

Tables and figures for the paper “Why Are Extraverted Young Men Less Likely to Receive Higher Education? Evidence from Hungary” by Zsombor Cseres-Gergely and Gábor Kézdi

Table 1. Representativeness of the BLSCD sample. Budapest residents in the BLSCD and Budapest residents of the Hungarian Labor Force Survey (HLFS), 2002.

	BLSCD	HLFS
Labor market status		
Not working non-student	0.17	0.21
Working non-student	0.28	0.34
Enrolled in higher education	0.54	0.45
All	1.00	1.00
Former education		
General secondary (or higher)	0.57	0.51
Specialized secondary	0.27	0.25
Vocational	0.07	0.08
Primary or less (0-8grades)	0.09	0.16
All	1.00	1.00
Gender		
Female	0.50	0.50
Male	0.50	0.50
All	1.00	1.00
Observations	294	334

Table 2. Summary statistics

	Female	Male	All
Not employed, non-student	0.12	0.16	0.14
Employed non-student	0.28	0.29	0.28
Enrolled in higher education	0.60	0.55	0.58
IQ	-0.01	0.16	0.07
Extraversion	-0.02	0.01	-0.01
IQ age 5	0.04	0.05	0.04
Agreeableness	0.07	-0.07	0.00
Conscientiousness	0.00	0.00	0.00
Neuroticism	-0.17	0.19	0.00
Openness	-0.07	0.08	0.00
GPA (grades 1 through 8, standardized)	0.11	-0.12	0.00
GPA (grades 9 through 12, standardized)	0.18	-0.19	0.00
Mother’s education (years, standardized)	0.04	-0.04	0.00
Behavior problems (assessed by parent, standardized)	-0.18	0.19	0.00
Behavior problems (assessed by teacher, standardized)	-0.07	0.07	0.00
Number of observations	162	150	312

Note: Estimation sample: educational attainment at least 11 grades (vocational school)

Table 3. Student status and labor market activity at age 22 (per cent).

	Female	Male	All
In higher education	60	55	58
Not in higher education	40	45	42
of which			
employed	28	29	28
not employed	12	16	14
All	100	100	100
Observations	162	150	312

Note: Estimation sample: educational attainment at least 11 grades (vocational school)

Table 4. IQ and extraversion by student status and labor market activity at age 22.

	IQ			Extraversion		
	Female	Male	All	Femal e	Male	All
In higher education	0.26	0.42	0.34	0.08	-0.23	-0.07
Not in higher education	-0.43	-0.16	-0.30	-0.17	0.30	0.07
of which						
employed	-0.35	-0.20	-0.28	-0.11	0.32	0.10
not employed	-0.61	-0.10	-0.33	-0.30	0.28	0.02
All	-0.01	0.16	0.07	-0.02	0.01	-0.01

Notes: IQ is measured by standardized Raven IQ, age 22. Extraversion is measured by standardized Big5 scores, age 22. Estimation sample: educational attainment at least 11 grades (vocational school)

Table 5. The probability of higher education as a function of cognitive capacity and extraversion. Average partial effects from probit models.

	Simple probit			IV probit		
	Female	Male	All	Femal e	Male	All
IQ	0.25	0.17	0.22	0.69	0.46	0.56
[standard error]	[0.04]**	[0.04]**	[0.03]**	[0.20]**	[0.20]*	[0.14]**
Extraversion	0.05	-0.13	-0.04	0.03	-0.12	-0.04
[standard error]	[0.04]	[0.04]**	[0.03]	[0.06]	[0.06]*	[0.04]

Notes: IQ is measured by standardized Raven IQ, age 22. Extraversion is measured by standardized Big5 scores, age 22. Estimation sample: educational attainment at least 11 grades (vocational school).
⁺ significant at 10%; * significant at 5%; ** significant at 1%

Table 6: Estimated average partial effects from the multinomial probit models

	Pr(not employed)			
	(1)	(2)	(3)	(4)
IQ X female	-0.12 [0.03]**	-0.12 [0.04]**	-0.06 [0.03]	-0.16 [0.05]**
IQ X male	-0.05 [0.03]	-0.05 [0.03]	0.00 [0.03]	-0.05 [0.04]
Extraversion X female	-0.05 [0.03]	-0.03 [0.03]	-0.06* [0.03]	-0.02 [0.04]
Extraversion X male	0.04 [0.03]	0.05 [0.03]	0.04 [0.03]	0.04 [0.04]

	Pr(employed)			
	(1)	(2)	(3)	(4)
IQ X female	-0.18 [0.05]**	-0.18 [0.05]**	-0.08 [0.05]	-0.16 [0.05]**
IQ X male	-0.14 [0.07]**	-0.14 [0.05]**	-0.04 [0.05]	-0.13 [0.04]**
Extraversion X female	-0.02 [0.04]	-0.01 [0.05]	-0.06 [0.04]	-0.02 [0.04]
Extraversion X male	0.10 [0.04]*	0.15 [0.05]**	0.09 [0.04]*	0.10 [0.04]*

	Pr(higher education)			
	(1)	(2)	(3)	(4)
IQ X female	0.30 [0.06]**	0.30 [0.06]**	0.14 [0.07]*	0.27 [0.06]**
IQ X male	0.20 [0.05]**	0.19 [0.05]**	0.04 [0.05]	0.18 [0.05]**
Extraversion X female	0.07 [0.04]	0.04 [0.04]	0.13 [0.05]**	0.06 [0.04]
Extraversion X male	-0.14 [0.05]**	-0.20 [0.05]**	-0.13 [0.05]**	-0.14 [0.05]**

* significant at 5%; ** significant at 1%

Table 7: Point estimates of the structural parameters of interest

	α			
	(1)	(2)	(3)	(4)
IQ X female	0.15	0.18	0.19	0.13
IQ X male	-0.10	-0.12	-0.13	-0.12
Extraversion X female	0.19	0.10	0.24	0.21
Extraversion X male	0.03	0.18	0.01	0.03
	$\beta - \gamma$			
	(1)	(2)	(3)	(4)
IQ X female	0.80	0.77	0.24	0.73
IQ X male	0.80	0.81	0.31	0.76
Extraversion X female	-0.04	0.00	0.14	-0.06
Extraversion X male	-0.53	-0.91	-0.46	-0.50

Appendix

Table A1: Detailed results of the probit models predicting higher education

	Female	Male	All	Female	Male	All
IQ	0.770 [0.152]* *	0.508 [0.132]* *	0.635 [0.097]* *	1.783 [0.521]**	1.179 [0.513]*	1.451 [0.358]**
Extraversion	0.159 [0.117]	-0.376 [0.120]* *	-0.103 [0.080]	0.094 [0.121]	-0.309 [0.129]*	-0.091 [0.080]
Male			-0.235 [0.152]			-0.39 [0.166]*
Constant	0.288 [0.107]* *	0.070 [0.111]	0.273 [0.105]* *	0.318 [0.110]**	-0.039 [0.137]	0.294 [0.106]**
First stage						
(dep. var.: cognitive capacity at age 22)						
IQ age 5				0.259 [0.072]**	0.225 [0.069]**	0.242 [0.050]**
Extraversion				0.063 [0.065]	-0.091 [0.071]	-0.013 [0.048]
Male						0.174 [0.091]
Constant				-0.024 [0.060]	0.151 [0.068]	-0.025 [0.063]
Log-likelihood	-92.44	-89.02	-187.70	-277.45	-273.16	-558.87
Pseudo-R2	0.15	0.14	0.12			
Observations	162	150	312	162	150	312

* significant at 5%; ** significant at 1%

Table A2: Detailed results of the multinomial probit models

	π_{10}				π_{21}			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
IQ X female	0.15	0.18	0.19	0.13	0.95	0.95	0.43	0.86
	[0.22]	[0.23]	[0.25]	[0.23]	[0.21]*	[0.22]*	[0.26]	[0.22]*
IQ X male	-0.10	-0.12	-0.13	-0.12	0.70	0.69	0.18	0.64
	[0.20]	[0.20]*	[0.22]	[0.21]	[0.19]*	[0.22]	[0.21]	[0.20]*
Extraversion X female	0.19	0.1	0.24	0.21	0.15	0.1	0.38	0.15
	[0.22]	[0.25]	[0.23]	[0.23]	[0.17]	[0.20]	[0.20]	[0.17]
Extraversion X male	0.03	0.18	0.01	0.03	-0.50	-0.73	-0.45	-0.47
	[0.21]	[0.21]*	[0.21]	[0.21]	[0.18]*	[0.25]	[0.19]*	[0.18]*
Agreeableness X female		0.00				0.28		
		[0.23]				[0.18]		
Agreeableness X male		0.06				0.28		
		[0.20]				[0.18]		
Conscientiousness X female		0.18				0.05		
		[0.25]				[0.19]		
Conscientiousness X male		0.39				-0.19		
		[0.23]				[0.19]		
Neuroticism X female		0.06				-0.05		
		[0.19]				[0.16]		
Neuroticism X male		-0.03				-0.08		
		[0.21]				[0.20]		
Openness X female		0.13				0.13		
		[0.21]				[0.18]		
Openness X male		-0.58				0.69		
		[0.25]*				[0.23]*		
GPA 1 through 8			0.08				0.88	
			[0.18]				[0.17]*	
GPA 9 through 12			0.20				0.57	
			[0.18]				[0.17]*	
Mother's education			0.22				0.41	
			[0.16]				[0.14]*	
Behavior problems (parent)				-0.03				-0.18
				[0.14]				[0.12]
Behavior problems (teacher)				-0.07				-0.24
				[0.14]				[0.12]*
Male	-0.27	-0.36	-0.19	-0.27	-0.20	-0.11	0.45	-0.09
	[0.28]	[0.24]	[0.31]	[0.29]	[0.23]	[0.32]	[0.26]	[0.23]
Constant	0.69	-0.64	0.80	0.71	0.67	-0.78	0.60	0.62
	[0.21]*	[0.16]*	[0.24]	[0.22]	[0.15]*	[0.23]*	[0.19]*	[0.16]*
	*	*			*	*	*	*
Log-likelihood	-264.4	-251.5	-208.8	-258.8				
Observations	312	312	312	312				

* significant at 5%; ** significant at 1%