

SUPPLEMENTARY MATERIALS

The role of parental age, family dynamics, and historical adversity in craniofacial variation of pre-World War II cadets

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Table S1. Generalized Additive Model (GAM) results for associations between parental age variables (paternal age, maternal age, and parental age difference) and anthropometric traits of sons. Models include smooth terms for individual age at measurement, birth year, and number of children in the family, and parametric coefficients for place of origin, parental occupation, and number of deceased siblings

	Body height				Body weight			
Smooth terms:	Edf	Ref.df	F-value	p-value	Edf	Ref.df	F-value	p-value
Paternal age	2.104	2.638	1.977	0.184	0.590	0.590	1.699	0.318
Maternal age	1.298	1.689	0.994	0.238	0.676	0.676	0.914	0.433
Parental age difference	0.735	0.735	0.599	0.508	0.735	0.735	0.058	0.836
Age of individual	0.772	0.944	0.853	0.371	1.411	1.649	0.200	0.830
Birth year	0.772	0.944	0.853	0.371	1.411	1.649	0.200	0.830
Number of children	1.000	1.000	0.003	0.959	1.000	1.000	0.814	0.368
Parametric coefficients:	Estimate	SE	t-value	p-value	Estimate	SE	t-value	p-value
One deceased sibling	-2.724	1.371	-1.987	0.048**	-0.320	1.553	-0.206	0.837
Two or more deceased siblings	-1.700	1.613	-1.054	0.293	2.125	1.840	1.155	0.250
Place of origin (city)	-1.226	0.937	-1.308	0.192	-0.828	1.073	-0.771	0.441
Occupation (craftsman)	3.164	2.246	1.409	0.161	1.967	2.543	0.774	0.440
Occupation (white-collar)	2.581	1.118	2.309	0.022**	2.059	1.276	1.614	0.108
Occupation (trader)	2.576	1.583	1.628	0.105	3.832	1.785	2.146	0.033**
Occupation (other)	0.474	1.597	0.297	0.767	1.685	1.826	0.922	0.358
	Head length				Jaw width			
Smooth terms:	Edf	Ref.df	F-value	p-value	Edf	Ref.df	F-value	p-value
Paternal age	0.589	0.589	0.126	0.785	0.589	0.589	5.786	0.066*
Maternal age	0.675	0.675	4.765	0.075*	0.675	0.675	0.088	0.807
Parental age difference	0.736	0.736	6.038	0.036**	1.267	1.629	1.963	0.274
Age of individual	0.500	0.500	0.158	0.779	0.500	0.500	0.185	0.761
Birth year	0.500	0.500	0.158	0.779	0.500	0.500	0.185	0.761
Number of children	1.000	1.000	1.162	0.282	1.000	1.000	0.232	0.631
Parametric coefficients:	Estimate	SE	t-value	p-value	Estimate	SE	t-value	p-value
One deceased sibling	1.382	1.561	0.885	0.377	-0.268	1.191	-0.225	0.822
Two or more deceased siblings	2.543	1.848	1.376	0.170	2.397	1.409	1.701	0.091*
Place of origin (city)	1.305	1.058	1.233	0.219	-0.896	0.807	-1.110	0.268
Occupation (craftsman)	-0.122	2.572	-0.048	0.962	-1.339	1.967	-0.681	0.497
Occupation (white-collar)	0.354	1.270	0.279	0.781	-1.175	0.969	-1.213	0.227
Occupation (trader)	1.626	1.798	0.904	0.367	-2.292	1.371	-1.672	0.096*
Occupation (other)	3.001	1.767	1.699	0.091*	-0.500	1.351	-0.370	0.712

Note: Edf = effective degrees of freedom; Ref.df = reference degrees of freedom; SE = standard error. Significance codes: **p<0.05, *p<0.1.

Table S1 (continued)

	PC1 (craniofacial size)				PC2 (craniofacial shape)			
Smooth terms:	Edf	Ref.df	F-value	p-value	Edf	Ref.df	F-value	p-value
Paternal age	3.305	3.541	2.159	0.048**	0.589	0.589	3.239	0.169
Maternal age	0.675	0.675	0.239	0.688	0.675	0.675	0.007	0.944
Parental age difference	2.347	2.887	2.515	0.115	3.408	3.669	3.146	0.021**
Age of individual	1.085	1.312	0.163	0.816	0.500	0.500	2.064	0.311
Birth year	1.085	1.312	0.163	0.816	0.500	0.500	2.064	0.311
Number of children	1.000	1.000	0.327	0.568	1.000	1.000	0.061	0.805
Parametric coefficients:	Estimate	SE	t-value	p-value	Estimate	SE	t-value	p-value
One deceased sibling	-0.405	0.388	-1.044	0.298	0.146	0.310	0.471	0.638
Two or more deceased siblings	1.091	0.454	2.404	0.017**	0.314	0.366	0.859	0.391
Place of origin (city)	-0.221	0.262	-0.842	0.401	0.395	0.209	1.888	0.061*
Occupation (craftsman)	-0.265	0.634	-0.418	0.676	-0.387	0.513	-0.755	0.451
Occupation (white-collar)	-0.240	0.311	-0.771	0.442	0.234	0.251	0.933	0.352
Occupation (trader)	-0.207	0.445	-0.466	0.642	-0.006	0.355	-0.018	0.986
Occupation (other)	-0.123	0.452	-0.273	0.785	0.211	0.352	0.599	0.550
Nasal height								
Smooth terms:	Edf	Ref.df	F-value	p-value				
Paternal age	3.197	3.501	2.230	0.064*				
Maternal age	0.675	0.675	0.257	0.677				
Parental age difference	1.007	1.230	0.898	0.460				
Age of individual	0.500	0.500	0.378	0.664				
Birth year	0.500	0.500	0.378	0.664				
Number of children	1.000	1.000	0.429	0.513				
Parametric coefficients:	Estimate	SE	t-value	p-value				
One deceased sibling	-0.331	0.785	-0.422	0.674				
Two or more deceased siblings	2.114	0.919	2.299	0.023**				
Place of origin (city)	0.750	0.530	1.416	0.158				
Occupation (craftsman)	-1.065	1.282	-0.831	0.407				
Occupation (white-collar)	0.450	0.631	0.714	0.476				
Occupation (trader)	0.197	0.905	0.217	0.828				
Occupation (other)	-0.200	0.889	-0.224	0.823				

Note: Edf = effective degrees of freedom; Ref.df = reference degrees of freedom; SE = standard error. Significance codes: **p<0.05, *p<0.1.