

SUPPLEMENTARY DATA

Supplementary Table 1. Estimates of additive genetic (A), dominant genetic (D), shared environmental (C), and unshared environmental (E) influences and fit statistics for the full and reduced models. All results are adjusted for sex.

	Model	Genetic components		Environmental components		Goodness of Fit Tests		Comparison of nested submodels			
		A	D	C	E	-2LL	AIC	Vs. model	Δ2LL	Δdf	P
Homa index	ADE	0.06 (0, 0.69)	0.53 (0, 0.75)	-	0.41 (0.25, 0.70)	386.829	-29.171				
	ACE	0.52 (0.07, 0.71)	-	0, (0, 0.28)	0.48 (0.29, 0.75)	388.040	-27.960				
	AE*	0.52 (0.35, 0.71)	-	-	0.48 (0.29, 0.75)	388.04	-29.96	ADE	1.211	1	0.27
	E	-	-	-	1	400.818	-19.182	ADE	13.989	2	<0.001
Matsuda index	ADE	0.07 (0, 0.74)	0.58 (0, 0.79)	-	0.35 (0.21, 0.60)	351.908	-54.092				
	ACE	0.60 (0.19, 0.76)		0 (0, 0.25)	0.40 (0.24, 0.66)	353.366	-52.634				
	AE*	0.60 (0.34, 0.77)	-	-	0.40 (0.24, 0.66)	353.366	-54.634	ADE	1.458	1	0.22
	E	-	-	-	1	370.535	-39.465	ADE	18.627	2	<0.001
AUC insulin	ADE	0 (0, 0.70)	0.65 (0, 0.79)	-	0.35 (0.21, 0.58)	308.249	- 101.751				
	ACE	0.59 (0.23, 0.76)		0 (0, 0.21)	0.41 (0.24, 0.67)	310.886	-99.114				

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	AE*	0.59 (0.33, 0.67)	-	-	0.41 (0.24, 0.67)	310.886	- 101.114	ADE	2.637	1	0.10
	E	-	-	-	1	-52.031	- 476.031	ADE	15.505	1	<0.001
AUC glucose	ADE	0.35 (0, 0.69)	0.19 (0, 0.70)	-	0.46 (0.29, 0.72)	-67.536	- 487.536				
	ACE	0.52, (0, 0.69)	-	0 (0, 0.38)	0.48 (0.31, 0.74)	-67.388	- 487.388				
	AE*	0.52 (0.28, 0.69)	-	-	0.48 (0.31, 0.72)	-67.388	- 489.388	ADE	0.148	1	0.70
	E	-	-	-	1	-52.031	- 476.031	ADE	15.505	1	<0.001
Fasting GLP-1	ADE	0.61 (0.37, 0.73)	0 (0, 0.23)	-	0.39 (0.27, 0.56)	292.278	- 133.722				
	ACE	0 (0, 0.26)	-	0.58 (0.36, 0.69)	0.43 (0.30, 0.56)	278.235	- 147.765				
	AE	0.61 (0.44, 0.73)	-	-	0.39 (0.27, 0.56)	292.278	- 135.722	ACE	14.043	1	<0.001
	CE*	-	-	0.58 (0.44, 0.69)	0.42 (0.31, 0.56)	278.235	- 149.765	ACE	0	1	1
	E	-	-	-	1	323.459	- 106.541	ACE	45.224	2	<0.001
AUC GLP-1	ADE	0.67 (0, 0.80)	0 (0, 0.75)		0.33 (0.20, 0.55)	231.985	- 176.015				

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	ACE	0.62 (0.01, 0.80)	-	0.04 (0, 0.45)	0.34 (0.20, 0.61)	231.945	- 176.055				
	AE*	0.67 (0.45, 0.80)		-	0.33 (0.20, 0.55)	231.985	-178.01	ACE	0.04	1	0.84
	CE	-	-	0.42 (0.25, 0.57)	0.58 (0.43, 0.75)	235.887	- 174.113	ACE	3.942	1	0.047
	E	-	-	-	1	255.201	- 156.799	ACE	23.256	2	<0.001

*The best fitting model, also highlighted in bold. 95% Confidence intervals are given in parentheses.

AUC, area under the curve; LL, log likelihood; AIC, Akaike's information criterion; Δ, Difference between the full model and submodel.

Note: DE models, in which the effects of D and E are estimated but the additive genetic effects are fixed to zero were not fitted because such models are biologically implausible (Neale MC, Cardon LR, Methodology for genetic studies of twins and families. Dordrecht, Netherlands: Kluwer, Academic, 1992).