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Supplementary Material

Do Women's Empowerment and Self-Expression Values Change Adolescents' Gendered Occupational Expectations?

Longitudinal evidence against the gender-equality paradox from 26 European Countries

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1 Supplementary Figures and Tables

Table A.1: Overview of measures and data sources

Variable (Source parentheses)	Definitions and details
Dependent variable	
Gender-typing of occupational expectation (metric) (PISA 2006, PISA 2018, ILO Segregate Database)	Share of women in each occupational category (ISCO 88 3-digit) in every country aspired by 15-year-old girls and boys at the age of 30 based on PISA 2006 and 2018 data merged with data from nationally representative labor force statistics mainly for the year 2000/2001.
Gender-typing of occupational aspiration (categorical) (PISA 2006, PISA 2018)	“female-dominated occupation” (share of women in occupation 70 percent and above) “gender-balanced occupation” (share of women in occupation more than 30 and less than 70 percent) “male-dominated occupation” (share of women in occupation 30 percent and below)
Independent variables	
<i>Country-level variables</i>	
Female to male employment rate (ILO Segregate Database)	Women’s employment rate in 2006 and 2018.
Women in Parliament (Global Gender Gap Report 2006 & 2018)	Female-male ratio in national parliaments (females/males)
Women in Management (ILO Segregate Database)	Female rate in management positions
Dissimilarity Index (ILO Segregate Database)	Proportion of women (or men) who would need to change their occupation in order to achieve an occupational sex composition that equals the sex composition of the labor market. $D = \sum_{j=1}^J (F_j F) - (M_j M) \times 100 \times \frac{1}{2}$
	F _j = N women in occupation j F = N women in the labor force M _j = N men in occupation j M = N men in the labor force
Gender norms (European and World values survey 1999 & 2008, Norway 1996 & 2008)	Indicator of attitudes towards the gender roles based dichotomized country mean of the following item: “A working mother can establish just as warm and secure a relationship with her children as a mother who does not work”
Survival/self- expression values (World Value Survey 1999 & 2017)	The self-expression index is based on Inglehart and Welzel (2005). We use a short index including the items of “Y002: Post-Materialist” (Index with items), “F118: Justifiable: Homosexuality” and “F120: Justifiable: Abortion”
Gross Domestic Product (GDP) (World Bank)	Gross domestic product per capita in 2006 and 2018, current prices in US dollars
<i>Individual-level variables</i>	
Socioeconomic status (PISA 2006, PISA 2018) ¹	Index of economic, social, and cultural status (ESCS), as provided by PISA
Migration status (PISA 2006, PISA 2018) ¹	Dummy variable 0 “native” 1 “first- and second-generation migrant”
Mathematical competencies, Science competencies, Reading competencies (PISA 2006, PISA 2018) ¹	Plausible value in math literacy, science literacy, reading literacy; metric variable
Mother’s occupation, Father’s occupation (PISA 2006, PISA 2018) ¹	Categorical variable: “female-dominated” (>= 70% women), “male-dominated” (<= 30% women), and “gender-balanced” (> 30% and < 70% women) occupations; “unknown” all cases with missing information are in a fourth category.

¹ Student questionnaire

Table A.2: Overview of country variables means by country and year

Country	Women in Employment (in percentage)				Women in Parliament (female-male ratio)				Women in Management (rate)				Dissimilarity Index				Gender norms				Self-Expression				GDP per Capita (in Tsd. US\$)			
	2006		2018		2006		2018		2010		2018		2010		2018		2006		2018		2006		2018		2006		2018	
	<i>A cross years</i>				<i>A cross years</i>				<i>A cross years</i>				<i>A cross years</i>				<i>A cross years</i>				<i>A cross years</i>							
	2006	2018	mean	sd	2006	2018	mean	sd	2010	2018	mean	sd	2010	2018	mean	sd	2006	2018	mean	sd	2006	2018	mean	sd	2006	2018	mean	sd
Austria	51.24	55.05	53.15	2.69	0.47	0.53	0.50	0.04	0.29	0.32	0.30	0.02	50.28	52.45	51.36	1.53	0.55	0.72	0.63	0.12	4.07	4.92	4.49	0.60	50.77	55.3	53.03	3.20
Belgium	45.62	48.66	47.14	2.15	0.53	0.61	0.57	0.06	0.34	0.34	0.34	0.00	46.79	49.35	48.07	1.81	0.79	0.85	0.82	0.05	3.92	4.26	4.09	0.24	47.21	51.12	49.16	2.76
Bulgaria	46.88	49.34	48.11	1.74	0.28	0.31	0.30	0.02	0.33	0.39	0.36	0.04	47.00	53.13	50.06	4.33	0.79	0.89	0.84	0.07	3.06	2.88	2.97	0.13	15.45	22.21	18.83	4.78
Czech Republic	50.63	53.05	51.84	1.71	0.18	0.28	0.23	0.07	0.28	0.27	0.27	0.01	50.77	51.64	51.21	0.62	0.81	0.78	0.80	0.02	4.28	4.75	4.51	0.33	32.35	39.93	36.14	5.36
Denmark	61.16	57.45	59.31	2.62	0.58	0.60	0.59	0.01	0.22	0.26	0.24	0.03	43.18	43.95	43.56	0.54	0.86	0.91	0.89	0.03	5.17	6.51	5.84	0.94	53.32	56.28	54.80	2.09
Estonia	54.73	57.38	56.06	1.87	0.23	0.36	0.30	0.09	0.36	0.36	0.36	0.00	53.04	48.80	50.92	3.00	0.71	0.8	0.75	0.07	2.96	3.73	3.35	0.54	28.79	35.21	32.00	4.54
Finland	57.09	55.74	56.42	0.95	0.61	0.72	0.67	0.08	0.30	0.32	0.31	0.01	52.41	51.17	51.79	0.88	0.95	0.96	0.95	0.01	4.06	5.43	4.74	0.97	46.3	48.15	47.23	1.31
France	49.95	50.79	50.37	0.59	0.14	0.66	0.40	0.37	0.38	0.34	0.36	0.03	45.97	48.72	47.35	1.95	0.77	0.87	0.82	0.07	4.2	5.11	4.65	0.64	42.37	45.34	43.86	2.10
Germany	51.47	55.23	53.35	2.66	0.47	0.44	0.45	0.02	0.30	0.29	0.30	0.00	48.42	47.55	47.98	0.61	0.67	0.73	0.70	0.04	4.05	5.36	4.70	0.93	45.61	53.46	49.54	5.55
Greece	43.02	44.39	43.70	0.97	0.15	0.23	0.19	0.06	0.30	0.27	0.29	0.02	43.43	43.85	43.64	0.29	0.76	0.76	0.76	0.00	3.93	3.31	3.62	0.44	36.88	29.76	33.32	5.03
Hungary	43.20	48.45	45.83	3.71	0.12	0.14	0.13	0.01	0.36	0.39	0.38	0.01	46.93	52.00	49.46	3.58	0.78	0.79	0.78	0.01	2.3	3.54	2.92	0.88	25.38	31.1	28.24	4.04
Iceland	71.51	71.06	71.28	0.32	0.50	0.62	0.56	0.08	0.34	0.41	0.38	0.05	44.02	44.62	44.32	0.42	0.86	0.93	0.89	0.05	4.73	6.01	5.37	0.91	48.42	55.69	52.05	5.14
Ireland	55.38	56.15	55.77	0.54	0.15	0.28	0.22	0.09	0.39	0.36	0.38	0.02	39.88	44.83	42.36	3.50	0.71	0.79	0.75	0.06	2.96	3.35	3.15	0.27	57.97	83.12	70.55	17.78
Italy	37.94	40.84	39.39	2.05	0.21	0.56	0.38	0.25	0.33	0.27	0.30	0.04	44.80	47.47	46.13	1.89	0.64	0.69	0.67	0.04	3.67	4.33	4.00	0.47	44.92	42.05	43.49	2.03
Latvia	52.02	56.03	54.02	2.84	0.23	0.19	0.21	0.03	0.42	0.45	0.43	0.02	50.73	57.49	54.11	4.78	0.76	0.79	0.77	0.03	2.46	2.67	2.57	0.15	22.8	30.04	26.42	5.12
Lithuania	50.13	56.73	53.43	4.67	0.28	0.27	0.28	0.01	0.41	0.39	0.40	0.01	51.20	52.05	51.62	0.60	0.76	0.78	0.77	0.01	2.53	3.06	2.79	0.38	22.98	35.43	29.20	8.80
Luxembourg	46.71	54.71	50.71	5.66	0.30	0.40	0.35	0.07	0.25	0.25	0.25	0.00	38.50	39.42	38.96	0.65	0.76	0.85	0.80	0.06	4.43	4.28	4.35	0.11	107.68	113.59	110.64	4.18
Netherlands	55.43	58.37	56.90	2.08	0.58	0.56	0.57	0.01	0.28	0.26	0.27	0.02	44.56	44.50	44.53	0.04	0.81	0.82	0.82	0.01	5.15	5.82	5.48	0.47	51.1	56.06	53.58	3.51
Norway	61.03	60.44	60.73	0.42	0.61	0.71	0.66	0.07	0.34	0.36	0.35	0.01	43.59	43.54	43.57	0.04	0.7	0.91	0.81	0.14	3.65	5.98	4.81	1.64	62.85	64.45	63.65	1.13
Poland	46.70	48.91	47.81	1.56	0.26	0.39	0.32	0.09	0.36	0.43	0.39	0.05	49.36	52.93	51.15	2.52	0.54	0.65	0.59	0.07	2.72	3.28	3.00	0.39	20.11	31.67	25.89	8.18
Portugal	55.58	54.52	55.05	0.75	0.27	0.53	0.40	0.18	0.32	0.34	0.33	0.01	45.41	48.96	47.19	2.51	0.67	0.78	0.72	0.07	2.9	3.68	3.29	0.55	31.52	34.04	32.78	1.78
Slovakia	50.67	52.38	51.52	1.21	0.25	0.25	0.25	0.00	0.35	0.32	0.33	0.02	49.99	50.42	50.21	0.31	0.81	0.86	0.83	0.03	3.6	4.07	3.83	0.33	21.78	31.18	26.48	6.65
Slovenia	53.21	53.81	53.51	0.42	0.14	0.32	0.23	0.13	0.35	0.39	0.37	0.03	41.26	46.53	43.89	3.73	0.82	0.88	0.85	0.04	4.28	4.73	4.51	0.31	32.82	37.97	35.39	3.64
Spain	47.49	52.01	49.75	3.20	0.56	0.64	0.23	0.13	0.34	0.32	0.33	0.02	46.46	48.90	47.68	1.72	0.77	0.77	0.77	0.00	3.93	5.02	4.47	0.77	38.86	40.31	39.59	1.03
Sweden	59.22	61.16	60.19	1.37	0.90	0.86	0.88	0.03	0.31	0.38	0.35	0.05	44.15	41.21	42.68	2.08	0.84	0.91	0.88	0.05	5.71	6.35	6.03	0.46	47.29	52.35	49.82	3.58
U. Kingdom	55.15	57.57	56.36	1.71	0.25	0.47	0.36	0.16	0.36	0.36	0.36	0.00	42.49	42.32	42.41	0.13	0.73	0.82	0.78	0.06	4.72	5.21	4.96	0.34	43.45	46.14	44.80	1.90
<i>A cross countries</i>																												
<i>mean</i>	52.04	54.24			0.36	0.46			0.33	0.34			46.33	48.00			0.75	0.82			3.82	4.52			41.49	47.00		
<i>sd</i>	6.90	5.83			0.20	0.19			0.05	0.06			3.87	4.33			0.09	0.08			0.89	1.12			18.46	19.00		

Table A.3: Mean and mean differences in the share of females in aspired occupation by country and year

	Girls			Boys		
	2006	2018	$X^{2018} - X^{2006}$	2006	2018	$X^{2018} - X^{2006}$
Austria	0.569	0.518	-0.051	0.247	0.247	0.000
Belgium	0.588	0.504	-0.084	0.259	0.283	0.025
Bulgaria	0.603	0.654	0.051	0.587	0.536	-0.051
Czech Republic	0.574	0.588	0.014	0.267	0.262	-0.006
Denmark	0.556	0.493	-0.062	0.269	0.293	0.024
Estonia	0.633	0.624	-0.009	0.325	0.389	0.064
Finland	0.641	0.625	-0.016	0.274	0.313	0.039
France	0.533	0.484	-0.048	0.271	0.282	0.011
Germany	0.577	0.518	-0.059	0.302	0.285	-0.017
Greece	0.465	0.462	-0.003	0.287	0.301	0.014
Hungary	0.543	0.525	-0.018	0.306	0.294	-0.012
Iceland	0.530	0.503	-0.027	0.299	0.290	-0.009
Ireland	0.589	0.549	-0.040	0.267	0.331	0.065
Italy	0.442	0.455	0.014	0.258	0.279	0.021
Latvia	0.580	0.628	0.049	0.330	0.382	0.052
Lithuania	0.640	0.652	0.011	0.370	0.338	-0.032
Luxembourg	0.514	0.472	-0.042	0.257	0.292	0.035
Netherlands	0.584	0.520	-0.064	0.300	0.310	0.009
Norway	0.490	0.443	-0.047	0.223	0.222	-0.001
Poland	0.611	0.557	-0.054	0.359	0.309	-0.050
Portugal	0.541	0.463	-0.078	0.309	0.295	-0.015
Slovakia	0.590	0.594	0.005	0.340	0.336	-0.004
Slovenia	0.606	0.590	-0.016	0.287	0.286	0.000
Spain	0.470	0.450	-0.020	0.237	0.276	0.039
Sweden	0.523	0.474	-0.049	0.263	0.289	0.026
United Kingdom	0.578	0.528	-0.050	0.261	0.280	0.019
Total	64,568	71,188		60,917	67,887	

Table A.4: Share of female-dominated, male-dominated, and gender-balanced occupational expectations by country, gender, and year

	Girls								Boys							
	Female-dominated		Gender-balanced		Male-dominated		N	N	Female-dominated		Gender-balanced		Male-dominated		N	N
	2006	2018	2006	2018	2006	2018	2006	2018	2006	2018	2006	2018	2006	2018	2006	2018
Austria	41.50	29.44	44.08	52.62	14.41	17.94	1,665	2,347	5.46	4.58	33.48	32.15	61.06	63.26	1,592	2,488
Belgium	44.09	30.82	43.31	51.61	12.60	17.58	3,302	1,337	9.79	9.07	29.86	36.44	60.34	54.49	3,543	1,213
Bulgaria	18.25	28.97	69.34	67.43	12.42	3.59	1,474	1,781	19.65	22.62	65.94	53.51	14.41	23.87	1,506	1,596
Czech Republic	27.72	27.53	56.42	62.20	15.86	10.27	1,955	2,405	3.62	5.29	28.26	31.05	68.13	63.66	1,964	2,229
Denmark	34.38	16.54	50.97	68.17	14.65	15.29	1,748	2,328	9.20	3.82	31.12	44.78	59.68	51.40	1,674	2,175
Estonia	46.38	47.78	48.36	44.99	5.25	7.23	1,770	2,074	13.27	18.65	42.98	47.27	43.75	34.08	1,703	1,957
Finland	56.17	57.72	33.33	29.01	10.50	13.26	1,896	1,968	15.19	14.91	24.89	33.00	59.92	52.09	1,567	1,818
France	25.99	20.01	59.41	60.03	14.60	19.69	1,774	2,184	4.38	4.45	36.96	38.71	58.66	56.84	1,553	2,201
Germany	40.37	25.44	45.33	55.39	14.30	19.17	1,615	1,930	11.30	7.35	31.02	33.75	57.69	58.90	1,496	2,151
Greece	11.64	13.27	67.75	71.15	20.61	15.58	1,873	2,548	2.82	2.91	42.79	48.18	54.39	48.91	1,526	2,339
Hungary	23.08	19.27	63.07	64.60	13.85	16.14	1,538	2,045	2.75	2.32	40.91	36.25	56.35	61.43	1,457	1,986
Iceland	35.71	27.00	47.18	57.91	17.10	15.10	1,526	1,252	7.48	5.97	45.28	47.71	47.24	46.32	1,323	1,155
Ireland	36.93	29.10	51.96	60.78	11.11	10.12	1,909	2,254	4.70	6.61	37.69	48.31	57.61	45.08	1,767	2,074
Italy	5.30	12.93	80.19	73.29	14.51	13.78	8,449	3,983	0.75	2.44	44.65	46.15	54.60	51.41	8,288	3,931
Latvia	44.89	51.33	47.43	40.95	7.68	7.71	1,887	2,061	12.51	15.12	51.28	53.56	36.21	31.32	1,519	1,839
Lithuania	45.53	54.60	45.36	29.49	9.11	15.90	1,746	2,465	14.15	14.44	48.04	40.34	37.80	45.22	1,611	2,417
Luxembourg	22.41	17.36	58.48	63.43	19.11	19.21	1,821	2,051	5.13	6.63	36.01	41.71	58.87	51.66	1,658	1,870
Netherlands	38.88	28.80	51.03	53.45	10.09	17.75	2,042	1,375	4.57	5.54	48.96	41.44	46.47	53.02	2,012	1,192
Norway	26.50	22.02	47.74	46.78	25.76	31.20	1,638	2,112	2.39	3.71	28.42	26.91	69.18	69.38	1,629	2,051
Poland	48.85	34.97	39.49	50.13	11.66	14.90	2,213	2,362	16.57	9.49	32.60	34.59	50.84	55.92	2,034	2,171
Portugal	18.14	4.86	63.57	70.46	18.29	24.67	2,045	2,282	1.97	2.11	40.15	35.33	57.87	62.56	1,823	2,417
Slovakia	42.91	41.28	49.40	47.06	7.69	11.66	1,678	2,161	14.36	10.43	47.46	48.40	38.18	41.17	1,595	1,936
Slovenia	31.97	31.63	51.05	50.29	16.98	18.08	2,374	2,235	6.56	5.64	27.60	29.73	65.84	64.63	2,529	2,516
Spain	14.39	15.65	70.93	66.19	14.68	18.16	7,316	14,400	0.73	2.68	39.39	43.88	59.88	53.45	6,606	13,713
Sweden	26.10	24.33	57.85	52.22	16.05	23.45	1,751	2,047	3.18	6.35	39.09	34.66	57.73	58.99	1,760	1,907
United Kingdom	36.04	26.28	55.92	62.05	8.04	11.67	5,563	5,201	4.59	4.84	43.03	46.05	52.37	49.11	5,182	4,545
Total	28.73	25.62	57.74	58.44	13.52	15.94	64,568	71,188	6.12	6.33	39.40	41.14	54.48	52.54	60,917	67,887

Table A.5: Change in the dependent variable between 2006 and 2018 with controlling for composition effects by state

Country	<i>Share of Females</i>		<i>Female-dominated</i>		<i>Male-dominated</i>		<i>Gender-balanced</i>	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Austria	-0.039***	0.002	-0.095***	-0.006	0.019	0.040**	0.076***	-0.034*
Belgium	-0.085***	0.029***	-0.130***	0.002	0.046***	-0.061***	0.084***	0.059***
Bulgaria	0.054***	-0.055***	0.105***	0.037**	-0.091***	0.106***	-0.014	-0.143***
Czech Republic	-0.008	0.013*	-0.038***	0.023***	-0.043***	-0.084***	0.081***	0.061***
Denmark	-0.047***	0.010	-0.129***	-0.043***	0.012	-0.072***	0.118***	0.088***
Estonia	-0.012	0.074***	0.012	0.059***	0.019**	-0.120***	-0.030*	0.062***
Finland	-0.016*	0.028***	0.010	-0.014	0.031***	-0.060***	-0.041***	0.074***
France	-0.045***	0.013*	-0.053***	0.001	0.046***	-0.024	0.008	0.023
Germany	-0.073***	-0.013	-0.175***	-0.041***	0.052***	0.005	0.123***	0.036**
Greece	-0.001	0.011*	0.018*	-0.001	-0.050***	-0.050***	0.032**	0.052***
Hungary	-0.023***	-0.011	-0.048***	-0.005	0.024*	0.058***	0.025	-0.053***
Iceland	-0.032***	-0.013	-0.096***	-0.017*	-0.018	-0.003	0.114***	0.020
Ireland	-0.024***	0.058***	-0.052***	0.020***	-0.013	-0.105***	0.065***	0.086***
Italy	0.011***	0.030***	0.074***	0.016***	-0.001	-0.065***	-0.073***	0.050***
Latvia	0.035***	0.065***	0.039**	0.038***	0.007	-0.073***	-0.046***	0.035*
Lithuania	0.012	-0.027***	0.092***	0.006	0.070***	0.069***	-0.161***	-0.074***
Luxembourg	-0.037***	0.033***	-0.048***	0.018**	0.007	-0.062***	0.040**	0.044**
Netherlands	-0.068***	0.017**	-0.105***	0.007	0.077***	0.044**	0.027	-0.051***
Norway	-0.033***	-0.012	-0.016	0.010*	0.049***	0.017	-0.032*	-0.027*
Poland	-0.052***	-0.048***	-0.128***	-0.066***	0.038***	0.050***	0.090***	0.016
Portugal	-0.073***	-0.017***	-0.122***	-0.000	0.051***	0.052***	0.071***	-0.051***
Slovakia	0.007	-0.006	-0.012	-0.048***	0.033***	0.032*	-0.021	0.017
Slovenia	-0.006	-0.011	0.041***	0.001	0.017	0.015	-0.058***	-0.017
Spain	-0.032***	0.032***	0.010*	0.023***	0.058***	-0.054***	-0.069***	0.032***
Sweden	-0.031***	0.018**	0.017	0.032***	0.055***	0.029*	-0.072***	-0.061***
U. Kingdom	-0.043***	0.005	-0.075***	-0.001	0.045***	0.005	0.031***	-0.004

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

Based on linear regressions with individual weights provided by PISA under control of for age, ESCS, migration background, and gender type of father's and mother's occupation and clustered standard errors for the schools.

Table A.6 Results of linear regression model of the first level with the metric outcome (share of women in aspired occupation)

	Girls		Boys	
	2006	2018	2006	2018
Age	-0.001	-0.001	-0.001	0.001
ESCS	-0.023***	-0.020***	0.020***	0.014***
<i>Migration status (Ref. native)</i>				
2nd Generation	-0.045***	-0.036***	0.041***	0.017***
1st Generation	-0.050***	-0.045***	0.025***	0.020***
<i>Competencies</i>				
Mathematics	-0.088***	-0.134***	-0.016	-0.015
Reading	-0.040**	-0.005	0.119***	0.260***
Science	-0.115***	-0.185***	0.039*	-0.038
<i>Occupation Mother (Ref. female dominated)</i>				
gender balanced	-0.017***	-0.022***	-0.001	-0.001
male-dominated	-0.025***	-0.027***	-0.008*	-0.004
Missing	-0.022***	-0.022***	-0.003	-0.002
<i>Occupation father (Ref. female dominated)</i>				
gender balanced	-0.004	-0.012**	-0.017***	-0.016***
male-dominated	-0.001	-0.011**	-0.051***	-0.054***
Missing	0.002	-0.005	-0.029***	-0.032***
<i>Countries</i>				
Austria	0.597***	0.384***	0.280***	0.387***
Belgium	0.622***	0.358***	0.289***	0.426***
Bulgaria	0.580***	0.478***	0.648***	0.681***
Czech Republic	0.611***	0.433***	0.288***	0.399***
Denmark	0.574***	0.352***	0.300***	0.417***
Estonia	0.668***	0.481***	0.343***	0.519***
Finland	0.688***	0.483***	0.291***	0.443***
France	0.550***	0.329***	0.302***	0.423***
Germany	0.611***	0.376***	0.323***	0.420***
Greece	0.472***	0.299***	0.336***	0.450***
Hungary	0.556***	0.361***	0.345***	0.439***
Iceland	0.563***	0.358***	0.325***	0.425***
Ireland	0.610***	0.403***	0.300***	0.462***
Italy	0.436***	0.285***	0.314***	0.441***
Latvia	0.598***	0.464***	0.353***	0.524***
Lithuania	0.653***	0.489***	0.411***	0.480***
Luxembourg	0.538***	0.332***	0.284***	0.426***
Netherlands	0.631***	0.386***	0.321***	0.450***
Norway	0.515***	0.306***	0.258***	0.358***
Poland	0.625***	0.405***	0.392***	0.448***
Portugal	0.529***	0.300***	0.358***	0.440***
Slovakia	0.596***	0.429***	0.390***	0.486***
Slovenia	0.640***	0.464***	0.339***	0.431***
Spain	0.501***	0.300***	0.292***	0.422***
Sweden	0.542***	0.337***	0.288***	0.419***
United Kingdom	0.594***	0.368***	0.302***	0.414***
N	64,568	71,188	60,917	67,887

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

The results are based on the linear regression model with and clustered standard errors for the schools as a cell mean model for the country variable. In this method, all countries are included in the model and no reference category is used. For this, we used in stata the “.ibn” operator and the “noconstant” option for the regression.

Table A.7 Results of the linear regression model of the first level with the **female-dominated** occupation as the outcome

	Girls		Boys	
	2006	2018	2006	2018
Age	0.001	0.000	-0.001	0.001
ESCS	-0.041***	-0.042***	0.000	-0.002
<i>Migration status (Ref. native)</i>				
2nd Generation	-0.088***	-0.090***	0.003	0.003
1st Generation	-0.106***	-0.097***	-0.005	-0.006
<i>Competencies</i>				
Mathematics	-0.131***	-0.228***	-0.018	-0.059**
Reading	-0.142***	-0.223***	0.026**	0.069**
Science	-0.231***	-0.355***	-0.002	-0.044*
<i>Occupation Mother (Ref. female dominated)</i>				
gender balanced	-0.032***	-0.043***	-0.009***	-0.009***
male-dominated	-0.036***	-0.043***	-0.009*	-0.010**
missing	-0.043***	-0.042***	-0.012***	-0.008**
<i>Occupation father (Ref. female dominated)</i>				
gender balanced	0.001	-0.018*	-0.044***	-0.027***
male-dominated	0.014	-0.007	-0.044***	-0.032***
missing	0.017*	-0.005	-0.035***	-0.027***
<i>Countries</i>				
Austria	0.456***	-0.059***	0.108***	0.065***
Belgium	0.493***	-0.071**	0.141***	0.104***
Bulgaria	0.131***	-0.151***	0.240***	0.234***
Czech Republic	0.350***	-0.098***	0.081***	0.064***
Denmark	0.363***	-0.185***	0.132***	0.049***
Estonia	0.522***	0.117***	0.173***	0.197***
Finland	0.648***	0.219***	0.194***	0.156***
France	0.285***	-0.193***	0.090***	0.052***
Germany	0.461***	-0.106***	0.162***	0.090***
Greece	0.125***	-0.278***	0.081***	0.040***
Hungary	0.252***	-0.214***	0.074***	0.034***
Iceland	0.407***	-0.105***	0.124***	0.071***
Ireland	0.403***	-0.076***	0.094***	0.076***
Italy	0.047***	-0.287***	0.057***	0.034***
Latvia	0.477***	0.102***	0.163***	0.165***
Lithuania	0.468***	0.138***	0.185***	0.150***
Luxembourg	0.261***	-0.186***	0.099***	0.079***
Netherlands	0.464***	-0.067***	0.096***	0.071***
Norway	0.300***	-0.133***	0.072***	0.049***
Poland	0.513***	-0.033*	0.210***	0.108***
Portugal	0.156***	-0.356***	0.066***	0.030***
Slovakia	0.428***	-0.009	0.199***	0.117***
Slovenia	0.344***	-0.026	0.111***	0.076***
Spain	0.184***	-0.220***	0.061***	0.041***
Sweden	0.289***	-0.109***	0.075***	0.073***
United Kingdom	0.381***	-0.125***	0.091***	0.053***
N	64,568	71,188	60,917	67,887

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

The results are based on the linear regression model with and clustered standard errors for the schools as a cell mean model for the country variable. In this method, all countries are included in the model and no reference category is used. For this, we used in stata the “.ibn” operator and the “noconstant” option for the regression.

Table A.8 Results of linear regression model of the first level with the **male-dominated** occupation as the outcome

	Girls		Boys	
	2006	2018	2006	2018
Age	0.000	0.003*	-0.001	-0.002
ESCS	0.004**	0.008***	-0.047***	-0.030***
<i>Migration status (Ref. native)</i>				
2nd Generation	-0.002	-0.009	-0.112***	-0.029***
1st Generation	0.005	-0.001	-0.070***	-0.039***
<i>Competencies</i>				
Mathematics	0.100***	0.139***	0.088*	0.0960
Reading	-0.039*	-0.187***	-0.245***	-0.554***
Science	0.0260	0.109**	-0.077*	0.160**
<i>Occupation Mother (Ref. female dominated)</i>				
gender balanced	0.007*	0.014***	-0.011*	-0.017***
male-dominated	0.028***	0.033***	0.013	0.011
missing	0.014***	0.024***	-0.001	-0.003
<i>Occupation father (Ref. female dominated)</i>				
gender balanced	0.003	0.002	-0.021*	-0.005
male dominated	0.021***	0.020**	0.083***	0.101***
missing	0.011	0.006	0.034**	0.050***
<i>Countries</i>				
Austria	0.125***	0.202***	0.581***	0.457***
Belgium	0.097***	0.189***	0.569***	0.341***
Bulgaria	0.126***	0.069***	0.065***	0.053**
Czech Republic	0.140***	0.139***	0.679***	0.447***
Denmark	0.125***	0.181***	0.566***	0.355***
Estonia	0.033**	0.099***	0.443***	0.166***
Finland	0.079***	0.162***	0.590***	0.347***
France	0.129***	0.220***	0.561***	0.375***
Germany	0.124***	0.215***	0.571***	0.405***
Greece	0.195***	0.187***	0.486***	0.290***
Hungary	0.123***	0.193***	0.515***	0.419***
Iceland	0.148***	0.172***	0.459***	0.287***
Ireland	0.092***	0.131***	0.539***	0.280***
Italy	0.139***	0.176***	0.468***	0.264***
Latvia	0.062***	0.110***	0.352***	0.122***
Lithuania	0.073***	0.187***	0.328***	0.258***
Luxembourg	0.176***	0.222***	0.578***	0.342***
Netherlands	0.069***	0.189***	0.464***	0.333***
Norway	0.236***	0.333***	0.662***	0.514***
Poland	0.100***	0.179***	0.477***	0.369***
Portugal	0.178***	0.267***	0.514***	0.421***
Slovakia	0.064***	0.142***	0.316***	0.206***
Slovenia	0.128***	0.185***	0.585***	0.446***
Spain	0.099***	0.204***	0.527***	0.333***
Sweden	0.150***	0.256***	0.564***	0.417***
United Kingdom	0.054***	0.141***	0.461***	0.293***
N	64,568	71,188	60,917	67,887

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

The results are based on the linear regression model with and clustered standard errors for the schools as a cell mean model for the country variable. In this method, all countries are included in the model and no reference category is used. For this we used in stata the “.ibn” operator and the “noconstant” option for the regression.

Table A.9 Results of linear regression model of the first level with the **gender-balanced** occupation as the outcome

	Girls		Boys	
	2006	2018	2006	2018
Age	-0.001	-0.004*	0.002	0.001
ESCS	0.037***	0.034***	0.048***	0.032***
<i>Migration status (Ref. native)</i>				
2nd Generation	0.091***	0.099***	0.109***	0.026***
1st Generation	0.101***	0.098***	0.075***	0.046***
<i>Competencies</i>				
Mathematics	0.031	0.089*	-0.070*	-0.037
Reading	0.181***	0.410***	0.219***	0.485***
Science	0.205***	0.246***	0.078*	-0.116*
<i>Occupation Mother (Ref. female dominated)</i>				
gender balanced	0.026***	0.029***	0.019***	0.026***
male-dominated	0.008	0.010	-0.004	0.000
missing	0.029***	0.018**	0.014*	0.011*
<i>Occupation father (Ref. female dominated)</i>				
gender balanced	-0.004	0.016	0.065***	0.033***
male-dominated	-0.035***	-0.013	-0.038***	-0.069***
missing	-0.028**	-0.001	0.001	-0.023*
<i>Countries</i>				
Austria	0.419***	0.857***	0.311***	0.478***
Belgium	0.410***	0.882***	0.290***	0.555***
Bulgaria	0.743***	1.082***	0.694***	0.713***
Czech Republic	0.510***	0.959***	0.240***	0.488***
Denmark	0.512***	1.004***	0.302***	0.596***
Estonia	0.445***	0.784***	0.384***	0.637***
Finland	0.273***	0.619***	0.217***	0.496***
France	0.587***	0.972***	0.349***	0.573***
Germany	0.414***	0.891***	0.268***	0.505***
Greece	0.680***	1.091***	0.433***	0.670***
Hungary	0.625***	1.021***	0.411***	0.547***
Iceland	0.445***	0.933***	0.417***	0.642***
Ireland	0.506***	0.945***	0.368***	0.644***
Italy	0.814***	1.112***	0.475***	0.702***
Latvia	0.461***	0.788***	0.486***	0.713***
Lithuania	0.459***	0.675***	0.487***	0.592***
Luxembourg	0.563***	0.964***	0.323***	0.580***
Netherlands	0.467***	0.878***	0.440***	0.596***
Norway	0.463***	0.800***	0.266***	0.437***
Poland	0.387***	0.854***	0.313***	0.523***
Portugal	0.666***	1.089***	0.419***	0.550***
Slovakia	0.508***	0.867***	0.486***	0.676***
Slovenia	0.528***	0.841***	0.303***	0.478***
Spain	0.717***	1.016***	0.412***	0.626***
Sweden	0.561***	0.853***	0.360***	0.510***
United Kingdom	0.565***	0.985***	0.448***	0.653***
N	64,568	71,188	60,917	67,887

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

The results are based on the linear regression model with and clustered standard errors for the schools as a cell mean model for the country variable. In this method, all countries are included in the model and no reference category is used. For this, we used in stata the “.ibn” operator and the “noconstant” option for the regression.

Table A.10: Change in the dependent variable between 2006 and 2018

	<i>Share of Females</i>		<i>Female-dominated</i>		<i>Male-dominated</i>		<i>Gender-balanced</i>	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
<i>Ref. 2006</i>								
2018	-0.192***	0.112***	-0.441***	-0.035***	0.059***	-0.165***	0.382***	0.200***
Constant	0.581***	0.333***	0.354***	0.122***	0.118***	0.497***	0.527***	0.381***
Observations	52	52	52	52	52	52	52	52

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

Table A.11: Amount of significant coefficient of 26 regression model sets excluded one country from the analyses at a time

	<i>Share of Females</i>		<i>Female-dominated</i>		<i>Male-dominated</i>		<i>Gender-balanced</i>	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
<i>Women's Empowerment</i>								
Female Employment Ratio	26	26	26	0	26	24	24	22
Women in Parliament	25	22	25	0	0	25	25	25
Women in Management	0	0	0	0	0	0	2	0
Dissimilarity Index	0	0	0	0	0	1	0	0
<i>Cultural norms and values</i>								
Gender norms	0	0	0	0	0	0	0	0
Self-Expression	26	26	26	24	26	24	26	26
<i>Economic Development</i>								
GDP	6	4	7	0	0	5	2	17

Table A.12: Correlation between state characteristics 2006

	Female Emplo.	Female Parliament	Female Management	Dissimilarity Index	Gender norms	Self-Expression
Female Parliament	0.494*	1.000				
Female Management	-0.089	-0.396**	1.000			
Dissimilarity Index	-0.116	-0.008	0.239	1.000		
Gender norms	0.370*	0.279	-0.160	-0.083	1.000	
Self-Expression	0.413**	0.589***	-0.637***	-0.409**	0.408**	1.000
GDP in tsd	0.184	0.324	-0.511***	-0.615***	0.049	0.503***

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

Table A.13: Correlation between state characteristics 2018

	Female Emplo.	Female Parliament	Female Management	Dissimilarity Index	Gender norms	Self-Expression
Female Parliament	0.338	1.000				
Female Management	0.268	-0.167	1.000			
Dissimilarity Index	-0.312	-0.410**	0.413**	1.000		
Gender norms	0.519***	0.401**	0.060	-0.330	1.000	
Self-Expression	0.519***	0.776***	-0.346*	-0.566***	0.485**	1.000
GDP in tsd	0.340*	0.286	-0.391**	-0.647***	0.211	0.362*

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

Table A.14: Results of the regression model with fixed effects by gender and factors

	<i>Share of Females</i>		<i>Female-dominated</i>		<i>Male-dominated</i>		<i>Gender-balanced</i>	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Female Emplo.	-0.037***	0.023***	-0.085***	-0.005**	0.013***	-0.032***	0.072***	0.037***
Constant	2.465***	-0.812***	4.631***	0.391***	-0.527***	2.104***	-3.105***	-1.495***
$\hat{\theta}$	0.076	0.044	0.176	0.019	0.027	0.070	0.154	0.084
Average ω	0.007	0.007	0.014	0.008	0.012	0.016	0.016	0.016
Female Parliament	-0.780***	0.447***	-1.748***	-0.136***	0.229***	-0.706***	1.519***	0.842***
Constant	0.802***	0.207***	0.846***	0.160***	0.054**	0.702***	0.100	0.138
$\hat{\theta}$	0.075	0.045	0.174	0.018	0.029	0.066	0.151	0.079
Average ω	0.007	0.007	0.014	0.008	0.012	0.016	0.016	0.016
Women in Management	-1.149	0.369	-2.900	-0.336	0.207	-0.455	2.694	0.792
Constant	0.871***	0.265	1.108	0.218**	0.077	0.567*	-0.186	0.215
$\hat{\theta}$	0.096	0.058	0.219	0.020	0.034	0.087	0.189	0.104
Average ω	0.007	0.007	0.014	0.008	0.012	0.016	0.016	0.016
Dissimilarity Index	-0.030***	0.017***	-0.072***	-0.006***	0.006	-0.023**	0.066***	0.030***
Constant	1.894***	-0.395	3.547***	0.406***	-0.155	1.520***	-2.394***	-0.925*
$\hat{\theta}$	0.086	0.052	0.195	0.018	0.033	0.080	0.166	0.093
Average ω	0.007	0.007	0.014	0.008	0.012	0.016	0.016	0.016
Gender norms	-1.886***	1.027***	-4.310***	-0.339***	0.595***	-1.495***	3.716***	1.833***
Constant	1.968***	-0.419***	3.524***	0.371***	-0.321***	1.590***	-2.204***	-0.960***
$\hat{\theta}$	0.060	0.040	0.138	0.016	0.024	0.063	0.121	0.072
Average ω	0.007	0.007	0.014	0.008	0.012	0.016	0.016	0.016
Self-Expression	-0.173***	0.095***	-0.390***	-0.034***	0.064***	-0.141***	0.326***	0.174***
Constant	1.205***	-0.007	1.763***	0.245***	-0.121***	1.002***	-0.644**	-0.247*
$\hat{\theta}$	0.058	0.039	0.137	0.014	0.017	0.060	0.126	0.067
Average ω	0.007	0.007	0.014	0.008	0.012	0.016	0.016	0.016
GDP in tsd	-0.017***	0.010***	-0.040***	-0.003**	0.005***	-0.015***	0.035***	0.018***
Constant	1.244***	-0.052	1.911***	0.247***	-0.091	1.062***	-0.820**	-0.309*
$\hat{\theta}$	0.071	0.043	0.159	0.017	0.027	0.066	0.138	0.077
Average ω	0.007	0.007	0.014	0.008	0.012	0.016	0.016	0.016
Observations	52	52	52	52	52	52	52	52

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