

## Supplementary material

Table 1S: Missing data by country

	Age	Sex	Ethnicity	Paternal age	Age at fatherhood	Maternal age	CAPE Positive	CAPE Negative	CAPE Depressive
UK	0	0	0	0	11	1	6	6	2
Netherland	0	0	1	0	3	0	9	4	5
Spain	0	0	0	0	5	0	21	9	14
France	0	0	0	0	0	0	16	19	4
Italy	0	0	0	0	92	1	17	11	10
Brazil	0	0	0	0	1	4	0	1	3
Total	0	0	1	0	112	6	69	50	38

Table 2S: Parental variables and CAPE scores by country

	Paternal Age		Age at fatherhood		Maternal Age		CAPE Positive		CAPE Negative		CAPE Depressive		CAPE Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
UK	32.18	6.75	28.87	6.06	28.59	5.63	4.11	2.92	6.10	3.40	4.33	1.88	14.53	6.63
Netherland	32.18	6.18	28.59	5.77	29.43	5.44	3.57	2.68	6.52	3.47	4.34	1.99	14.44	6.72
Spain	31.39	6.39	28.08	5.39	28.18	5.60	3.32	2.76	5.83	3.69	3.99	1.93	13.15	7.05
France	30.79	7.63	27.89	5.73	26.76	5.56	2.99	2.47	6.69	3.71	4.66	1.86	14.35	6.67
Italy	32.55	6.55	29.75	5.48	28.72	5.52	4.38	2.97	6.79	3.51	4.80	1.78	15.97	6.74
Brazil	30.95	7.74	26.13	6.02	27.13	6.47	4.17	3.09	5.30	3.71	4.05	2.10	13.52	7.59

Table 3S: Results of MCAR Little's test

<b>Little's test (MCAR)</b>	<b>P_value*</b>
CAPE Positive	0.000
CAPE Negative	0.137
CAPE Depressive	0.913
CAPE Total score	0.000

\* P\_value < 0.05 → Missing data are not MCAR (missing completely at random)

Table 4S: Tests of overdispersion

Paternal age*	Dispersion	p		Paternity age*	Dispersion	p
Total	3.39	<0.01		Total	3.44	<0.01
Positive	2.09	<0.01		Positive	2.10	<0.01
Negative	2.11	<0.01		Negative	2.13	<0.01
Depressive	0.85	0.99		Depressive	0.87	0.99

\* the figures are for models with only one parental variable (results for models that included maternal age as a co-variate are similar)

Table 5S: Tests of variance inflation (VIF) in models using 2 parental variables

VIF	<b>Paternal age</b>	Maternal age	Age	Sex	Ethnicity
CAPE Positive	2.057067	2.067058	1.009107	1.002757	1.032231
CAPE Negative	2.074154	2.091235	1.010660	1.003060	1.034576
CAPE Depressive	2.075158	2.091141	1.011035	1.002418	1.033731
CAPE Total Score	2.030487	2.044007	1.009414	1.002330	1.030981

VIF	<b>Paternity age</b>	Maternal age	Age	Sex	Ethnicity
CAPE Positive	1.160221	1.169611	1.005382	1.002309	1.015456
CAPE Negative	1.162338	1.175108	1.006552	1.002494	1.020090
CAPE Depressive	1.170373	1.181146	1.007136	1.002369	1.018665
CAPE Total Score	1.159435	1.169082	1.005688	1.002034	1.016884

Table 6S: Tests of variance inflation (VIF) in models using only paternal/paternity variables

VIF	<b>Paternal age</b>	Age	Sex	Ethnicity
CAPE Positive	1.004440	1.005857	1.002569	1.005041
CAPE Negative	1.004782	1.007707	1.002923	1.005927
CAPE Depressive	1.003339	1.007433	1.002408	1.006147
CAPE Total Score	1.003916	1.005980	1.002159	1.004523

VIF	<b>Paternity age</b>	Age	Sex	Ethnicity
CAPE Positive	1.002327	1.005055	1.001277	1.007687
CAPE Negative	1.003260	1.006274	1.001014	1.009805
CAPE Depressive	1.002850	1.006661	1.001475	1.009561
CAPE Total Score	1.003212	1.005159	1.001061	1.008455

Table 7S: Summary of the selection procedure for the best suited statistical models

Test	Significant Results	Decision *
Little's MCAR	Positive and Total data are not MCAR	Impute CAPE missing data
Overdispersion test	Models for Positive, Negative and Total scores show overdispersion	Use binomial negative models (instead of Poisson)
VIF test	Signs of inflated variance (thus collinearity) in all models using paternal and maternal age conjointly	Use models with only one parental variable
Vuong test	ZIP model superior to non-ZIP models for the Negative score (inferior for all other scores)	Use non-ZIP models but for the Negative score

\* for all analyses unless otherwise specified