0.005)
Own or joint decision on own work status	0.014***	0.017***	0.020***	0.022***
	(0.004)	(0.005)	(0.008)	(0.007)
Household decisions- making				
Own/joint decision on child's education	0.011***	0.011**	0.015**	0.016***
	(0.004)	(0.004)	(0.006)	(0.005)
Own/joint decision on own health	0.002	0.002	-0.001	-0.000
	(0.005)	(0.006)	(0.006)	(0.006)
Own/joint decision on child's discipline	0.012**	0.013**	0.019**	0.018**
	(0.005)	(0.006)	(0.009)	(0.008)
Own/joint decision on expenditure	0.018**	0.018**	0.020	0.021**
	(0.009)	(0.009)	(0.013)	(0.010)
Own/joint decision on food expenditure	0.009	0.009	0.008	0.010
	(0.008)	(0.009)	(0.012)	(0.010)
Own/joint decision on important matters	0.009	0.010	0.002	0.005
	(0.008)	(0.009)	(0.009)	(0.008)
Own/joint decision on having children	0.003	0.004	-0.001	0.000
	(0.004)	(0.004)	(0.003)	(0.004)
Own/joint decision on contraceptives	-0.004	-0.001	-0.002	-0.002
	(0.005)	(0.006)	(0.007)	(0.006)
Own/joint decision on own health	-0.002	-0.003	-0.009	-0.009
	(0.006)	(0.007)	(0.005)	(0.005)
Own/joint decision on if mothers can visit	-0.002	-0.000	0.002	0.003
	(0.008)	(0.008)	(0.011)	(0.009)
Child Controls	No	Yes	No	Yes
Household Demographics	No	Yes	No	Yes
Household Economics	No	Yes	No	Yes
Observations	496	496	496	496

Notes: Each cell reports the estimated effect of years of treatment on the mothers' outcome from a separate regression based on the 2012 and 2013 survey. Columns (1)-(2) present results using the original sample without entropy balancing. Columns (3)-(4) stem from the weighted sample adjusted by entropy balancing. Standard errors are presented in parentheses and are clustered at the maternal level; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A10: Estimated Effects on Mothers' Outcomes: Summary Indices
(Based on the Sample of Mothers Enrolled in the Program before 2007)

	Not weighted			Weighted		
	(1)	(2)	(3)	(4)	(5)	(6)
A: Sample based on 2012 survey						
Labor market outcomes	0.564***	0.533***	0.540***	0.629***	0.618***	0.619***
	(0.110)	(0.108)	(0.106)	(0.121)	(0.112)	(0.104)
Economic and social independence	0.323***	0.327***	0.360***	0.297***	0.309***	0.341***
	(0.075)	(0.076)	(0.076)	(0.082)	(0.075)	(0.068)
Intra-household decision-making	0.180***	0.177***	0.195***	0.192***	0.191***	0.194***
	(0.060)	(0.061)	(0.061)	(0.068)	(0.060)	(0.057)
Child's investment	0.155**	0.194**	0.193**	0.197**	0.211**	0.198**
	(0.071)	(0.073)	(0.075)	(0.092)	(0.088)	(0.085)
Self-esteem and Big Five Personality Traits	0.015	0.037	0.040	0.033	0.035	0.036
	(0.076)	(0.078)	(0.078)	(0.092)	(0.085)	(0.081)
Observations	224	224	224	224	224	224
B: Pooled sample of 2012 and 2013						
Labor market outcomes	0.560***	0.524***	0.514***	0.605***	0.602***	0.598***
	(0.112)	(0.119)	(0.110)	(0.125)	(0.115)	(0.111)
Economic and social independence	0.228***	0.231***	0.248***	0.220***	0.231***	0.236***
	(0.058)	(0.056)	(0.058)	(0.066)	(0.061)	(0.059)
Intra-household Decision-making	0.136**	0.149***	0.150***	0.124*	0.123**	0.123**
	(0.055)	(0.054)	(0.055)	(0.064)	(0.055)	(0.052)
Observations	394	394	394	394	394	394
Child Controls	No	Yes	Yes	No	Yes	Yes
Household Demographics	No	Yes	Yes	No	Yes	Yes
Household Economics	No	No	Yes	No	No	Yes

Notes: Each cell reports the estimated mean effect from a separate regression. Columns (1)-(3) present results using the original sample without entropy balancing. Columns (4)-(6) stem from the weighted sample adjusted by entropy balancing. Standard errors are presented in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A11: Estimated Effects on Mothers' Outcomes: Summary Indices
(Based on the Sample of Mothers Enrolled in the Program From 2007)

	Not weighted			Weighted		
	(1)	(2)	(3)	(4)	(5)	(6)
A: Sample based on 2012 survey						
Labor market outcomes	0.399***	0.354***	0.413***	0.677***	0.668***	0.687***
	(0.121)	(0.130)	(0.125)	(0.186)	(0.156)	(0.141)
Economic and social independence	0.205**	0.230**	0.250**	0.147	0.136	0.236
	(0.101)	(0.111)	(0.111)	(0.138)	(0.155)	(0.146)
Intra-household decision-making	0.039	-0.042	-0.025	-0.227	-0.274*	-0.274*
	(0.080)	(0.090)	(0.090)	(0.189)	(0.148)	(0.144)
Child's investment	0.227**	0.232**	0.219**	0.235**	0.215**	0.191**
	(0.091)	(0.106)	(0.108)	(0.115)	(0.100)	(0.085)
Self-esteem and Big Five Personality Traits	0.071	0.061	0.056	0.259	0.276**	0.283***
	(0.095)	(0.106)	(0.106)	(0.221)	(0.111)	(0.104)
Observations	168	168	168	168	168	168
B: Pooled sample of 2012 and 2013						
Labor market outcomes	0.549***	0.453***	0.493***	1.035***	1.037***	1.028***
	(0.138)	(0.149)	(0.140)	(0.206)	(0.171)	(0.155)
Economic and social independence	0.227***	0.296***	0.297***	0.536***	0.571***	0.582***
	(0.083)	(0.090)	(0.091)	(0.194)	(0.175)	(0.163)
Intra-household Decision-making	0.058	-0.023	-0.029	-0.273	-0.340*	-0.345**
	(0.074)	(0.077)	(0.078)	(0.214)	(0.174)	(0.164)
Observations	292	292	292	292	292	292
Child Controls	No	Yes	Yes	No	Yes	Yes
Household Demographics	No	Yes	Yes	No	Yes	Yes
Household Economics	No	No	Yes	No	No	Yes

Notes: Each cell reports the estimated mean effect from a separate regression. Columns (1)-(3) present results using the original sample without entropy balancing. Columns (4)-(6) stem from the weighted sample adjusted by entropy balancing. Standard errors are presented in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A12: Estimated Effects on Children's Outcomes: Summary Indices (2012) (Based on the Treatment Sample Enrolled Before 2007)

	Not weighted			Weighted		
	(1)	(2)	(3)	(4)	(5)	(6)
Overall summary index†	0.155**	0.130**	0.138**	0.128	0.140*	0.143*
	(0.059)	(0.065)	(0.063)	(0.080)	(0.080)	(0.080)
Tests scores	0.129	0.142	0.151	0.014	0.146	0.144
	(0.109)	(0.107)	(0.110)	(0.153)	(0.115)	(0.115)
Schooling dropout and grade repetition	–0.170*	–0.150*	–0.143*	–0.166	0.187*	–0.187*
	(0.087)	(0.082)	(0.077)	(0.111)	(0.112)	(0.110)
Attitude towards schooling	0.085	0.021	0.019	0.102	0.017	0.013
	(0.066)	(0.076)	(0.075)	(0.073)	(0.081)	(0.078)
Child Controls	No	Yes	Yes	No	Yes	Yes
Household Demographics	No	Yes	Yes	No	Yes	Yes
Household Economics	No	No	Yes	No	No	Yes
Observations	313	313	313	313	313	313

Notes: Each cell reports the estimated effect on a summary index from a separate regression based on the 2012 survey. Columns (1)-(3) present results using the original sample without entropy balancing. Columns (4)-(6) stem from the weighted sample adjusted by entropy balancing. Standard errors are presented in parentheses and are clustered at the maternal level; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

† Signs of outcomes of schooling dropout and grade repetition are reversed when calculating the overall summary index.

Table A13: Estimated Effects on Children's Outcomes: Summary Indices (2012) (Based on the Treatment Sample Enrolled From 2007)

	Not weighted			Weighted		
	(1)	(2)	(3)	(4)	(5)	(6)
Overall summary index†	0.166**	0.119	0.109	0.090	0.131	0.201
	(0.082)	(0.087)	(0.094)	(0.095)	(0.109)	(0.129)
Tests scores	0.141	0.150	0.087	0.264	0.229	0.026
	(0.150)	(0.142)	(0.137)	(0.193)	(0.154)	(0.130)
Schooling dropout and grade repetition	–0.265***	–0.116	–0.145	–0.058	–0.100	–0.131
	(0.077)	(0.078)	(0.094)	(0.037)	(0.075)	(0.087)
Attitude towards schooling	0.097	0.066	0.066	0.095	-0.030	-0.085
	(0.096)	(0.110)	(0.115)	(0.114)	(0.147)	(0.146)
Child Controls	No	Yes	Yes	No	Yes	Yes
Household Demographics	No	Yes	Yes	No	Yes	Yes
Household Economics	No	No	Yes	No	No	Yes
Observations	229	229	229	229	229	229

Notes: Each cell reports the estimated effect on a summary index from a separate regression based on the 2012 survey. Columns (1)-(3) present results using the original sample without entropy balancing. Columns (4)-(6) stem from the weighted sample adjusted by entropy balancing. Standard errors are presented in parentheses and are clustered at the maternal level; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

† Signs of outcomes of schooling dropout and grade repetition are reversed when calculating the overall summary index.

Table A14: Estimated Effects on Mothers' Outcomes: Summary Indices
(Conditional on Control Mothers Who Did Not Enroll in the Program Because They Did Not Know About It)

	Not weighted			Weighted		
	(1)	(2)	(3)	(4)	(5)	(6)
A: Sample based on 2012 survey						
Labor market outcomes	0.600***	0.597***	0.640***	0.849***	0.867***	0.853***
	(0.153)	(0.152)	(0.151)	(0.151)	(0.130)	(0.125)
Economic and social independence	0.321***	0.350***	0.360***	0.204***	0.205***	0.234***
	(0.113)	(0.115)	(0.117)	(0.151)	(0.120)	(0.107)
Intra-household decision-making	0.151**	0.162**	0.165**	0.213**	0.166**	0.157**
	(0.069)	(0.070)	(0.072)	(0.088)	(0.066)	(0.066)
Child's investment	---	---	---	---	---	---
	---	---	---	---	---	---
Self-esteem and Big Five Personality Traits	0.058	0.046	0.040	0.053	0.073	0.079
	(0.082)	(0.084)	(0.085)	(0.109)	(0.088)	(0.082)
Observations	211	211	211	211	211	211
B: Pooled sample of 2012 and 2013						
Labor market outcomes	0.668***	0.584***	0.605***	0.758***	0.695***	0.737***
	(0.135)	(0.145)	(0.137)	(0.166)	(0.139)	(0.142)
Economic and social independence	0.307***	0.304***	0.322***	0.314***	0.337***	0.334***
	(0.078)	(0.078)	(0.080)	(0.080)	(0.072)	(0.072)
Intra-household Decision-making	0.136*	0.165***	0.148**	0.144	0.139**	0.126**
	(0.075)	(0.068)	(0.070)	(0.091)	(0.058)	(0.061)
Observations	374	374	374	374	374	374
Child Controls	No	Yes	Yes	No	Yes	Yes
Household Demographics	No	Yes	Yes	No	Yes	Yes
Household Economics	No	No	Yes	No	No	Yes

Notes: Each cell reports the estimated mean effect from a separate regression. Columns (1)-(3) present results using the original sample without entropy balancing. Columns (4)-(6) stem from the weighted sample adjusted by entropy balancing. Standard errors are presented in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The summary index of child's investment is unable to be computed since there is no variantion of Talk to child (weekly) variable in the control group.

Online Appendix B

The Stata Package 'mseffect'

Introduction

mseffect -- Estimate the mean effect size of the treatment on multiple outcomes (summary index).

This command is a part of the online appendix for Lavy et al. (2016) "Empowering Mothers and Enhancing Early Childhood Investment: Effect on Adults Outcomes and Children Cognitive and Non-Cognitive Skills". It is designed to calculate the mean effect size on multiple outcome variables (summary index) with the advantage that we account for different weights, reversibility of outcome sign, multiple treatment groups and different types of robust standard errors. The command can estimate the effect by taking account covariance of treatment effects using a seemingly uncorrelated regression; or direct estimate the effect using a linear regression with missing data imputation (at group means).

Description

When we estimate the average treatment effects on multiple outcomes, one may want to use a single statistic to present an aggregate measure of treatment effects. However, simply averaging the estimators for the treatment effect is not likely to produce a meaningful statistic since different outcomes may have different data scales and outcomes can be related to each other. To address this concern, we follow the summary-index approach as in Kling, Liebman and Katz (2007). The summary index is a special case of the z-score and is identical to the mean effect size of treatment if there is no missing value. This approach yields a single standardized normal estimator which indicates an aggregate impact of treatment on a class of outcomes.

In the regression specification (with or without covariates), the mean size effect can be acquired through a linear regression without considering the covariance of effects. Alternatively, we can consider the covariance strucure and therefore adapt a seemingly uncorrelated regression (O'Brien, 1984; Kling, Liebman and Katz, 2007) (For more details on the implementation, please refer to Lavy, Lotti and Yan (2015) and Kling, Liebman and Katz (2007))

Syntax

mseffect outcome1 outcome2 ... [*if*] [*in*] [*weight*] , **treat**(*treatment*) **controls**(*varlist*) **reverse**(*outcomes*) **nosur** **vce**(*vcetype*) **cluster**(*varname*) **detail**

iweights and **pweights** are allowed; see weight.

options	Description
treat(treatment)	is required and asks users to specify the binary treatment variable(s).
controls(varlist)	allows to add control variables (do not include the treatment variable here)
reverse(outcomes)	allows to reverse signs of specific outcomes when calculating the mean effect size
nosur	is optional to fit the linear regression with missing data imputation (at group means). As a default, the command uses a seemingly uncorrelated regression model.
vce(vcetype)	vcetype may be oim, robust, or opg
cluster(varname)	adjusts standard errors for intragroup correlation; implies vce(robust)
detail	displays more detailed output (e.g. seemingly uncorrelated regressions and effect size formulas) for the diagnostic purpose

Remarks

The treatment has to be binary. In the presence of multiple treatment groups (e.g. treatment intensity), one could input multiple treatment dummies in the treat option

Please only specify the treatment variable(s) using the treat option. Do not put it in the parentheses for control variables.

If the nosur option is not specified, the command, by default, uses a seemingly uncorrelated regression model to consider the covariance of treatment effects.

The white type robust standard errors should be specified using vce(robust) option.

When sampling weights or robust standard errors are used, mseffect uses ml and mysureg to fit a seemingly uncorrelated regression model. The command installs these packages from Stata-press website automatically the first time of use. Or visit http://www.stata-press.com/data/ml3.html for manual installation.

Examples 1: single treatment group

Setup and import an artificial data

```
. webuse set http://www2.warwick.ac.uk/fac/soc/economics/staff/zyan
. webuse Summary_index
```

Estimate the mean effect of Treatment on Work Fulltime Formal and Ave_income

```
. mseffect Work Fulltime Formal Ave_income , treat(Treatment) controls( )
```

And with control variables x1 x2 and x3

```
. mseffect Work Fulltime Formal Ave_income , treat(Treatment) controls(x1 x2 x3)
```

And reverse the signs of the outcomes Fulltime and Ave_income

```
. mseffect Work Fulltime Formal Ave_income , treat(Treatment) controls(x1 x2 x3)
reverse(Fulltime Ave_income)
```

And with the white standard errors

```
. mseffect Work Fulltime Formal Ave_income , treat(Treatment) controls(x1 x2 x3)
reverse(Fulltime Ave_income) vce(robust)
```

And with the population weight weight_eb

```
. mseffect Work Fulltime Formal Ave_income [pweight=weight_eb], treat(Treatment)
controls(x1 x2 x3) reverse(Fulltime Ave_income) vce(robust)
```

And show more detailed output

```
. mseffect Work Fulltime Formal Ave_income [pweight=weight_eb], treat(Treatment)
controls(x1 x2 x3) reverse(Fulltime Ave_income) vce(robust) details
```

Examples 2: three treatment groups

Setup and import an artificial data

```
. webuse set http://www2.warwick.ac.uk/fac/soc/economics/staff/zyan
. webuse Summary_index
```

Estimate the mean effect of Treat1, Treat2 and Treat3 on Work Fulltime Formal and Ave_income with control variables x1 x2 and x3

```
. mseffect Work Fulltime Formal Ave_income , treat(Treat1 Treat2 Treat3)
controls(x1 x2 x3)
```

Saved results

mseffect saves the following in r():

r(N)	number of observations
r(beta)	estimated mean effect size on the summary index
r(variance)	estimated variance of the mean effect size
r(stderr)	estimated standard error of the mean effect size
r(up95)	upper bound of the 95% confidence interval
r(low95)	lower bound of the 95% confidence interval
r(p_value)	p-value
r(sig_level)	asterisks for the level of statistic significance (* p < 0.1, ** p < 0.05, *** p < 0.01.)

Suffixes "1, 2,...,N" on the returns indicate the returns of first, second,..., Nth treatment group respectively.

Coded by

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Cite this command

This command is initially issued as a part of online appendix of Lavy et al. (2016) "Empowering Mothers and Enhancing Early Childhood Investment: Effect on Adults Outcomes and Children Cognitive and Non-Cognitive Skills". Please feel free to cite our paper if you would like to use our command.

Also see

Online: help for **sureg**, **ml** and **mysureg** if installed.

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