

Supplementary Table 1. Linear regression model for the association between ESR1 polymorphisms and brain measures^a in men.

Model	N	Grey Matter	White Matter	Hippocampus	Corpus Callosum	White Matter Lesions
		Beta (SE), p	Beta (SE), p	Beta (SE), p	Beta (SE), p	Beta (SE), p
<u>Age-adjusted</u>						
<i>rs2234693</i> :C allele	79	1	1	1	1	1
TT	208	-0.33 (0.33), 0.31	-0.04 (0.28), 0.89	0.05 (0.10), 0.60	-0.02 (0.01), 0.07	-0.01 (0.10), 0.91
<i>rs9340799</i> : G allele	114	1	1	1	1	1
AA	173	-0.31 (0.30), 0.30	0.18 (0.26), 0.47	0.05 (0.09), 0.58	-0.01 (0.01), 0.36	-0.008 (0.09), 0.93
<u>Multivariable-adjusted^b</u>						
<i>rs2234693</i> :C allele	79	1	1	1	1	1
TT	208	-0.35 (0.32), 0.28	-0.04 (0.28), 0.89	0.06 (0.09), 0.50	-0.02 (0.01), 0.07	-0.007 (0.10), 0.94
<i>rs9340799</i> : G allele	114	1	1	1	1	1
AA	173	-0.36 (0.30), 0.23	0.20 (0.26), 0.45	0.05 (0.09), 0.60	-0.01 (0.01), 0.36	0.004 (0.09), 0.97

^aAll brain measures are given as a percentage of total intracranial brain volume, except for the volume of white matter lesions, which were adjusted for the volume of white matter.

^bAdjusted for age, educational level, cardiovascular disease, hypertension and number of medications

Supplementary Table 2. Linear regression model for the association between ESR2 polymorphisms and brain measures^a in men.

Model	N	Grey Matter	White Matter	Hippocampus	Corpus Callosum	White Matter Lesions
		Beta (SE), p	Beta (SE), p	Beta (SE), p	Beta (SE), p	Beta (SE), p
<u>Age-adjusted</u>						
<i>rs1271572</i> :T allele	196	1	1	1	1	1
GG	91	-0.09 (0.31), 0.79	0.16 (0.27), 0.55	0.01 (0.09), 0.90	0.00 (0.01), 0.95	-0.06 (0.09), 0.53
<i>rs4986938</i> : A allele	176	1	1	1	1	1
GG	111	0.36 (0.30), 0.23	0.02 (0.26), 0.93	0.09 (0.09), 0.30	0.00 (0.01), 0.99	-0.05 (0.09), 0.57
<i>rs1256049</i> : A allele	23	1	1	1	1	1
GG	264	-0.77 (0.57), 0.19	0.49 (0.50), 0.33	-0.16 (0.18), 0.38	-0.02 (0.02), 0.29	-0.23 (0.17), 0.18
<u>Multivariable-adjusted^b</u>						
<i>rs1271572</i> :T allele	196	1	1	1	1	1
GG	91	-0.18 (0.31), 0.56	0.16 (0.30), 0.56	-0.02 (0.09), 0.82	0.00 (0.01), 0.99	-0.04 (0.09), 0.70
<i>rs4986938</i> : A allele	176	1	1	1	1	1
GG	111	0.43 (0.30), 0.16	0.02 (0.26), 0.93	0.09 (0.09), 0.27	0.00 (0.01), 0.98	-0.07 (0.09), 0.44
<i>rs1256049</i> : A allele	23	1	1	1	1	1
GG	264	-0.68 (0.57), 0.23	0.51 (0.50), 0.30	-0.14 (0.18), 0.43	-0.02 (0.02), 0.31	0.27 (0.17), 0.11

^aAll brain measures are given as a percentage of total intracranial brain volume, except for the volume of white matter lesions, which were adjusted for the volume of white matter.

^bAdjusted for age, educational level, cardiovascular disease, hypertension and number of medications.

Supplementary Table 3. Linear regression model for the age-adjusted association between ESR polymorphisms and brain measures^a in women.

Model	N	Grey Matter	White Matter	Hippocampus	Corpus Callosum	White Matter Lesions
		Beta (SE), p-value	Beta (SE), p-value	Beta (SE), p	Beta (SE), p	Beta (SE), p-value
<u>ESR1</u>						
<i>rs2234693</i> :C allele	205	1	1	1	1	1
TT	90	-0.28 (0.33), 0.38	0.25 (0.24), 0.30	0.12 (0.08), 0.14	0.008 (0.01), 0.46	0.24 (0.10), 0.02*
<i>rs9340799</i> : G allele	171	1	1	1	1	1
AA	124	-0.13 (0.30), 0.66	0.29 (0.22), 0.20	0.12 (0.07), 0.11	0.00 (0.01), 0.98	0.11 (0.09), 0.23
<u>ESR2</u>						
<i>rs1271572</i> :T allele	206	1	1	1	1	1
GG	89	-0.16 (0.33), 0.64	-0.17 (0.24), 0.49	0.00 (0.08), 0.99	-0.003 (0.01), 0.81	-0.004 (0.10), 0.97
<i>rs4986938</i> : A allele	202	1	1	1	1	1
GG	93	0.47 (0.33), 0.15	0.09 (0.25), 0.70	0.12 (0.08), 0.12	0.01 (0.01), 0.31	-0.05 (0.10), 0.62
<i>rs1256049</i> : A allele	26	1	1	1	1	1
GG	269	-0.32 (0.54), 0.55	-0.12 (0.40), 0.76	-0.10 (0.13), 0.46	-0.02 (0.02), 0.32	-0.04 (0.17), 0.80

^aAll brain measures are given as a percentage of total intracranial brain volume, except for the volume of white matter lesions, which were adjusted for the volume of white matter. *p<0.05

