Appendix to

Economic preferences across generations and family clusters: A large-scale experiment in a developing country

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Appendix A. Additional Tables and Figures

Table A.1 - A comparison of 3,500 households (who only took part in wave one or have no children of age 6-16) to 1,000 households who have children and were invited to the second wave of data collection

Variable	(1) 3,500 households Mean/SE	(2) 1,000 households Mean/SE	t-test (1)-(2) Difference
Age father	44.389	45.612	-1.223**
	(0.240)	(0.310)	
Age mother	36.712	37.004	-0.292
	(0.207)	(0.247)	
Schooling father	4.046	3.188	0.859***
	(0.077)	(0.128)	
Schooling mother	3.926	3.176	0.750***
	(0.066)	(0.108)	
Household size	4.625	5.751	-1.126***
	(0.027)	(0.045)	
Grand parents in household	0.199	0.145	0.054***
	(0.007)	(0.011)	
Per capita income per month	2,413.139	1,890.882	522.258***
	(58.374)	(63.786)	

The value displayed for t-tests are the differences in the means across the groups.
*** p<0.01, ** p<0.05, * p<0.1.

Table A.2: Difference in observable characteristics between the 542 households for which we have all data, including experimental data, and the 458 households for which we lack experimental data but who were invited in wave two in 2016 to collect data on cognitive skills (separated by those 268 households who then did not participate in wave two and those 190 households who were invited and participated in the collection of cognitive skills)

	Attrited households (N=458)			Surveyed households (N=542)	t-test	t-test	t-test	t-test
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Intended to conduct cognitive ability survey	Only cognitive ability survey conducted	(1) & (2) together	Experiments conducted	(1)-(2)	(1)-(4)	(2)-(4)	(3)-(4)
	Mean [SE]	Mean [SE]	Mean [SE]	Mean [SE]	Difference	Difference	Difference	Difference
Age father	44.116	46.125	45.676	45.561	-2.009***	-1.445**	2.189***	0.115
	(0.569)	(0.367)	(0.518)	(0.374)				
Age mother	36.136	37.318	37.069	36.950	-1.181**	-0.814	1.427**	0.118
	(0.414)	(0.300)	(0.404)	(0.302)				
Schooling father	3.676	3.021	3.379	3.033	0.655**	0.643**	-0.049	0.346
	(0.249)	(0.148)	(0.188)	(0.174)				
Schooling mother	3.364	3.108	3.230	3.131	0.255	0.233	-0.088	0.099
	(0.207)	(0.127)	(0.158)	(0.149)				
Household size	5.563	5.820	5.699	5.795	-0.256**	-0.232**	0.094	-0.097
	(0.081)	(0.054)	(0.069)	(0.059)				
Grand parents in household	0.168	0.137	0.144	0.146	0.031	0.022	-0.035	-0.002
	(0.023)	(0.013)	(0.016)	(0.015)				
Per capita Income/month	2,452.448	1,698.684	2,223.452	1,634.345	753.764***	818.102***	265.583*	589.106***
	(150.733)	(66.891)	(105.108)	(76.977)				
Village population	1,703.933	1,742.398	1,715.445	1,746.153	-38.465	-42.220	-14.469	-30.708
	(118.898)	(70.750)	(89.058)	(83.204)				
N	268	190	458	542				

SE: standard errors

*** p<0.01, ** p<0.05, * p<0.1.

Table A.3: Children's preferences and their relation to parental preferences, using inverse probability weighting to account for possible attrition

VARIABLES	Number of patient choices	Gamble number picked	Spiteful (0/1)	Egalitarian (0/1)	Altruistic (0/1)	Selfish (0/1)
Parent's preference – husband	0.037***	0.071	0.080**	0.076**	0.060*	0.046
	(0.011)	(0.047)	(0.035)	(0.031)	(0.031)	(0.031)
Parent's preference – wife	0.048***	0.117**	0.302***	0.108**	0.096***	0.096**
	(0.011)	(0.047)	(0.046)	(0.044)	(0.029)	(0.044)
Gender (Male 1, Female 0)	-0.350**	-0.071	0.017	0.016	-0.010	-0.006
	(0.139)	(0.151)	(0.019)	(0.023)	(0.027)	(0.015)
Age of respondent	0.038	-0.107**	-0.008	0.006	0.006	0.005
	(0.053)	(0.054)	(0.006)	(0.009)	(0.010)	(0.005)
Years of schooling	-0.102*	0.089	0.014*	-0.007	-0.008	-0.001
	(0.052)	(0.055)	(0.008)	(0.008)	(0.010)	(0.005)
Attending school (=1, 0 otherwise)	-0.068	0.133	0.014	0.054	-0.078	-0.016
	(0.272)	(0.331)	(0.041)	(0.042)	(0.058)	(0.034)
Father's years of schooling	0.010	-0.032	-0.005*	-0.004	0.002	0.002
	(0.022)	(0.024)	(0.003)	(0.004)	(0.004)	(0.003)
Mother's years of schooling	-0.001	0.023	0.004	0.004	0.002	-0.000
	(0.027)	(0.030)	(0.004)	(0.005)	(0.005)	(0.003)
Household size	-0.076	0.072	0.001	-0.031***	0.045***	-0.008
	(0.070)	(0.080)	(0.010)	(0.011)	(0.014)	(0.007)
Per cap income/month (in thousand taka)	0.067*	-0.075	0.001	0.006	-0.012	0.005
	(0.035)	(0.053)	(0.005)	(0.007)	(0.007)	(0.004)
Full Scale IQ measure of child	-0.432***	-0.090	0.014	0.063***	-0.047**	-0.016*
	(0.107)	(0.117)	(0.016)	(0.022)	(0.019)	(0.009)
Conscientiousness	-0.034	0.138*	0.012	-0.005	-0.005	0.009
	(0.078)	(0.075)	(0.011)	(0.012)	(0.014)	(0.010)
Extraversion	-0.201***	-0.035	-0.014	0.016	-0.012	0.010
	(0.071)	(0.072)	(0.009)	(0.012)	(0.013)	(0.008)
Agreeableness	-0.077	0.015	-0.016	0.032**	-0.009	-0.006
	(0.075)	(0.083)	(0.010)	(0.014)	(0.014)	(0.007)
Openness	0.090	0.001	0.022**	-0.032***	0.013	0.007
	(0.073)	(0.079)	(0.011)	(0.010)	(0.014)	(0.008)
Neuroticism	0.006	0.085	0.002	0.007	0.009	-0.007
	(0.069)	(0.077)	(0.010)	(0.011)	(0.013)	(0.007)
Locus of control	0.026	-0.032	-0.027***	0.026**	0.016	-0.006
	(0.071)	(0.079)	(0.010)	(0.013)	(0.014)	(0.007)
Observations	1051	541	1064	1064	1064	1064
District Fixed Effects are included?	Yes	Yes	Yes	Yes	Yes	Yes
p-value for F-test: Father=Mother	0.504	0.509	0.018	0.019	0.060	0.150

This table uses the specification of Table 7 in the main paper and applies inverse probability weighting as a means to account for possible attrition. The table shows coefficients and in parentheses standard errors. The results are practically the same as in Table 7. Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1.

Table A.4: Schooling of parents (distribution of years of schooling of mothers and fathers)

Years of schooling	Mother		Father	
	Number	Percent	Number	Percent
0	258	47.60	296	54.61
1	4	0.74	5	0.92
2	10	1.85	20	3.69
3	21	3.87	16	2.95
4	46	8.49	25	4.61
5	72	13.28	51	9.41
6	22	4.06	19	3.51
7	28	5.17	11	2.03
8	38	7.01	28	5.17
9	22	4.06	26	4.80
10	4	0.74	5	0.92
11	12	2.21	21	3.87
12	1	0.18	1	0.18
13	4	0.74	11	2.03
14	0	0.00	0	0.00
15	0	0.00	4	0.74
16	0	0.00	0	0.00
17	0	0.00	3	0.55

Table A.5: Exchange rate between tokens and Taka, conditional on age

Age (in years)	Grade in school	Taka in exchange for 1 token
6-7	Grade 1	10
8-9	Grades 2-3	15
10-11	Grades 4-5	20
12-13	Grades 6-7	30
14-15	Grades 8-9	35
16-17	Grade 10	50
Above 17		100

Table A.6: Children's time consistency and its relation to parents' time consistencies

	Children's time consistency (1,0)
Father is time consistent	0.073*
	(0.038)
Mother is time consistent	-0.007
	(0.036)
Gender (Male 1, Female 0)	-0.060*
	(0.033)
Age of respondent	0.014
	(0.013)
Years of schooling	-0.000
	(0.013)
Attending school (=1, 0 otherwise)	0.098
	(0.072)
Father's years of schooling	-0.001
	(0.003)
Mother's years of schooling	-0.000
	(0.005)
Household size	-0.007
	(0.005)
Per capita income per month in 2016 (in thousand taka)	0.012*
	(0.007)
Full Scale IQ measure of child	-0.005
	(0.017)
Conscientiousness	-0.002
	(0.008)
Extraversion	-0.042
	(0.027)
Agreeableness	0.005
	(0.018)
Openness	0.010
	(0.017)
Neuroticism	0.042**
	(0.017)
Locus of control	-0.036**
	(0.016)
Observations	892
Pseudo-R^2	0.043
District Fixed Effects are included?	Yes
p-value for F-test: Father=Mother	0.142
p-value for F-test: joint significance of parents preferences.	0.148

The dependent variable is an indicator variable for *time consistency*. This variable gets the value of 1 if a participant's choices are identical for the two choice sets with three months delay (i.e., choice sets 2 and 3 for children, and choice sets 1 and 2 for parents; see Table 2 in the main paper), and zero otherwise. The results show that there is also a strong relationship between children and parents in this variable. Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1.

Table A.7: Differences in observable characteristics of the samples in which risk preferences were collected and in which this was not the case

	Risk preference is collected		Risk preference is missing				
	mean	se(mean)	mean	se(mean)	Difference	SE	p-value
	(a)		(b)		(a-b)		
Gender (boys= 0, girls= 1)	0.51	0.50	0.51	0.50	-0.00	0.03	0.91
Age of respondent (in years)	12.28	2.83	12.14	2.96	0.14	0.19	0.47
Years of schooling	4.08	2.68	3.87	2.79	0.21	0.18	0.25
Currently attending school (yes=1, no=0)	0.93	0.25	0.92	0.27	0.01	0.02	0.52
How many elder brothers?	0.97	1.09	0.94	1.02	0.03	0.07	0.62
How many elder sisters?	0.86	0.98	0.99	1.13	-0.13	0.07	0.06
How many younger brothers?	0.63	0.78	0.59	0.74	0.03	0.05	0.49
How many younger sisters?	0.55	0.74	0.58	0.77	-0.03	0.05	0.52
Age father (in years)	47.14	8.43	47.08	8.87	0.06	0.57	0.92
Age mother (in years)	38.47	6.77	38.47	7.02	0.00	0.46	1.00
Schooling father (in years)	3.21	4.08	2.93	3.99	0.28	0.27	0.29
Schooling mother (in years)	3.34	3.48	2.99	3.48	0.35	0.23	0.13
Household size (# of persons)	5.75	1.35	5.82	1.37	-0.07	0.09	0.45
Grandparents living in household (yes=1)	0.15	0.36	0.14	0.35	0.01	0.02	0.72
Income per capita per month in 2016 (in Taka)	1,594.52	1,564.93	1,679.58	2,027.63	-85.06	120.41	0.48
Total village population in 2015	1,739.06	1,951.14	1,669.76	1,750.23	69.30	123.21	0.57
Number of observations	461		446		907		

se: standard error

Table A.8: Descriptive statistics: Cognitive and non-cognitive skills

	Husband (N=542)		Wife (N=542)		Children (N=907)	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Full-scale IQ	106.766	46.059	99.405	43.231	111.636	47.194
Locus of Control Index	-8.932	7.418	-7.068	7.314	6.464	2.659
Extraversion	4.079	0.900	4.245	0.972	4.352	0.915
Conscientiousness	6.159	0.708	6.076	0.788	5.807	0.835
Openness	4.627	1.211	5.107	1.028	5.371	1.172
Agreeableness	5.164	0.764	5.198	0.893	5.156	0.846
Neuroticism	3.579	0.921	3.744	1.002	3.053	1.011

Notes: See section 2.3 in the main paper and Appendix C for details about the elicitation of cognitive and non-cognitive skills.

Table A.9: Children's preferences and their relation to parental preferences

	Number of patient choices	Gamble number picked	Spiteful (0/1)	Egalitarian (0/1)	Altruistic (0/1)	Selfish (0/1)
Parent's preference - husband	0.039***	0.059	0.087**	0.070**	0.056*	0.098**
	(0.012)	(0.047)	(0.045)	(0.034)	(0.036)	(0.040)
Parent's preference - wife	0.049***	0.113**	0.353***	0.113**	0.104***	0.123***
	(0.012)	(0.049)	(0.052)	(0.051)	(0.047)	(0.037)
Observations	902	454	903	903	903	903
R^2/ Pseudo - R^2	0.056	0.028	0.352	0.025	0.039	0.098
District Fixed Effects are included?	Yes	Yes	Yes	Yes	Yes	Yes
p-value for F-test: Husband=Wife	0.599	0.444	0.001	0.510	0.450	0.641

OLS coefficients reported in columns 1 and 2, probit marginal effects reported in columns 3-6. Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1

Table A.10: Interacting parent's gender and child's gender

VARIABLES	Number of patient choices	Gamble number picked	Spiteful (0/1)	Egalitarian (0/1)	Altruistic (0/1)	Selfish (0/1)
Parent's preference - father	0.041**	0.033	0.109**	0.092**	0.052	0.123**
	(0.016)	(0.069)	(0.051)	(0.045)	(0.054)	(0.056)
Parent's preference - mother	0.055***	0.141*	0.386***	0.161**	0.054	0.094*
	(0.016)	(0.075)	(0.064)	(0.075)	(0.059)	(0.049)
Gender (boys= 0, girls= 1)	-0.155	-0.164	0.026	0.037	0.002	0.003
	(0.243)	(0.512)	(0.022)	(0.028)	(0.018)	(0.036)
Father's preference × boys	-0.009	0.091	-0.022	-0.045	0.017	-0.074
	(0.021)	(0.087)	(0.070)	(0.063)	(0.083)	(0.071)
Mother's preference × girls	-0.015	-0.058	-0.071	-0.136	0.074	0.061
	(0.021)	(0.097)	(0.065)	(0.106)	(0.092)	(0.064)
Observations	896	452	897	897	897	897
R-squared	0.149	0.079	0.429	0.078	0.041	0.173
District Fixed Effects are included?	Yes	Yes	Yes	Yes	Yes	Yes
p-value for F-test: Father=Mother	0.577	0.314	0.005	0.436	0.976	0.707
p-value for F-test: joint significance of parents preferences.	0.000	0.138	0.000	0.010	0.360	0.010

Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1

Table A.11: Horse-race regressions – Number of patient choices as dependent variable

VARIABLES	(1) District FE Included	(2) District FE Excluded	(3) Parents Prefs Only	(4) Parents Prefs Dropped	(5) SES Dropped	(6) Persona-lity Dropped
Number of patient choices father	0.034***	0.035***	0.039***		0.033***	0.038***
	(0.011)	(0.011)	(0.011)		(0.011)	(0.011)
Number of patient choices mother	0.045***	0.048***	0.051***		0.051***	0.045***
	(0.012)	(0.012)	(0.012)		(0.012)	(0.012)
Gender (boys= 0, girls= 1)	-0.331**	-0.327**		-0.284*	-0.305**	
	(0.143)	(0.143)		(0.147)	(0.143)	
Age (in years)	0.044	0.043		0.046	0.021	
	(0.058)	(0.058)		(0.059)	(0.052)	
Schooling (in years)	-0.106**	-0.106**		-0.110**	-0.111**	
	(0.053)	(0.054)		(0.054)	(0.053)	
Currently attending school (yes=1, no=0)	-0.060	-0.065		0.033	-0.074	
	(0.271)	(0.273)		(0.281)	(0.270)	
Schooling father	0.015	0.012		0.013		-0.008
	(0.025)	(0.025)		(0.026)		(0.025)
Schooling mother	-0.000	0.001		-0.021		-0.006
	(0.030)	(0.029)		(0.030)		(0.030)
Household size	-0.027	-0.023		0.000		0.052
	(0.089)	(0.088)		(0.093)		(0.058)
Per cap income per month(in thousand taka)	0.064	0.066		0.066*		0.056
	(0.041)	(0.040)		(0.039)		(0.044)
Full Scale IQ measure of child	-0.417***	-0.418***		-0.416***	-0.382***	
	(0.111)	(0.111)		(0.113)	(0.106)	
Standardized values of conscientiousness	-0.040	-0.040		-0.063	-0.041	
	(0.080)	(0.079)		(0.080)	(0.078)	
Standardized values of extraversion	-0.223***	-0.222***		-0.211***	-0.213***	
	(0.075)	(0.074)		(0.075)	(0.074)	
Standardized values of agreeableness	-0.083	-0.079		-0.067	-0.079	
	(0.077)	(0.076)		(0.076)	(0.076)	
Standardized values of openness	0.090	0.094		0.068	0.113	
	(0.071)	(0.071)		(0.073)	(0.072)	
Standardized values of neuroticism	0.016	0.017		0.041	0.024	
	(0.070)	(0.069)		(0.070)	(0.069)	
Standardized values of locus of control)	-0.009	0.009		0.072	0.011	
	(0.073)	(0.071)		(0.073)	(0.070)	
Observations	896	896	902	896	902	896
R-squared	0.151	0.150	0.055	0.109	0.143	0.069
District Fixed Effects are included?	Yes	No	No	No	No	No
P-value for F-test: Father = Mother	0.525	0.461	0.508		0.330	0.712
P-value for F-test: Joint significance of parents preferences	0.000	0.000	0.000		0.000	0.000

Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1; FE: fixed effects

Table A.12: Horse-race regressions – Gamble number picked (risk preferences) as dependent variable

VARIABLES	(1) District FE Included	(2) District FE Excluded	(3) Parents Prefs Only	(4) Parents Prefs Dropped	(5) SES Dropped	(6) Persona-lity Dropped
Gamble number picked father	0.078	0.087*	0.069		0.076	0.072
	(0.049)	(0.048)	(0.045)		(0.046)	(0.046)
Gamble number picked mother	0.116**	0.113**	0.114**		0.109**	0.121**
	(0.052)	(0.051)	(0.048)		(0.048)	(0.049)
Gender (boys= 0, girls= 1)	-0.039	-0.034		-0.011	-0.012	
	(0.156)	(0.155)		(0.154)	(0.155)	
Age (in years)	-0.109*	-0.102*		-0.104*	-0.087*	
	(0.058)	(0.058)		(0.059)	(0.051)	
Schooling (in years)	0.085	0.089		0.092	0.082	
	(0.058)	(0.059)		(0.060)	(0.058)	
Currently attending school (yes=1, no=0)	0.130	0.136		0.074	0.103	
	(0.368)	(0.368)		(0.368)	(0.375)	
Schooling father	-0.032	-0.032		-0.027		-0.026
	(0.024)	(0.024)		(0.024)		(0.023)
Schooling mother	0.022	0.008		0.001		0.013
	(0.032)	(0.030)		(0.030)		(0.030)
Household size	0.112	0.106		0.098		0.081
	(0.099)	(0.094)		(0.096)		(0.063)
Per capita income per month in 2016 in thousands	-0.070	-0.062		-0.044		-0.075
	(0.051)	(0.049)		(0.047)		(0.048)
Full Scale IQ measure of child	-0.064	-0.062		-0.067	-0.105	
	(0.118)	(0.118)		(0.120)	(0.116)	
Standardized values of conscientiousness	0.143*	0.152**		0.170**	0.154**	
	(0.077)	(0.076)		(0.077)	(0.078)	
Standardized values of extraversion	-0.038	-0.039		-0.042	-0.037	
	(0.077)	(0.076)		(0.077)	(0.073)	
Standardized values of agreeableness	0.009	-0.000		-0.002	0.014	
	(0.085)	(0.084)		(0.085)	(0.084)	
Standardized values of openness	0.004	0.010		0.013	-0.001	
	(0.083)	(0.082)		(0.082)	(0.082)	
Standardized values of neuroticism	0.090	0.082		0.073	0.084	
	(0.080)	(0.079)		(0.081)	(0.078)	
Standardized values of Locus of control	-0.012	-0.027		-0.009	-0.008	
	(0.080)	(0.078)		(0.079)	(0.075)	
Observations	452	456	458	456	458	456
R-squared	0.077	0.067	0.022	0.044	0.050	0.041
District Fixed Effects are included?	Yes	No	No	No	No	No
p-value for F-test: Father=Mother	0.608	0.733	0.525		0.649	0.504
p-value for F-test joint significance of parents' preferences	0.015	0.007	0.010		0.013	0.008

Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1
FE: fixed effects

Table A.13: Horse-race regressions – Spitefulness as dependent variable

VARIABLES	(1) District FE Included	(2) District FE Excluded	(3) Parents Prefs Only	(4) Parents Prefs Dropped	(5) SES Dropped	(6) Personality Dropped
Spiteful father	0.057	0.111***	0.144***		0.107***	0.133***
	(0.042)	(0.046)	(0.049)		(0.046)	(0.047)
Spiteful mother	0.290***	0.418***	0.450***		0.420***	0.449***
	(0.059)	(0.050)	(0.050)		(0.050)	(0.050)
Gender (boys= 0, girls= 1)	0.020	0.017		0.003	0.013	
	(0.025)	(0.025)		(0.025)	(0.025)	
Age (in years)	-0.012	-0.008		-0.003	-0.010	
	(0.009)	(0.009)		(0.010)	(0.009)	
Schooling (in years)	0.022**	0.021**		0.016*	0.022**	
	(0.010)	(0.009)		(0.010)	(0.010)	
Currently attending school (yes=1, no=0)	0.012	0.022		0.036	0.016	
	(0.052)	(0.050)		(0.051)	(0.053)	
Schooling father	-0.007*	-0.007*		-0.005		-0.005
	(0.004)	(0.004)		(0.004)		(0.004)
Schooling mother	0.005	0.007		0.012**		0.009*
	(0.005)	(0.005)		(0.005)		(0.005)
Household size	0.002	-0.002		-0.012		-0.012
	(0.013)	(0.014)		(0.015)		(0.011)
Per capita income per month in 2016 in thousands	-0.002	0.001		-0.006		0.003
	(0.007)	(0.007)		(0.007)		(0.008)
Full Scale IQ measure of child	0.024	0.025		0.016	0.024	
	(0.020)	(0.020)		(0.021)	(0.019)	
Standardized values of conscientiousness	0.013	0.012		0.019	0.011	
	(0.015)	(0.014)		(0.014)	(0.014)	
Standardized values of extraversion	-0.010	-0.015		-0.035***	-0.018	
	(0.012)	(0.013)		(0.012)	(0.013)	
Standardized values of agreeableness	-0.032**	-0.030**		-0.034**	-0.029**	
	(0.014)	(0.014)		(0.014)	(0.014)	
Standardized values of openness	0.020	0.019		0.006	0.018	
	(0.013)	(0.013)		(0.013)	(0.013)	
Standardized values of neuroticism	0.006	0.011		0.001	0.011	
	(0.013)	(0.013)		(0.012)	(0.012)	
Standardized values of locus of control	-0.028*	-0.046***		-0.110***	-0.049***	
	(0.015)	(0.016)		(0.016)	(0.015)	
Observations	897	897	903	897	903	897
District Fixed Effects are included?	0.414	0.377	0.319	0.190	0.370	0.333
pseudo-R-squared	Yes	No	No	No	No	No
p-value for F-test: Father=Mother	0.004	0.000	0.001		0.000	0.000
p-value for F-test: joint significance of parents preferences.	0.000	0.000	0.000		0.000	0.000

Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1
FE: fixed effects

Table A.14: Horse-race regressions – Egalitarian social preference as dependent variable

VARIABLES	(1) District FE Included	(2) District FE Excluded	(3) Parents Prefs Only	(4) Parents Prefs Dropped	(5) SES Dropped	(6) Personality Dropped
Egalitarian - father	0.071**	0.077**	0.076**		0.075**	0.074**
	(0.034)	(0.035)	(0.035)		(0.035)	(0.035)
Egalitarian - mother	0.097**	0.092**	0.112**		0.094**	0.109**
	(0.052)	(0.051)	(0.052)		(0.051)	(0.053)
Gender (boys= 0, girls= 1)	0.017	0.015		0.011	0.016	
	(0.025)	(0.024)		(0.024)	(0.025)	
Age (in years)	0.007	0.006		0.005	0.007	
	(0.009)	(0.009)		(0.009)	(0.009)	
Schooling (in years)	-0.008	-0.008		-0.007	-0.008	
	(0.009)	(0.009)		(0.009)	(0.009)	
Currently attending school (yes=1, no=0)	0.051	0.049		0.052	0.046	
	(0.042)	(0.043)		(0.043)	(0.046)	
Schooling -father	-0.005	-0.004		-0.003		-0.001
	(0.004)	(0.004)		(0.004)		(0.004)
Schooling mother	0.005	0.003		0.004		0.003
	(0.005)	(0.005)		(0.005)		(0.005)
Household size	-0.026*	-0.027*		-0.027*		-0.023**
	(0.014)	(0.014)		(0.014)		(0.011)
Per capita income per month in 2016 in thousands	0.006	0.005		0.006		0.005
	(0.009)	(0.009)		(0.009)		(0.009)
Full Scale IQ measure of child	0.060***	0.061***		0.063***	0.062***	
	(0.020)	(0.020)		(0.021)	(0.020)	
Standardized values of conscientiousness	-0.000	0.001		0.002	0.005	
	(0.013)	(0.013)		(0.013)	(0.013)	
Standardized values of extraversion	0.016	0.019		0.019	0.017	
	(0.013)	(0.013)		(0.013)	(0.013)	
Standardized values of agreeableness	0.034**	0.032**		0.032**	0.031**	
	(0.013)	(0.013)		(0.013)	(0.014)	
Standardized values of openness	-0.023*	-0.025**		-0.022*	-0.024**	
	(0.012)	(0.012)		(0.012)	(0.012)	
Standardized values of neuroticism	0.004	0.003		0.004	0.002	
	(0.011)	(0.011)		(0.011)	(0.011)	
Standardized values of locus of control	0.019	0.021		0.022*	0.017	
	(0.013)	(0.013)		(0.013)	(0.013)	
Observations	897	897	903	897	903	897
District Fixed Effects are included?	0.081	0.075	0.021	0.062	0.067	0.032
pseudo-R-squared	Yes	No	No	No	No	No
p-value for F-test: Father=Mother	0.704	0.843	0.581		0.792	0.591
p-value for F-test: joint significance of parents preferences.	0.009	0.009	0.004		0.009	0.007

Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1
FE: fixed effects

Table A.15: Horse-race regressions – Altruistic social preferences as dependent variable

VARIABLES	(1) District FE Included	(2) District FE Excluded	(3) Parents Prefs Only	(4) Parents Prefs Dropped	(5) SES Dropped	(6) Personality Dropped
Altruistic father	0.054*	0.066**	0.066**		0.123***	0.062**
	(0.035)	(0.038)	(0.039)		(0.040)	(0.038)
Altruistic mother	0.099***	0.088***	0.095***		0.170***	0.096***
	(0.043)	(0.043)	(0.045)		(0.037)	(0.045)
Gender (boys= 0, girls= 1)	0.005	0.008		0.012	0.010	
	(0.016)	(0.016)		(0.017)	(0.032)	
Age (in years)	0.004	0.005		0.005	-0.008	
	(0.005)	(0.005)		(0.005)	(0.011)	
Schooling (in years)	-0.004	-0.004		-0.003	0.005	
	(0.005)	(0.005)		(0.006)	(0.012)	
Currently attending school (yes=1, no=0)	0.001	0.002		0.003	-0.109*	
	(0.028)	(0.030)		(0.031)	(0.069)	
Schooling father	0.003	0.002		0.002		0.001
	(0.002)	(0.002)		(0.003)		(0.002)
Schooling mother	-0.002	-0.002		-0.002		-0.003
	(0.003)	(0.003)		(0.003)		(0.003)
Household size	-0.012*	-0.011		-0.009		-0.004
	(0.007)	(0.007)		(0.008)		(0.006)
Per capita income per month in 2016 in thousands	0.004	0.004		0.005		0.005
	(0.003)	(0.004)		(0.004)		(0.004)
Full Scale IQ measure of child	-0.013	-0.016		-0.016	-0.016	
	(0.011)	(0.012)		(0.013)	(0.012)	
Standardized values of conscientiousness	0.009	0.009		0.010	0.010	
	(0.009)	(0.009)		(0.010)	(0.009)	
Standardized values of extraversion	0.008	0.008		0.009	0.008	
	(0.008)	(0.008)		(0.008)	(0.008)	
Standardized values of agreeableness	-0.009	-0.009		-0.010	-0.009	
	(0.008)	(0.008)		(0.008)	(0.008)	
Standardized values of openness	0.007	0.008		0.009	0.008	
	(0.007)	(0.008)		(0.008)	(0.008)	
Standardized values of neuroticism	-0.005	-0.006		-0.006	-0.005	
	(0.008)	(0.008)		(0.009)	(0.009)	
Standardized values of locus of control	-0.005	-0.001		0.000	-0.001	
	(0.007)	(0.007)		(0.007)	(0.007)	
Observations	897	897	903	897	903	897
District Fixed Effects are included?	0.080	0.062	0.024	0.040	0.047	0.036
pseudo-R-squared	Yes	No	No	No	No	No
p-value for F-test: Father=Mother	0.460	0.726	0.667		0.825	0.592
p-value for F-test: joint significance of parents preferences.	0.001	0.002	0.001		0.001	0.002

Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1
FE: fixed effects

Table A.16: Horse-race regressions – Selfishness as dependent variable

VARIABLES	(1) District FE Included	(2) District FE Excluded	(3) Parents Prefs Only	(4) Parents Prefs Dropped	(5) SES Dropped	(6) Personality Dropped
Selfish father	0.085**	0.132***	0.149***			0.149***
	(0.041)	(0.041)	(0.040)			(0.041)
Selfish mother	0.112***	0.179***	0.192***			0.192***
	(0.037)	(0.037)	(0.037)			(0.037)
Gender (boys= 0, girls= 1)	0.003	0.012				
	(0.032)	(0.032)		0.001		
Age (in years)	0.007	0.006		(0.032)		
	(0.012)	(0.012)		0.005		
Schooling (in years)	0.000	0.003		(0.012)		
	(0.012)	(0.013)		0.001		
Currently attending school (yes=1, no=0)	-0.099	-0.098		(0.012)		
	(0.066)	(0.069)		-0.114*		
Schooling father	0.005	0.002		(0.067)		0.001
	(0.005)	(0.006)		0.000		(0.006)
Schooling mother	0.001	0.002		(0.006)		-0.002
	(0.007)	(0.007)		-0.001		(0.007)
Household size	0.057***	0.065***		(0.007)		0.053***
	(0.017)	(0.018)		0.064***		(0.014)
Per capita income per month in 2016 in thousands	-0.010	-0.008		(0.018)		-0.009
	(0.010)	(0.010)		-0.007		(0.010)
Full Scale IQ measure of child	-0.086***	-0.088***		(0.010)	-0.085***	
	(0.027)	(0.028)		-0.091***	(0.027)	
Standardized values of conscientiousness	0.001	0.002		(0.028)	-0.007	
	(0.018)	(0.017)		0.000	(0.017)	
Standardized values of extraversion	-0.018	-0.017		(0.017)	-0.013	
	(0.016)	(0.016)		-0.012	(0.016)	
Standardized values of agreeableness	-0.013	-0.011		(0.016)	-0.009	
	(0.017)	(0.017)		-0.014	(0.017)	
Standardized values of openness	0.018	0.023		(0.017)	0.024	
	(0.017)	(0.017)		0.023	(0.017)	
Standardized values of neuroticism	0.017	0.016		(0.017)	0.020	
	(0.016)	(0.016)		0.016	(0.016)	
Standardized values of locus of control	0.019	0.042**		(0.016)	0.045**	
	(0.018)	(0.018)		0.061***	(0.018)	
Observations	897	897	903	897	903	897
District Fixed Effects are included?	0.158	0.122	0.055	0.080	0.101	0.084
pseudo-R-squared	Yes	No	No	No	No	No
p-value for F-test: Father=Mother	0.606	0.380	0.421		0.386	0.422
p-value for F-test: joint significance of parents preferences.	0.001	0.000	0.000		0.000	0.000

Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1
FE: fixed effects

Table A.17: Multiple hypothesis testing (Romano-Wolf) – Using the specification of Table 7

	Number of patient choices	Gamble number picked	Spiteful (0/1)	Egalitarian (0/1)	Altruistic (0/1)	Selfish (0/1)
Parent‘s preference - father	0.036***	0.075	0.074*	0.070**	0.056*	0.088**
	(0.011)	(0.049)	(0.045)	(0.034)	(0.035)	(0.041)
Usual p-value	0.001	0.124	0.065	0.027	0.051	0.025
Romano-Wolf p-value	0.001	0.126	0.080	0.035	0.064	0.028
Parent‘s preference – mother	0.048***	0.116**	0.342***	0.096**	0.101***	0.125***
	(0.012)	(0.052)	(0.055)	(0.051)	(0.045)	(0.037)
Usual p-value	0.000	0.026	0.000	0.034	0.002	0.001
Romano-Wolf p-value	0.000	0.025	0.000	0.036	0.003	0.001
Observations	896	452	897	897	897	897
R^2/ Pseudo-R^2	0.148	0.076	0.398	0.081	0.080	0.154
District Fixed Effects are included?	Yes	Yes	Yes	Yes	Yes	Yes
p-value for F-test: Father=Mother	0.527	0.586	0.001	0.709	0.459	0.498
p-value for F-test: joint significance of parents preferences.	0.000	0.017	0.000	0.008	0.001	0.000

The table only shows the estimated coefficients for father’s and mother’s preference, but hides all other independent variables included in Table 7 in the main paper. Below the estimated coefficients, the table shows the standard errors in parentheses and then the p-values displayed in Table 7 and the Romano-Wolf p-values that account for multiple hypothesis testing. As one can see, these p-values are very similar to the ones shown in Table 7.

Table A.18: Multiple hypothesis testing (Romano-Wolf) – Using the specification of Table 8

	Number of patient choices	Gamble number picked	Spiteful (0/1)	Egalitarian (0/1)	Altruistic (0/1)	Selfish (0/1)
Parent‘s preference - father	0.035***	0.071	0.092**	0.087***	0.102***	0.123***
	(0.012)	(0.052)	(0.046)	(0.037)	(0.050)	(0.043)
Usual p-value	0.004	0.175	0.020	0.010	0.006	0.004
Romano-Wolf p-value	0.004	0.169	0.032	0.013	0.009	0.004
Parent‘s preference – mother	0.045***	0.112**	0.426***	0.139***	0.099***	0.202***
	(0.012)	(0.057)	(0.053)	(0.060)	(0.047)	(0.041)
Usual p-value	0.000	0.050	0.000	0.007	0.005	0.000
Romano-Wolf p-value	0.000	0.048	0.000	0.009	0.007	0.000
Observations	770	387	770	770	770	770
R^2/ Pseudo-R^2	0.153	0.084	0.390	0.083	0.078	0.123
District Fixed Effects are included?	Yes	Yes	Yes	Yes	Yes	Yes
p-value for F-test: Father=Mother	0.595	0.626	0.000	0.482	0.962	0.193
p-value for F-test: joint significance of parents preferences.	0.000	0.036	0.000	0.002	0.000	0.000
p-value for F-test: joint significance of parenting style	0.352	0.466	0.905	0.961	0.350	0.820

The table only shows the estimated coefficients for father’s and mother’s preference, but hides all other independent variables included in Table 8 in the main paper. Below the estimated coefficients, the table shows the standard errors in parentheses and then the p-values displayed in Table 8 and the Romano-Wolf p-values that account for multiple hypothesis testing. As one can see, these p-values are very similar to the ones shown in Table 8.

Table A.19: Multiple hypothesis testing (Romano-Wolf) – Using the specification of Table 9

	Number of patient choices	Gamble number picked	Spiteful (0/1)	Egalitarian (0/1)	Altruistic (0/1)	Selfish (0/1)
Parent‘s preference - father	0.045**	0.034	-0.024	0.077**	0.012	0.108**
	(0.018)	(0.064)	(0.053)	(0.036)	(0.035)	(0.052)
Usual p-value	0.014	0.595	0.666	0.022	0.719	0.031
Romano-Wolf p-value	0.003	0.195	0.086	0.030	0.043	0.045
Parent‘s preference – mother	0.053***	0.093	0.504***	0.037	0.120***	0.136***
	(0.020)	(0.068)	(0.093)	(0.049)	(0.065)	(0.046)
Usual p-value	0.008	0.175	0.000	0.426	0.009	0.002
Romano-Wolf p-value	0.000	0.025	0.000	0.054	0.003	0.001
Father’s preference x parents homogeneity	-0.030	0.082	0.150*	-0.045	0.104	-0.024
	(0.049)	(0.155)	(0.107)	(0.066)	(0.092)	(0.076)
Mother’s preference x parents homogeneity	0.012	0.013	-0.110**	0.167	-0.015	-0.053
	(0.049)	(0.169)	(0.032)	(0.140)	(0.038)	(0.067)
Parents homogeneity (1 if homogeneous, 0 otherwise)	0.194	-0.553	0.041	0.028	-0.016	-0.085*
	(0.327)	(0.564)	(0.050)	(0.040)	(0.016)	(0.047)
Observations	896	452	888	889	895	889
R^2/ Pseudo-R^2	0.138	0.067	0.394	0.073	0.077	0.155
District Fixed Effects are included?	Yes	Yes	Yes	Yes	Yes	Yes
p-value for F-test: Father=Mother	0.676	0.445	0.000	0.478	0.138	0.672
p-value for F-test: joint significance of parents prefs	0.013	0.396	0.000	0.059	0.029	0.001
p-value for F-test: father’s pref + father with homo pref	0.747	0.425	0.030	0.793	0.011	0.202
p-value for F-test: mother’s pref + mother with homo pref	0.149	0.488	0.000	0.041	0.098	0.189

The table only shows the estimated coefficients for father’s and mother’s preference, but hides all other independent variables included in Table 9 in the main paper. Below the estimated coefficients, the table shows the standard errors in parentheses and then the p-values displayed in Table 9 and the Romano-Wolf p-values that account for multiple hypothesis testing. As one can see, these p-values are very similar to the ones shown in Table 9.

Table A.20: Multiple hypothesis testing (Romano-Wolf) – Using the specification of Table 10

	Number of patient choices	Gamble number picked	Spiteful (0/1)	Egalitarian (0/1)	Altruistic (0/1)	Selfish (0/1)
Parent‘s preference - father	0.018	0.184	-0.030	0.044	0.048	0.116*
	(0.017)	(0.115)	(0.055)	(0.043)	(0.058)	(0.063)
Usual p-value	0.299	0.112	0.610	0.257	0.320	0.059
Romano-Wolf p-value	0.003	0.123	0.083	0.029	0.060	0.028
Parent‘s preference – mother	0.057***	0.358***	0.511***	0.037	0.125**	0.125**
	(0.017)	(0.124)	(0.108)	(0.053)	(0.084)	(0.062)
Usual p-value	0.001	0.005	0.000	0.435	0.042	0.041
Romano-Wolf p-value	0.000	0.023	0.000	0.036	0.002	0.001
Older‘s siblings preference residuals	0.318***	0.278**	0.012	-0.044	-0.028	0.060
	(0.054)	(0.135)	(0.047)	(0.197)	(0.057)	(0.045)
Observations	359	90	336	357	357	357
R^2/ Pseudo-R^2	0.228	0.414	0.460	0.150	0.131	0.177
District Fixed Effects are included?	Yes	Yes	Yes	Yes	Yes	Yes
p-value for F-test: Father=Mother	0.146	0.289	0.001	0.906	0.459	0.908
p-value for F-test: joint significance of parents' preferences	0.001	0.008	0.000	0.321	0.078	0.016

The table only shows the estimated coefficients for father's and mother's preference, but hides all other independent variables included in Table 10 in the main paper. Below the estimated coefficients, the table shows the standard errors in parentheses and then the p-values displayed in Table 10 and the Romano-Wolf p-values that account for multiple hypothesis testing. As one can see, these p-values are very similar to the ones shown in Table 10.

Table A.21: Relation of parenting styles to parents' preferences

VARIABLES	Negative Parenting (PCA)	Positive Parenting (PCA)	Negative Parenting (PCA)	Positive Parenting (PCA)
Patient Choices - Father	-0.002	-0.014*	-0.001	-0.013*
	(0.011)	(0.008)	(0.011)	(0.008)
Patient Choices - Mother	0.016	-0.015*	0.013	-0.017*
	(0.011)	(0.009)	(0.011)	(0.009)
Risk preference - Father	-0.043	0.015	-0.059	0.001
	(0.041)	(0.033)	(0.040)	(0.034)
Risk preference - Mother	0.019	-0.003	0.028	0.001
	(0.041)	(0.032)	(0.041)	(0.032)
Spiteful - Father	-0.245	-0.243	-0.256	-0.312
	(0.269)	(0.201)	(0.273)	(0.206)
Spiteful - Mother	-0.197	0.037	-0.207	-0.019
	(0.282)	(0.196)	(0.281)	(0.191)
Egalitarian - Father	0.137	0.075	0.068	-0.003
	(0.234)	(0.164)	(0.231)	(0.167)
Egalitarian - Mother	-0.200	-0.291	-0.194	-0.342*
	(0.303)	(0.198)	(0.306)	(0.205)
Altruistic - Father	-0.359	-0.238	-0.500*	-0.377
	(0.260)	(0.242)	(0.279)	(0.235)
Altruistic - Mother	-0.205	-0.131	-0.250	-0.141
	(0.261)	(0.217)	(0.258)	(0.209)
Selfish - Father	0.091	-0.167	0.040	-0.172
	(0.203)	(0.143)	(0.200)	(0.146)
Selfish - Mother	-0.122	0.023	-0.078	-0.026
	(0.169)	(0.144)	(0.169)	(0.144)
Father‘s age in years			-0.005	-0.014
			(0.018)	(0.010)
Mother‘s age in years			-0.023	0.006
			(0.024)	(0.014)
Years of Schooling - Father			0.027	0.010
			(0.021)	(0.018)
Years of Schooling - Mother			-0.030	0.020
			(0.026)	(0.020)
Household size			0.149***	-0.025
			(0.055)	(0.040)
Per capita income per month (in thousands taka)			0.050	0.042
			(0.033)	(0.028)
Grand parents are present			-0.005	0.010
			(0.217)	(0.163)
Observations	780	780	774	774
R-squared	0.030	0.033	0.064	0.062
District Fixed Effects are included?	Yes	Yes	Yes	Yes
p-value for F-test: joint significance of parents preferences.	0.213	0.309	0.207	0.298

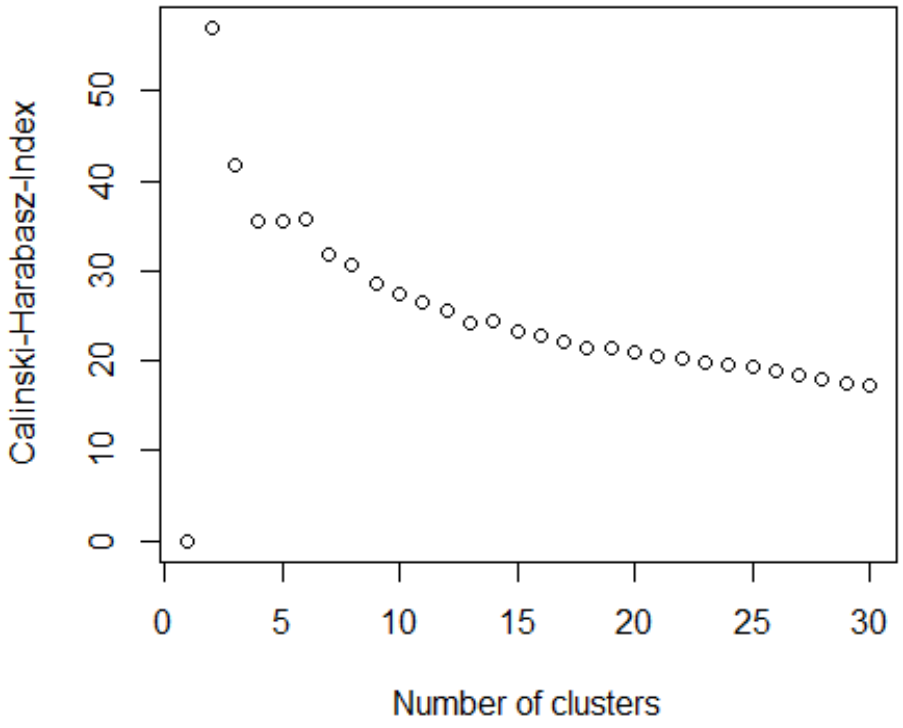
Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1

Table A.22: Cluster characteristics when dropping all subjects with missing data from the cluster analysis

	Cluster 1	Cluster 2	Difference	*p*-value
Number of patient choices children	2.84	2.33	0.51	0.04
Number of patient choices father	8.04	2.44	5.60	0.00
Number of patient choices mother	9.27	2.34	6.93	0.00
Gamble number picked children	3.93	3.68	0.25	0.22
Gamble number picked father	4.16	3.10	1.06	0.00
Gamble number picked mother	4.00	3.59	0.42	0.06
Spiteful children	0.08	0.79	-0.71	0.00
Spiteful father	0.06	0.80	-0.74	0.00
Spiteful mother	0.05	0.90	-0.85	0.00
Egalitarian children	0.19	0.06	0.14	0.00
Egalitarian father	0.23	0.14	0.09	0.12
Egalitarian mother	0.09	0.03	0.07	0.07
Altruistic children	0.09	0.00	0.09	0.00
Altruistic father	0.12	0.01	0.11	0.01
Altruistic mother	0.07	0.01	0.06	0.06
Selfish children	0.32	0.08	0.25	0.00
Selfish father	0.33	0.03	0.30	0.00
Selfish mother	0.45	0.00	0.45	0.00
Number of families	298	70		

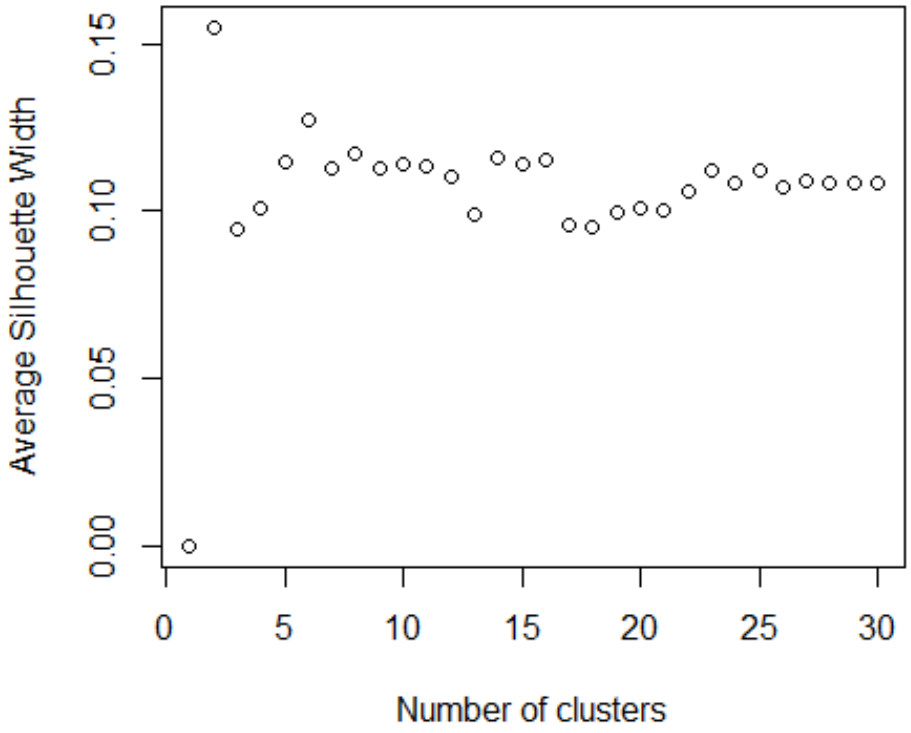
In this table we account for the fact that we elicited risk preferences for only half of the children. Note that it happened that in households with two children one child was asked about risk preferences, but the other not. In such cases we simply drop the other child (that had no risk elicitation) and take the rest of the household for the cluster analysis. If in a household we had two children and both were asked about risk preferences, then we take the average of both children to take this household into account for the cluster analysis. In total, we have 370 households (not 544 as in the full sample) that we can use with this approach for the cluster analysis. The cluster analysis yields again two clusters as the optimal number of clusters, and again these two clusters exhibit strongly different economic preferences of fathers, mothers and children, very much like in Table 15 in the main paper. This means that different ways of handling missing data lead to the same pattern of two clusters where one has relatively patient, risk tolerant and non-spiteful family members, while the other has relatively impatient, risk averse and spiteful family members.

Figure A.1: The Calinski-Harabasz-Index for Different Numbers of Clusters, Aggregating Offspring at the Household Level



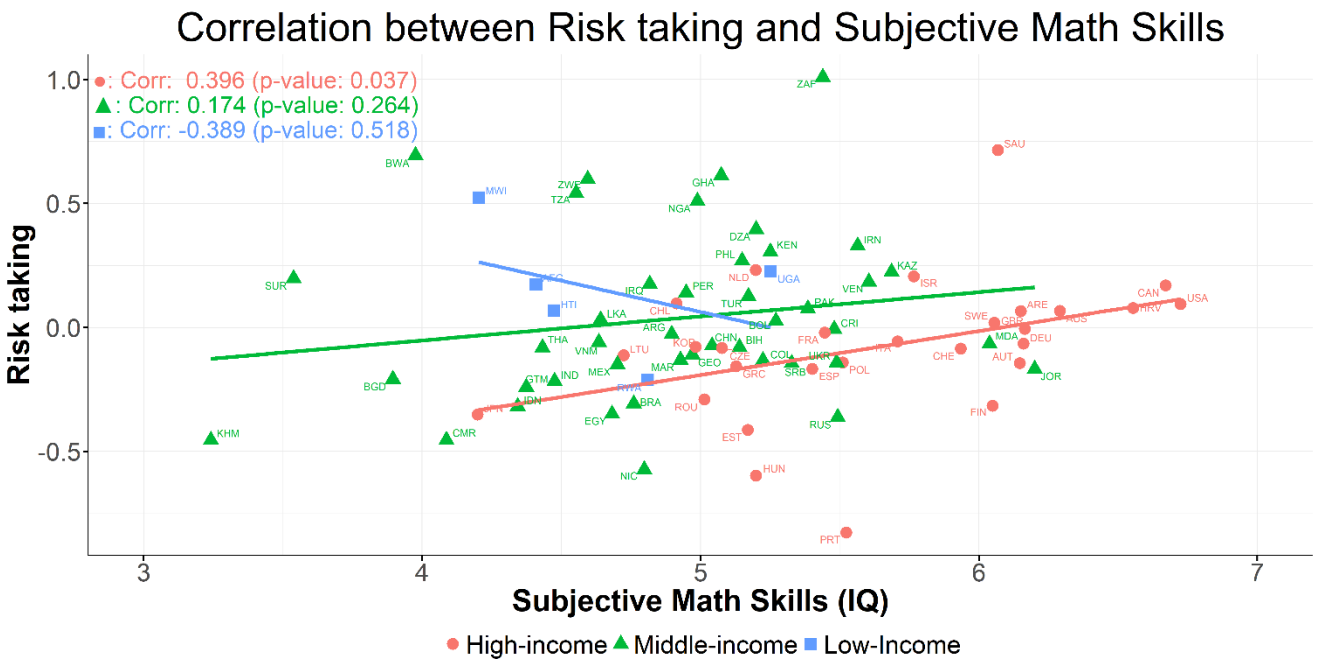
The optimal number of clusters is two according to this index.

Figure A.2: The Average Silhouette Width for Different Numbers of Clusters, Aggregating Offspring at the Household Level



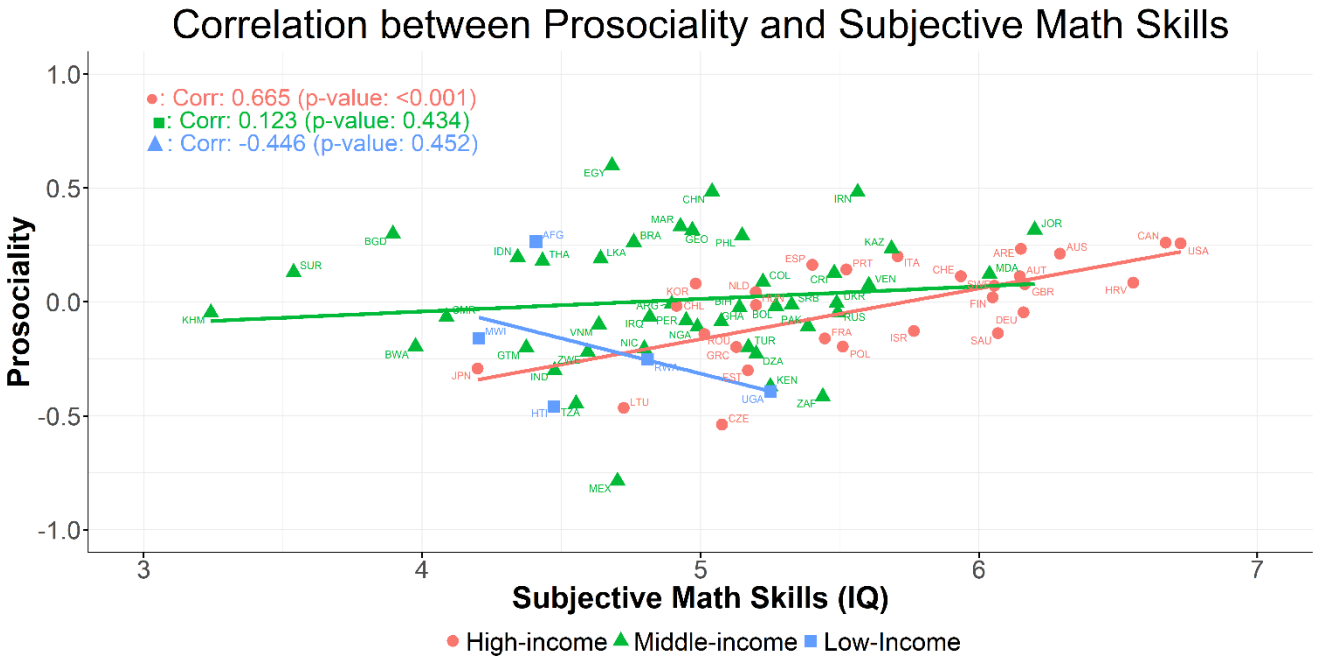
The optimal number of clusters is two according to the average silhouette width.

Figure A.3: Relationship between IQ and risk preferences, conditional on income level of country



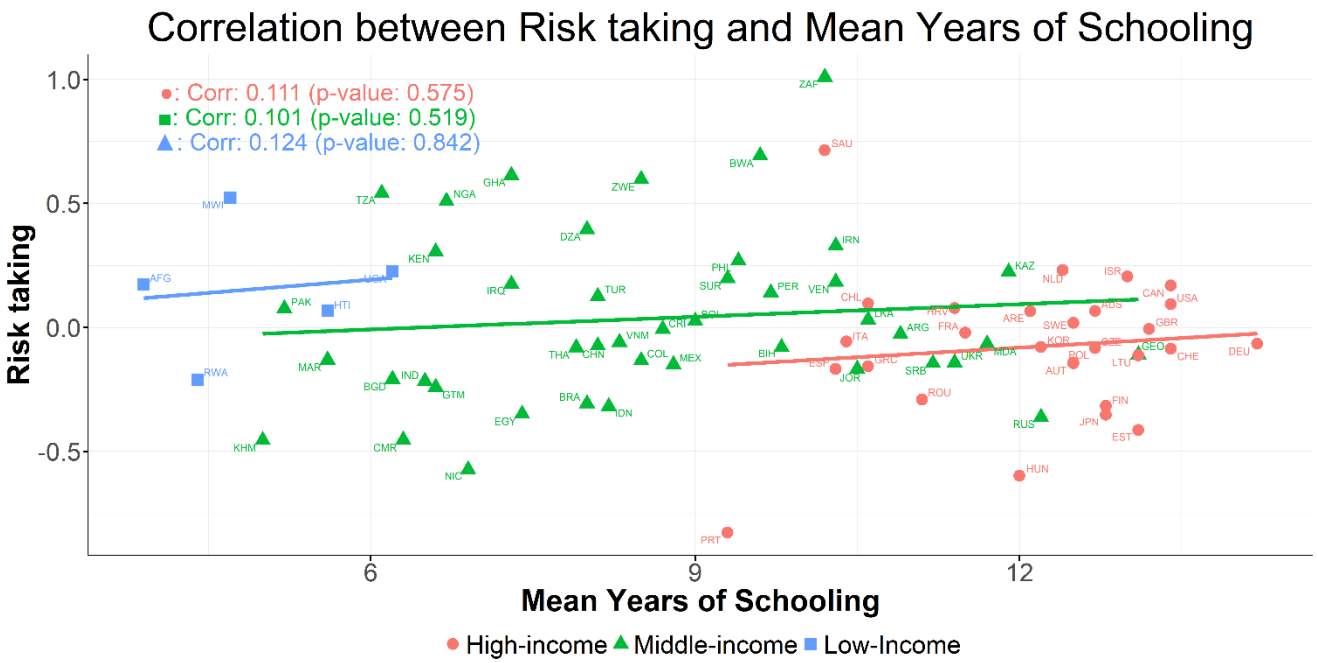
We show on the vertical axis the average level of risk preferences in a particular country and on the horizontal axis the average level of math skills as a proxy for IQ (both taken from the Global Preference Survey; Falk et al., 2018). The income classification is taken from the World Bank (see https://datahelpdesk.worldbank.org/knowledgebase/articles/906519).

Figure A.4: Relationship between IQ and social preferences, conditional on income level of country



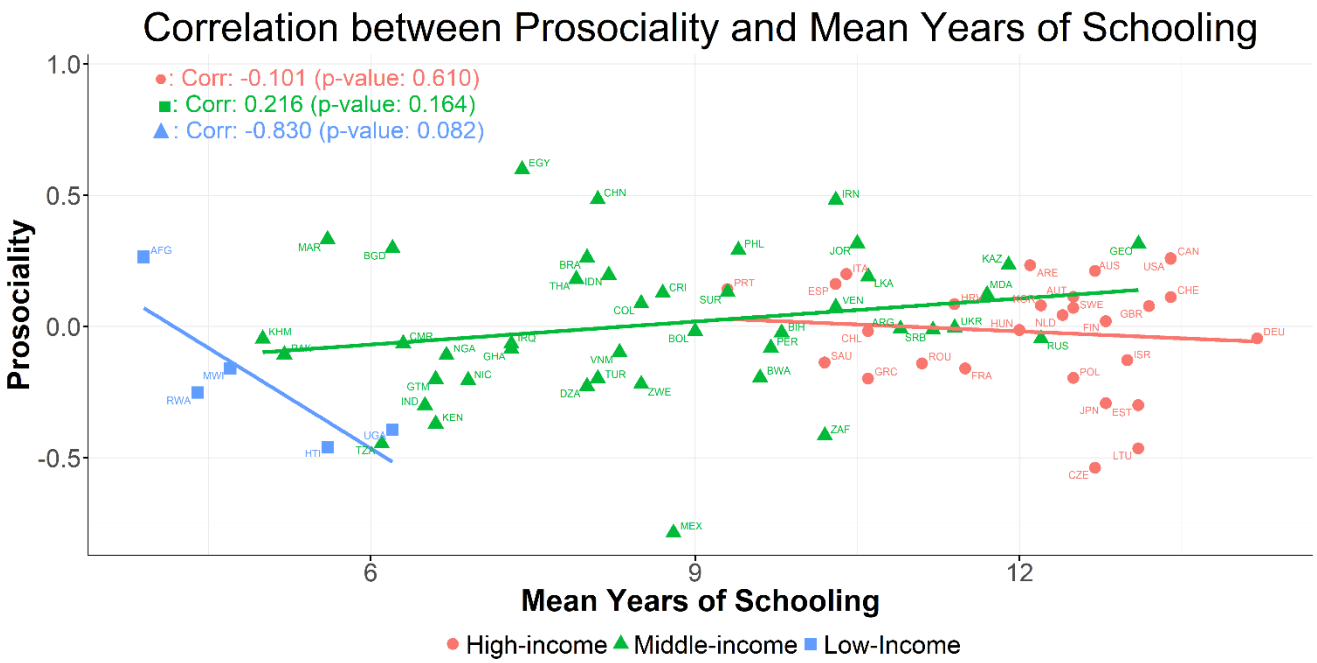
We show on the vertical axis the average level of social preferences in a particular country and on the horizontal axis the average level of math skills as a proxy for IQ (both taken from the Global Preference Survey; Falk et al., 2018). The income classification is taken from the World Bank (see https://datahelpdesk.worldbank.org/knowledgebase/articles/906519).

Figure A.5: Relationship between years of education (as mean years of schooling within a country) and risk preferences, conditional on income level of country



We show on the vertical axis the average level of risk preferences in a particular country (from the Global Preference Survey; Falk et al., 2018) and on the horizontal axis the mean years of schooling (from the United Nations Development Program; http://hdr.undp.org/en/indicators/103006). The income classification is taken from the World Bank (https://datahelpdesk.worldbank.org/knowledgebase/articles/906519).

Figure A.6: Relationship between years of education (as mean years of schooling within a country) and social preferences, conditional on income level of country



We show on the vertical axis the average level of social preferences in a particular country (from the Global Preference Survey; Falk et al., 2018) and on the horizontal axis the mean years of schooling (from the United Nations Development Program; http://hdr.undp.org/en/indicators/103006). The income classification is taken from the World Bank (https://datahelpdesk.worldbank.org/knowledgebase/articles/906519).

Appendix B. Relation of our data to the literature on genetics transmission

Preference formation is a complex interaction between genetics, parental norm "education" and other household or external factors, with the exact interplay not yet fully understood. In the main paper we have established a solid intergenerational transfer of preferences from both parents to their children, controlling for a host of background variables. Preference building efforts of parents and child imitation move together with genetic factors, however. There is agreement in a substantial body of research[1] that a considerable genetic heritability of preferences exists, which might be compensated or overcompensated somewhat by parental activities. In our data set, we do not have genetic information, but even if we would have, strong identification would be challenging, because, for example, even monozygotic twins (who are genetically practically identical) can be differentially affected by parental activities.[2] However, while heritability as measured in twin studies (comparing dizygotic to monozygotic twins) provides a yardstick as potential, it does not imply that the traits are necessarily inherited. Correlations between siblings and those based on parent-offspring data (like in our study) have to be smaller. This has to be taken into account when we search in this part of the appendix for a yardstick to put our preference transmission parameters in perspective.

Insights on the size of potential genetic inheritance of economic preferences are provided by specific studies using monozygotic and dizygotic twins, typically from developed countries, to disentangle the influences of genetic and environmental factors. This literature employs a variance component analysis (ACE or ACDE modelling) to estimate a heritability coefficient that measures the degree to which genetics contributes to the total variation of the studied phenotype (see, for instance, Bouchard and McGue, 2003; Javaras et al., 2010; Lazzeroni and Ray, 2013; Chen et al., 2019; Jöreskog, 2021; with this literature going back to Fisher, 1919). The decomposition separates the additive genetic component (A) from the dominance component (D), the shared environment (C), and unique

[1] See Ebstein et al. (2010) for a general introduction into the genetics of human social behavior. When dealing with the genetics of risk preferences, Zhong et al. (2009) even argue as follows (p. 103): "We do not find a significant role for shared environmental effects, a common observation in behavioral genetics that is contrary to commonly held views in economics." Cesarini et al. (2009) reach a similar conclusion in their study on risk and giving preferences by noting (on p. 809) "strong prima facie evidence that these preferences are broadly heritable". And Bouchard and McGue (2003, p. 4) "conclude that there is now strong evidence that virtually all individual psychological differences, when reliably measured, are moderately to substantially heritable." Sibly and Curnow (2011, p. 167) argue that "altruism and selfishness are 30–50% heritable in man in both Western and non-Western populations." Their article shows that "selfishness and altruism can coexist when help is subject to diminishing returns" (p. 167). For conflicting views and findings see footnote 2.

[2] Linnér et al. (2019) discuss for instance the identification challenges behind the genetic factors correlating with general risk taking behavior and the various risk domains. Lazzeroni and Ray (2013, p. 85) review the "missing heritability" findings in comparison to prior heritability estimates and the potential sources. They also raise the issue of "misestimated heritability" in twin studies due to unreliable methods leading to biased estimations and computational problems. Their suggested generalization of models deals with those issues. While twin studies suggest heritability in some degree (see the survey further below in this section of the appendix), Harrati (2014) – who studies risk aversion among older Americans using over 2 million genetic markers per individual – cannot trace single relevant determinants, thus concluding (p. 185): "These results suggest that risk aversion is a complex trait that is highly polygenic." Genetic factors were found negligible for trust (Van Lange et al., 2014).

environmental factors (E). A is the linear addition of independent genes, D captures the nonadditive factors dealing with interactions involving alleles within or between gene loci or dominance, E typically includes also the overall random error term. These components are considered as independent, and hence add to the total variance for phenotype P: var P = var A + var C + var D + var E, with a heritability coefficient H = var A / var P.

We have no twins data, but only information on parents and siblings, so that we can only identify the sum of A, C, and D versus E. In particular we acknowledge that the data do not allow us finding anything new, or specific to the sample, on the decomposition between A and C; the data are not targeted for this type of question. This leaves us to focus on the decomposition between genetic factors on one side, and environment on the other, where we proxy the former as G through parental preferences and the latter as X capturing all kinds of controls shown in Table 7. This implies var P = var G + var X, and H = var G / var P. We seek to measure heritability H for our phenotypes in the analysis below.

Note that the variance component model has an exact mathematical analogue in the standard regression model: $P_i = g_0 + g_G G_i + g_X X_i + e_i$, with var G = g_G^2 var G_i, and var X = g_X^2 var X_i + var e_i. This means that within the limits of our data, we can make our research findings comparable to what has been found in the genetics literature.[3] Our regressions in Table 7 capture G, and X contains direct environmental measures like parental education, household size, income, and region (district) effects, but also other genetic and individual variables of the child (age, schooling, gender and other phenotypes) as controls.

In the following, we first survey relevant research from the relatively small twins literature on economic preferences before we set our research findings into context. While most of the research with twins suggests a strong genetic component, there is a large heterogeneity across studies and for the considered preference type with respect to the phenotype's variance explained by genetic effects.

a. *Risk preferences.* Heritability seems to be large in the studies of Zyphur et al. (2009; 63%; USA) and Zhong et al. (2009; 57%; China), but more modest in Cesarini et al. (2009; 20%; Sweden) and in Le et al. (2010; 20%; Australia). Nicolaou and Shane (2019) support the lower heritability value with 22% for general risk preferences in their UK sample, but receive much higher values for domain-

[3] There is a flourishing subfield in the twins literature based on DeFries-Fulker regressions (DeFries and Fulker, 1985, Cherny et al., 1992a, 1992b), applied and further developed in studies like Rodgers and Kohler (2005), Le et al. (2010), Lazzeroni and Ray (2013), or O'Keefe and Rodgers (2020). The simplest DeFries-Fulker regression for the ACE approach ignoring the dominant factor D is $K_1 = v_0 + v_1 K_2 + v_2 Tw + v_3 Tw K_2 + u$. K_1 is phenotype K for twin 1 and K_2 for twin 2; Tw is the known genetic relatedness of the twin pair, e.g., 1 for monozygotic and 0.5 for dizygotic twins; and u is a simplified version of environment. v_1 captures common non-genetic twin resemblance and reflects common environmental effects C, while the other coefficients reflect genetics. As has been shown in the above literature, v_3 is a direct and simple estimate of heritability. The economics literature, originating in the direct analysis of preferences, has used other variables to deal with specific context, see for instance Hartog et al. (2002), Bonin et al. (2009) and Le et al. (2010). The recent behavioral genetics literature shows openness to include other factors in the modeling structure depending on genomic relatedness and other data relations, but admits that "the additional identified variance components in modern molecular designs are almost entirely unexplored." (Hunter et al., 2021, p. 7).

specific risk preferences in the range of 15-80%. Similar evidence is given by Ebstein et al. (2010) who report a heritability level for risk of about one third. For Swedish data, Barnea et al. (2010) and Cesarini et al. (2010) find that genetics can explain one quarter to one third of the variance in financial decision making (including, e.g., stock market participation and asset allocation). Beauchamp et al. (2017; 35-55%; Sweden) confirm sizable correlations between risk attitudes and financial investment choices, much larger as found before in Sweden, after providing measurement-error-adjusted estimates.

b. *Time preferences.* Here, the literature on twin data and genetics is scarce and more recent (Hübler, 2018). The survey of Ebstein et al. (2010) did not report a heritability measure on this issue. Anokhin et al. (2011; 30% and 51% at age 12 and 14; USA) studied delay discounting and found that the role of genetics was increasing with age in their longitudinal twin design. Cronqvist and Siegel (2015; 33%; Sweden) used saving behavior of twins to judge time preferences. Hübler (2018; 23%; Germany) used a novel twin data set of large size (3,000) and a direct survey measure revealing individual patience.

c. *Social preferences.* Knafo and Plomin (2006; England & Wales; 32%-61%) used a very large sample of 9,424 pairs of twins to study their prosocial behavior as rated by their parents at the ages of 2, 3, 4 and 7, and by their teachers at age 7, identifying a strong genetic effect that rise with age. Wallace et al. (2007; Sweden; larger than 40%) studied fairness preferences revealing strong genetic effects. Cesarini et al. (2008) deal with cooperativeness in a transatlantic setting of two independent studies. Heritability of trust was found to explain 20% of the variance in Sweden and 10% in the U.S. The genetic component of trustworthiness was judged to be 18% in Sweden and 17% in the USA. Van Lange et al. (2014) found only 5% for trust-in-others for data from the Netherlands Twin Register. Cesarini et al. (2009; 20%; Sweden) dealt with the genetic components of giving. Finally, Ebstein et al. (2010) reported for prosocial behavior of girls and boys genetic heritability of over 55%.

The empirical findings on the genetic factor in economic preference formation indicate significant relevance in spite of the large heterogeneity in estimates. Unweighted averages of the reported numbers from the literature result in heritability values of around 36% for risk preferences, 22% for time preferences, 25% for social preferences and 29% for all together as orientation points. Of course, one limitation is that these findings are from a handful developed countries, excluding all other, including developing countries.

We have established in the main paper that the transmission of preferences in our sample from Bangladesh is strong and stable. Given the relevance of genetics as revealed from our literature review here, it is quite natural to ask how our findings compare to this literature. We address this through an econometric exercise where we impose a specific amount of intergenerational transmission in line with (genetic) priors from this literature. Of course, given that the empirical evidence is from twin studies,

the estimates in this research about the heritability of traits mark an upper benchmark, but they can provide some orientation how close we are in our data to those genetic priors when we investigate our data that has "only" siblings (not twins) and that relates children's preferences to their parents (and not to their siblings or even twins). The evidence reported above suggests that the explained preference variation by genetics in the twins literature varies in the interval from 0% to 80%, with a reasonable range of 25% to 50% explained total variance. This implies for the (positive) genetic child-parent preference correlation coefficient a range from 0.5 to 0.707. A correlation of 0.5 with heritability 25% would be roughly in line with the overall results reported above.

Note that a genetic prior or heritability coefficient only reveals something about the potential in the genetic context and with respect to the chosen phenotype. The genetics literature on cognitive abilities using twin data suggests an intergenerational correlation of 50% (see for instance, Bouchard and McGue, 2003, p. 12, and the rich literature cited there). However, intergenerational correlations of cognitive abilities are observed to be larger than correlations of economic preferences. We can also see this in our data. We find for husbands and wives a raw correlation of 0.538, for siblings 0.475, for mothers and children 0.233, and for fathers and children 0.244. When compared with Table 5 in the main text, these parent-child correlations for cognitive abilities are much larger than for economic preferences, with the exception of spitefulness. Further, the observed correlation between twins is typically larger than in siblings or parent-offspring relationships (Bouchard and McGue, 1981, Figure 1). Our data is based on the latter, and hence the reported heritability measures should be considered as upper bounds or yardsticks.

Let the "true" genetic Pearson product-moment correlation coefficient between child preferences (P) and parental preference capital (MF) be r.[4] Observe that r is just the relationship between the Z-scores of P and MF ($r = Z_P/Z_{MF}$), and define S_P and S_{MF} the standard deviations for P and MF, respectively. If MF is the equally weighted sum of the preferences of mother M and father F (MF= 0.5 M + 0.5 F),[5] we have

$$(1)\ P = \text{Constant} + r\, S_P/S_{MF}\, MF + u = \text{Constant} + 0.5\, r\, S_P/S_{MF}\, M + 0.5\, r\, S_P/S_{MF}\, F + u$$

with the random error term u. Following the rationale outlined above, we impose r = 0.5 in our analysis below, implying a heritability potential of 25%. A bulk of reliable estimates from twins studies for all

[4] Note that r^2 is just the coefficient of determination of an OLS regression of MF on P.

[5] The assumption of equal weights is for simplicity of exposition and innocent, since we keep the estimations in the sequel open and we have already established (see Section 3.3 and the test statistics at the bottom of Table 7 in the main text) that the effects of both parents preferences on those of the children are largely the same which is consistent with this simplification. Moreover, standard genetics suggests that parents transfer 50% of their DNA to offspring (David et al., 2019; Gyllensten et al., 1985).

economic preferences have been around this size. This is instructive to better evaluate our findings on the intergenerational transmission of economic preferences.

The regressions provided in Table 7 of the main text are consistent with this rationale, including a vector of other variables X with parameters c representing other channels of preference formation:

(1') $P = \text{Constant} + a_M\ M + a_F\ F\ + c\ X\ + u$

Assuming that the transmission of preferences would only work through genetics, this would imply that the slope coefficients of M and F are the same ($a_M = a_F$) and equal to 0.25 S_P/S_{MF}, and the slope coefficients of X are zero. Table B.1 shows the estimation results. It is basically a replication of Table 7 in the main text, now using OLS in all cases for easy comparable testing; OLS delivers the exact same findings as the previous probit estimates. Most importantly, Table B.1 contains at the bottom the coefficients of father's and mother's preferences as they should appear if the assumed heritability (r=0.5) would take place (see row "Genetic prior preference coefficient equals $0.25*S_C/S_{MF}$").

However, these prior coefficients are typically very different from the estimated coefficients as shown in the first two rows of Table B.1. We then show in a series of F-tests how the estimated parental preferences (from the top two rows of Table B.1) differ (i) from each other and (ii) from the assumed genetic priors ($0.25*S_C/S_{MF}$"). Addressing item (i) first, we note that equality of the parental parameters in line with pure genetics cannot be rejected, except for the case of being spiteful. This finding for spitefulness confirms the importance of having data for both parents. Referring to item (ii), however, the assumption of pure (i.e., exclusively) genetic transmission of preferences is rejected in all other aspects of the parental variables: As the F-tests show (in the rows "p-value for F-test: Father/Mother = $0.25*S_P/S_{MF}$"), the estimated twelve slope coefficients all differ from the genetic prior. Finally, pure genetic transmission is also rejected by observing a significant importance of the vector X of other variables for four out of the six cases; only for "gamble number picked" (i.e., risk preferences) and "altruistic" the vector X seems to play no significant role (see row "p-value for F-test: joint significance of X"). Hence, not in a single case all conditions for pure genetic transmission are satisfied (which is completely in line with the literature). Only risk preferences and altruism come close, because here we cannot reject equality of the slope coefficients of parental preferences and the vector X is jointly insignificant, but parental preferences are different (smaller) than the genetic prior.

Table B.1: Child-parent preference relationships: Robustness checks for Table 7 in the main paper and explorations of a genetic prior for transmission

VARIABLES	Number patient choices	Gamble number picked	Spiteful (0/1)	Egalitarian (0/1)	Altruistic (0/1)	Selfish (0/1)
Parent‘s preference - father	0.036***	0.075	0.100**	0.072**	0.062	0.087**
	(0.011)	(0.049)	(0.043)	(0.035)	(0.040)	(0.040)
Parent‘s preference - mother	0.048***	0.116**	0.347***	0.099*	0.094**	0.122***
	(0.012)	(0.052)	(0.049)	(0.053)	(0.045)	(0.037)
Gender (Male 1, Female 0)	-0.334**	-0.039	0.008	0.014	0.008	0.003
	(0.143)	(0.156)	(0.021)	(0.025)	(0.018)	(0.030)
Age of respondent	0.042	-0.107*	-0.005	0.007	0.006	0.006
	(0.058)	(0.058)	(0.007)	(0.009)	(0.006)	(0.011)
Years of schooling	-0.108**	0.084	0.016**	-0.009	-0.005	0.002
	(0.053)	(0.058)	(0.008)	(0.010)	(0.006)	(0.011)
Attending school (=1, 0 otherwise)	-0.054	0.134	0.009	0.055	0.006	-0.093
	(0.270)	(0.372)	(0.038)	(0.049)	(0.040)	(0.060)
Father‘s years of schooling	0.014	-0.031	-0.006	-0.004	0.002	0.004
	(0.025)	(0.024)	(0.004)	(0.004)	(0.003)	(0.005)
Mother‘s years of schooling	-0.001	0.022	0.005	0.005	-0.002	0.001
	(0.030)	(0.031)	(0.005)	(0.005)	(0.004)	(0.006)
Household size	-0.026	0.108	0.001	-0.024*	-0.012	0.055***
	(0.090)	(0.098)	(0.011)	(0.013)	(0.008)	(0.016)
Per cap income per month (in thousand taka)	0.061	-0.071	-0.002	0.007	0.005	-0.009
	(0.041)	(0.051)	(0.009)	(0.012)	(0.005)	(0.007)
Full Scale IQ measure of child	-0.412***	-0.070	0.014	0.065***	-0.015	-0.078***
	(0.111)	(0.118)	(0.017)	(0.023)	(0.012)	(0.025)
Conscientiousness	-0.032	0.139*	0.009	0.002	0.009	0.003
	(0.080)	(0.077)	(0.012)	(0.013)	(0.010)	(0.017)
Extraversion	-0.208***	-0.045	-0.017*	0.018	0.008	-0.014
	(0.075)	(0.076)	(0.010)	(0.014)	(0.010)	(0.015)
Agreeableness	-0.085	0.010	-0.026**	0.033***	-0.012	-0.019
	(0.077)	(0.085)	(0.012)	(0.013)	(0.010)	(0.016)
Openness	0.087	0.007	0.019*	-0.024*	0.008	0.015
	(0.071)	(0.082)	(0.011)	(0.013)	(0.008)	(0.015)
Neuroticism	0.009	0.092	0.003	0.006	-0.007	0.013
	(0.070)	(0.080)	(0.010)	(0.011)	(0.009)	(0.015)
Locus of control	0.022	-0.029	-0.038***	0.022	-0.007	0.024
	(0.070)	(0.078)	(0.013)	(0.014)	(0.009)	(0.017)
Observations	896	452	897	897	897	897
R-squared	0.148	0.076	0.427	0.074	0.040	0.171
Owen Shapley %	27.30	26.99	47.44	21.37	34.54	23.63
Heredity %	4.052	2.063	20.265	1.581	1.376	4.042
District Fixed Effects are included?	Yes	Yes	Yes	Yes	Yes	Yes
Genetic prior preference coefficient equals $0.25*S_P/S_{MF}$	0.078	0.234	0.252	0.259	0.234	0.254

p-value for F-test: Father=Mother	0.527	0.586	0.001	0.664	0.606	0.542
p-value (F-test): Father=0.25*S_P/S_{MF}	0.000	0.001	0.000	0.000	0.000	0.000
p-value (F-test): Mother=0.25*S_P/S_{MF}	0.011	0.023	0.054	0.003	0.002	0.001
p-value for F-test: joint significance of control variables (Xs) except parents' preferences	0.000	0.394	0.001	0.008	0.551	0.000
Father: $r_F = 2*a_F*S_{MF}/S_P$	0.234	0.161	0.199	0.138	0.132	0.177
Mother: $r_M = 2*a_M*S_{MF}/S_P$	0.307	0.248	0.688	0.192	0.201	0.247

Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1

Notes: Table B.1 repeats the regressions from Table 7 in the main paper now all using OLS for robustness checks and first explorations of genetic restrictions. Probit (Table 7) and OLS estimates have the same findings. The genetic prior is a Pearson product-moment correlation coefficient of r = 0.5 and equal parental weight during inheritance. Pure genetics implies identical preference slope coefficients of 0.25*S_P/S_{MF} for each trait for both parents and non-significance of all other regressors X. The Table informs about the implied genetic priors across traits and various tests. Equality of parental preference coefficients can only be rejected for the spiteful trait. The genetic prior coefficient is rejected in all cases, although somewhat stronger for father than for mother. X is significant for all traits (with the exception of risk preferences) rejecting pure genetics. The last two rows present the implied correlations from the estimated preference transmission parameters shown in the first two rows. Owen-Shapley % is the R-squared contribution of parental preferences. Heredity is the Owen-Shapley value times the respective R-squared.

To explore this further and to execute some robustness tests about preference formation, we have replicated the estimates of Table B.1 by subtracting the pure genetic priors from the observed preferences of the children: P - 0.25 S_P/S_{MF} (M + F):

$$(1'') \; P - 0.25\, S_P/S_{MF}\,(M + F) = \text{Constant} + (a_M - 0.25\, S_P/S_{MF})\, M + (a_F - 0.25\, S_P/S_{MF})\, F + c\, X + u$$

Under pure prior genetics, none of the regressors representing equation (1'') should be significant. Table B.2 contains the preference slope coefficients and a number of further tests. With this approach, we have corrected the observed six preferences of the children by eliminating the expected genetic transfers from the parents. All other explanatory variables (that we used in Table B.1) remain unaffected and yield the same coefficients and significance levels as in Table B.1, for which reason we do not show them in Table B.2. If we still observe significant parental preferences while analyzing the residuals, this implies departure from pure genetics. The six provided R^2's in Table B.2 indicate the overall strength of these departures from pure genetics. It is lowest for risk preference ($R^2 = 0.065$) and altruism ($R^2 = 0.08$) and largest for spitefulness ($R^2 = 0.162$) and patience ($R^2 = 0.136$). Significant regressors indicate the sources of the departure from pure genetics. For example, for risk preferences it is the age of the child (see Table B.1 where we included the control variables that are not shown in Table B.2) and for "altruism" the parental preferences of both parents.

Table B.2: Child preferences corrected for heritability priors

VARIABLES	Number of patient choices	Gamble number picked	Spiteful (0/1)	Egalitarian (0/1)	Altruistic (0/1)	Selfish (0/1)
Parent‘s preference - father	-0.041***	0.042	-0.152***	-0.187***	-0.172***	-0.159***
	(0.011)	(0.049)	(0.043)	(0.035)	(0.040)	(0.040)
Parent‘s preference - mother	-0.030**	0.083	0.095*	-0.160***	-0.140***	-0.125***
	(0.012)	(0.052)	(0.049)	(0.053)	(0.045)	(0.037)
Observations	896	452	897	897	897	897
R-squared	0.136	0.065	0.162	0.104	0.080	0.123
District Fixed Effects included?	Yes	Yes	Yes	Yes	Yes	Yes
F-test of joint significance of parents prefs.	0.000	0.165	0.002	0.000	0.000	0.000
F-test of joint significance of Xs.	0.000	0.394	0.001	0.008	0.551	0.000

Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1

Notes: Under pure genetics (materialized heritability), none of the regressors representing equation (1'') in this section should be significant. Table B.2 contains the preference slope coefficients using equation (1''') and various significance tests. The genetic prior is a Pearson product-moment correlation coefficient of r = 0.5 and equal parental weight during inheritance. Pure genetics implies identical preference slope coefficients of $0.25*S_P/SMF$ for each trait for both parents and non-significance of all other regressors X. Child preferences are corrected for genetic priors according to ($P - 0.25\ S_P/SMF\ (M + F)$). The estimated coefficients are then difference tests between the estimated preference coefficients (from Table B.1) and the genetic priors. All other explanatory variables (that we used in Table B.1) remain unaffected and yield the same coefficients and significance levels as in Table B.1, for which reason we do not show them in Table B.2. The table reveals that gambling follows well the genetic prior. For all other traits the parental slope preference parameters are different from the genetic prior. And besides of altruistic trait, the regressors X are relevant.

Table B.2 shows that the F-test is significant for parental preferences in all cases but risk preferences, rejecting again the assumption of pure genetics transmission of preferences. The estimates reveal that all mother coefficients are larger in size than those of the corresponding father coefficients, although this difference is only statistically significant for spitefulness. This is consistent with the observation that practically all mothers are housewives and can take care of the children, and it supports the conjecture that the departure from the genetic prior is associated with parental (in particular mother's) preference education of the child. Most estimated parameters for both parents are negative, indicating that the transmission between parent and child that we observe is smaller than what the genetic prior would predict. Since our data set contains only young children, the findings could change when preferences develop over time. The exception is the case of spiteful children, which are particularly more likely with a spiteful mother, and with a higher own education of the child.[6] Here the estimated coefficient of mother's preference is even significantly larger than the genetic prior.[7]

[6] A more educated child is more spiteful. This resembles our observation in the family cluster analysis of section 5.2 in the main text that mother's education has a positive effect on the likelihood of belonging to Cluster 2-families whose members are more impatient, more risk averse and in particular more often spiteful.

[7] In another robustness check we have added a variable M x F, the product of parents' preferences, to allow for non-linearity in parental preference education or child learning. This estimate turned out to be non-significant; a corresponding F-test

What do we learn from this exercise? Our data clearly show that there is a strong intergenerational association of economic preferences. Since we have no twin data, we cannot examine better to what extent this is driven by genetics. While strong, the observed association typically results in a much smaller than the explored heritability of 25% explained variance (and r=0.5), which we use as a yardstick. This is not surprising, but it is of interest to what extent our findings are lower for the different phenotypes. It does not imply that genetics has no role; to the contrary, all associations we observe can be the result of genetic factors if we have managed to sufficiently control the other relevant factors. The survey of the twins literature in this section has shown that empirical findings originate typically from developed countries, mostly for Sweden. There is also a large variety of estimates of the genetically explained variance in the literature within and between preferences. Therefore, there is no reason to expect that Bangladesh has to reveal one unique level of genetic transmission similar to a developed country.

Under the assumption that we have controlled for other relevant factors beyond genetics, we can however argue that the estimated transmission parameters of preferences fully reflect genetics. On this assumption, we can calculate the r's for both parents (r_M, r_F) for each preference category from $a_M = 0.5*r_M*S_P/S_{MF}$ and $a_F = 0.5*r_F*S_P/S_{MF}$, with $r_M = 2*a_M*S_{MF}/S_P$ and $r_F = 2*a_F*S_{MF}/S_P$. The respective r numbers are contained in the last two rows of Table B.1, separately for both parents and all preferences. Most values are around r = 0.2, with father's r's smaller than mother's. $r_M = 0.688$ for spitefulness is by far the largest coefficient. These numbers are as expected smaller than those from the twins literature for developed countries since they are based on parent-offspring relationships.

This comparative finding is also affected by the convention in the twins literature to add the error term to the factor environment (E). Using the Owen-Shapley decomposition of R-squared of the regressions in Table B.1, following Hüttner and Sunder (2012), we find that parental preferences reflect a substantial share of the total *explained* variance: 27.3% for patience, 26.99% for gambling, 47.44% for spiteful, 21.37% for egalitarian, 34.54% for altruistic and 23.63% for selfish. Parental preferences indeed contribute a great deal to the explained variance in our regressions. The product of the regression R-squared and the Owen-Shapley values lead to the effective heredity transmission values captured by our preference data, namely 4.05% for patience, 2.06% for gambling, 20.27% for spiteful, 1.58% for egalitarian, 1.38% for altruistic and 4.04% for selfish. Only spitefulness comes close to the upper prior from twin data. The differences in the contribution to the total variances may also result from the ability to control erratic factors better with twin studies than with parent-offspring data.

is contained in Table B.3 at the end of Appendix B. We further explored whether the parent-child-transmission of preferences is time dependent, which could support the idea that there could be additional learning from parents after early childhood. Results are shown in Table B.4 at the end of Appendix B, indicating that time-dependence of preferences is not an issue in our data set.

Table B.3: Interacting mother's and father's preferences while accounting for genetic transmission

VARIABLES	Number of patient choices	Gamble number picked	Spiteful (0/1)	Egalitarian (0/1)	Altruistic (0/1)	Selfish (0/1)
Parent's preference - father	-0.035**	0.024	-0.202***	-0.187***	-0.163***	-0.142***
	(0.017)	(0.138)	(0.050)	(0.036)	(0.042)	(0.050)
Parent's preference - mother	-0.025	0.065	0.065	-0.159***	-0.127***	-0.112***
	(0.015)	(0.125)	(0.056)	(0.059)	(0.049)	(0.043)
Father's preference × mother's preference	-0.001	0.005	0.105	-0.003	-0.101	-0.038
	(0.002)	(0.031)	(0.089)	(0.123)	(0.126)	(0.080)
Gender (boys= 0, girls= 1)	-0.333**	-0.041	0.008	0.014	0.009	0.005
	(0.143)	(0.155)	(0.021)	(0.025)	(0.018)	(0.030)
Age (in years)	0.042	-0.107*	-0.006	0.007	0.006	0.006
	(0.058)	(0.059)	(0.007)	(0.009)	(0.006)	(0.011)
Schooling (in years)	-0.108**	0.085	0.016**	-0.009	-0.005	0.002
	(0.053)	(0.060)	(0.008)	(0.010)	(0.006)	(0.011)
Currently attending school (yes=1, no=0)	-0.054	0.136	0.010	0.055	0.007	-0.094
	(0.270)	(0.372)	(0.037)	(0.049)	(0.040)	(0.060)
Schooling father	0.014	-0.031	-0.005	-0.005	0.002	0.004
	(0.025)	(0.024)	(0.004)	(0.004)	(0.003)	(0.005)
Schooling mother	-0.002	0.022	0.005	0.005	-0.002	0.001
	(0.030)	(0.032)	(0.005)	(0.005)	(0.004)	(0.006)
Household size	-0.025	0.107	0.000	-0.024*	-0.012	0.056***
	(0.089)	(0.098)	(0.011)	(0.013)	(0.008)	(0.016)
Per cap income per month x 10^{-4}	0.061	-0.071	-0.002	0.007	0.005	-0.009
	(0.040)	(0.051)	(0.009)	(0.012)	(0.005)	(0.007)
Full Scale IQ measure of child	-0.413***	-0.072	0.015	0.065***	-0.015	-0.077***
	(0.111)	(0.119)	(0.017)	(0.023)	(0.012)	(0.025)
Standardized values of conscientiousness	-0.033	0.139*	0.010	0.002	0.009	0.004
	(0.080)	(0.077)	(0.012)	(0.013)	(0.010)	(0.017)
Standardized values of extraversion	-0.210***	-0.044	-0.016	0.018	0.009	-0.014
	(0.074)	(0.076)	(0.010)	(0.014)	(0.010)	(0.015)
Standardized values of agreeableness	-0.085	0.010	-0.027**	0.033***	-0.013	-0.019
	(0.077)	(0.086)	(0.012)	(0.013)	(0.010)	(0.016)
Standardized values of openness	0.086	0.006	0.019*	-0.024*	0.008	0.015
	(0.072)	(0.083)	(0.010)	(0.012)	(0.008)	(0.015)
Standardized values of neuroticism	0.008	0.091	0.003	0.006	-0.007	0.013
	(0.070)	(0.080)	(0.010)	(0.011)	(0.009)	(0.015)
Standardized values of locus of control	0.023	-0.028	-0.037***	0.022	-0.006	0.024
	(0.070)	(0.078)	(0.013)	(0.014)	(0.009)	(0.017)
Observations	896	452	897	897	897	897
R^2/ Pseudo-R^2	0.136	0.065	0.164	0.104	0.081	0.123
District Fixed Effects are included?	Yes	Yes	Yes	Yes	Yes	Yes
p value for F-test: parents preferences interactions	0.639	0.881	0.239	0.979	0.426	0.638

Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1

Table B.4: Interacting parental preferences and children's age while accounting for genetic transmission

VARIABLES	Number of patient choices	Gamble number picked	Spiteful (0/1)	Egalitarian (0/1)	Altruistic (0/1)	Selfish (0/1)
Preference - father	-0.183***	0.295	-0.319*	-0.226	-0.193	-0.273*
	(0.045)	(0.200)	(0.168)	(0.137)	(0.133)	(0.155)
Preference - mother	0.009	0.378*	-0.008	-0.020	-0.354*	0.138
	(0.045)	(0.214)	(0.173)	(0.204)	(0.210)	(0.145)
Age of the child (in years)	-0.016	0.072	-0.010	0.007	0.005	0.012
	(0.064)	(0.105)	(0.007)	(0.009)	(0.006)	(0.012)
Father's pref. X age of the child	0.012***	-0.020	0.013	0.003	0.001	0.010
	(0.003)	(0.016)	(0.014)	(0.011)	(0.010)	(0.012)
Mother's pref. X age of the child	-0.003	-0.024	0.008	-0.011	0.018	-0.022*
	(0.003)	(0.017)	(0.014)	(0.016)	(0.018)	(0.011)
Gender (boys= 0, girls= 1)	-0.314**	-0.045	0.010	0.013	0.008	0.002
	(0.142)	(0.156)	(0.021)	(0.025)	(0.018)	(0.030)
Schooling (in years)	-0.089*	0.085	0.016**	-0.009	-0.005	0.002
	(0.054)	(0.059)	(0.008)	(0.010)	(0.006)	(0.011)
Currently attending school (yes=1, no=0)	-0.051	0.099	0.007	0.053	0.006	-0.089
	(0.273)	(0.362)	(0.037)	(0.049)	(0.040)	(0.059)
Schooling father	0.011	-0.030	-0.006	-0.005	0.002	0.004
	(0.025)	(0.025)	(0.004)	(0.004)	(0.003)	(0.005)
Schooling mother	0.003	0.022	0.005	0.005	-0.001	0.001
	(0.029)	(0.031)	(0.005)	(0.005)	(0.004)	(0.006)
household size	-0.034	0.105	0.001	-0.024*	-0.013	0.055***
	(0.089)	(0.096)	(0.011)	(0.013)	(0.008)	(0.016)
Per cap income per month x 10^{-4}	0.064	-0.066	-0.001	0.007	0.004	-0.008
	(0.042)	(0.051)	(0.009)	(0.012)	(0.005)	(0.007)
Full Scale IQ measure of child	-0.435***	-0.089	0.013	0.065***	-0.016	-0.083***
	(0.111)	(0.118)	(0.017)	(0.023)	(0.012)	(0.024)
Standardized values of (conscientiousness)	-0.030	0.132*	0.009	0.003	0.008	0.001
	(0.079)	(0.077)	(0.012)	(0.013)	(0.010)	(0.017)
Standardized values of (extraversion)	-0.203***	-0.042	-0.018*	0.018	0.007	-0.018
	(0.074)	(0.076)	(0.010)	(0.014)	(0.010)	(0.015)
Standardized values of (agreeableness)	-0.092	0.033	-0.023*	0.033**	-0.013	-0.017
	(0.077)	(0.086)	(0.012)	(0.013)	(0.010)	(0.016)
Standardized values of (openness)	0.080	0.006	0.020*	-0.024*	0.007	0.016
	(0.071)	(0.082)	(0.011)	(0.012)	(0.008)	(0.015)
Standardized values of (neuroticism)	0.011	0.104	0.005	0.006	-0.007	0.015
	(0.070)	(0.080)	(0.010)	(0.011)	(0.009)	(0.015)
Standardized values of (loc_index)	0.017	-0.033	-0.039***	0.023	-0.008	0.024
	(0.070)	(0.077)	(0.012)	(0.014)	(0.010)	(0.017)
Observations	896	452	897	897	897	897
R^2/ Pseudo-R^2	0.147	0.074	0.166	0.104	0.082	0.127
District Fixed Effects are included?	Yes	Yes	Yes	Yes	Yes	Yes
p value for F-test: joint significance parents preferences. and child age interactions	0.004	0.124	0.263	0.767	0.619	0.144

Standard errors in parentheses are clustered at household level. *** p<0.01, ** p<0.05, * p<0.1

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Appendix C. Experimental instructions and procedures

C.1. Children

Risk, time and social preferences of children, March – May, 2016

General setting, as summarized and communicated to experimental helpers.

- **Age**: children aged 6 to 17 will participate in a sequence of 3 experiments: a) time preferences, b) risk attitudes, and c) social preferences.
- **Order**: The order of the experiments will be randomly determined by the administrators, which is explained at the beginning of the experiments
- **Incentive**: Each child will receive a token (a star) as a show-up fee, which s/he will be able to convert into money at the end of the experiments. In addition, they will be able to earn money during the experiment as all the experiments are incentivized. However, only one of the experiments will be paid out through a lottery that will be explained below.
- **Exchange rate**: The exchange rate between stars and money will be age specific and will be communicated at the beginning of the experiment.
- **Incentives:** We will rescale the incentives appropriately for age. The conversion table is included in Table A.2.
- **Venue**: The experiments will take place in children's homes; a male administrator will deal with boys and a female administrator will deal with girls.
- **Instructions:** All the enumerators/instructors must memorize the instructions and explain the game to the child. While they will not read the text word by word, however, they will stick closely to the wording of the experimental instructions. In addition, the explanation will involve control questions to check for understanding.
- **Timing:** Members belonging to the same household will participate simultaneously in different parts of the home. It is an important task of the interviewer to ensure that the decisions of a household member truly reflect own decisions only and that other household members do not try to influence the decisions.
- **Control questions that check children's understanding**: Children's understanding of rules of various experiments will be documented. Children will be asked to describe the game in own words.

General instructions: My name is…. Today I have prepared three games for you. In these games, you can earn money. Before we start, I will explain the rules of our games. How much money you will earn depends mainly on your decisions. At the end, only one of the games will be paid. Which game will be paid will be determined randomly. You will draw one number out of three numbers that represent three games. Only after drawing a number, you will see which one you have drawn. The drawn number will determine whether the first, second, or third game will be paid for. It is important that you understand the rules of all our games and play each of them carefully because each of them could be the one that is paid. Please listen carefully now. I will frequently stop during my explanation and allow you to ask questions. Therefore, please interrupt me anytime in case you have a question.

Are you okay so far? ***Leave time for questions and answer them privately.***

1. Determine the sequence by rolling a dice, and write the sequence at which experiments are being conducted: ☐

[1=risk, time, social,
2=risk, social, time,
3= time, risk, social,
4=time, social, risk,
5= social, time, risk,
6= social, risk, time]

Time preferences experiment

Let us start with this game. Before we start, let me explain the rules of our game. In this game you can earn stars, which you can convert into money. Each star is equal to Taka … (*use the age appropriate exchange rate – shown to readers in Table A.2 in the Appendix*). The more stars you earn, the more money you get. As I mentioned at the beginning, it is important to note that at the end only one of the three games will be paid and you will draw a number to determine it. That's why it is important that you understand the rules of our game. Please interrupt me anytime in case you have a question.

Are you okay so far? *Leave time for questions and answer them privately.*

1. Determine the order of explanation by rolling a dice (blue, green, yellow) and write it down:

[1=blue, green, yellow ☐

2= blue, yellow, green

3= green, blue, yellow

4= green, yellow, blue

5= yellow, blue, green

6 = yellow, green, blue]

(Within each part (color) the order is fixed, i.e., always use blue sheet 1 before blue sheet 2, green sheet 1 before green sheet 2, yellow sheet 1 before yellow sheet 2).

The game works as follows:

The game consists of 6 parts. Two blue parts, two yellow parts and two green parts (*when mentioning the parts please point at the respective decision sheets*). In each part, you will need to make one decision. For example, in this green part you have to decide whether you prefer receiving 2 stars (*please point at the stars on the decision sheet*) tomorrow, in this case please tick THIS box (*point at the respective box*), or whether you prefer receiving 3 stars in 3 weeks, in that case please tick THAT box (*point at the respective box*). 3 weeks means 21 days and 21 nights. If you go for 2 stars tomorrow, you will get the money tomorrow. One of us will come to your home and deliver the money in an envelope with your name marked on it. If you wait, you will get money for three stars after 3 weeks. Again, one of us will come to your home and deliver the money in an envelope with your name marked on it.

In the second green part you have to decide whether you prefer receiving 2 stars (*please point at the stars on the decision sheet*) tomorrow, in this case please tick THIS box (*point at the respective box*), or whether you prefer receiving 4 stars in 3 weeks, in that case please tick THAT box (*point at the respective box*). If you go for 2 stars, you will get the money tomorrow. One of us will come to your home and deliver the money in an envelope with your name marked on it. If you wait, you will get the money for four stars after 3 weeks. Again, one of us will come to your home and deliver the money in an envelope with your name marked on it.

Could you please repeat the rules of the game? (*If the child is unable to repeat, please explain the game again; the child has to be able to repeat the correct meaning of the game autonomously*)

2. Child understood the game after: |__|

1= first explanation, 2= second explanation, 3= third explanation, 4= did not understand

The yellow parts are very similar to the green part. Here you see one of the decision sheets for the blue part. Again, 2 stars on the left-hand side, and 3 stars on the right-hand side. If you prefer receiving 2 stars tomorrow, you need to tick on the left box. However, now if you prefer receiving 3 stars in three months, you need to tick that box. Three months means that about 90 days and nights will pass before you will get the money. On the second yellow sheet, again 2 stars on the left-hand side, and 4 stars on the right-hand side. If you prefer receiving 2 stars tomorrow, you need to tick on the left box. However, now if you prefer receiving 4 stars in three months,

you need to tick the right box. What do you think will happen if you tick THIS box? (*please point at the box with the immediate (tomorrow) reward*) What do you think will happen if you tick THAT box? (*please point at the box with the delayed reward of three stars; the child has to answer the questions correctly, otherwise the experimenter has to repeat the explanation*).

3. Child understood the game after: |__|

1= first explanation, 2= second explanation, 3= third explanation, 4= did not understand

The blue parts are very similar to the green and yellow parts. Here you see the first decision sheet for the blue part. Again, 2 stars on the left-hand side, and 3 stars on the right-hand side. However, now the earlier payment takes place in one month, which means after 30 days and nights have passed. The later payment takes place in four months, which means after 120 days and nights have passed. If you decide to receive 2 stars, you need to wait one month, and if you decide to receive 3 stars, you need to wait four months. On the second blue sheet, again 2 stars on the left-hand side, and 4 stars on the right-hand side. If you prefer receiving 2 stars in one month, you need to tick on the left box. However, if you prefer receiving 4 stars in four months, you need to tick the box on the right. What do you think will happen if you tick THIS box? (*please point at the box with the immediate reward*) What do you think will happen if you tick THAT box? (*please point at the box with the delayed reward of five stars; the child has to answer the questions correctly, otherwise the experimenter has to repeat the explanation*).

4. Child understood the game after: |__|

1= first explanation, 2= second explanation, 3= third explanation, 4= did not understand

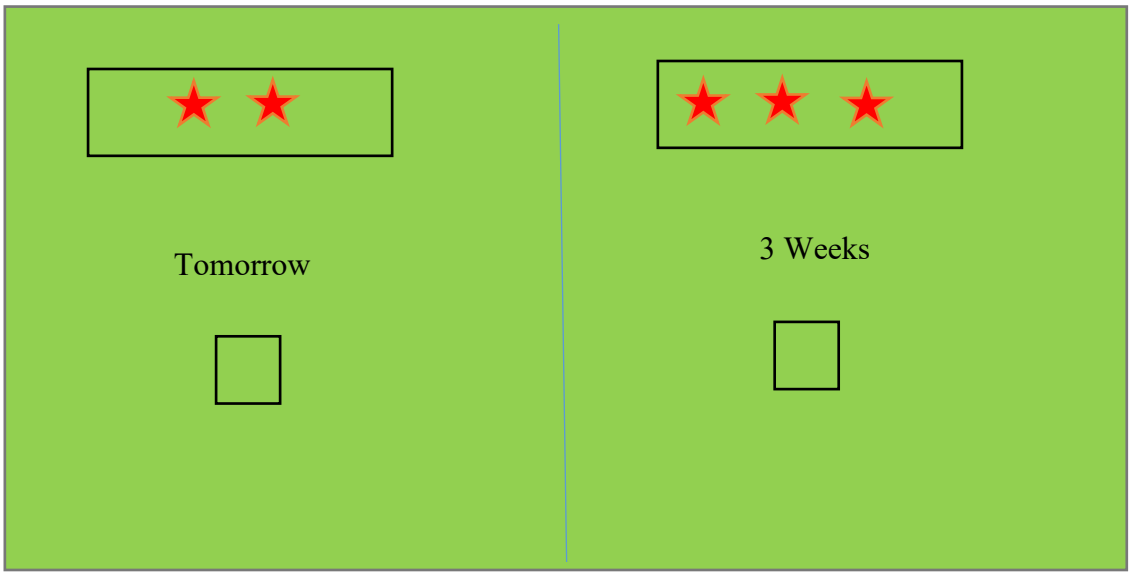
As I mentioned at the beginning, it is important to note that at the end only one of the games will be paid and that you will have to draw a number to determine it. If this game is paid, only one of the six decisions counts. That means you will receive the stars for one of the six parts only. The decisions are numbered from 1 to 6. After your decisions, you will roll a dice (*please demonstrate)*. Assume that it shows number 5. Therefore the decision sheet 5 (the first blue sheet *in this example*) is played for real. If you have checked the box on the left hand size, you will receive the money for two stars in one month. If you have checked the box on the right hand side, you will receive money for three stars in four months. The other five sheets do not count in this case. However, you need to make a decision for each of the six sheets because you do not know yet which part will be drawn at the end of the game. Could you please repeat the last part? Will you receive the stars for all six sheets? Do you need to make a decision for each of the six sheets? (If the child answers incorrectly the experimenter has to repeat the explanation of this part)

5. Child understood the game after: |__|

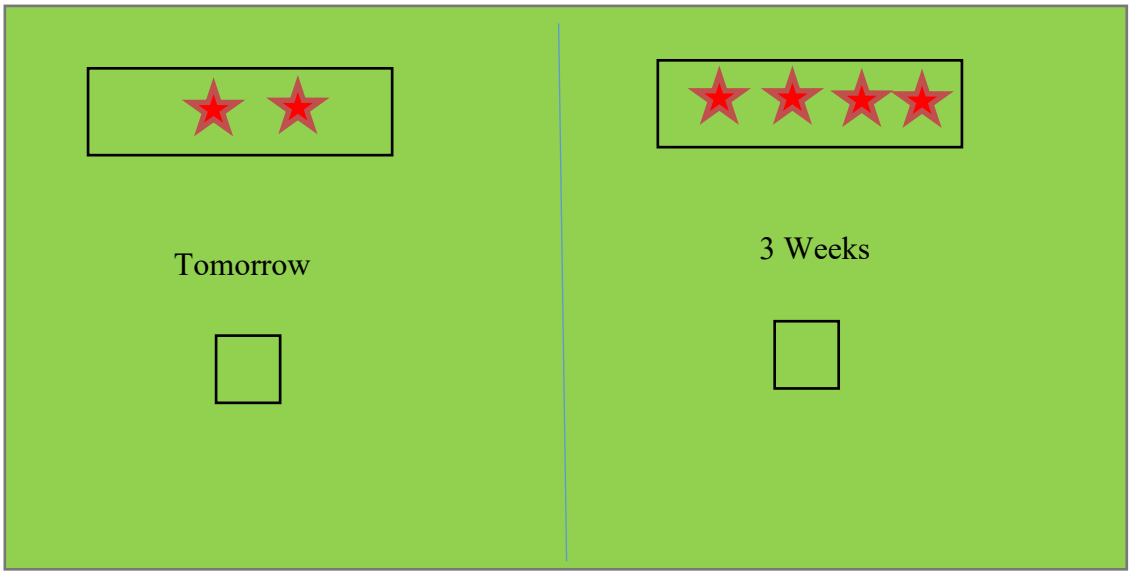
1= first explanation, 2= second explanation, 3= third explanation, 4= did not understand

Please take your decision for each of the six sheets now (*place the decision sheets side by side on the table; the child should fill out the decision sheets from left to right*). Start with this part (*point at the first decision sheet (depending on the order of explanation))* and continue with this part *(point at the second decision sheet*) and finally make your decision in this part (point at the final decision sheet). Take as much time as you need. In the meantime I will turn around so that I do not disturb you. Just call me when you are done.

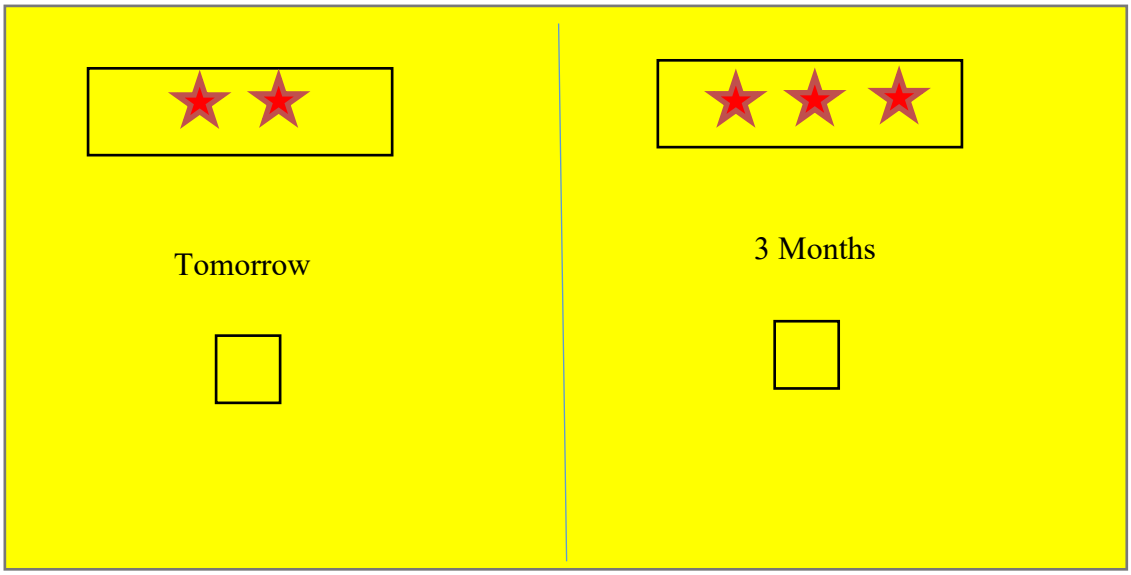
Decision sheet-1



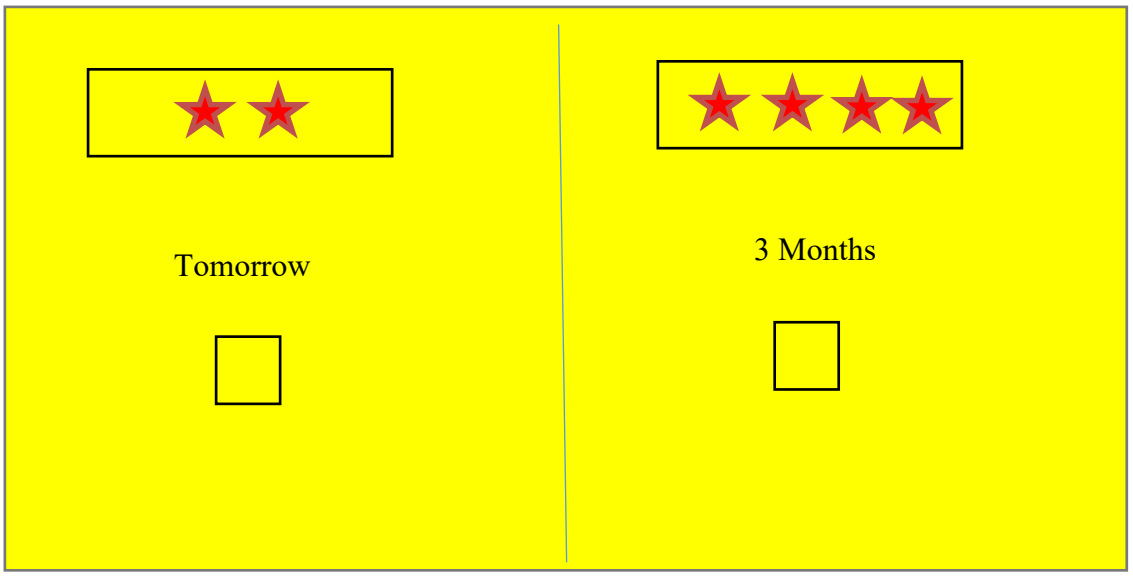
Decision sheet-2



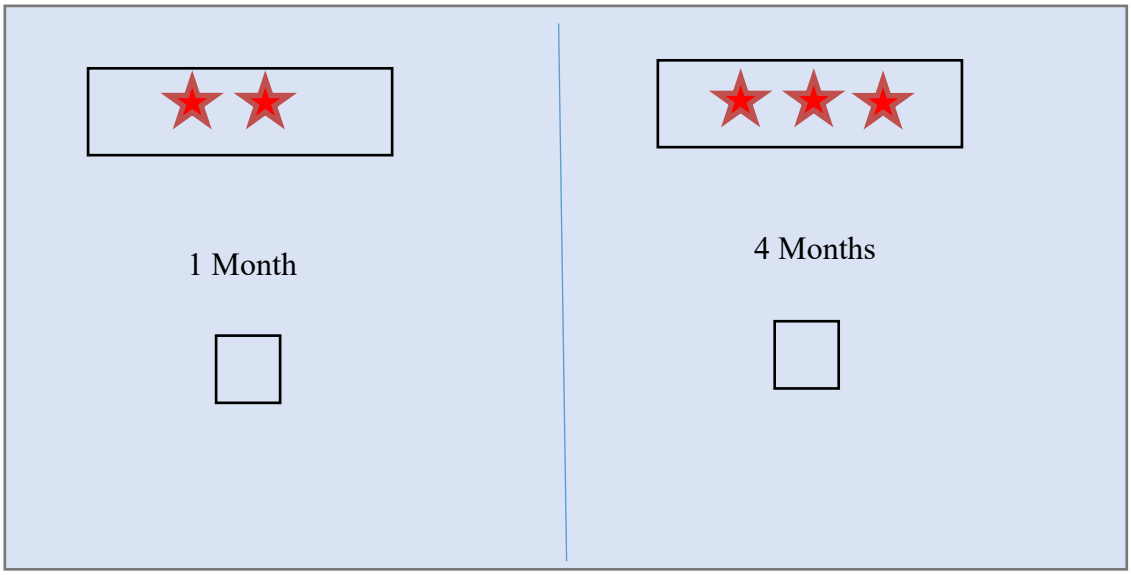
Decision sheet-3



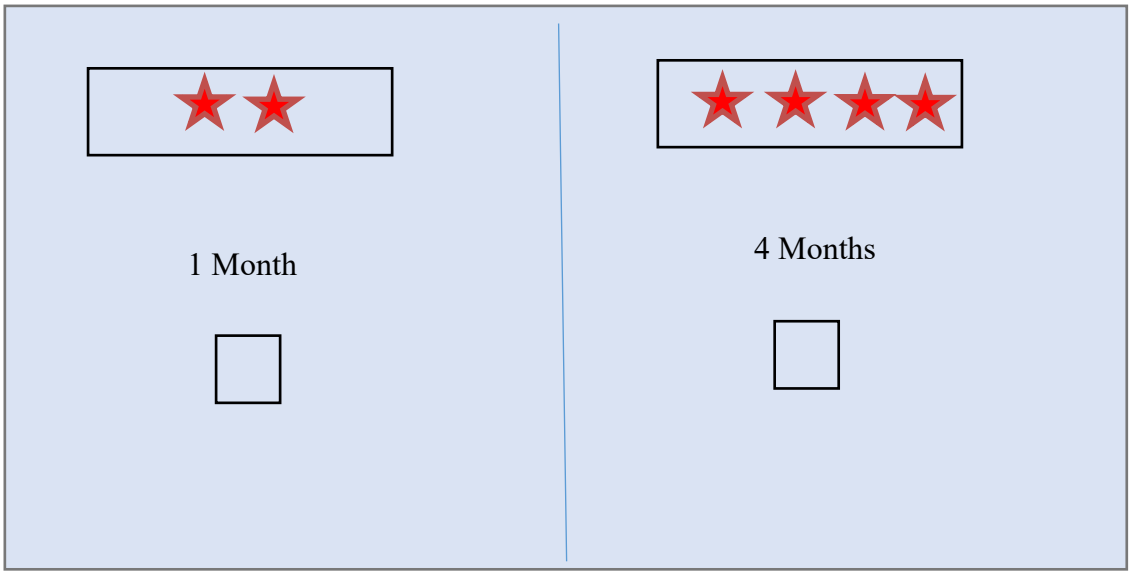
Decision sheet-4



Decision sheet-5



Decision sheet-6



6. Decision taken in green sheet 1: 1=tomorrow, 2= three weeks

7. Decision taken in green sheet 2: 1=tomorrow, 2= three weeks

8. Decision taken in yellow sheet 1: 1=tomorrow, 2= three moths

9. Decision taken in yellow sheet 2: 1=tomorrow, 2= three months

10. Decision taken in blue sheet 1: 1=1 month, 2= four months

11. Decision taken in blue sheet 2: 1=1 month, 2= four months

12. Is this game paid? ___1=yes, 2=no

13. If yes: Which decision sheet was paid? ___

Green sheet 1

Green sheet 2

Yellow sheet 1

Yellow sheet 2

Blue sheet 1

Blue sheet 2

Experimental Instructions "Risk attitudes"

Let us start with this game. Before we start, I will explain the rules of our game. Similar to other games, you can earn money in this game as well. How much money you will earn depends mainly on your decisions. As I mentioned at the beginning, it is important to note that at the end only one of the games will be paid. You will draw one number out of three numbers to determine which game will be paid. That's why it is important that you understand the rules of our game, and play each of them carefully. Please listen carefully now. I will frequently stop during my explanation and allow you to ask questions. Therefore, please interrupt me anytime in case you have a question.

Are you ok so far? *Leave time for questions and answer them privately.*

In this game, you need to select the gamble you would like to play from among six different gambles, which are listed below. You must select one and only one of these gambles.

If this game is selected for payment, you will have a 1-in-6 chance of receiving the money. The selection will be made by rolling a six sided dice twice – first, you will roll the dice to decide the gamble, and the second to decide the outcome of the particular gamble. For example, if you selected gamble # 4, then if the first roll of the dice is 4, you would receive one of the payoffs of gamble 4, which will be determined in the second roll. If the first roll of the dice is not 4 and you have chosen gamble # 4, you would not receive any payments. Depending on the outcome of the first roll, the second roll would determine the outcome of the selected gamble. Each gamble has two possible outcomes – low and high. If 1, 2 or 3 is rolled, the outcome of the selected gamble is the low one, and if 4, 5 or 6 is rolled, the outcome of the gamble is the high one, and you would receive money accordingly.

Notice that the low outcome is decreasing and the high outcome is increasing for each successive gamble. For example, in the first gamble, both outcomes are identical. If you select it and then this number is rolled in the first roll, your payoff would be 25 Taka. If on the other hand, you had selected gamble # 2, and if it is rolled on the first roll, your payoff could be 22 Taka or 48 Taka. In the second roll, if 1, 2 or 3 is rolled, you would receive 22 Taka, whereas if 4, 5 or 6 is rolled, you would receive 48 Taka.

Note that this is the text for children aged 10/11 years. For the younger or older children the options had different values, as indicated in Panel B of Table 2 in the main text.

1. Ask the child/respondent to repeat the game. Child understood the game after: |__|

1= first explanation, 2= second explanation, 3= third explanation, 4= did not understand

Before you select the actual gamble involving money, we will have a practice session with candies. There are two gambles from which you need to select one:

	Outcome	Payoff	Chances	Your Selection
Gamble 1	LOW	1	50%	
	HIGH	1	50%	
Gamble 2	LOW	0	50%	
	HIGH	2	50%	

Both gambles have two outcomes. The first gamble pays 1 candy in both states, while the second gamble pays no (0) candy in the low state and 2 candies in high state. Which gamble would you like to play? Once you make your selection, you will roll the dice to decide the gamble, and again to decide the

outcome. First, you will roll the dice to decide the gamble, and the second to decide the outcome of the particular gamble. For example, if you selected gamble #2, then if the first roll of the dice is 2, you would receive one of the payoffs of gamble #2, which will be determined in the second draw. In the second draw, if 1, 2 or 3 is rolled, the outcome of the selected gamble is the low one, which is 0 here. That means, you will not receive any candy. However, if 4, 5 or 6 is rolled, the outcome of the gamble is the high one, and you will receive two candies. Let us start this now.

2. Gamble number picked involving candies:

3. Outcome in the first draw for candies:

4. Outcome in the second draw for candies (if applicable):

Now let's move the gambles among which you should pick one.
Mark the gamble selection with an X in the last box across from your preferred gamble (mark only one):

	Outcome	Payoff	Chances	Your Selection
Gamble 1	LOW	25	50%	
	HIGH	25	50%	
Gamble 2	LOW	23	50%	
	HIGH	48	50%	
Gamble 3	LOW	20	50%	
	HIGH	60	50%	
Gamble 4	LOW	15	50%	
	HIGH	75	50%	
Gamble 5	LOW	5	50%	
	HIGH	95	50%	
Gamble 6	LOW	0	50%	
	HIGH	100	50%	

Note that the values in this table only applied to children aged 10/11 years. For the younger or older children the options had different values, as indicated in Panel B of Table 2 in the main text. The corresponding numbers were used in the instructions for the other children.

5. Gamble number picked:
6. Outcome in the first draw (if applicable):
7. Outcome in the second draw (if applicable):
8. Amount won in the lottery in Taka (if applicable):
9. Is this game paid for? 1=yes, 2=no.

Social preferences

In this game you can earn stars, which you can convert into money. Each star is equal to Taka … (*use the age appropriate exchange rate*). The more stars you will earn, the more money you will get. As I mentioned at the beginning, it is important to note that at the end only one of the games will be paid. You will draw one number of out three numbers to determine which game will be paid. That's why it is important that you understand the rules of all our games, and play each of them carefully because each of them could be the one that is paid. Please listen carefully now. I will frequently stop during my explanation and allow you to ask questions. Therefore, please interrupt me anytime in case you have a question.

Are you ok so far? Leave time for questions and answer them privately.

In this game you have to decide how to divide stars between yourself and another child similar to you but from a different village. You will never know who exactly the other child is and the other child will not get to know you. However, I will ensure that the other child does indeed receive the money that corresponds to the stars that you will give to him/her.

You will get four different decision sheets. You will need to decide how to divide stars between yourself and another child similar to you.

Are you ok so far? Leave time for questions and answer them privately.

There are two possible ways to allocate the stars: the option on the left-hand side and the option on the right-hand side.

Please look at the decision sheet. With option "left" you get one star and the child from another village gets one star. One star equals … Taka *(..., depending on the age group*). With option "right" you get two stars and the child from another village gets 0 stars.

Are you ok so far? Leave time for questions and answer them privately.

Depending on which option you want to choose, you should check the box at the left- or the right-hand side. You can choose either option "left" or option "right". If you would like to divide the stars according to option "right", which box would you have to check? Right, the box at the "right" side. How much would you earn and how much would the child from the other village with whom you are randomly matched earn in this case? Right, you would get …Taka (…, depending on the age group) and the other child similar to you would get nothing.

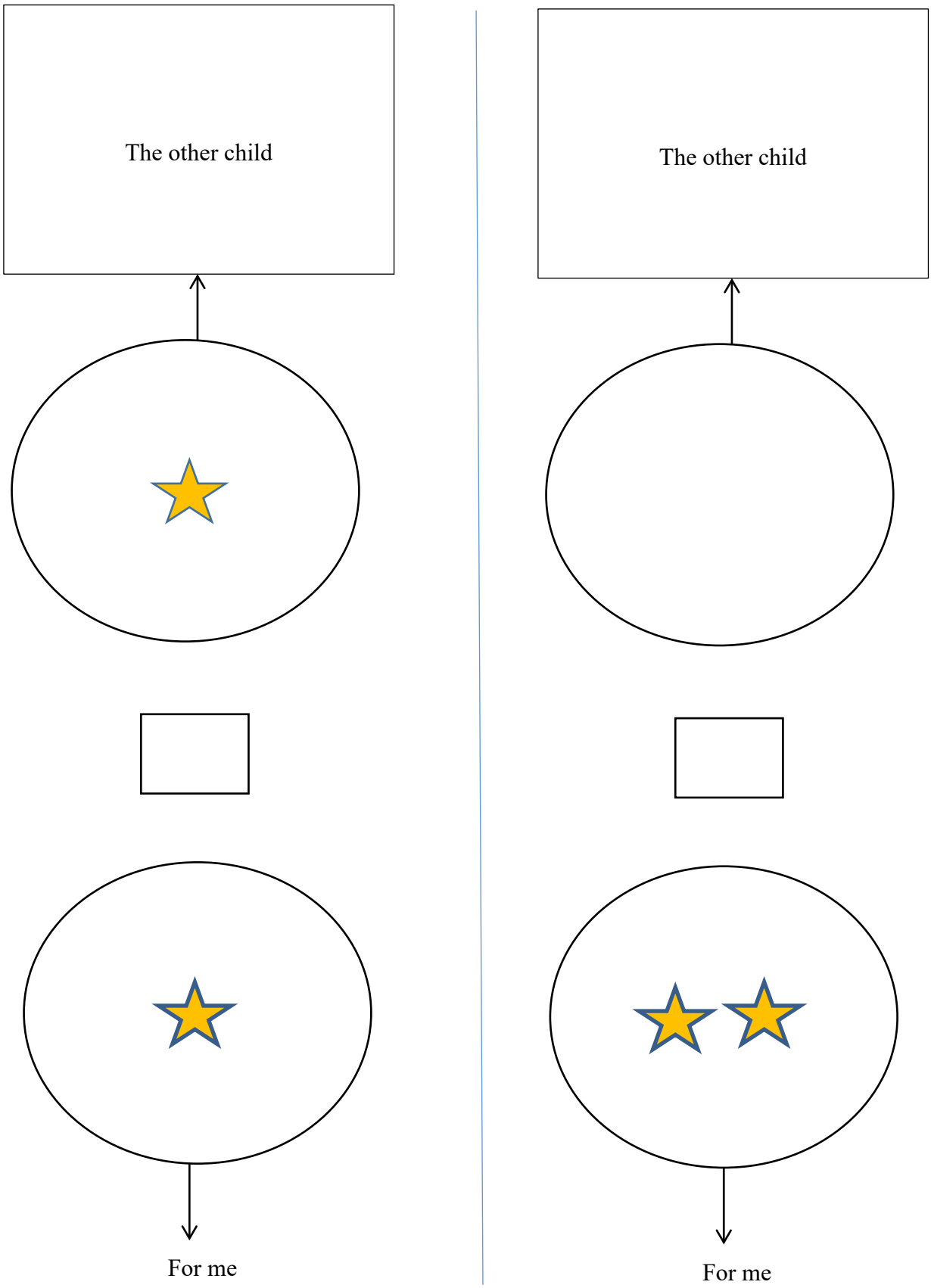
1. Child understood the game after: |__|

1= first explanation, 2= second explanation, 3= third explanation, 4= did not understand

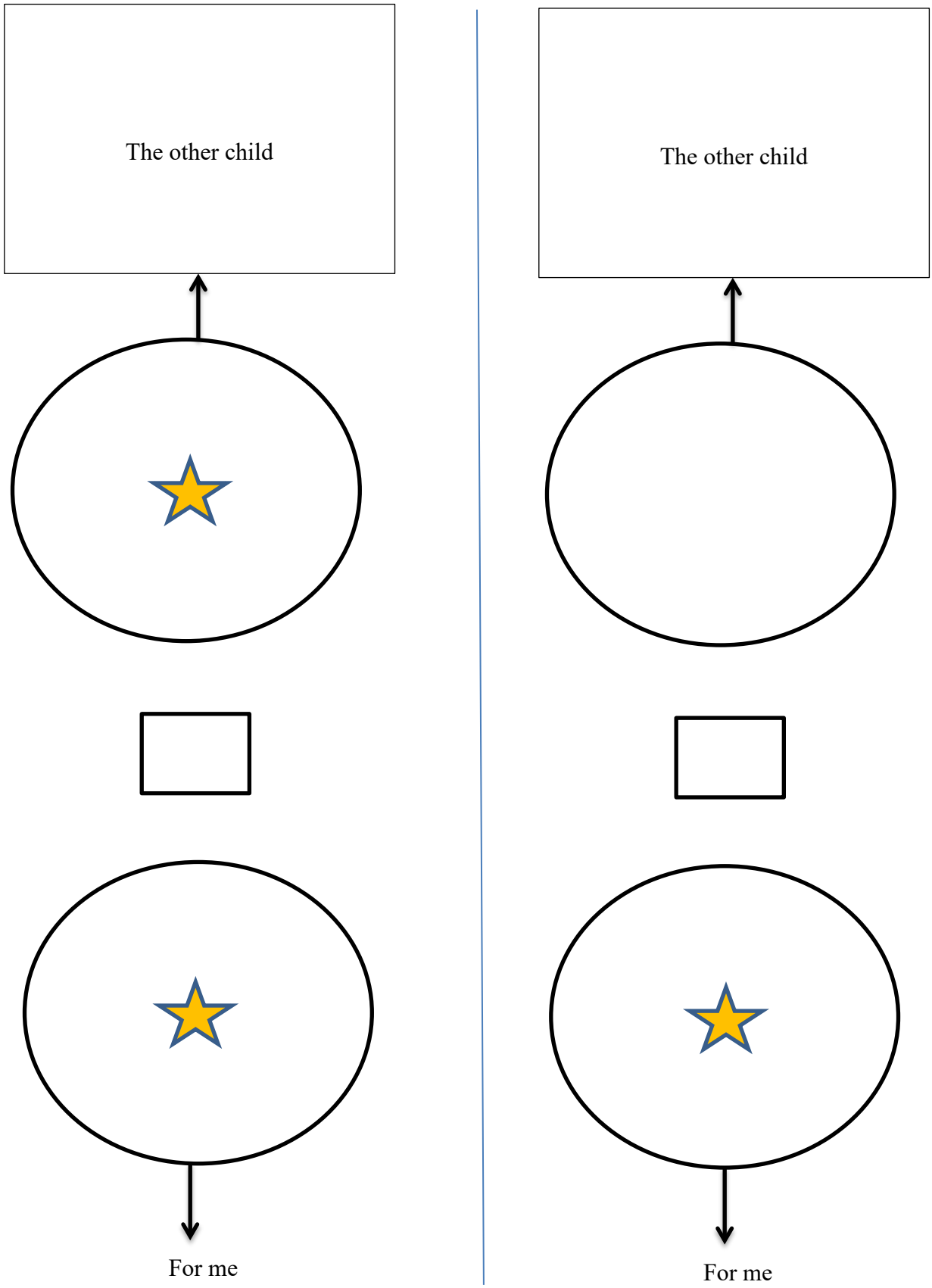
Are you ok so far? Leave time for questions and answer them privately.

As I mentioned earlier, you will get four decision sheets. The decision sheets differ from each other in the amounts of stars that can be divided between you and the other child. Please choose one of the two options for each decision sheet. At the end of the game, you will blindly draw one decision sheet out of four (*show the process*). If this game is selected for payment, you and the other child will be paid according to the selected decision sheet.

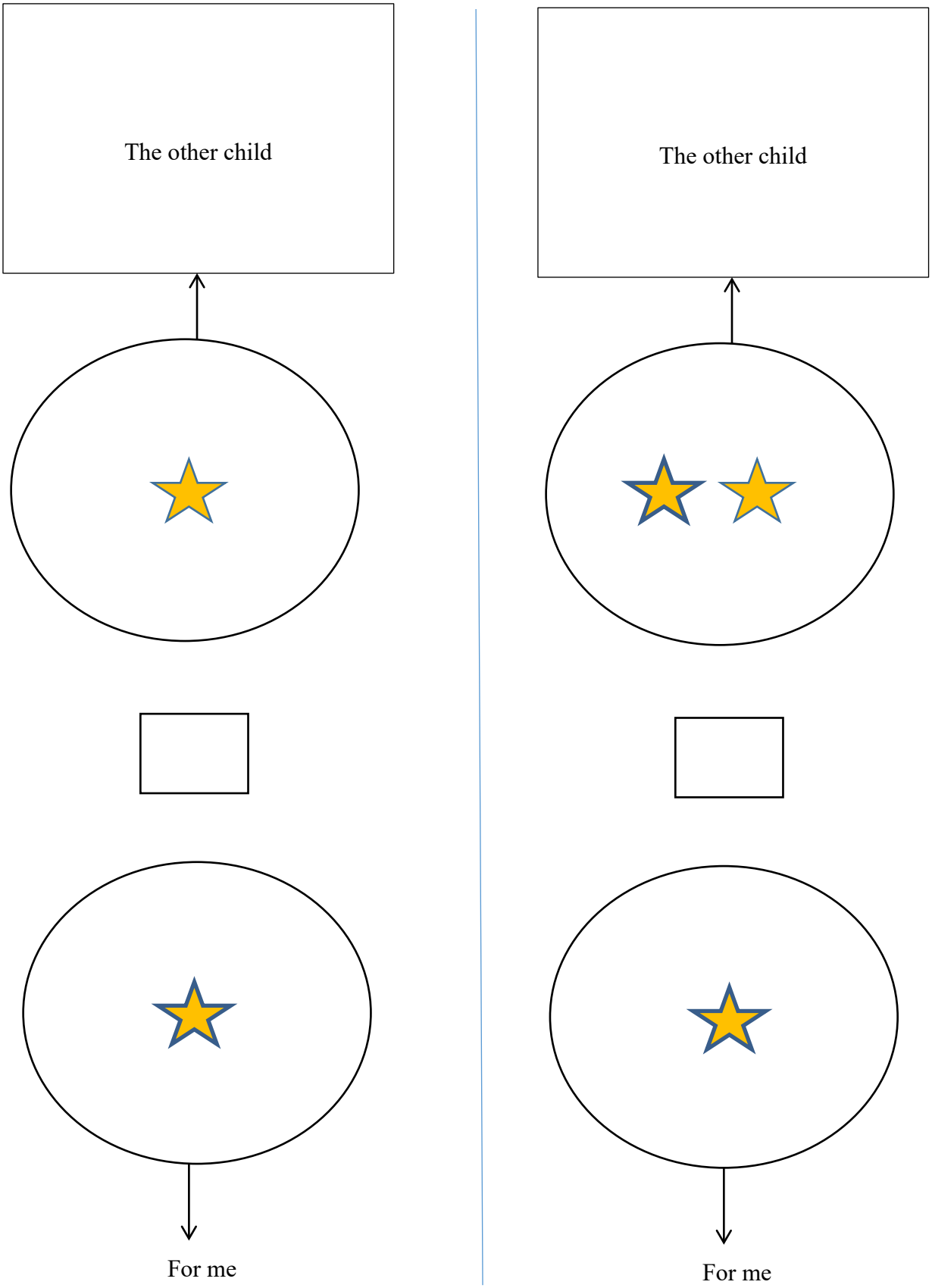
Decision sheet 1



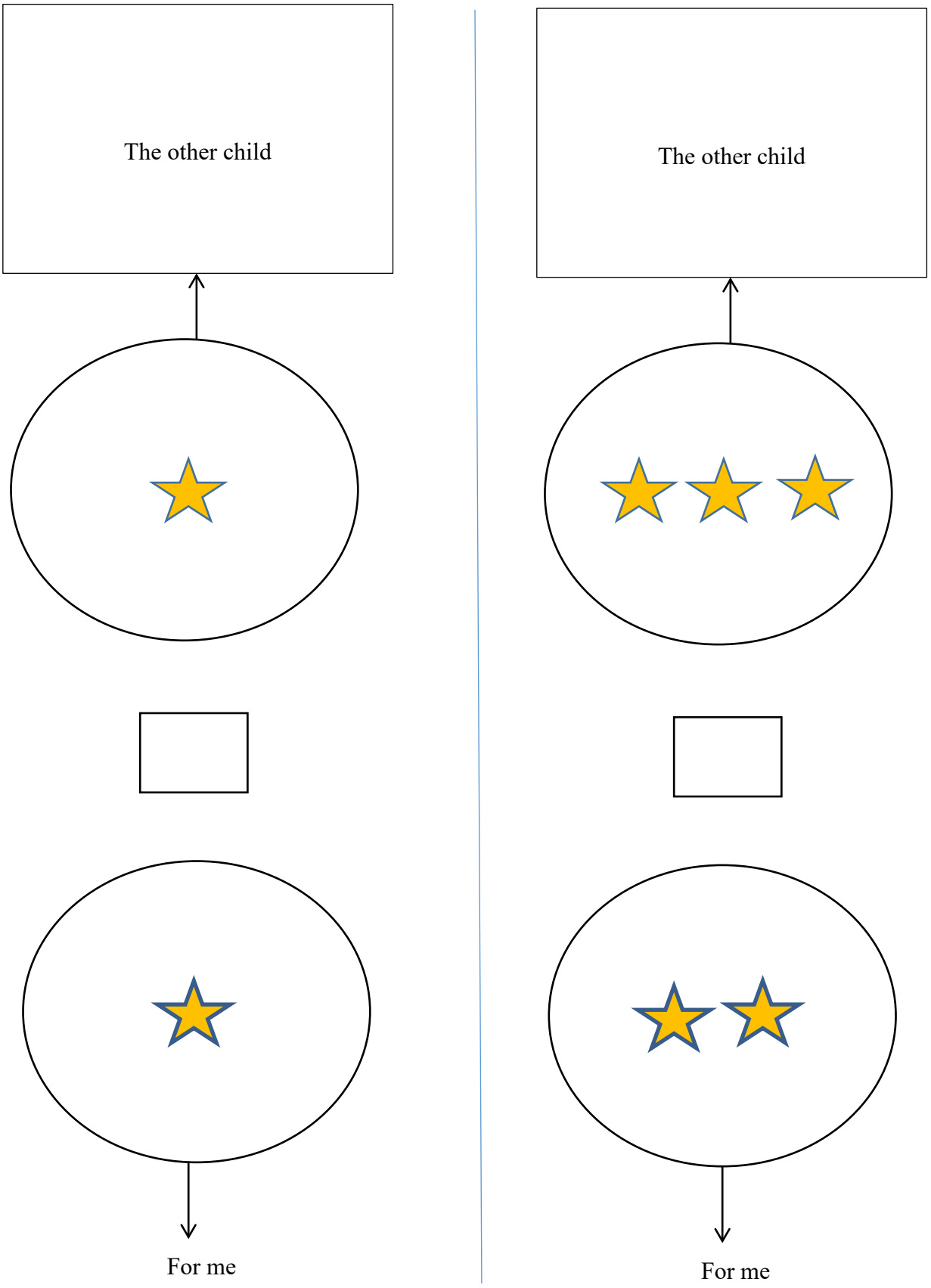
Decision sheet 2



Decision sheet 3



Decision sheet 4



2. Decision in first sheet: (1=left, 2=right)

3. Decision in second sheet: (1=left, 2=right)

4. Decision in third sheet: (1=left, 2=right)

5. Decision in fourth sheet: (1=left, 2=right)

6. Decision sheet that has been drawn (if applicable):

7. Is this game paid for? 1=yes, 2=no.

BIG-five for children

6-11 Years: Mothers about children

How would you rank your child in comparison to other children of the same age? My child...

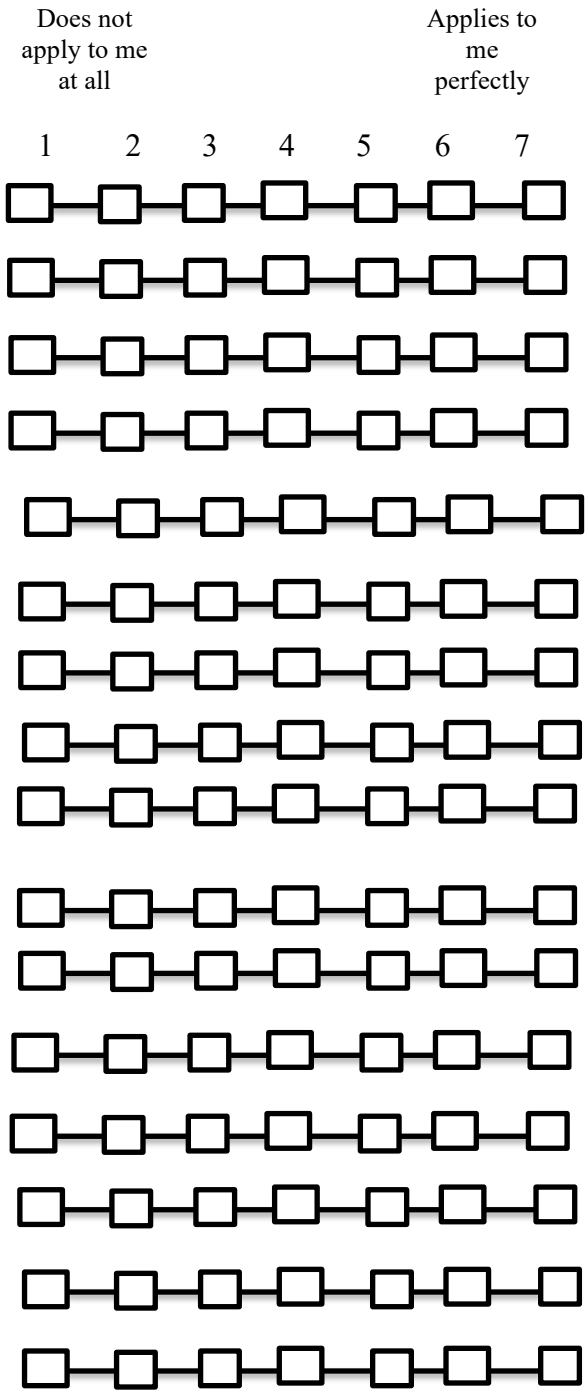
The further to the left you make the X, the more the characteristic on the left side applies.

The further to the right you make the X, the more the characteristic on the right side applies.

...is rather talkative	1	2	3	4	5	6	7	8	9	10	11	...is rather quiet
...is messy	1	2	3	4	5	6	7	8	9	10	11	...is neat
...is good-natured	1	2	3	4	5	6	7	8	9	10	11	…is irritable
…is disinterested	1	2	3	4	5	6	7	8	9	10	11	…is curious to learn
…is self-confident	1	2	3	4	5	6	7	8	9	10	11	…is insecure
…is withdrawn	1	2	3	4	5	6	7	8	9	10	11	…is outgoing
…is focused	1	2	3	4	5	6	7	8	9	10	11	…is easily distracted
…is disobedient	1	2	3	4	5	6	7	8	9	10	11	…is obedient
...is quick at learning new things	1	2	3	4	5	6	7	8	9	10	11	…needs more time
…is timid	1	2	3	4	5	6	7	8	9	10	11	…is fearless

Children aged 12 to 16

I see myself as someone who...



- Does a thorough job
- Is communicative, talkative
- Is sometimes somewhat rude to others
- Is original, comes up with new ideas
- Worries a lot
- Has a forgiving nature, that means I accept apologies quickly
- Tends to be lazy
- Is outgoing, sociable
- Values artistic, aesthetic experiences, that means I enjoy painting or playing music, I love going to theater or to visit a museum
- Gets nervous easily
- Does things effectively and efficiently
- Is reserved
- Is considerate and kind to others
- Has an active imagination, that means I am well at imagining things and I enjoy (day)dreaming
- Is relaxed, handles stress well
- Is eager for knowledge

Locus of control (from Kosse et al., 2020)

Oral introduction by interviewer: "I will now read a few statements and will ask you afterwards whether these statements apply to you. For example, one statement is "I like rice". Some children think that this statement [point at scale]

- is not at all right
- is rather not right
- is sometimes right
- is rather right
- is absolutely right

Importantly, there are no right or wrong answers. Back to our example, "I like rice". How about you: Do you think that this statement…"

- is not at all right
- is rather not right
- is sometimes right
- is rather right
- is absolutely right

Graphical scale as below will be printed on extra sheet that interviewers will carry with them (interviewers will point at the scale when introducing the possible answers):

For the following statements, please indicate what applies to them …

				
is not at all right	is rather not right	is sometimes right	is rather right	is absolutely right
1	2	3	4	5

"I will now read several statements. Please tell me after each statement whether you think that the statement applies to you. If you do not understand the question, I am happy to repeat it for you."

The five items (using the five points, visualized Likert scale from above):

1. By working very hard, one can succeed at each area in life, for example at school or in the job.
   is not at all right

   is rather not right

   is sometimes right

   is rather right

   is absolutely right

2. I get into trouble even if I am not responsible.
   is not at all right

   is rather not right

is sometimes right

is rather right

is absolutely right

3. The best way to deal with most problems is not to think about them at all.
   is not at all right

   is rather not right

   is sometimes right

   is rather right

   is absolutely right

4. Parents listen to what their children would like to tell them.
   is not at all right

   is rather not right

   is sometimes right

   is rather right

   is absolutely right

5. I often think that working hard will not pay off anyhow because the other children are smarter than me.
   is not at all right

   is rather not right

   is sometimes right

   is rather right

   is absolutely right

Notes regarding measurement: *The items were added to construct an external index (that measures the belief that life is controlled by outside factors beyond own control; see items 2 to 5) and an internal index (measuring the belief that one is in control of one's own life; see item 1). The locus of control index is then the simple subtraction of the internal index from the external index. For mothers and fathers we used 28 items, 14 for the internal and 14 for the external index (Rotter, 1966). Here the raw index derived from five items for children can differ from the index derived from 28 items for parents. However, in our main empirical analysis, we use the standardized values (mean zero and standard deviation one) of both indices, and hence they are directly comparable.*

At the end of experiment, please add the following questions for all – children and adults

1. How many elder brothers do you have?
2. How many elder sisters do you have?
3. How many younger brothers do you have?
4. How many younger sisters do you have?
5. Do you smoke? (yes=1, no=2)
6. Do you eat pan/supari? (yes=1, no=2)
7. Do you play lottery? (yes=1, no=2)

C.2. Parents

Risk, Time and Social Preferences for adults, March – May, 2016
(Both parents for selected households will take part in these experiments)

General setting:

- **Age**: Parents will participate in a sequence of 3 experiments: a) time preferences, b) risk attitudes, and c) other regarding preferences.
- **Order**: The order of the experiments will be randomly determined by the administrators, which is explained at the beginning of the experiments.
- **Incentive**: Each adult will receive a token (a star) as a show-up fee, which s/he will be able to convert into money at the end of the experiments. In addition, they would be able to earn money during the experiment as all the experiments are incentivized. However, only one of the experiments will be paid out through a lottery that will be explained soon.
- **Venue**: The experiments will take place at home; a male administrator will deal with males and a female administrator will deal with females.
- **Instructions:** All the enumerators/instructors must memorize the instructions and explain the game to the adults. While they will not read the text word by word, however, they will stick closely to the wording of the experimental instructions. In addition, the explanation will involve control question to check for understanding.
- **Timing:** Members belonging to the same household will participate simultaneously in different parts of the home. It is an important task of the interviewer to ensure that the decisions of a household member truly reflect own decisions only and that other household members do not try to influence the decisions.
- **Control questions that check understanding**: Subjects‘ understanding of rules of various experiments will be documented.

General instructions: My name is…. Today I have prepared three games for you. In these games, you can earn money. Before we start, I will explain the rules of our games. How much money you will earn depends mainly on your decisions. At the end, only one of the games will be paid. Which game will be paid will be determined randomly. You will draw one number out of three numbers that will represent three games. Only after drawing a number, you will see which one you have drawn. The drawn number will determine whether the first, second, or third game will be paid for. It is important that you understand the rules of all games and play each of them carefully because each of them could be the one that is paid. Please listen carefully now. I will frequently stop during my explanation and allow you to ask questions. Therefore, please interrupt me anytime in case you have a question.

Are you okay so far? Leave time for questions and answer them privately.

1. Determine the sequence by rolling a dice, and write the sequence at which experiments are being conducted: ☐

[1=risk, time, social,

2=risk, social, time,

3= time, risk, social,

4=time, social, risk,

5= social, time, risk,

6= social, risk, time]

Time Preferences Experiment

Let us start with this game. Before we start, let me explain the rules of our game. In this game you can earn money. As I mentioned at the beginning, it is important to note that at the end only one of the games will be paid and you will draw a number to determine it. That's why it is important that you understand the rules of our game Please interrupt me anytime in case you have a question.

Are you okay so far? Leave time for questions and answer them privately.

1. Determine the order of explanation by rolling a dice and write it down: ☐

[1=choice set 1, choice set 2, choice set 3
2= choice set 1, choice set 3, choice set 1
3= choice set 2, choice set 3, choice set 1
4= choice set 2, choice set 1, choice set 3
5= choice set 3, choice set 1, choice set 2
6 = choice set 3, choice set 2, choice set 2]

The game works as follows:

The game consists of 3 choice sets. There are six choices in each choice set. You need to make a choice between two payment options: Option A or Option B. In each choice set, there are six such decisions that you need to make. Each decision is a paired choice between Option A and Option B. You will be asked to make a choice between these two payment options in each decision row. For example, (*assuming the first choice set is being randomly picked first*) in the first row, you need to make a choice between payment option A and payment option B where payment option A pays you Taka 100 tomorrow and option B pays you Taka 105 after three months from today. In the second choice, option A pays you Taka 100 tomorrow, and option B pays you Taka 110 in three months. In the third choice, option A pays you Taka 100 tomorrow, and option B pays you Taka 120 in three months. Notice that option A remains unchanged while the amounts in option B are increasing.

If you go for Taka 100 tomorrow, you will need to tick option A. If selected, one of us will come to your home and deliver the money in an envelope with your name marked on it. If you wait, you will get Taka 105 after three months. Again, one of us will come to your home and to deliver the money in an envelope with your name marked on it.

Could you please repeat the rules of the game? (*If the respondent is unable to repeat, please explain the game again; the respondent has to be able to repeat the correct meaning of the game autonomously*).

2. Respondent understood the game after: |__|

1= first explanation, 2= second explanation, 3= third explanation, 4= did not understand

The second choice set is very similar to the first choice set. However, Option A now pays in one month, and Option B pays in four months. If you go for Taka 100 in one month, you will need to tick option A. If selected, one of us will come to your home and deliver the money in an envelope with your name marked on it. If you wait four months, you will get Taka 105 after four months. Again, one of us will come to your home and deliver the money in an envelope with your name marked on it.

Could you please repeat the rules of the game? (*If the respondent is unable to repeat, please explain the game again; the respondent has to be able to repeat the correct meaning of the game autonomously*).

3. Respondent understood the game after: |__|

1= first explanation, 2= second explanation, 3= third explanation, 4= did not understand

The third choice set is very similar to the second and first choice set. However, Option A now pays in one year, and Option B pays in one year and three months. If you go for Taka 100 in one year, you will need to tick option A. If selected, one of us will come to your home and deliver the money in an envelope with your name marked on it. If you wait one year plus three months, you will get Taka 105 after one year plus three months. Again, one of us will come to your home and deliver the money in an envelope with your name marked on it.

As I mentioned at the beginning, it is important to note that at the end only one of the games will be paid and you will draw a number to determine it. If this game is paid, only one of the three choice sets counts. The selection will be made by rolling a six sided dice twice – first to decide the set, and the second to decide the choice. After your decisions, you will roll a dice (*please demonstrate)*. In the first draw, if 1, 2 or 3 is rolled, you will receive the money from the particular choice set, if 4, 5 or 6 is rolled, you will not receive any money. Depending on the outcome of the first draw, the second draw would determine the particular choice that you would be paid for. For example, if 3 is rolled in the second draw, you will receive the money from your decision concerning the third payoff alternative (third row) of the relevant choice set.

Could you please repeat the last part? Will you receive the money for all three choice sets or all six choices? Do you need to make a decision for each of them? (*If the respondent answers incorrectly the experimenter has to repeat the explanation of this part*)

4. Respondent understood the game after: |__|

1= first explanation, 2= second explanation, 3= third explanation, 4= did not understand

Please take your decision for each of the choice sets now (*place the decision sheets side by side on the table*). Start with this part (*point at the first decision sheet (depending on the order of explanation))* and continue with this part *(point at the second decision sheet*) and finally make your decision in this part (point at the final decision sheet). Take as much time as you need. In the meantime I will turn around so that I do not disturb you. Just call me when you are done.

Choice set 1

Payoff alternative	Payment Option A (pays amount below tomorrow)	Payment Option B (pays amount below after 3 months)	Annual interest rate in %	Preferred Payment Option (A or B)
1	100	105	20%	
2	100	110	40%	
3	100	120	80%	
4	100	125	100%	
5	100	150	200%	
6	100	200	400%	

Choice set 2

Payoff alternative	Payment Option A (pays amount below after 1 month)	Payment Option B (pays amount below after 4 months)	Annual interest rate in %	Preferred Payment Option (A or B)
1	100	105	20%	
2	100	110	40%	
3	100	120	80%	
4	100	125	100%	
5	100	150	200%	
6	100	200	400%	

Choice set 3

Payoff alternative	Payment Option A (pays amount below after 1 year)	Payment Option B (pays amount below after 1 year 3 months)	Annual interest rate in %	Preferred Payment Option (A or B)
1	100	105	20%	
2	100	110	40%	
3	100	120	80%	
4	100	125	100%	
5	100	150	200%	
6	100	200	400%	

5. Results of first draw (if applicable):
6. Results of second draw (if applicable):
7. Is this game paid for? …….1=yes, 2=no.

Risk Preferences

Let us start with this game. Before we start, I will explain the rules of our game. Similar to other games, you can earn money in this game as well. How much money you will earn depends mainly on your decisions. As I mentioned at the beginning, it is important to note that at the end only one of the games will be paid. You will draw a number out of three to determine which game will be paid. That's why it is important that you understand the rules of our game, and play each of them carefully. Please listen carefully now. I will frequently stop during my explanation and allow you to ask questions. Therefore, please interrupt me anytime in case you have a question.

Are you ok so far? Leave time for questions and answer them privately.

In this game, you need to select one gamble you would like to play from among six different gambles, which are listed below. You must select one and only one of these gambles.
If this game is selected for payment, you will have a 1-in-6 chance of receiving the money. The selection will be made by rolling a six sided dice twice – first, you will roll the dice to decide the gamble, and the second to decide the outcome of the particular gamble. For example, if you selected gamble # 4, then if the first roll of the dice is 4, you would receive one of the payoffs of gamble 4, which will be determined in the second roll. If the first roll of the dice is not 4 and you have chosen gamble # 4, you would not receive any payments. Depending on the outcome of the first roll, the second roll would determine the outcome of the selected gamble. Each gamble has two possible outcomes – low and high. If 1, 2 or 3 is rolled, the outcome of the selected gamble is the low one, and if 4, 5 or 6 is rolled, the outcome of the gamble is the high one, and you would receive money accordingly.
Notice that the low outcome is decreasing and the high outcome is increasing for each successive gamble. For example, in the first gamble, both outcomes are identical. If you select it and then this number is rolled in the first roll, your payoff would be 125 Taka for sure. If on the other hand, you had selected gamble # 2, and if it is rolled on the first roll, your payoff could be 110 Taka or 240 Taka. In the second roll, if 1, 2 or 3 is rolled, you would receive 110 Taka, whereas if 4, 5 or 6 is rolled, you would receive 240 Taka.

1. Ask the respondent to repeat the game. Respondent understood the game after: |__|

1= first explanation, 2= second explanation, 3= third explanation, 4= did not understand

Before you select the actual gamble involving money, we will have a practice session with candies. There are two gambles from which you need to select one:

	Outcome	Payoff	Chances	Your Selection
Gamble 1	LOW	1	50%	
	HIGH	1	50%	
Gamble 2	LOW	0	50%	
	HIGH	2	50%	

Both gambles have two outcomes. The first gamble pays 1 candy in both states, while the second gamble pays no (0) candy in the low state and 2 candies in high state. Which gamble would you like to play? Once you make your selection, you will roll the dice to decide the gamble, and again to decide the outcome. First, you will roll the dice to decide the gamble, and the second to decide the outcome of the particular gamble. For example, if you selected gamble #2, then if the first roll of the dice is 2, you would receive one of the payoffs of gamble #2, which will be determined in the second draw. In the second draw, if 1, 2 or 3 is rolled, the outcome of the selected gamble is the low one, which is 0 here. That means, you will not receive any candy. However, if 4, 5 or 6 is rolled, the outcome of the gamble is the high one, and you will receive two candies. Let us start this now.

2. Gamble number picked involving candies:
3. Outcome in the first draw for candies:
4. Outcome in the second draw for candies (if applicable):

Mark the gamble selection with an X in the last box across from your preferred gamble (mark only one):

	Outcome	Payoff	Chances	Your Selection
Gamble 1	LOW	125	50%	
	HIGH	125	50%	
Gamble 2	LOW	110	50%	
	HIGH	240	50%	
Gamble 3	LOW	100	50%	
	HIGH	300	50%	
Gamble 4	LOW	75	50%	
	HIGH	375	50%	
Gamble 5	LOW	25	50%	
	HIGH	475	50%	
Gamble 6	LOW	0	50%	
	HIGH	500	50%	

5. Gamble number picked:
6. Outcome in the first draw (if applicable):
7. Outcome in the second draw (if applicable):
8. Amount won in the lottery in Taka (if applicable):
9. Is this game paid for? …….1=yes, 2=no.

Social preferences

In this game you can earn stars, which you can convert into money. Each star is equal to Taka 100. The more stars you will earn, the more money you will get. As I mentioned at the beginning, it is important to note that at the end only one of the games will be paid for where you will draw a number to determine it. That's why it is important that you understand the rules of all our games, and play each of them carefully because each of them could be the one that is paid. Please listen carefully now. I will frequently stop during my explanation and allow you to ask questions. Therefore, please interrupt me anytime in case you have a question.

Are you ok so far? Leave time for questions and answer them privately.

In this game you have to decide how to divide stars that between yourself and another person similar to you but from a different village. You will never know who exactly the other person is and the other person will not get to know you. However, I will ensure that the other person does indeed receive the money that corresponds to the stars that you will give to him/her.

You will get four different decision sheets. You will need to decide how to divide stars between yourself and this person similar to you.

Are you ok so far? Leave time for questions and answer them privately.

There are two possible ways to allocate the stars: the option on the left-hand side and the option on the right-hand side.

Please look at the decision sheet. With option "left" you get one star and the person from another village with whom you are randomly matched gets one star. One star equals 100 Taka. With option "right" you get two stars and the person from another village gets 0 stars.

Are you ok so far? Leave time for questions and answer them privately.

Depending on which option you want to choose, you should check the box at the left- or the right-hand side. You can choose either option "left" or option "right". If you would like to divide the stars according to option "right", which box would you have to check? Right, the box at the "right" side. How much would you earn and how much would the person from the other village with you are randomly matched earn in this case? Right, you would get 100 Taka and the other person similar to you would get nothing.

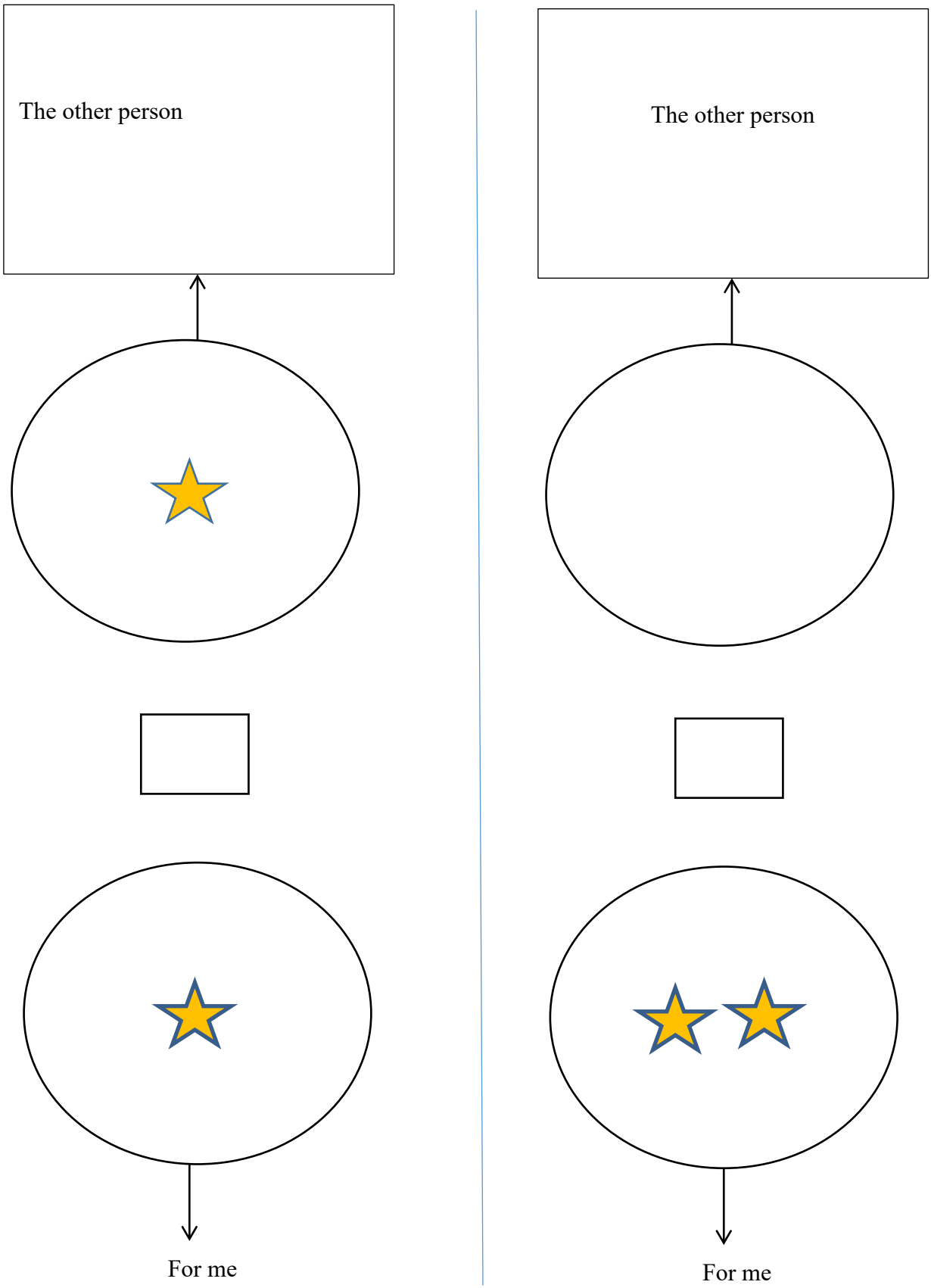
1. Respondent understood the game after: |__|

1= first explanation, 2= second explanation, 3= third explanation, 4= did not understand

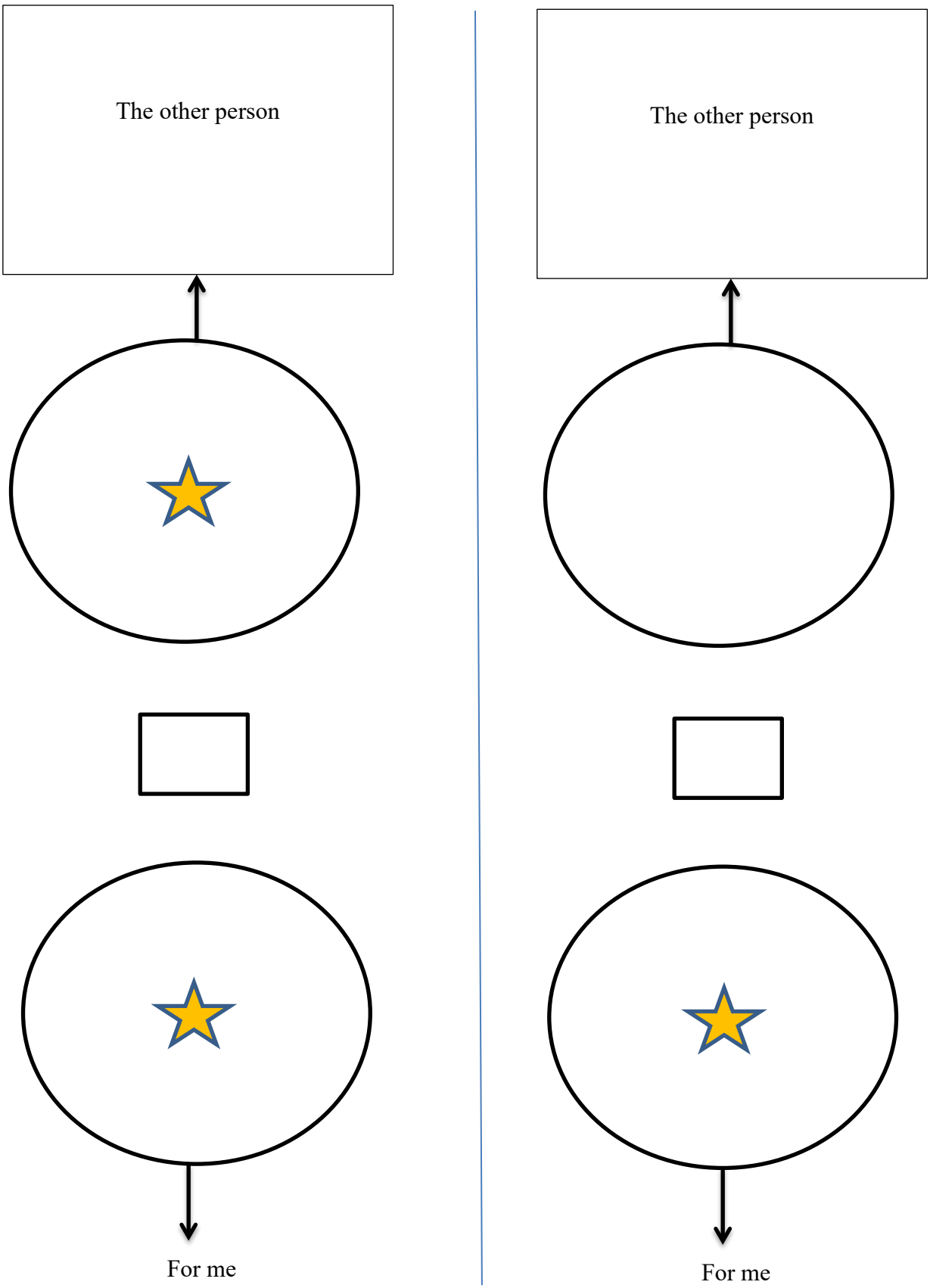
Are you ok so far? Leave time for questions and answer them privately.

As I mentioned earlier, you will get four decision sheets. The decision sheets differ from each other in the amounts of stars that can be divided between you and the other person. Please choose one of the two options for each decision sheet. At the end of the game, you will blindly draw one decision sheet out of four (*show the process).* If this game is selected for payment, you and the other person will be paid according to the selected decision sheet.

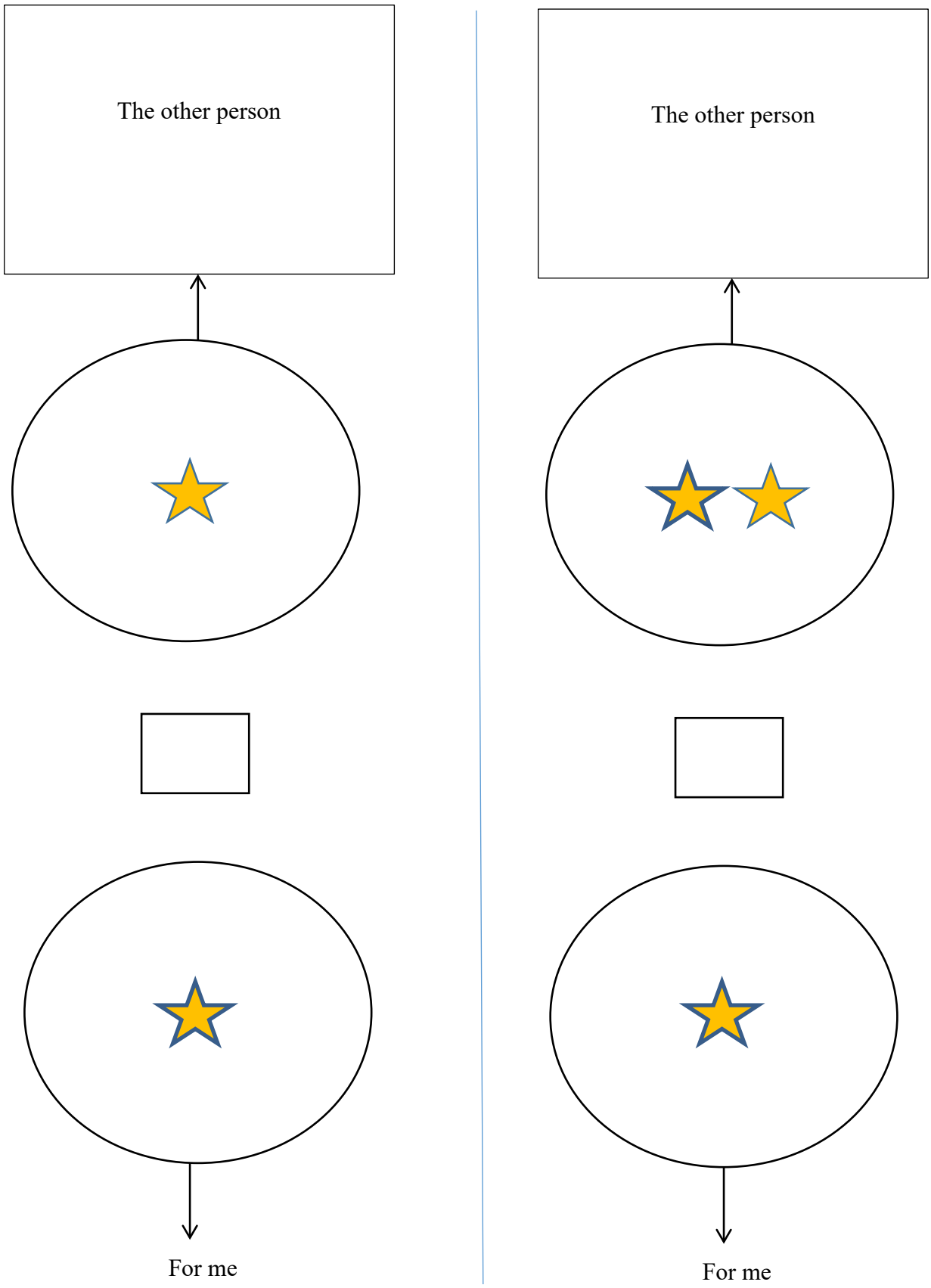
Decision sheet 1



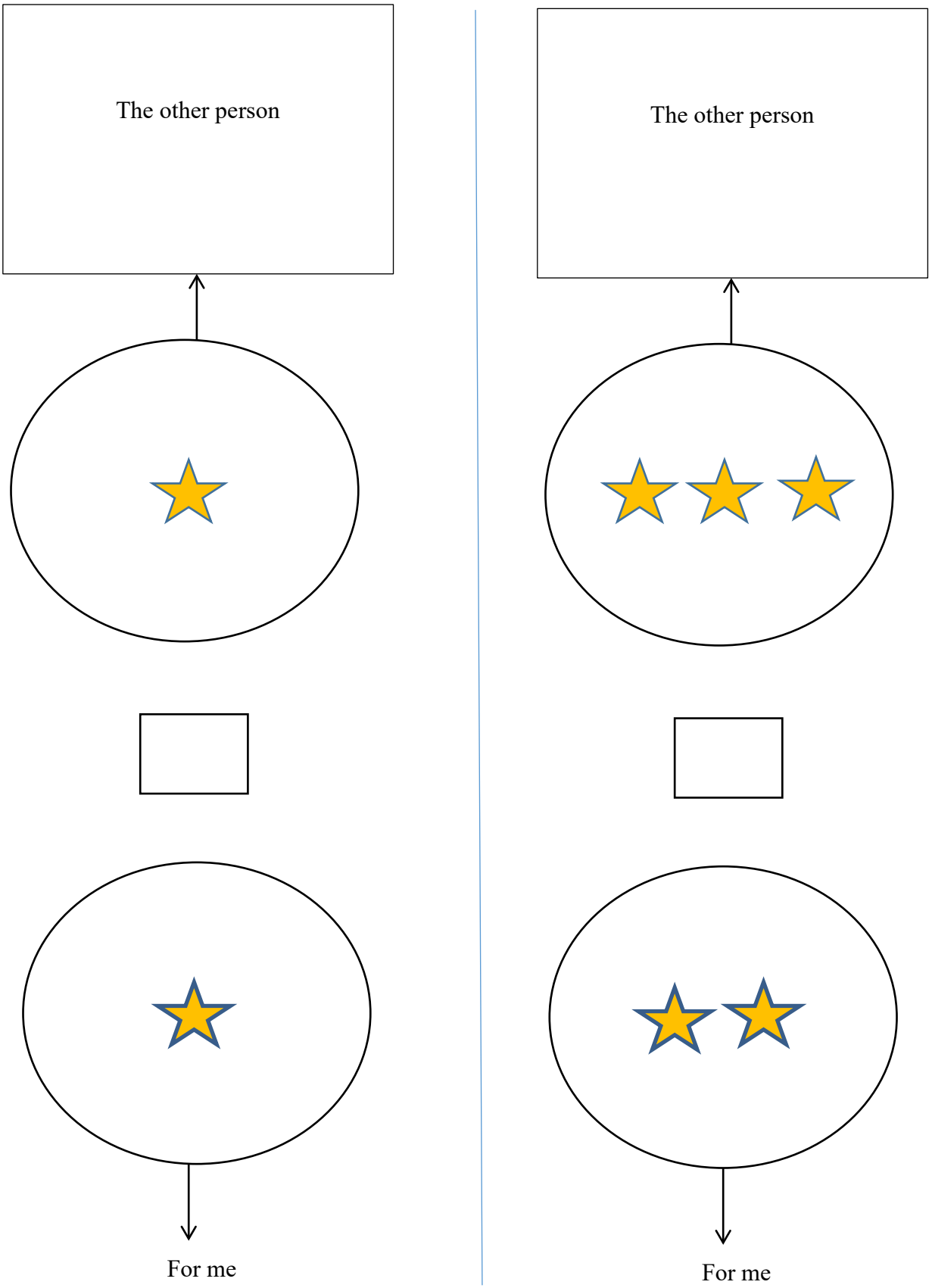
Decision sheet 2



Decision sheet 3



Decision sheet 4



2. Decision in first sheet: (1=left, 2=right)

3. Decision in second sheet: (1=left, 2=right)

4. Decision in third sheet: (1=left, 2=right)

5. Decision in fourth sheet: (1=left, 2=right)

6. Decision sheet that has been drawn (if applicable):
7. Is this game paid for? …….1=yes, 2=no.

Big-five for Adults (aged 17 and above)

-	Does not apply to me at all						Applies to me perfectly
- I see myself as someone who...	1	2	3	4	5	6	7
- Does a thorough job							
- Is communicative, talkative							
- Is sometimes somewhat rude to others							
- Is original, comes up with new ideas							
- Worries a lot							
- Has a forgiving nature							
- Tends to be lazy							
- Is outgoing, sociable							
- Values artistic, aesthetic experiences							
- Gets nervous easily							
- Does things effectively and efficiently							
- Is reserved							
- Is considerate and kind to others							
- Has an active imagination							
- Is relaxed, handles stress well							
- Is eager for knowledge							

Finally, we elicited Locus of Control for parents and administered a questionnaire on health issues.

At the end of experiment, please add the following questions for all – children and adults

1. How many elder brothers do you have?
2. How many elder sisters do you have?
3. How many younger brothers do you have?
4. How many younger sisters do you have?
5. Do you smoke? (yes=1, no=2)
6. Do you eat pan/supari? (yes=1, no=2)
7. Do you play lottery? (yes=1, no=2)

Parenting styles

In this survey module, each mother was asked to rate 18 items on a five-point scale ('never' to 'very frequently'). The items are related to raising their child(ren), and mothers answered only once, hence for each item, each household has only one value for all of their children. These items were then categorized into six scales indicating to which degree their parenting style is characterized by: emotional warmth, inconsistent parenting, monitoring, negative communication, psychological control and strict control. Each 'style' is then normalized to a mean of zero and standard deviation of one. A detailed description of the parenting style measures can be found in Thönnissen et al. (2019)

Emotional warmth
1. I use words and gestures to show my child that I love him/her.
2. I comfort my child when he/she feels sad.
3. I praise my child.

Inconsistent parenting
1. I threaten my child with punishment, but don't actually follow through with it.
2. I reduce punishments or lift them ahead of time.
3. It is hard for me to be consistent in my childrearing.[8]

Monitoring
1. I talk to my child about things he/she has done, seen, or experienced when he/she was out.
2. When my child is outside the home, I know exactly where he/she is.
3. I try to actively influence my child's circle of friends.

Negative communication
1. I criticize my child.
2. I shout at my child when he/she did something wrong.
3. I scold my child when I am angry at him/her.

Psychological control
1. I feel that my child is ungrateful because he/she disobeys.
2. I stop talking to my child for a while when he/she did something wrong.
3. I am disappointed and sad when my child misbehaves.

Strict control
1. I punish my child when he/she was disobedient.
2. I tend to be strict with my child.
3. I make it clear to my child that he/she should not oppose orders and decisions.

Thönnissen, C., Wilhelm, B., Alt, P., Greischel, H., and Walper, S. (2019).Manual of the German Family Panel: Scales and Instruments Manual (Waves 1 to 10), Release 10.0. Report, Panel Analysis of Intimate Relationships and Family Dynamics.

[8] Due to a translation issue, the dimension "inconsistent parenting" is reduced to item number 3: "It is hard for me to be consistent in my childrearing." Translation of the other two items into Bengali did not properly convey the true meaning.