

Online Supplementary Materials

Is there a “STEM Personality” in Germany? Linking Personality Traits with STEM Occupational Aspirations in German Secondary Education

Ralf Minor, Kathrin Leuze & Ellen Winkler

Friedrich Schiller University, Institute of Sociology

Online Supplementary Material 1 List of Mathematics and Natural Science Occupations.....	2
Online Supplementary Material 2 List of Technology and Engineering Occupations	3
Online Supplementary Material 3 Data cleaning and merging procedures	7
Online Supplementary Material 4 Operationalisation of Variables.....	8
Online Supplementary Material 5 Average Marginal Effects by Outcome [girls' sample (N=3,170); weighted; imputed]	11
Online Supplementary Material 6 Average Marginal Effects by Outcome [boys' sample (N=2,732); weighted; imputed]	13
Online Supplementary Material 7 Comparison of Average Marginal Effects between Analysis Sample and Gymnasium-Subsample [weighted, imputed, 95% Confidence Intervals]	15
Online Supplementary Material 8 Average Marginal Effects [non-track-specific-sample, female students, weighted, imputed, 95% Confidence Intervals]	16
Online Supplementary Material 9 Average Marginal Effects [non-track-specific-sample, male students, weighted, imputed, 95% Confidence Intervals]	17
Online Supplementary Material 10 Average Marginal Effects for Occupational Aspirations [full sample (N=5,902); weighted; imputed]	18
Online Supplementary Material 11 Logistic Regression with STEM-Aspiration as dependent Variable [full sample (N=5,902), male sample (N=2,732) and female sample (N=3,170); weighted; imputed; 95% confidence intervals]	19

Online Supplementary Material 1 | List of Mathematics and Natural Science Occupations

KldB 2010 code (5 digits)	Long title of Occupation
11104	Occupations in farming (without specialisation)-highly complex tasks
11114	Technical occupations in farming-highly complex tasks
11184	Occupations in farming (with specialisation, not elsewhere classified)-highly complex tasks
11214	Occupations in livestock farming (without poultry farming)-highly complex tasks
11424	Occupations in fishery-highly complex tasks
11604	Occupations in vini- and viticulture-highly complex tasks
11694	Managers in vini- and viticulture
12104	Occupations in gardening (without specialisation)-highly complex tasks
41104	Occupations in mathematics-highly complex tasks
41114	Occupations in statistics-highly complex tasks
41184	Occupations in mathematics (with specialisation, not elsewhere classified)-highly complex tasks
41194	Managers in mathematics and statistics
41204	Occupations in biology (without specialisation)-highly complex tasks
41214	Biological technical laboratory occupations-highly complex tasks
41234	Occupations in ecology-highly complex tasks
41244	Occupations in botany-highly complex tasks
41254	Occupations in zoology-highly complex tasks
41264	Occupations in microbiology-highly complex tasks
41274	Occupations in human biology-highly complex tasks
41284	Occupations in biology (with specialisation, not elsewhere classified)-highly complex tasks
41294	Managers in biology
41304	Occupations in chemistry (without specialisation)-highly complex tasks
41384	Occupations in chemistry (with specialisation, not elsewhere classified)-highly complex tasks
41394	Managers in chemistry
41404	Occupations in physics (without specialisation)-highly complex tasks
41484	Occupations in physics (with specialisation, not elsewhere classified)-highly complex tasks
42124	Occupations in geology-highly complex tasks
42134	Occupations in geography-highly complex tasks
42144	Occupations in meteorology-highly complex tasks
42314	Occupations in environmental protection administration and environmental protection consulting-highly complex tasks

Online Supplementary Material 2 | List of Technology and Engineering Occupations

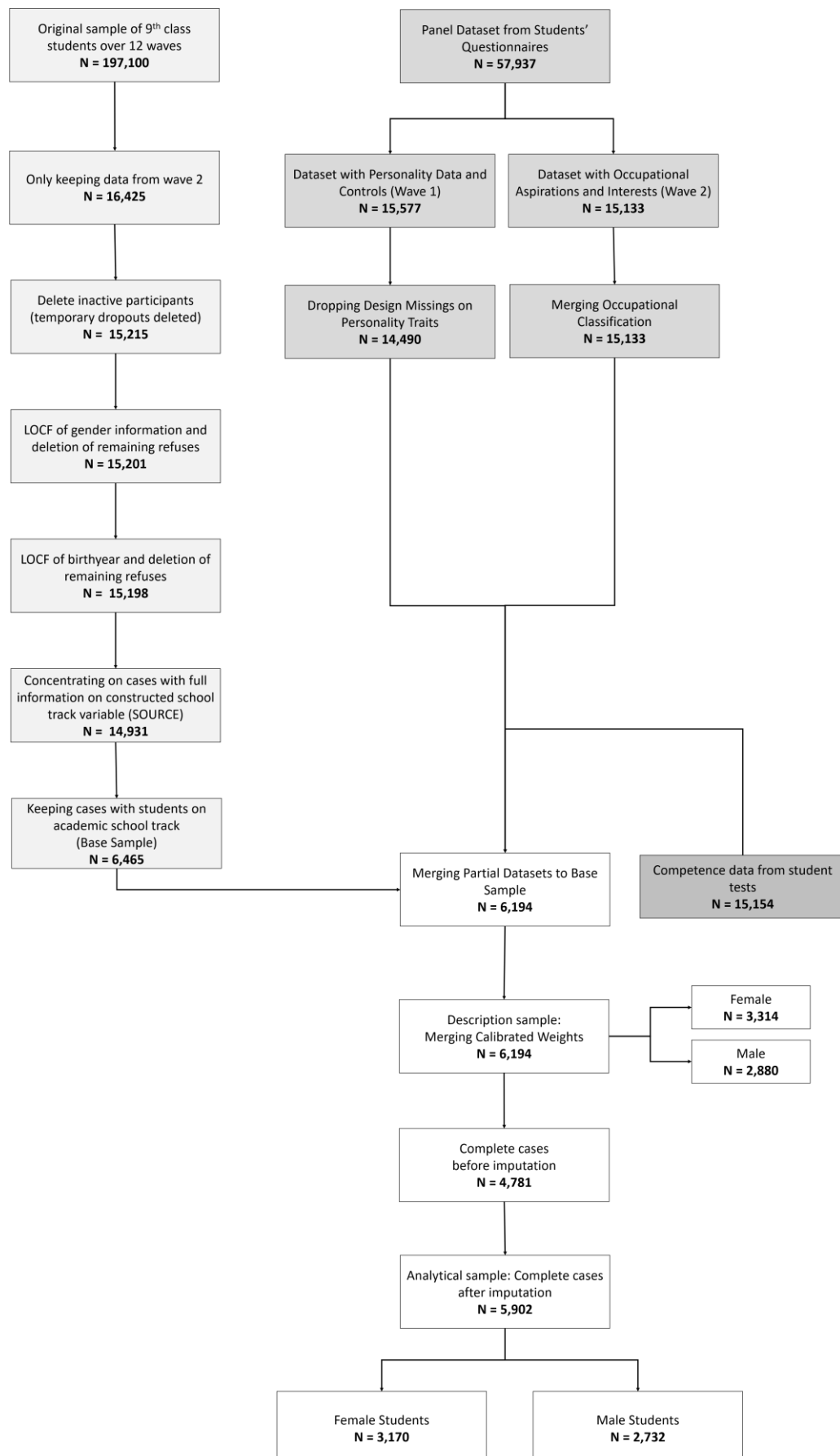
KldB 2010 code (5 digits)	Long title of Occupation
11724	Occupations in landscape preservation-highly complex tasks
12144	Occupations in horticulture, landscape gardening, and sports field maintenance-highly complex tasks
21114	Occupations in underground and surface mining-highly complex tasks
21124	Occupations in blasting engineering-highly complex tasks
21194	Managers in underground and surface mining and blasting engineering
22104	Occupations in plastic- and rubber-making (without specialisation)-highly complex tasks
22184	Occupations in plastic- and rubber-making and -processing (with specialisation, not elsewhere classified)-highly complex tasks
22204	Occupations in colour coating and varnishing (without specialisation)-highly complex tasks
22304	Occupations in wood-working and -processing (without specialisation)-highly complex tasks
23114	Occupations in paper-making (without specialisation)-highly complex tasks
23124	Occupations in paper-processing and packaging-highly complex tasks
23224	Occupations in graphic, communication, and photo design-highly complex tasks
23294	Managers in technical media design
23314	Occupations in photographic technology-highly complex tasks
23414	Occupations in printing technology-highly complex tasks
24114	Occupations in metallurgy-highly complex tasks
24124	Occupations in metal moulding-highly complex tasks
24134	Occupations in industrial metal casting -highly complex tasks
24244	Occupations in laser-assisted metalworking-highly complex tasks
24304	Occupations in treatment of metal surfaces (without specialisation)-highly complex tasks
24414	Occupations in metal constructing-highly complex tasks
24424	Occupations in welding and joining-highly complex tasks
24514	Occupations in precision mechanics-highly complex tasks
24524	Occupations in tool making-highly complex tasks
25104	Occupations in machine-building and -operating (without specialisation)-highly complex tasks
25134	Technical service staff in maintenance and repair-highly complex tasks
25184	Occupations in machine-building and -operating (with specialisation, not elsewhere classified)-highly complex tasks
25194	Managers in machine-building and -operating
25214	Technical occupations in the automotive industries-highly complex tasks
25224	Technical occupations, agricultural and construction machinery-highly complex tasks
25234	Technical occupations in the aeronautic and aerospace industries-highly complex tasks
25244	Technical occupations in ship building-highly complex tasks
25254	Technical occupations in the maintenance and construction of bicycles and motorbikes-highly complex tasks
25294	Managers in the automotive, aeronautic, aerospace and ship building industries
26114	Occupations in mechatronics-highly complex tasks
26124	Occupations in automation and control technology-highly complex tasks
26234	Technical occupations in energy and power plant technology-highly complex tasks

26244	Occupations in renewable energy technology-highly complex tasks
26264	Occupations in installing and servicing electrical cables-highly complex tasks
26304	Occupations in electrical engineering (without specialisation)-highly complex tasks
26314	Occupations in information and telecommunication technology-highly complex tasks
26324	Occupations in microsystems technology-highly complex tasks
26334	Occupations in in aeronautic, naval, and automotive electronics-highly complex tasks
26384	Occupations in electrical engineering (with specialisation, not elsewhere classified)-highly complex tasks
27104	Occupations in technical research and development (without specialisation)-highly complex tasks
27184	Occupations in technical research and development (with specialisation, not elsewhere classified)-highly complex tasks
27194	Managers in technical research and development
27224	Occupations in technical design and apparatus building-highly complex tasks
27284	Technical draftspersons, engineering designers and model makers (with specialisation, not elsewhere classified)-highly complex tasks
27294	Managers in technical drawing, engineering design and model making
27304	Technical occupations in production planning and scheduling-highly complex tasks
27314	Technical occupations in quality control-highly complex tasks
27394	Managers in production planning and scheduling
28104	Occupations in textile making (without specialisation)-highly complex tasks
28224	Occupations in the production of clothing, hat and cap making-highly complex tasks
28314	Occupations in leather making-highly complex tasks
29104	Occupations in beverage production (without specialisation)-highly complex tasks
29114	Brewers and maltsters-highly complex tasks
29134	Distillers-highly complex tasks
29194	Managers in beverages production
29204	Occupations in the production of foodstuffs (without specialisation)-highly complex tasks
29284	Occupations in the production of foodstuffs (with specialisation, not elsewhere classified)-highly complex tasks
31104	Occupations in construction scheduling and supervision (without specialisation)-highly complex tasks
31114	Occupations in architecture-highly complex tasks
31124	Occupations in urban and spatial planning-highly complex tasks
31134	Occupations in the planning of traffic routes and other infrastructure-highly complex tasks
31144	Occupations in water resource management-highly complex tasks
31154	Occupations in the maintenance and renovation of buildings-highly complex tasks
31164	Construction surveyors and inspectors-highly complex tasks
31194	Managers in construction scheduling and supervision, and architecture
31214	Occupations in surveying-highly complex tasks
31224	Occupations in cartography-highly complex tasks
32104	Occupations in building construction (without specialisation)-highly complex tasks
32204	Occupations in civil engineering (without specialisation)-highly complex tasks

32224	Occupations in road and asphalt construction-highly complex tasks
32264	Occupations in land improvement and hydraulic construction-highly complex tasks
34104	Occupations in building services engineering (without specialisation)-highly complex tasks
34214	Occupations in sanitation, heating, ventilating, and air conditioning-highly complex tasks
34234	Occupations in ventilating, and air conditioning-highly complex tasks
34304	Occupations in building services and waste disposal (without specialisation)-highly complex tasks
34314	Technical occupations in water supply and wastewater disposal -highly complex tasks
34324	Occupations in pipeline construction
34334	Occupations in waste management-highly complex tasks
34344	Occupations in plant, vessels, tank and apparatus construction-highly complex tasks
41314	Occupations in chemical and pharmaceutical engineering-highly complex tasks
41324	Chemical technical laboratory occupations-highly complex tasks
41414	Physical technical laboratory occupations-highly complex tasks
41424	Occupations in material engineering-highly complex tasks
41434	Occupations in construction materials testing-highly complex tasks
42114	Occupations in geotechnical engineering-highly complex tasks
42204	Occupations in environmental protection engineering (without specialisation)-highly complex tasks
42334	Radiation protection commissioners-highly complex tasks
43104	Occupations in computer science (without specialisation)-highly complex tasks
43114	Occupations in business informatics-highly complex tasks
43124	Occupations in computer engineering-highly complex tasks
43134	Occupations in bio- and medical informatics-highly complex tasks
43144	Occupations in geoinformatics-highly complex tasks
43154	Occupations in media informatics-highly complex tasks
43194	Managers in computer science
43214	Occupations in IT-system-analysis-highly complex tasks
43224	Occupations in IT-application-consulting-highly complex tasks
43294	Managers in IT-system-analysis, IT-application-consulting and IT-sales
43314	Occupations in IT-network engineering-highly complex tasks
43384	Occupations in IT-network engineering, IT-coordination, IT-administration and IT-organisation (with specialisation, not elsewhere classified)-highly complex tasks
43394	Managers in IT-network engineering, IT-coordination, IT-administration and IT-organisation (with specialisation, not elsewhere classified)
43414	Occupations in software development-highly complex tasks
43494	Managers in software development and programming
51134	Technical occupations in ship operation-highly complex tasks
51224	Occupations in the inspection and maintenance of railway infrastructure-highly complex tasks
51234	Technical occupations in air traffic control-highly complex tasks
51504	Occupations in traffic surveillance and control (without specialisation)-highly complex tasks
51594	Managers in traffic surveillance and control
52314	Pilots of planes and airliners-highly complex tasks
52414	Deck officers/mates and ship's captains or skippers-highly complex tasks
53124	Occupations focusing on workplace safety and safety technology-highly complex tasks
53134	Occupations in fire protection-highly complex tasks

53184	Occupations in physical security, personal protection, fire protection and workplace safety (with specialisation, not elsewhere classified)-highly complex tasks
61124	Occupations in sales (except information and communication technologies)-highly complex tasks
81214	Technical laboratory occupations in medicine-highly complex tasks
81224	Technical occupations in medical laboratories for functional diagnostics-highly complex tasks
81234	Technical occupations in radiology-highly complex tasks
81294	Managers in medical laboratories
82504	Technical occupations in medicine (without specialisation)-highly complex tasks
82514	Technical occupations in orthopaedic and rehabilitation-highly complex tasks
82524	Occupations in ophthalmic optics-highly complex tasks
82534	Occupations in hearing-aid acoustics-highly complex tasks
82594	Managers in medicine, orthopaedic and rehabilitation technology
84444	Occupations in IT-application training-highly complex tasks
93214	Occupations in interior design-highly complex tasks
94514	Technical occupation in event technology and stagecraft-highly complex tasks
94534	Technical occupations in video and sound production-highly complex tasks
94714	Technical occupations in museums and exhibitions-highly complex tasks

Online Supplementary Material 3| Data cleaning and merging procedures



Online Supplementary Material 4 | Operationalisation of Variables

Operationalisation Dependent Variables					
Theoretical construct	Item/question/data	Variable name	Coding	Data type	SC4 data source
Occupational aspirations (in the subfields of STEM)	Consider everything you know right now. What will probably be your occupation in the future?	stem_subfields	1=Math/Science 2=Tech/Engineering 3=Remainder 4=Do not know/ Invalid Answer	nomial survey data	ptarget: wave 2, t31160a_g2
Occupational aspirations (in the field of STEM)	Consider everything you know right now. What will probably be your occupation in the future?	stem_aspiration	0=Non-STEM 1=STEM	nomial, dummy survey data	ptarget: wave 2, t31160a_g2
Operationalisation of Covariates					
Theoretical construct	Item/question/data	Variable name	Coding	Data type	Data source
"Sense of self" (Personality)					
Extraversion	I am quite cautious, reserved. I am outgoing and sociable.	extr	Mean of numerical values between 1.0 – 5.0 (scale reliability coefficient (src) 0.9921)	metric, survey data	ptarget: wave 1, t66800a t66800b
Neuroticism	I am relaxed and don't get easily stressed.; I easily get nervous and self-conscious.	neur	Mean of numerical values between 1.0 – 5.0 (scale reliability coefficient (src) 0.9931)	metric, survey data	ptarget: wave 1, t66800c t66800d
Openness	I do not care much about arts.; I have an active imagination, I am an imaginative person.	open	Mean of numerical values between 1.0 – 5.0 (scale reliability coefficient (src) 0.9858)	metric, survey data	ptarget: wave 1, t66800e t66800f
Agreeableness	I trust other people easily, I believe in the goodness in people.; I tend to be critical of other people.; I am considerate, sensitive.	agre	Mean of numerical values between 1.0 – 5.0 (scale reliability coefficient (src) 0.9901)	metric, survey data	ptarget: wave 1, t66800g t66800h
Conscientiousness	I am easy-going and tend to be a bit lazy.; I am thorough.;	cons	Mean of numerical values between 1.0 – 5.0 (scale reliability coefficient (src) 0.9928)	metric, survey data	ptarget: wave 1, t66800i t66800j t66800k
Control variables					
Gender	List of children/students: Gender Target child	gender	0=male 1=female	nomial, administrative data	Cohort profile: tx80501

Age	Administrative data/student list from school.	birthyear	metric	metric, administrative data	Cohort profile: tx8050y
Self-concept German	In the subject German I am a hopeless case.; I learn fast in German.; I get good grades in German.;	selfc_germ	metric	metric, survey data	ptarget: wave 1, t66000a_g1
Self-concept math	I get good grades in math.; Math is one of my best subjects.; I have always been good at math.	Selfc_math	metric	metric, survey data	ptarget: wave 1, t66001a_g1
Migration background	variables generated by NEPS based on several items	migration	0=no migration background 1=migration background	nomial, survey data	ptarget: wave 1, t400500_g1v1
Realistic aspirations for secondary education	Considering everything you know now: What qualification will you actually leave school with?	Asp_secedu	0=no Abitur 1=Abitur	nomial, survey data	ptarget: wave 1, t31135a
Parental educational expectations	How important is it for your parents, ... 1: ... that you have good grades in school?	Prestige	1=very unimportant 2=rather unimportant 3=partly important 4=rather important 5=very important 6=No opinion on that	ordinal, survey data	ptarget: wave 1, t320403
Parents working in STEM	What professions do your parents currently pursue? [...] a) Mother	occu_mother	0=Non-STEM 1=STEM	nomial, survey data	ptarget: wave 1, t731422_g2
	b) Father	occu_father	0=Non-STEM 1=STEM	nomial, survey data	ptarget: wave 1; t731472_g2
Socio-economic status	highest socio-economic-status of parents based on answers to original question (coded as ISEI-08): "What professions do your parents currently pursue? [...]"	isei_max_full	ISEI-08 codes [11,01-88,96]; unemployment coded as 0	metric, survey data	ptarget: wave 1; t731422_g14, t731472_g14 & t731470
Reading competence	objective measure through different test items in the reading domain; weighted maximum likelihood estimates (WLEs)	comp_read	metric	metric, test data	xTarget Competencies, reg9_sc1
Mathematical competence	objective measure through different test items in the mathematical domain; weighted maximum likelihood estimates (WLEs)	comp_math	metric	metric, test data	xTarget Competencies, mag9_sc1
Science competence	objective measure through different test	comp_sci	metric	metric, test data	xTarget Compe-

	items in the scientific domain; weighted maximum likelihood estimates (WLEs)				tencies, scg9_sc 1
ICT literacy	objective measure through different test items in the domain information and communication technology; weighted maximum likelihood estimates (WLEs)	comp_ict	metric	metric, test data	xTarget Compe- tencies, icg9_sc 1

Online Supplementary Material 5 | Average Marginal Effects by Outcome [girls' sample (N=3,170); weighted; imputed]

	M1 MaSc	M1 Tech	M1 Non- STEM	M1 Do not know	M2 MaSc	M2 Tech	M2 Non- STEM	M2 Do not know	M3 MaSc	M3 Tech	M3 Non- STEM	M3 Do not know
Extraversion	-0.004 (-1.65)	0.008 (1.69)	0.038*** (3.75)	-0.043*** (-4.14)	-0.004 (-1.72)	0.008 (1.68)	0.039*** (3.76)	-0.043*** (-4.11)	-0.003 (-1.25)	0.011* (2.22)	0.030** (3.02)	-0.039*** (-3.70)
Agreeableness	-0.003 (-0.79)	0.002 (0.31)	0.001 (0.06)	0.000 (0.00)	-0.003 (-0.79)	0.002 (0.31)	0.001 (0.09)	-0.000 (-0.01)	-0.002 (-0.54)	0.003 (0.59)	-0.001 (-0.05)	-0.001 (-0.04)
Conscientiousness	-0.003 (-1.62)	0.004 (1.09)	0.021 (1.91)	-0.022 (-1.90)	-0.003 (-1.56)	0.004 (1.08)	0.021 (1.91)	-0.022 (-1.91)	-0.005* (-2.01)	0.005 (1.31)	0.018 (1.56)	-0.018 (-1.52)
Neuroticism	-0.004 (-1.72)	0.004 (1.09)	-0.002 (-0.18)	0.002 (0.16)	-0.004 (-1.62)	0.004 (1.07)	-0.003 (-0.24)	0.002 (0.21)	-0.003 (-1.11)	0.005 (1.27)	-0.006 (-0.53)	0.004 (0.30)
Openness	-0.000 (-0.13)	0.012* (2.60)	0.012 (1.11)	-0.024* (-2.39)	-0.000 (-0.24)	0.012* (2.52)	0.013 (1.18)	-0.024* (-2.44)	-0.001 (-0.71)	0.011* (2.43)	0.015 (1.27)	-0.025* (-2.27)
STEM occupation father					0.001 (0.23)	0.004 (0.35)	-0.033 (-0.88)	0.028 (0.75)	-0.001 (-0.11)	0.001 (0.09)	-0.027 (-0.71)	0.026 (0.72)
STEM occupation mother					-0.181*** (-5.86)	0.016 (0.59)	0.063 (0.92)	0.102 (1.38)	-0.190*** (-6.15)	0.012 (0.45)	0.096 (1.41)	0.082 (1.11)
Socio Economic Status [ISEI-08]					0.000 (1.70)	0.000 (0.02)	-0.001 (-1.38)	0.000 (0.99)	0.000 (1.11)	-0.000 (-1.04)	0.000 (0.18)	-0.000 (-0.03)
Importance of grades for parents					0.002 (0.68)	0.003 (0.60)	0.010 (0.90)	-0.014 (-1.40)	0.002 (0.86)	0.004 (0.91)	0.005 (0.49)	-0.012 (-1.20)
Migration background dummy					-0.012 (-1.74)	0.005 (0.71)	0.033 (1.46)	-0.026 (-1.15)	-0.009 (-1.39)	0.012 (1.61)	0.011 (0.50)	-0.014 (-0.61)
Birthyear									-0.000 (-0.02)	-0.010 (-1.71)	-0.019 (-1.31)	0.029* (2.12)
Self-concept Math									0.007**	0.003	-0.003	-0.007

	(2.97)	(0.74)	(-0.26)	(-0.57)
Self-concept German	0.000	-0.018**	0.055**	-0.038*
	(0.13)	(-3.13)	(3.18)	(-2.14)
Realistic aspiration for Abitur qualification	0.002	0.036**	-0.067*	0.029
	(0.36)	(2.75)	(-2.45)	(1.04)
Science Competence	0.001	0.008	-0.019	0.011
	(0.26)	(1.54)	(-1.39)	(0.78)
Math Competence	-0.001	-0.000	-0.030*	0.032**
	(-0.60)	(-0.02)	(-2.56)	(2.78)
ICT-Literacy	0.002	0.014**	0.006	-0.021
	(0.62)	(2.82)	(0.36)	(-1.30)
Reading Competence	0.004	-0.005	0.004	-0.003
	(1.75)	(-1.35)	(0.36)	(-0.24)

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

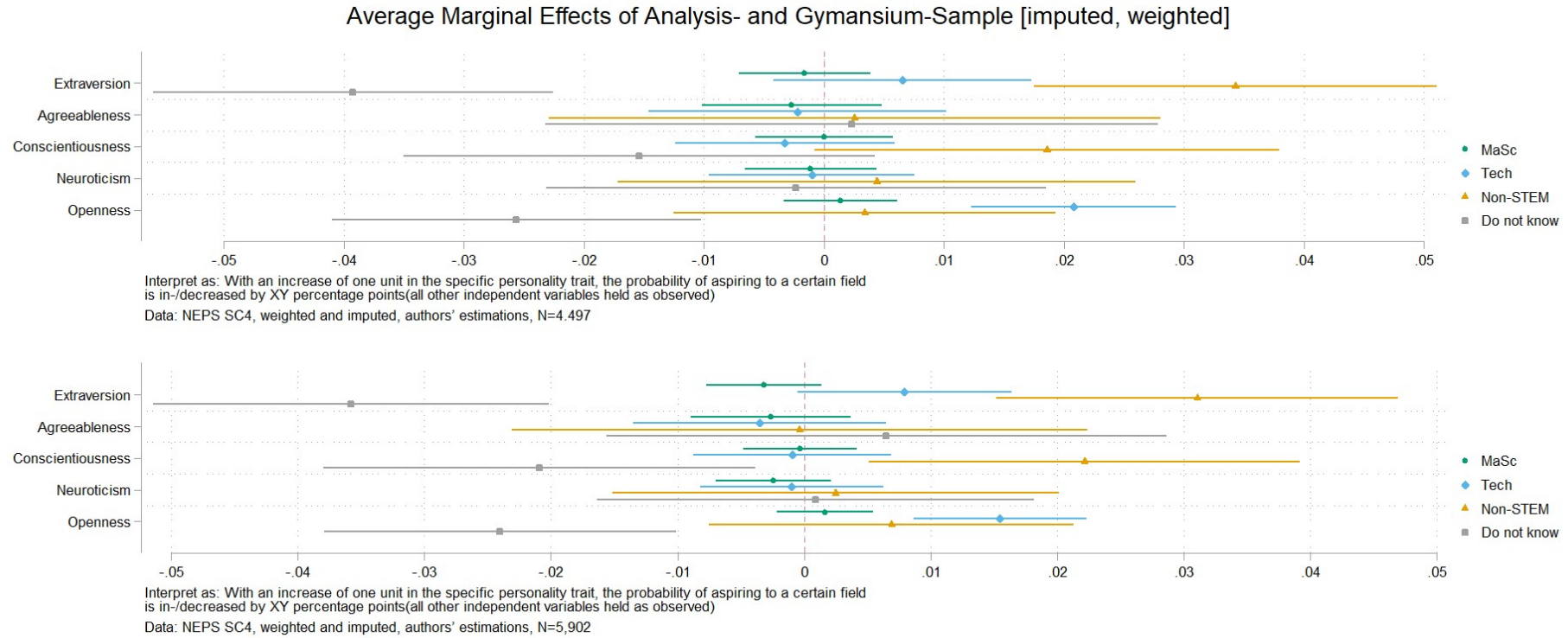
Online Supplementary Material 6 | Average Marginal Effects by Outcome [boys' sample (N=2,732); weighted; imputed]

	M1 MaSc	M1 Tech	M1 Non- STEM	M1 Do not know	M2 MaSc	M2 Tech	M2 Non- STEM	M2 Do not know	M3 MaSc	M3 Tech	M3 Non- STEM	M3 Do not know
Extraversion	-0.007 (-1.84)	0.003 (0.48)	0.041** (3.18)	-0.036** (-3.05)	-0.007 (-1.88)	0.002 (0.36)	0.041** (3.21)	-0.036** (-2.99)	-0.004 (-0.96)	0.004 (0.57)	0.032* (2.53)	-0.032** (-2.66)
Agreeableness	-0.005 (-1.07)	-0.008 (-1.14)	0.004 (0.22)	0.010 (0.59)	-0.005 (-0.98)	-0.008 (-1.02)	0.001 (0.08)	0.011 (0.67)	-0.004 (-0.68)	-0.009 (-1.20)	-0.001 (-0.05)	0.013 (0.80)
Conscientiousness	0.005 (1.23)	0.004 (0.57)	0.023 (1.71)	-0.031** (-2.61)	0.005 (1.26)	0.004 (0.58)	0.023 (1.73)	-0.032** (-2.63)	0.004 (1.01)	-0.007 (-1.01)	0.026 (1.82)	-0.023 (-1.80)
Neuroticism	-0.004 (-1.04)	-0.014* (-2.06)	0.018 (1.36)	-0.000 (-0.02)	-0.004 (-0.97)	-0.014* (-2.11)	0.017 (1.27)	0.001 (0.09)	-0.002 (-0.57)	-0.010 (-1.46)	0.013 (0.94)	-0.000 (-0.02)
Openness	0.004 (1.16)	0.017** (3.26)	0.004 (0.36)	-0.025* (-2.40)	0.004 (1.11)	0.017** (3.22)	0.004 (0.38)	-0.025* (-2.39)	0.004 (1.24)	0.020*** (3.92)	-0.001 (-0.09)	-0.023* (-2.22)
STEM occupation father					0.004 (0.34)	0.048** (3.04)	-0.046 (-1.15)	-0.006 (-0.14)	0.005 (0.43)	0.046** (2.97)	-0.045 (-1.17)	-0.006 (-0.15)
STEM occupation mother					-0.018 (-0.63)	0.015 (0.44)	0.043 (0.59)	-0.041 (-0.55)	-0.022 (-0.78)	0.001 (0.04)	0.065 (0.92)	-0.044 (-0.61)
Socio Economic Status [ISEI-08]					0.000 (1.15)	0.000 (1.72)	-0.001 (-1.42)	0.000 (0.19)	0.000 (0.12)	0.000 (0.97)	0.000 (0.27)	-0.000 (-0.77)
Importance of grades for parents					-0.004 (-1.17)	0.001 (0.23)	0.019 (1.55)	-0.016 (-1.50)	-0.004 (-1.02)	0.001 (0.10)	0.018 (1.47)	-0.015 (-1.31)
Migration background dummy					-0.007 (-0.90)	-0.022 (-1.69)	0.037 (1.49)	-0.007 (-0.28)	-0.002 (-0.27)	-0.024 (-1.88)	0.028 (1.12)	-0.002 (-0.07)
Birthyear									-0.005 (-0.77)	-0.000 (-0.02)	-0.017 (-1.04)	0.022 (1.27)

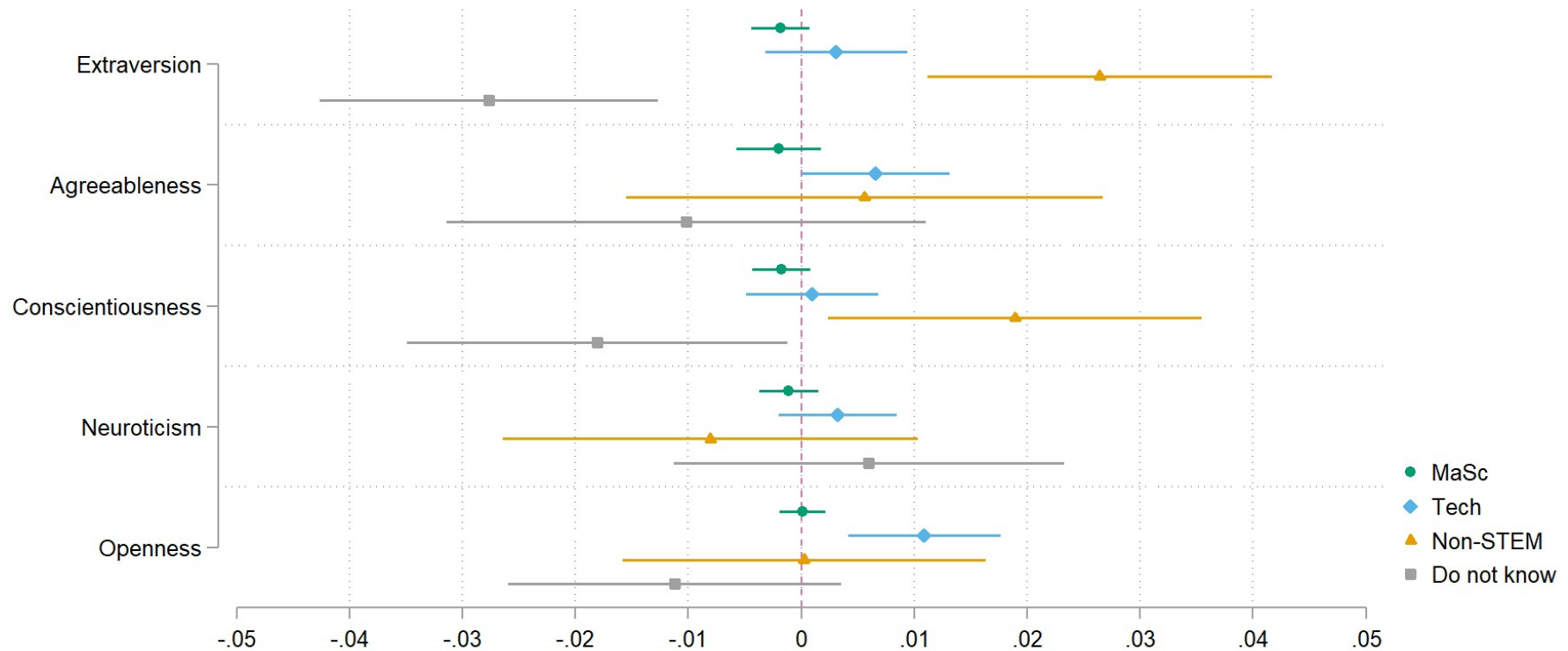
Self-concept Math	0.003 (0.63)	0.038*** (5.61)	-0.026* (-2.01)	-0.014 (-1.14)
Self-concept German	-0.009 (-1.76)	0.001 (0.12)	0.064*** (3.85)	-0.056*** (-3.42)
Realistic aspiration for Abitur qualification	0.024 (1.84)	0.056** (2.84)	-0.147*** (-4.69)	0.067* (2.17)
Science Competence	0.008* (2.22)	-0.020** (-2.69)	-0.014 (-0.88)	0.026 (1.62)
Math Competence	0.008* (2.55)	0.009 (1.66)	-0.018 (-1.49)	0.000 (0.01)
ICT-Literacy	-0.005 (-0.98)	0.005 (0.71)	0.011 (0.70)	-0.011 (-0.68)
Reading Competence	0.004 (1.51)	-0.003 (-0.59)	0.001 (0.13)	-0.002 (-0.17)

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Online Supplementary Material 7 | Comparison of Average Marginal Effects between Analysis Sample and Gymnasium-Subsample [weighted, imputed, 95% Confidence Intervals]



Online Supplementary Material 8| Average Marginal Effects [non-track-specific-sample, female students, weighted, imputed, 95% Confidence Intervals]

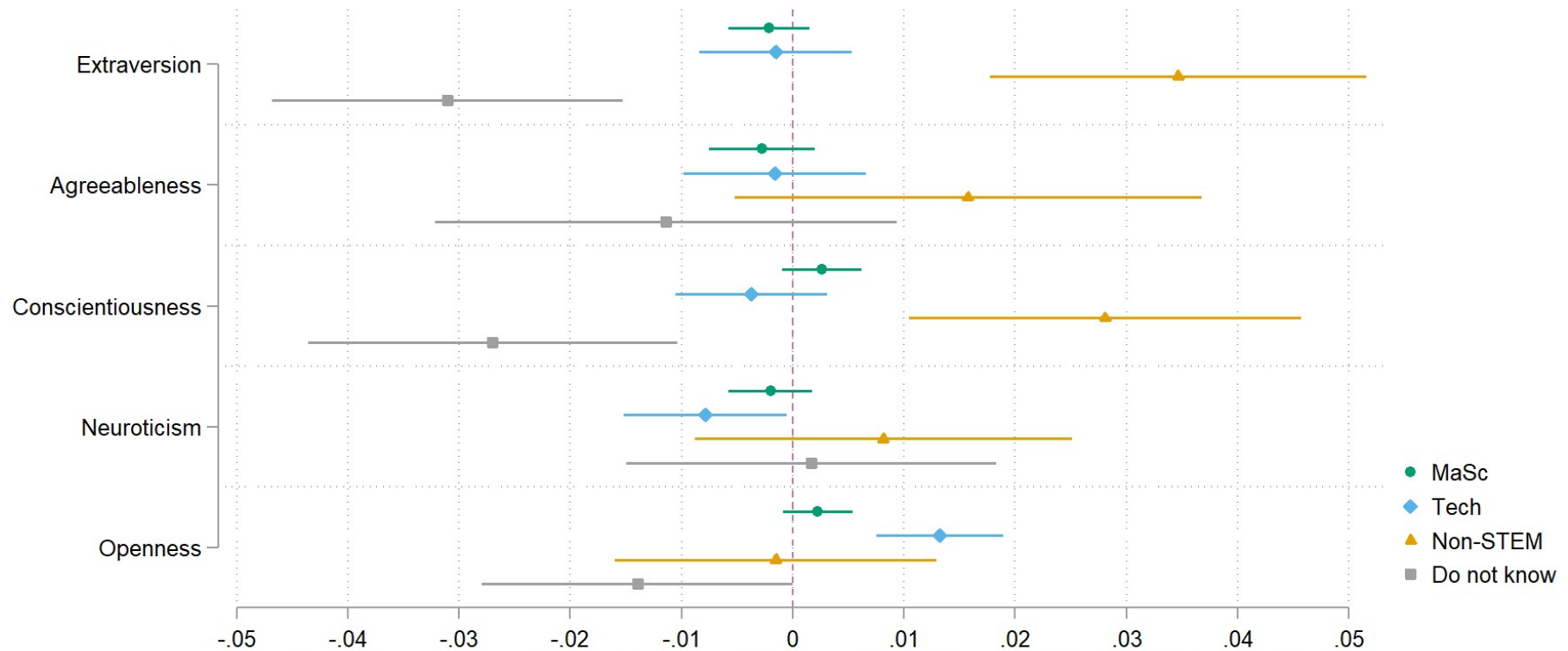


Interpret as: With an increase of one unit in the specific personality trait, the probability of aspiring to a certain field is in-/decreased by XY percentage points (all other independent variables held as observed)

Data: NEPS SC4, weighted and imputed, authors' estimations, N=6,288

controlling for: birthyear, competencies, selfconcept (Math & German), realistic aspiration for Abitur

Online Supplementary Material 9 | Average Marginal Effects [non-track-specific-sample, male students, weighted, imputed, 95% Confidence Intervals]



Interpret as: With an increase of one unit in the specific personality trait, the probability of aspiring to a certain field is in-/decreased by XY percentage points (all other independent variables held as observed)

Data: NEPS SC4, weighted and imputed, authors' estimations, N=6,302

controlling for: birthyear, competencies, selfconcept (Math & German), realistic aspiration for Abitur

Online Supplementary Material 10 | Average Marginal Effects for Occupational Aspirations [full sample (N=5,902); weighted; imputed]

	MaSc	Tech	Non-STEM	Do not know
gender	-0.011* (-2.49)	-0.022** (-2.99)	0.028 (1.68)	0.005 (0.26)
Extraversion	-0.003 (-1.38)	0.008 (1.85)	0.031*** (3.87)	-0.036*** (-4.51)
Agreeableness	-0.003 (-0.82)	-0.004 (-0.69)	-0.000 (-0.03)	0.006 (0.58)
Conscientiousness	-0.000 (-0.14)	-0.001 (-0.23)	0.022* (2.57)	-0.021* (-2.42)
Neuroticism	-0.002 (-1.05)	-0.001 (-0.26)	0.002 (0.28)	0.001 (0.10)
Openness	0.002 (0.85)	0.015*** (4.45)	0.007 (0.94)	-0.024*** (-3.41)
Birthyear	-0.002 (-0.63)	-0.005 (-1.04)	-0.018 (-1.63)	0.025* (2.39)
Self-concept Math	0.005 (1.81)	0.019*** (4.66)	-0.014 (-1.58)	-0.010 (-1.20)
Self-concept German	-0.005 (-1.45)	-0.007 (-1.23)	0.059*** (5.41)	-0.048*** (-4.10)
Realistic aspiration for Abitur qualification	0.012 (1.84)	0.045*** (3.86)	-0.105*** (-5.00)	0.048* (2.35)
Science Competence	0.004* (2.09)	-0.006 (-1.31)	-0.017 (-1.54)	0.019 (1.71)
Math Competence	0.004* (2.20)	0.004 (1.18)	-0.024** (-2.74)	0.016 (1.95)
ICT-Literacy	-0.001 (-0.51)	0.008* (2.00)	0.009 (0.72)	-0.016 (-1.30)
Reading Competence	0.003* (2.19)	-0.004 (-1.46)	0.004 (0.46)	-0.003 (-0.36)
Importance of grades for parents	-0.001 (-0.36)	0.002 (0.75)	0.012 (1.58)	-0.013 (-1.92)
Migration background dummy	-0.005 (-0.95)	-0.004 (-0.56)	0.017 (0.98)	-0.009 (-0.48)
STEM occupation father	0.003 (0.48)	0.024** (2.70)	-0.037 (-1.40)	0.010 (0.37)
STEM occupation mother	-0.026 (-1.33)	0.006 (0.29)	0.034 (0.70)	-0.015 (-0.27)
Socio Economic Status [ISEI-08]	0.000 (0.56)	0.000 (0.16)	0.000 (0.33)	-0.000 (-0.54)

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Online Supplementary Material 11 | Logistic Regression with STEM-Aspiration as dependent Variable [full sample (N=5,902), male sample (N=2,732) and female sample (N=3,170); weighted; imputed; 95% confidence intervals]

