

# Educating success? Parental involvement and the formation of personality traits in children

Nicolas Lange, Tim Leffler, Cho Ho Ma

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# Motivation

- Personality starts developing early in life
- Social environment plays a key role in shaping individuals
- Some attitudes and personality traits matter for socio-economic outcomes (e.g. Heckman et al., 2006)

# Motivation

- Parents are one of the most important elements in the early social environment
  - Intergenerational transmission of preferences and attitudes
  - Theory: Parents choose parenting style to maximize childrens' expected life time utility (Doepke and Zilibotti, 2017)
  - Evidence: Parents can shape children's preferences to become similar to themselves (Zumbuehl et al., 2018)

# Research question

- Can parents influence the formation of beneficial traits in their children?

# Model assumptions and hypothesis

- Assumptions:
  - Assumption 1: Parents try to maximize children's economic success and can influence their children's personality via their parenting
  - Assumption 2: Parents are aware of relevant personality traits
  - Assumption 3: Parental involvement measures the intensity of parenting
- Hypothesis: Parental involvement has significant beneficial effects on children's character traits

## Which personality traits matter?

- Evidence on several traits:
  - Locus of control (e.g. Feinstein, 2000, Anger and Heineck, 2010)
  - Self-esteem (Heckman et al., 2006)
  - Patience (Falk et al., 2018)
  - Conscientiousness (e.g. Judge et al., 1999)
  - Openness (e.g. Almlund et al., 2011)
  - Neuroticism (e.g. Almlund et al., 2011)
- Context dependent findings on:
  - Extraversion (Blanden and Machmillen, 2007)
  - Agreeableness (Feinstein, 2000)
  - Positive reciprocity (Anger and Heineck, 2010)

# Which traits to investigate on?

- Ideally:
    - All
  - But facing issues:
    - Measurement of the traits
    - Sample size
- ⇒ Focus on locus of control and Big Five personality traits
- Covers measures with most evidence
  - Widely used, well validated measures (Piatek and Pinger, 2016)
  - Measured for parents and children



# Model specification

- Regression model

$$Y_i = \alpha + \beta_1 I_i + \beta_2 P_i + \beta_3 C_i + u_i \quad (1)$$

- $Y_i$  = observed measure of the personality trait for child  $i$
- $I_i$  = vector containing the maternal and paternal involvement scores
- $P_i$  = vector containing the measures for the different personality traits of each parent
- $C_i$  = vector containing a series of socio-economic and family related control measures
- $u_i$  = unobservables

## Where does our data come from?

- German Socio-Economic Panel
- Questionnaires:
  - Youth Questionnaire - children turning 18, includes items of personality traits and parental involvement
  - Pre-teen Questionnaire - children age 10 to 11, includes items regarding personality traits
  - Personal questionnaire - all adults in the household, includes items of personality traits
- Limitations:
  - Parental involvement items and LoC items not included in Pre-teen Questionnaire
  - Adults' personality traits asked in multiply waves

# Measurement of Big Five personality traits

Personality trait	Question in the SOEP
Big-5 Personality Traits	Personal Characteristic
Openness	Lively imagination Introduce new ideas Importance of esthetics
Extraversion	Communicative Am outgoing/sociable Reserved (inverted)
Conscientiousness	Carryout duties efficiently Work carefully Am lazy (inverted)
Agreeableness	Can forgive others Considerate, friendly Abrasive towards others (inverted)
Neuroticism	Often worry Am nervous Be relaxed, no stress (inverted)

- 15 items in total, 3 for each trait
- Scores from 1 (Does not apply at all) to 7 (Applies completely)
- Some items inverted
- Average of the scores for each trait

# Measurement of locus of control

Locus of Control	Opinion
Internal Locus of Control	Success Through Working Hard Control Over My Own Destiny Soc., Pol. Activity Makes A Difference Doubt Myself Faced Difficulties (inverted) Have Little Control Over My Life (inverted)
External Locus of Control (Every item is inverted)	In Comparison Do Not Have What I Deserve What You Achieve Is A Question Of Luck Others Have Often Controlled My Life Opportunities Depend On Soc. Circumstance Talents You Have At Birth Are V. Import.

- Internal LoC, External LoC
- 10 items in total, 5 for each trait
- Scores from 1 (Disagree completely) to 4 (Agree completely)
- Some items for Internal LoC and every item for External LoC inverted

# Principal Component Analysis for LoC

- Undergoing PCA for dimensionality reduction into one LoC score adopted from Pinger et al. (2016)

Table 13: Factor-loadings for PCA locus of control measures

Items in Questionnaires	Factor Loadings			
	Youth	Parents, 2005	Parents, 2010	Parents, 2015
Internal Locus of Control				
Success Through Working Hard	-0.034	0.065	0.031	-0.013
Control Over My Own Destiny	0.146	0.289	0.289	0.257
Soc., Pol. Activity Can Makes A Difference	-0.075	-0.016	0.025	0.013
Doubt Myself When Faced Difficulties	0.379	0.374	0.381	0.392
Have Little Control Over My Life	0.422	0.464	0.459	0.460
External Locus of Control				
In Comparison Do Not Have What I Deserve	0.393	0.379	0.384	0.385
What You Achieve Is A Question Of Luck	0.386	0.360	0.351	0.354
Others Have Often Controlled My Life	0.438	0.425	0.426	0.428
Opportunities Depend On Soc. Circumstance	0.351	0.314	0.312	0.318
Talents You Have At Birth Are V. Import.	0.175	0.061	0.099	0.102

Note: Factor loadings for locus of control proxies. The locus of control index was constructed using principal component analysis on the available proxies of the youth sample and the adults waves of 2005, 2010 and 2015 separately.

## Measurement of parental involvement

- Items covering parental involvement in the Youth Questionnaire from adolescents' perspective
- 21 proxies included:
  - 5 for both parents (e.g. Parents take part in parents-evening)
  - 8 for only mother (e.g. Mother talks about things that worry you)
  - 8 only for father (e.g. Father expresses opinion on something you do)

# Principal Component Analysis for parental involvement

- Undergoing PCA for reducing the proxies into maternal and paternal involvement adopted from Zumbuehl et al. (2018)

Table 12: Factor-loadings for PCA parental involvement measures

Item in the Questionnaire	Involvement Mother	Involvement Father
Parents show interest in performance	0.211	0.100
Parents take part in parents-evening	0.147	0.091
Parents come to teacher office hours	0.113	0.047
Parents visit teacher outside office hours	0.084	0.009
Parents involved in at least one school activity	0.162	0.093
Mother talks about things you do	0.339	
Mother asks you prior to making decision	0.358	
Mother expresses opinion on something you do	0.378	
Mother is able to solve problems with you	0.364	
Mother asks your opinion on family matters	0.389	
Mother gives reason for making decision	0.392	
Mother talks about things that worry you	0.183	
Mother helps with studying	0.162	
Father talks about things you do		0.378
Father asks you prior to making decision		0.368
Father expresses opinion on something you do		0.367
Father is able to solve problems with you		0.387
Father asks your opinion on family matters		0.373
Father gives reason for making decision		0.380
Father talks about things that worry you		0.276
Father helps with study		0.231

# Parental involvement and children's personality

Table 1: Parental involvement on the children's locus of control and Big Five, simple

	LoC	O	C	E	A	N
Constant	0.00 (0.02)	-0.00 (0.02)	0.01 (0.02)	0.01 (0.02)	-0.01 (0.02)	0.00 (0.02)
Involvement <sub>m</sub>	0.10*** (0.02)	0.10*** (0.02)	0.10*** (0.02)	0.09*** (0.02)	0.14*** (0.02)	0.01 (0.02)
Involvement <sub>f</sub>	0.14*** (0.02)	0.05*** (0.02)	0.06*** (0.02)	0.06*** (0.02)	0.08*** (0.02)	-0.08*** (0.02)
R-squared	0.04	0.02	0.02	0.02	0.03	0.01
No. Obs.	3798	3798	3798	3798	3798	3798

Note: The dependent variables are the standardized scores for locus of control, openness, conscientiousness, extraversion, agreeableness and neuroticism of individuals of age seventeen. Details about the measurement and construction of the scores are provided in section 3. The main explanatory variables "Involvement<sub>m</sub>" and "Involvement<sub>f</sub>" are indices constructed using factor analysis on 13 involvement proxies. More information in section 3. Robust standard errors in parentheses. \* significant at 10%, \*\* significant at 5%, \*\*\* significant at 1%.

- Parental involvement correlated with almost all traits
- For interpretation:
  - LoC Std  $\approx 1.5$
  - Big Five Stds  $\approx 1$



# Involvement, family and socio-economic background

Table 8: Correlation coefficients between parental involvement and controls

	Mother		Father	
	Involvement	p-value	Involvement	p-value
Education in Years	0.2099	0.0000	0.2178	0.0000
Age Difference with Child	0.0647	0.0026	0.1200	0.0000
Migration Background	0.0396	0.0648	0.0227	0.3254
P\C Net Income	0.1617	0.0000	0.2011	0.0000
Parents in the HH	0.1501	0.0000	0.3240	0.0000
Number of Siblings	-0.0445	0.0379	-0.0373	0.1064
No. Obs.	2173		1876	

- Involvement coefficients probably capture other effects

Note: Only parents with children in the age seventeen sample included.

# Adding controls

Table 2: Parental involvement on the children's locus of control and Big Five, controls

	LoC	O	C	E	A	N
Constant	-1.42*** (0.37)	-1.01*** (0.39)	1.06*** (0.36)	0.16 (0.36)	0.66* (0.38)	0.42 (0.38)
Involvement <sub>m</sub>	0.10*** (0.04)	0.08** (0.03)	0.05 (0.03)	0.07** (0.04)	0.15*** (0.03)	0.06* (0.04)
Involvement <sub>f</sub>	0.08* (0.04)	0.07* (0.04)	0.16*** (0.04)	0.08* (0.04)	0.05 (0.04)	-0.11** (0.04)
Years of Education <sub>m</sub>	0.01 (0.01)	0.02* (0.01)	-0.02 (0.01)	-0.01 (0.01)	-0.02 (0.01)	-0.02 (0.01)
Years of Education <sub>f</sub>	0.01 (0.01)	0.02** (0.01)	-0.02* (0.01)	-0.01 (0.01)	0.02 (0.01)	-0.01 (0.01)
Number of Siblings	0.03 (0.02)	-0.04* (0.02)	0.02 (0.02)	0.02 (0.02)	0.01 (0.02)	-0.03 (0.02)
P\C Net Income	0.17*** (0.06)	0.03 (0.06)	-0.14*** (0.05)	-0.00 (0.05)	-0.09 (0.06)	0.02 (0.06)
Migration Background	-0.14* (0.07)	0.30*** (0.07)	0.00 (0.07)	0.03 (0.07)	-0.04 (0.07)	0.13* (0.07)
Mother in HH	-0.15 (0.12)	0.04 (0.13)	0.17 (0.13)	0.02 (0.14)	-0.02 (0.14)	-0.15 (0.15)
Father in HH	0.07 (0.08)	-0.09 (0.07)	0.12 (0.08)	0.07 (0.08)	-0.01 (0.07)	-0.07 (0.07)
$\Delta$ Age <sub>m</sub>	-0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	-0.01 (0.01)	-0.00 (0.01)
$\Delta$ Age <sub>f</sub>	0.00 (0.01)	0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)	0.01 (0.01)	0.00 (0.01)
R-squared	0.05	0.05	0.04	0.02	0.03	0.01
No. Obs.	1775	1775	1775	1775	1775	1775

Note: The dependent variables are the standardized scores for locus of control, openness, conscientiousness, extraversion, agreeableness and neuroticism of individuals of age seventeen. Details about the measurement and construction of the scores are provided in section 3. The main explanatory variables "Involvement<sub>m</sub>" and "Involvement<sub>f</sub>" are indices constructed using factor analysis on 13 involvement proxies. More information in section 3. Robust standard errors in

- Involvement of at least one parent remains significant
- Some indications for specific mother and father roles

## What about the parents' personalities?

- Investigate on the extent to which parents may shape those traits they might not display
- Parents might be transmitting their own traits:
  - Literature (e.g. Zumbuehl et al., 2018)
  - Observed gender differences
  - Which traits do more involved parents display?

# Which parents are more involved?

Table 9: Correlation coefficients between parental involvement and parents' locus of control and Big Five

	Mother		Father	
	Involvement	p-value	Involvement	p-value
Locus of Control	0.1055	0.0000	0.1069	0.0000
Openness	0.1158	0.0000	0.0881	0.0000
Conscientiousness	0.0862	0.0000	0.0512	0.0024
Extraversion	0.0889	0.0000	0.0335	0.0471
Agreeableness	0.1058	0.0000	0.1137	0.0000
Neuroticism	-0.0554	0.0005	-0.0629	0.0002
No. Obs.	3938		3509	

Note: Only parents with children in the age seventeen sample included.

- On average more involvement from those parents with a "successful personality"

# Parental involvement and children's personality

Table 3: Parental involvement on the children's locus of control and Big Five, extended

	LoC	O	C	E	A	N
Constant	-0.92** (0.54)	-0.76*** (0.56)	1.15*** (0.51)	0.35 (0.53)	0.67 (0.58)	0.36 (0.55)
Involvement <sub>m</sub>	0.09** (0.04)	0.09** (0.04)	0.04 (0.04)	0.06 (0.04)	0.13*** (0.04)	0.06 (0.04)
Involvement <sub>f</sub>	0.08* (0.04)	0.05 (0.05)	0.16*** (0.04)	0.07 (0.05)	0.05 (0.04)	-0.09** (0.05)
LoC <sub>m</sub>	0.11*** (0.03)	-0.00 (0.03)	-0.03 (0.03)	-0.02 (0.03)	0.01 (0.03)	0.02 (0.03)
LoC <sub>f</sub>	0.07** (0.03)	0.03 (0.03)	0.03 (0.03)	0.06** (0.03)	0.03 (0.03)	0.02 (0.03)
Openness <sub>m</sub>	0.04 (0.03)	0.09*** (0.03)	0.03 (0.03)	0.02 (0.03)	-0.02 (0.03)	-0.00 (0.03)
Openness <sub>f</sub>	-0.03 (0.03)	0.10*** (0.03)	-0.01 (0.03)	0.02 (0.03)	-0.02 (0.03)	0.00 (0.03)
Conscientiousness <sub>m</sub>	-0.09*** (0.03)	0.01 (0.03)	0.10*** (0.04)	0.04 (0.04)	0.04 (0.04)	-0.02 (0.04)
Conscientiousness <sub>f</sub>	-0.03 (0.04)	-0.07* (0.04)	0.10*** (0.04)	0.06 (0.04)	-0.02 (0.04)	-0.12*** (0.04)
Extraversion <sub>m</sub>	0.04 (0.03)	-0.02 (0.03)	-0.03 (0.03)	0.05 (0.03)	-0.00 (0.04)	0.03 (0.03)
Extraversion <sub>f</sub>	0.02 (0.03)	0.01 (0.03)	-0.01 (0.03)	0.06* (0.03)	-0.00 (0.03)	0.06* (0.04)
Agreeableness <sub>m</sub>	0.01 (0.03)	0.03 (0.03)	-0.02 (0.03)	-0.05* (0.03)	0.11*** (0.03)	0.05* (0.03)
Agreeableness <sub>f</sub>	0.03 (0.03)	0.01 (0.03)	0.00 (0.03)	-0.02 (0.03)	0.05* (0.03)	0.02 (0.03)
Neuroticism <sub>m</sub>	0.03 (0.03)	0.03 (0.03)	-0.03 (0.03)	-0.00 (0.03)	-0.01 (0.03)	0.06** (0.03)
Neuroticism <sub>f</sub>	-0.00 (0.03)	0.01 (0.03)	0.01 (0.03)	0.02 (0.03)	-0.00 (0.03)	0.06** (0.03)
R-squared	0.08	0.07	0.07	0.04	0.05	0.03
No. Obs	1641	1641	1641	1641	1641	1641

- Parents' personality matters
- Parental involvement still significant
- Evidence for different parental roles

# Parental involvement and gender differences

- Evidence for different parental roles as well as specific mother-daughter and father-son relations

Figure 1: Mother's involvement parameter compared among samples

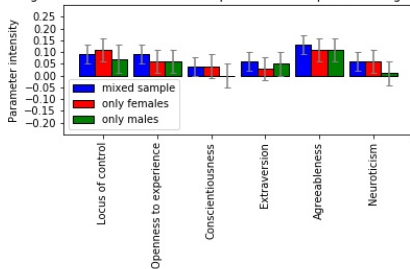
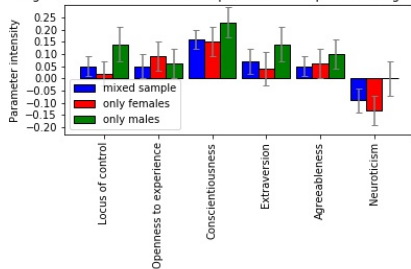


Figure 2: Father's involvement parameter compared among samples



# Parental involvement and children's personality

- How to interpret our findings?

Change Involvement <sub>m</sub>	LoC		Openness		Agreeableness	
	std	abs	std	abs	std	abs
25th-75th percentile	0.11	0.17	0.11	0.12	0.16	0.15
5th-95th percentile	0.29	0.44	0.29	0.32	0.41	0.38

Change Involvement <sub>f</sub>	LoC		Conscient.		Neuroticism	
	std	abs	std	abs	std	abs
25th-75th percentile	0.10	0.14	0.19	0.22	-0.10	-0.12
5th-95th percentile	0.26	0.41	0.54	0.60	-0.30	-0.35

# Parental involvement at age 10 to 11

Table 7: Parental involvement on the children's locus of control and Big Five, Pre-Teen sample, controls

	O	C	E	A	N
Constant	-1.47 (1.07)	0.05 (1.02)	0.31 (1.22)	0.06 (1.59)	0.31 (1.24)
Involvement <sub>m</sub>	-0.06 (0.08)	-0.08 (0.07)	0.02 (0.08)	-0.07 (0.08)	-0.01 (0.08)
Involvement <sub>f</sub>	0.02 (0.09)	0.06 (0.08)	0.15 (0.09)	0.08 (0.08)	0.02 (0.08)
Year of Education <sub>m</sub>	0.03 (0.03)	-0.01 (0.03)	-0.02 (0.03)	0.05* (0.03)	0.05 (0.04)
Year of Education <sub>f</sub>	-0.00 (0.04)	0.08*** (0.03)	0.00 (0.03)	-0.01 (0.03)	-0.03 (0.04)
Migration Background	-0.30 (0.20)	0.39** (0.16)	0.03 (0.17)	0.00 (0.23)	0.11 (0.18)
Mother in HH	0.72** (0.30)	-0.83 (0.81)	-0.50 (0.93)	-0.03 (1.31)	-0.77 (0.99)
Father in HH	-0.22 (0.19)	-0.08 (0.17)	0.35* (0.19)	-0.27 (0.19)	-0.39** (0.19)
P/C Net Income	0.11 (0.15)	-0.01 (0.09)	0.00 (0.11)	-0.06 (0.13)	0.10 (0.11)
R-squared	0.03	0.06	0.05	0.02	0.04
No. Obs.	248	248	248	248	248

Note: The dependent variables are the standardized scores for locus of control, openness, conscientiousness, extraversion, agreeableness and neuroticism of individuals of age ten and eleven. Details about the measurement and construction of the scores are provided in section 3. The main explanatory variables "Involvement<sub>m</sub>" and "Involvement<sub>f</sub>" are indices constructed using factor analysis on 13 involvement proxies. These proxies are not self-reports from the Pre-Teen sample, but from older siblings who filled the youth questionnaire. More information in section 3. Robust standard errors in parentheses. \* significant at 10%, \*\* significant at 5%, \*\*\* significant at 1%.

- Not the same significant results at age ten and eleven.
- Possible explanations:
  - Big Five traits develop at a later stage in life (e.g. Soto et al, 2011)
  - Involvement measure does not cover involvement at that age



# Limitations

- Pre-teen questionnaire does not cover any information on parental involvement
  - ⇒ Parental involvement scores are provided by older siblings from the same household
    - But parenting style might change over time, due to gender of the child, socio-economic status
- Pre-teen sample size too small
  - ⇒ Cannot include other important controls
- Pre-teen sample does not contain items for locus of control

## To wrap it up...

- Influence of parents on their children's personality formation
- Suggestive evidence that parents may impact their children independent of their own personality
- Different roles for mothers and fathers
- Not the same effects for children age 10 to 11

# What to do next?

- Dive deeper into the topic:
  - Larger sample covering parenting style and educational goals available in a few waves
    - ⇒ Further investigations on the role of parenting
  - Complete information on the development of children over time
    - ⇒ More precise data, less information loss, larger sample
- Effects of parenting conscious or subconscious?

## What to do next?

- Apply topic in context of social mobility:
  - Parents with lower income significantly less involved
    - ⇒ Impact on personality formation?
- Does the ability to shape the children's personality depend on socio-economic background?
- Potential policy implications?

Thank you for your attention!

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# Descriptive Statistics of adolescents' personality traits

Table 10: Descriptive statistics of non standardized locus of control and Big Five as well as parental involvement at age 17

Measure	Descriptive Statistics				
	Mean	Std	Min	Max	No. Obs.
Personality Traits					
Openness to experiences	4.694	1.111	1.000	7.000	3794
Extraversion	4.900	0.915	1.000	7.000	3794
Conscientiousness	4.846	1.121	1.000	7.000	3794
Agreeableness	5.339	0.924	1.000	7.000	3794
Neuroticism	3.963	1.156	1.000	7.000	3794
Locus of control	0.013	1.542	1.103	3.809	3798
Parental Involvement					
Involvement <sub>f</sub>	0.047	2.242	-5.313	4.287	3798
Involvement <sub>m</sub>	0.090	1.869	-8.100	3.946	3798

Note: Scores for personality traits are constructed averaging the proxy values for each trait. Indices for parental involvement are constructed using factor analysis on 13 involvement proxies.

# Descriptive Statistics of parents' personality traits

Table 11: Descriptive statistics of the non standardized scores for parents' locus of control and Big Five

Measure	Descriptive Statistics				
	Mean	Std	Min	Max	No. Obs.
Openness to experiences <sub>m</sub>	4.587	1.203	1.000	7.000	4025
Openness to experiences <sub>f</sub>	4.371	1.165	1.000	7.000	3573
Extraversion <sub>m</sub>	5.397	0.791	1.000	7.000	4025
Extraversion <sub>f</sub>	5.354	0.772	1.000	7.000	3573
Conscientiousness <sub>m</sub>	6.050	0.846	1.000	7.000	4025
Conscientiousness <sub>f</sub>	5.979	0.879	1.000	7.000	3573
Agreeableness <sub>m</sub>	5.627	0.922	1.000	7.000	4025
Agreeableness <sub>f</sub>	5.252	1.010	1.000	7.000	3573
Neuroticism <sub>m</sub>	4.121	1.209	1.000	7.000	4025
Neuroticism <sub>f</sub>	3.745	1.168	1.000	7.000	3573
Locus of control <sub>m</sub>	-0.083	1.596	-5.297	3.758	4959
Locus of control <sub>f</sub>	0.124	1.570	-6.048	3.934	4210

Note: Only parents with children in the age seventeen sample included. Scores for personality traits are constructed averaging the proxy values for each trait.

# Females extended regression

Table 4: Parental involvement on the children's locus of control and Big Five, female sample, extended

	LoC	O	C	E	A	N
Constant	-0.31 (0.58)	-0.65 (0.62)	1.46*** (0.53)	0.59 (0.60)	1.14* (0.60)	0.21 (0.65)
Involvement <sub>m</sub>	0.11** (0.05)	0.06 (0.05)	0.04 (0.05)	0.03 (0.05)	0.11** (0.05)	0.06 (0.05)
Involvement <sub>f</sub>	0.02 (0.05)	0.09 (0.06)	0.15** (0.06)	0.04 (0.07)	0.06 (0.06)	-0.13** (0.06)
R-squared	0.07	0.11	0.06	0.05	0.05	0.05
No. Obs.	792	792	792	792	792	792

Note: The dependent variables are the standardized scores for openness, conscientiousness, extraversion, agreeableness and neuroticism of individuals of age seventeen. The main explanatory variables "Involvement<sub>m</sub>" and "Involvement<sub>f</sub>" are indices constructed using factor analysis on 13 involvement proxies. Details about the measurement and construction of the scores are provided in section 3. In addition to the listed variables, scores for the parent's personality as well as all socio-economic and family controls have been included. Robust standard errors in parentheses. \* significant at 10%, \*\* significant at 5%, \*\*\* significant at 1%.

# Females extended regression with personalities

## 8 Youth Extended Females, hiding Controls

Youth Extended Females - OLS Regressions						
	LoC	D	C	E	A	N
const	-0.57 (0.54)	-0.39 (0.55)	1.48*** (0.54)	0.73 (0.56)	0.88 (0.56)	-0.15 (0.57)
involvement_mother_std	0.09* (0.05)	0.10** (0.05)	0.04 (0.05)	0.01 (0.05)	0.10** (0.05)	0.06 (0.05)
involvement_father_std	0.06 (0.05)	0.05 (0.05)	0.15*** (0.05)	0.08 (0.06)	0.07 (0.05)	-0.13*** (0.06)
loc_pia_std_mother	0.15*** (0.04)	-0.03 (0.04)	-0.01 (0.04)	0.01 (0.05)	-0.05 (0.04)	0.05 (0.05)
loc_pia_std_father	-0.05 (0.04)	0.06 (0.04)	0.02 (0.04)	0.08* (0.05)	0.08* (0.04)	-0.02 (0.05)
openness_mother	0.04 (0.04)	0.09** (0.04)	0.04 (0.04)	-0.01 (0.04)	0.01 (0.04)	0.02 (0.04)
openness_father	-0.01 (0.04)	0.15*** (0.04)	0.03 (0.04)	0.06 (0.04)	0.02 (0.04)	0.01 (0.04)
conscientiousness_mother	-0.07 (0.05)	-0.10* (0.05)	0.03 (0.05)	-0.05 (0.05)	0.03 (0.05)	0.00 (0.05)
conscientiousness_father	0.01 (0.05)	-0.05 (0.05)	0.08 (0.05)	0.03 (0.05)	-0.02 (0.05)	-0.13*** (0.05)
extraversion_mother	0.04 (0.05)	0.04 (0.05)	0.03 (0.05)	0.09* (0.05)	0.01 (0.05)	0.07 (0.05)
extraversion_father	0.04 (0.05)	-0.03 (0.05)	-0.04 (0.05)	0.06 (0.05)	-0.00 (0.05)	0.08 (0.05)
agreeableness_mother	-0.01 (0.04)	0.09** (0.04)	-0.05 (0.04)	-0.05 (0.04)	0.10*** (0.04)	0.03 (0.04)
agreeableness_father	0.00 (0.04)	-0.01 (0.04)	0.03 (0.04)	-0.00 (0.04)	0.03 (0.04)	-0.02 (0.04)
neuroticism_mother	-0.01 (0.04)	0.01 (0.04)	-0.02 (0.04)	-0.00 (0.04)	0.00 (0.04)	0.10** (0.04)
neuroticism_father	-0.03 (0.04)	0.02 (0.04)	-0.00 (0.04)	0.03 (0.04)	-0.03 (0.04)	0.05 (0.04)
R-squared	0.06	0.11	0.06	0.05	0.05	0.05
No. observations	794	794	794	794	794	794

Standard errors in parentheses.

\* p&lt;.1, \*\* p&lt;.05, \*\*\*p&lt;.01

# Males extended regression

Table 5: Parental involvement on the children's locus of control and Big Five, male sample, extended

	LoC	O	C	E	A	N
Constant	-1.41** (0.56)	-0.88 (0.59)	1.17** (0.53)	0.21 (0.52)	0.25 (0.58)	0.54 (0.54)
Involvement <sub>m</sub>	0.07 (0.06)	0.06 (0.05)	0.00 (0.05)	0.05 (0.05)	0.11** (0.05)	0.01 (0.05)
Involvement <sub>f</sub>	0.14* (0.07)	0.06 (0.06)	0.23*** (0.06)	0.14** (0.07)	0.10 (0.06)	0.00 (0.07)
R-squared	0.12	0.07	0.10	0.06	0.06	0.03
No. Obs.	849	849	849	849	849	849

Note: The dependent variables are the standardized scores for openness, conscientiousness, extraversion, agreeableness and neuroticism of individuals of age seventeen. The main explanatory variables "Involvement<sub>m</sub>" and "Involvement<sub>f</sub>" are indices constructed using factor analysis on 13 involvement proxies. Details about the measurement and construction of the scores are provided in section 3. In addition to the listed variables, scores for the parent's personality as well as all socio-economic and family controls have been included. Robust standard errors in parentheses. \* significant at 10%, \*\* significant at 5%, \*\*\* significant at 1%.

# Males extended regression with personalities

## 10 Youth Extended Males, hiding Controls

	LoC	O	C	E	A	N
const	-1.44*** (0.51)	-1.07** (0.51)	1.43*** (0.51)	0.21 (0.51)	0.24 (0.54)	0.39 (0.51)
involvement_mother_std	0.07 (0.05)	0.06 (0.05)	0.01 (0.05)	0.05 (0.05)	0.11** (0.05)	0.01 (0.05)
involvement_father_std	0.15*** (0.06)	0.07 (0.06)	0.23*** (0.06)	0.15*** (0.06)	0.10 (0.06)	-0.02 (0.06)
loc_pia_std_mother	0.08** (0.04)	0.02 (0.04)	-0.05 (0.04)	-0.03 (0.04)	0.04 (0.04)	-0.02 (0.04)
loc_pia_std_father	0.10*** (0.04)	-0.01 (0.04)	0.02 (0.04)	0.04 (0.04)	-0.03 (0.04)	0.03 (0.04)
openness_mother	0.03 (0.04)	0.08*** (0.04)	0.01 (0.04)	0.04 (0.04)	-0.05 (0.04)	-0.03 (0.04)
openness_father	-0.03 (0.04)	0.06** (0.04)	-0.02 (0.04)	-0.01 (0.04)	0.04 (0.04)	0.03 (0.04)
conscientiousness_mother	-0.10** (0.05)	0.10** (0.05)	0.16*** (0.05)	0.11** (0.05)	0.06 (0.05)	-0.04 (0.05)
conscientiousness_father	-0.06 (0.05)	-0.09** (0.05)	0.11** (0.05)	0.08 (0.05)	-0.03 (0.05)	-0.10** (0.05)
extraversion_mother	0.04 (0.05)	-0.08** (0.05)	-0.08* (0.05)	0.00 (0.05)	-0.02 (0.05)	-0.00 (0.05)
extraversion_father	-0.00 (0.05)	0.05 (0.05)	0.01 (0.05)	0.05 (0.05)	-0.00 (0.05)	0.06 (0.05)
agreeableness_mother	0.04 (0.04)	-0.01 (0.04)	0.01 (0.04)	-0.04 (0.04)	0.12*** (0.04)	0.08** (0.04)
agreeableness_father	0.04 (0.03)	0.03 (0.03)	-0.01 (0.03)	-0.03 (0.03)	0.06* (0.04)	0.04 (0.03)
neuroticism_mother	0.07** (0.04)	0.03 (0.04)	-0.04 (0.04)	0.01 (0.04)	-0.03 (0.04)	0.01 (0.04)
neuroticism_father	0.02 (0.04)	-0.01 (0.04)	0.02 (0.04)	0.02 (0.04)	0.02 (0.04)	0.05 (0.04)
R-squared	0.12	0.07	0.09	0.06	0.06	0.03
No. observations	850	850	850	850	850	850

Standard errors in parentheses.

\* p&lt;.1, \*\* p&lt;.05, \*\*\*p&lt;.01

# Simple regression results of kids sample

Table 6: Parental involvement on the children's locus of control and Big Five, Pre-Teen sample, simple

	O	C	E	A	N
Constant	-0.03 (0.05)	-0.08* (0.05)	-0.12** (0.05)	-0.03 (0.05)	0.11** (0.05)
Involvement <sub>m</sub>	0.02 (0.06)	-0.05 (0.05)	0.01 (0.06)	-0.05 (0.06)	0.09 (0.06)
Involvement <sub>f</sub>	0.08 (0.06)	0.13** (0.06)	0.14** (0.06)	0.10* (0.06)	-0.10* (0.05)
R-squared	0.01	0.02	0.02	0.01	0.01
No. Obs.	388	388	388	388	388

Note: The dependent variables are the standardized scores for locus of control, openness, conscientiousness, extraversion, agreeableness and neuroticism of individuals of age ten and eleven. Details about the measurement and construction of the scores are provided in section 3. The main explanatory variables "Involvement<sub>m</sub>" and "Involvement<sub>f</sub>" are indices constructed using factor analysis on 13 involvement proxies. These proxies are not self-reports from the Pre-Teen sample, but are taken from older siblings who filled the youth questionnaire. More information in section 3. Robust standard errors in parentheses. \* significant at 10%, \*\* significant at 5%, \*\*\* significant at 1%.