

Online-only supplemental materials

Title: Genetic and environmental influences on food preferences in adolescence

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Supplemental Table 1 Model fit and parameter estimates for the saturated, ACE model and submodels of 69 food item preference scores

Food category	Additive genetic effect (A)	Shared environment effect (C)	Nonshared environment effect (E)	-2LL ³	Df ³	AIC ³
Beef						
Sat				7452.189	2621	2176.189
ACE ¹	0.41 (0.33, 0.48)	0.00 (0.00, 0.08)	0.59 (0.52, 0.67)	7464.075	2641	2182.075
AE²	0.41 (0.33, 0.48)	-	0.59 (0.52, 0.67)	7464.075	2642	2180.075
CE ²	-	0.25 (0.19, 0.31)	0.75 (0.69, 0.81)	7492.904	2642	2208.904
E ²	-	-	1.00 (1.00, 1.00)	7605.823	2626	2319.823
Beef burgers						
Sat				7253.788	2614	2025.788
ACE ¹	0.32 (0.25, 0.40)	0.00 (0.00, 0.10)	0.68 (0.60, 0.70)	7263.180	2617	2029.180
AE²	0.32 (0.32, 0.40)	-	0.68 (0.60, 0.68)	7263.180	2618	2027.180
CE ²	-	0.20 (0.14, 0.26)	0.80 (0.74, 0.86)	7274.044	2618	2038.044
E ²	-	-	1.00 (1.00, 1.00)	7311.635	2619	2073.635
Lamb						
Sat				8554.181	2601	3352.181
ACE ¹	0.51 (0.34, 0.57)	0.00 (0.00, 0.13)	0.49 (0.43, 0.56)	8555.542	2604	3347.542
AE²	0.51 (0.44, 0.57)	-	0.49 (0.43, 0.56)	8555.542	2605	3345.542
CE ²	-	0.34 (0.28, 0.39)	0.66 (0.61, 0.72)	8581.270	2605	3371.270
E ²	-	-	1.00 (1.00, 1.00)	8702.839	2606	3490.839
Chicken						
Sat				3975.058	2635	-1294.942
ACE ¹	0.19 (0.00, 0.28)	0.00 (0.00, 0.16)	0.81 (0.72, 0.89)	3985.977	2638	-1290.023
AE²	0.19 (0.13, 0.28)	-	0.81 (0.72, 0.87)	3985.977	2639	-1292.023
CE ²	-	0.13 (0.06, 0.19)	0.87 (0.81, 0.94)	3988.849	2639	-1289.151
E ²	-	-	1.00 (1.00, 1.00)	4003.843	2640	-1276.157
Bacon						
Sat				7088.937	2598	1892.937
ACE ¹	0.28 (0.23, 0.36)	0.00 (0.00, 0.06)	0.72 (0.64, 0.78)	7127.746	2601	1925.746
AE²	0.28 (0.22, 0.36)	-	0.72 (0.64, 0.78)	7127.746	2602	1923.746
CE ²	-	0.16 (0.10, 0.22)	0.84 (0.78, 0.90)	7142.572	2602	1938.572
E ²	-	-	1.00 (1.00, 1.00)	7167.404	2603	1961.404
Ham						
Sat				7550.676	2599	2352.676
ACE ¹	0.34 (0.24, 0.42)	0.00 (0.00, 0.08)	0.66 (0.58, 0.74)	7553.863	2602	2349.863
AE²	0.34 (0.26, 0.42)	-	0.66 (0.58, 0.74)	7553.863	2603	2347.863
CE ²	-	0.21 (0.15, 0.27)	0.79 (0.73, 0.85)	7570.332	2603	2364.332
E	-	-	1.00 (1.00, 1.00)	7615.496	2604	2407.496
Liver						
Sat				7985.341	2343	3299.341
ACE ¹	0.38 (0.17, 0.52)	0.07 (0.00, 0.24)	0.55 (0.48, 0.64)	7985.803	2346	3293.803
AE²	0.46 (0.38, 0.52)	-	0.54 (0.48, 0.62)	7986.349	2347	3292.349
CE ²	-	0.33 (0.27, 0.38)	0.67 (0.62, 0.73)	7996.560	2347	3302.560
E	-	-	1.00 (1.00, 1.00)	8096.482	2348	3400.482

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Food category	Additive genetic effect (A)	Shared environment effect (C)	Nonshared environment effect (E)	-2LL ³	Df ³	AIC ³
Sausages						
Sat				7158.807	2623	1912.807
ACE ¹	0.29 (0.18, 0.36)	0.00 (0.00, 0.06)	0.71 (0.64, 0.80)	7168.769	2626	1916.769
AE²	0.29 (0.20, 0.36)	-	0.71 (0.64, 0.80)	7168.769	2627	1914.769
CE ²	-	0.17 (0.11, 0.23)	0.83 (0.77, 0.89)	7183.650	2627	1929.650
E ²	-	-	1.00 (1.00, 1.00)	7212.060	2628	1956.060
White fish						
Sat				8959.936	2691	3577.936
ACE ¹	0.34 (0.23, 0.41)	0.00 (0.00, 0.08)	0.66 (0.59, 0.74)	8971.942	2694	3583.942
AE²	0.34 (0.26, 0.41)	-	0.66 (0.59, 0.74)	8971.942	2695	3581.942
CE ²	-	0.21 (0.15, 0.27)	0.79 (0.73, 0.85)	8989.200	2695	3599.200
E ²	-	-	1.00 (1.00, 1.00)	9033.962	2696	3641.962
Oily fish						
Sat				9144.374	2546	4052.374
ACE ¹	0.52 (0.44, 0.58)	0.00 (0.00, 0.05)	0.48 (0.42, 0.55)	9151.265	2549	4053.265
AE²	0.52 (0.45, 0.58)	-	0.48 (0.42, 0.55)	9151.265	2550	4051.265
CE ²	-	0.32 (0.26, 0.37)	0.68 (0.63, 0.74)	9194.508	2550	4094.508
E ²	-	-	1.00 (1.00, 1.00)	9299.305	2551	4197.305
Smoked salmon						
Sat				9795.777	2599	4597.777
ACE ¹	0.40 (0.26, 0.47)	0.03 (0.00, 0.10)	0.60 (0.53, 0.67)	9796.760	2602	4592.760
AE²	0.40 (0.33, 0.47)	-	0.60 (0.53, 0.67)	9796.760	2603	4590.760
CE ²	-	0.26 (0.21, 0.32)	0.74 (0.68, 0.79)	9814.676	2603	4608.676
E ²	-	-	1.00 (1.00, 1.00)	9887.440	2604	4679.440
Tinned tuna						
Sat				9761.199	2671	4419.199
ACE ¹	0.54 (0.44, 0.60)	0.00 (0.00, 0.08)	0.46 (0.40, 0.53)	9764.078	2674	4416.078
AE²	0.54 (0.47, 0.60)	-	0.46 (0.40, 0.53)	9764.078	2675	4414.078
CE ²	-	0.35 (0.29, 0.40)	0.65 (0.60, 0.71)	9804.289	2675	4454.289
E ²	-	-	1.00 (1.00, 1.00)	9938.552	2676	4586.552
Eggs						
Sat				9174.151	2813	3548.151
ACE ¹	0.33 (0.25, 0.40)	0.00 (0.00, 0.03)	0.67 (0.60, 0.75)	9195.705	2816	3563.705
AE²	0.33 (0.25, 0.40)	-	0.67 (0.60, 0.75)	9195.705	2817	3561.705
CE ²	-	0.18 (0.12, 0.23)	0.82 (0.77, 0.88)	9225.110	2817	3591.110
E ²	-	-	1.00 (1.00, 1.00)	9261.607	2818	3625.607
Baked beans						
Sat				9370.724	2835	3700.724
ACE ¹	0.28 (0.18, 0.36)	0.00 (0.00, 0.06)	0.72 (0.64, 0.79)	9381.408	2838	3705.408
AE²	0.28 (0.21, 0.36)	-	0.72 (0.64, 0.79)	9381.408	2839	3703.408
CE ²	-	0.16 (0.11, 0.22)	0.84 (0.78, 0.89)	9396.345	2839	3718.345
E	-	-	1.00 (1.00, 1.00)	9428.554	2840	3748.554
Nuts						
Sat				9648.361	2801	4046.361
ACE ¹	0.39 (0.26, 0.46)	0.00 (0.00, 0.09)	0.61 (0.54, 0.68)	9650.407	2804	4042.407
AE²	0.39 (0.32, 0.46)	-	0.61 (0.54, 0.68)	9650.407	2805	4040.407
CE ²	-	0.25 (0.20, 0.31)	0.75 (0.69, 0.80)	9670.037	2805	4060.037
E	-	-	1.00 (1.00, 1.00)	9746.416	2806	4134.416

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Food category	Additive genetic effect (A)	Shared environment effect (C)	Nonshared environment effect (E)	-2LL ³	Df ³	AIC ³
Bread						
Sat				6355.631	2850	655.6312
ACE ¹	0.18 (0.00, 0.25)	0.00 (0.00, 0.12)	0.82 (0.75, 0.90)	6362.331	2853	656.3309
AE²	0.18 (0.10, 0.25)	-	0.82 (0.75, 0.90)	6362.331	2854	654.3309
CE ²	-	0.12 (0.06, 0.17)	0.88 (0.83, 0.94)	6366.269	2854	658.2686
E ²	-	-	1.00 (1.00, 1.00)	6382.106	2855	672.1059
Bran cereal						
Sat				9040.814	2781	3478.814
ACE ¹	0.35 (0.26, 0.42)	0.00 (0.00, 0.06)	0.65 (0.58, 0.72)	9047.336	2784	3479.336
AE²	0.35 (0.28, 0.42)	-	0.65 (0.58, 0.72)	9047.336	2785	3477.336
CE ²	-	0.21 (0.16, 0.27)	0.79 (0.73, 0.84)	9069.445	2785	3499.445
E ²	-	-	1.00 (1.00, 1.00)	9123.411	2786	3551.411
Porridge						
Sat				9610.687	2802	4006.687
ACE ¹	0.39 (0.32, 0.46)	0.00 (0.00, 0.04)	0.61 (0.54, 0.68)	9622.335	2805	4012.335
AE²	0.39 (0.32, 0.46)	-	0.61 (0.54, 0.68)	9622.335	2806	4010.335
CE ²	-	0.23 (0.18, 0.28)	0.77 (0.72, 0.82)	9655.437	2806	4043.437
E ²	-	-	1.00 (1.00, 1.00)	9721.285	2807	4107.285
Rice						
Sat				8255.540	2842	2571.540
ACE ¹	0.27 (0.15, 0.34)	0.00 (0.00, 0.08)	0.73 (0.66, 0.81)	8259.105	2845	2569.105
AE²	0.27 (0.19, 0.34)	-	0.73 (0.66, 0.81)	8259.105	2846	2567.105
CE ²	-	0.17 (0.11, 0.22)	0.83 (0.78, 0.89)	8271.218	2846	2579.218
E ²	-	-	1.00 (1.00, 1.00)	8305.750	2847	2611.750
Sugared cereal						
Sat				8650.660	2842	2966.660
ACE ¹	0.32 (0.14, 0.43)	0.04 (0.00, 0.20)	0.64 (0.57, 0.73)	8654.117	2845	2964.117
AE²	0.37 (0.30, 0.44)	-	0.63 (0.56, 0.70)	8654.418	2846	2962.418
CE ²	-	0.26 (0.20, 0.31)	0.74 (0.69, 0.80)	8662.606	2846	2970.606
E ²	-	-	1.00 (1.00, 1.00)	8743.169	2847	3049.169
Hummus						
Sat				9121.570	2488	4145.570
ACE ¹	0.52 (0.32, 0.59)	0.00 (0.00, 0.16)	0.48 (0.41, 0.59)	9123.157	2491	4141.157
AE²	0.52 (0.46, 0.59)	-	0.48 (0.41, 0.54)	9123.158	2492	4139.158
CE ²	-	0.36 (0.30, 0.41)	0.64 (0.59, 0.70)	9146.882	2492	4162.882
E ²	-	-	1.00 (1.00, 1.00)	9273.866	2493	4287.866
Wheat cereal						
Sat				8397.267	2807	2783.267
ACE ¹	0.29 (0.17, 0.36)	0.00 (0.00, 0.08)	0.71 (0.64, 0.79)	8408.945	2810	2788.945
AE²	0.29 (0.21, 0.36)	-	0.71 (0.64, 0.79)	8408.945	2811	2786.945
CE ²	-	0.18 (0.12, 0.23)	0.82 (0.77, 0.88)	8421.581	2811	2799.581
E	-	-	1.00 (1.00, 1.00)	8458.400	2812	2834.400
Potatoes						
Sat				7717.038	2851	2015.038
ACE ¹	0.27 (0.20, 0.34)	0.00 (0.00, 0.06)	0.73 (0.66, 0.70)	7723.522	2854	2015.522
AE²	0.27 (0.20, 0.34)	-	0.73 (0.66, 0.80)	7723.522	2855	2013.522
CE ²	-	0.16 (0.11, 0.21)	0.84 (0.79, 0.89)	7739.159	2855	2029.159
E	-	-	1.00 (1.00, 1.00)	7772.137	2856	2060.137

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Food category	Additive genetic effect (A)	Shared environment effect (C)	Nonshared environment effect (E)	-2LL ³	Df ³	AIC ³
Apples						
Sat				7783.762	2849	2085.762
ACE ¹	0.20 (0.03, 0.27)	0.00 (0.00, 0.13)	0.80 (0.73, 0.87)	6763.066	2852	1059.066
AE²	0.20 (0.13, 0.27)	-	0.80 (0.73, 0.87)	6763.066	2853	1057.066
CE ²	-	0.14 (0.08, 0.19)	0.86 (0.81, 0.92)	6768.153	2853	1062.153
E ²	-	-	1.00 (1.00, 1.00)	6791.986	2854	1083.986
Melons						
Sat				9429.230	2830	3769.230
ACE ¹	0.33 (0.23, 0.40)	0.00 (0.00, 0.10)	0.67 (0.60, 0.74)	9434.591	2833	3768.591
AE²	0.33 (0.26, 0.40)	-	0.67 (0.60, 0.74)	9434.591	2834	3766.591
CE ²	-	0.22 (0.16, 0.27)	0.78 (0.73, 0.84)	9448.145	2834	3780.145
E ²	-	-	1.00 (1.00, 1.00)	9503.328	2835	3833.328
Peaches						
Sat				8992.664	2786	3420.664
ACE ¹	0.47 (0.29, 0.53)	0.00 (0.00, 0.13)	0.53 (0.47, 0.59)	8995.954	2789	3417.954
AE²	0.47 (0.41, 0.53)	-	0.53 (0.47, 0.59)	8995.954	2790	3415.954
CE ²	-	0.33 (0.28, 0.38)	0.67 (0.62, 0.72)	9019.375	2790	3439.375
E ²	-	-	1.00 (1.00, 1.00)	9154.307	2791	3572.307
Apricots						
Sat				9357.675	2727	3903.675
ACE ¹	0.33 (0.12, 0.45)	0.04 (0.00, 0.20)	0.53 (0.55, 0.71)	9359.108	2730	3899.108
AE²	0.38 (0.31, 0.45)	-	0.62 (0.55, 0.69)	9359.391	2731	3897.391
CE ²	-	0.27 (0.22, 0.33)	0.73 (0.67, 0.78)	9368.312	2731	3906.312
E ²	-	-	1.00 (1.00, 1.00)	9454.140	2732	3990.140
Strawberries						
Sat				7818.806	2841	2136.806
ACE ¹	0.40 (0.33, 0.47))	0.00 (0.00, 0.03)	0.60 (0.53, 0.67)	7840.253	2844	2152.253
AE²	0.40 (0.33, 0.47)	-	0.60 (0.53, 0.67)	7840.253	2845	2150.253
CE ²	-	0.22 (0.16, 0.27)	0.78 (0.73, 0.84)	7879.864	2845	2189.864
E ²	-	-	1.00 (1.00, 1.00)	7940.792	2846	2248.792
Avocado						
Sat				8791.319	2446	3899.319
ACE ¹	0.53 (0.41, 0.59)	0.00 (0.00, 0.09)	0.47 (0.41, 0.54)	8793.437	2449	3895.437
AE²	0.53 (0.46, 0.59)	-	0.47 (0.41, 0.54)	8793.437	2450	3893.437
CE ²	-	0.35 (0.29, 0.40)	0.65 (0.60, 0.71)	8827.847	2450	3927.847
E ²	-	-	1.00 (1.00, 1.00)	8949.942	2451	4047.942
Spinach						
Sat				9375.947	2677	4021.947
ACE ¹	0.45 (0.38, 0.52))	0.00 (0.00, 0.08)	0.55 (0.48, 0.62)	9378.450	2680	4018.450
AE²	0.45 (0.38, 0.52)	-	0.55 (0.48, 0.62)	9378.450	2681	4016.450
CE ²	-	0.28 (0.23, 0.34)	0.72 (0.66, 0.77)	9405.344	2681	4043.344
E	-	-	1.00 (1.00, 1.00)	9491.797	2682	4127.797

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Food category	Additive genetic effect (A)	Shared environment effect (C)	Nonshared environment effect (E)	-2LL ³	Df ³	AIC ³
Chips						
Sat				6456.829	2852	752.8289
ACE ¹	0.29 (0.20, 0.36)	0.00 (0.00, 0.05)	0.71 (0.64, 0.79)	6464.569	2855	754.5689
AE ²	0.29 (0.21, 0.36)	-	0.71 (0.64, 0.79)	6464.569	2856	752.5689
CE ²	-	0.17 (0.11, 0.22)	0.83 (0.78, 0.89)	6481.715	2856	769.7153
E ²	-	-	1.00 (1.00, 1.00)	6515.678	2857	801.6778
Rice/Corn cereal						
Sat				8017.177	2845	2327.177
ACE ¹	0.27 (0.19, 0.35)	0.00 (0.00, 0.08)	0.73 (0.65, 0.81)	8026.405	2848	2330.405
AE ²	0.27 (0.21, 0.35)	-	0.73 (0.65, 0.79)	8026.405	2849	2328.405
CE ²	-	0.16 (0.16, 0.22)	0.84 (0.78, 0.84)	8038.089	2849	2340.089
E ²	-	-	1.00 (1.00, 1.00)	8068.982	2850	2368.982
Soft Cheese						
Sat				9665.662	2716	4233.662
ACE ¹	0.46 (0.32, 0.52)	0.00 (0.00, 0.11)	0.54 (0.48, 0.60)	9667.726	2719	4229.726
AE ²	0.46 (0.40, 0.52)	-	0.54 (0.48, 0.60)	9667.726	2720	4227.726
CE ²	-	0.31 (0.26, 0.36)	0.69 (0.64, 0.74)	9692.689	2720	4252.689
E ²	-	-	1.00 (1.00, 1.00)	9803.590	2721	4361.590
Hard cheese						
Sat				8538.900	2794	2950.900
ACE ¹	0.25 (0.14, 0.33)	0.00 (0.00, 0.07)	0.75 (0.67, 0.83)	8544.294	2797	2950.294
AE ²	0.25 (0.17, 0.33)	-	0.75 (0.67, 0.83)	8544.294	2798	2948.294
CE ²	-	0.15 (0.09, 0.21)	0.85 (0.79, 0.91)	8555.405	2798	2959.405
E ²	-	-	1.00 (1.00, 1.00)	8579.466	2799	2981.466
Cottage cheese						
Sat				8724.676	2516	3692.676
ACE ¹	0.39 (0.31, 0.46)	0.00 (0.00, 0.13)	0.61 (0.54, 0.69)	8724.938	2519	3686.938
AE ²	0.39 (0.31, 0.46)	-	0.61 (0.54, 0.69)	8724.938	2520	3684.938
CE ²	-	0.26 (0.20, 0.32)	0.74 (0.68, 0.80)	8738.321	2520	3698.321
E ²	-	-	1.00 (1.00, 1.00)	8808.279	2521	3766.279
Yoghurt						
Sat				8853.704	2749	3355.704
ACE ¹	0.26 (0.15, 0.34)	0.00 (0.00, 0.07)	0.74 (0.66, 0.81)	8858.956	2752	3354.956
AE ²	0.26 (0.19, 0.34)	-	0.74 (0.66, 0.81)	8858.956	2753	3352.956
CE ²	-	0.16 (0.10, 0.22)	0.84 (0.78, 0.90)	8871.542	2753	3365.542
E ²	-	-	1.00 (1.00, 1.00)	8900.797	2754	3392.797
Oranges						
Sat				8039.894	2848	2343.894
ACE ¹	0.39 (0.25, 0.46)	0.00 (0.00, 0.10)	0.61 (0.54, 0.67)	8043.710	2851	2341.710
AE ²	0.39 (0.33, 0.46)	-	0.61 (0.54, 0.67)	8043.710	2852	2339.710
CE ²	-	0.26 (0.21, 0.31)	0.74 (0.69, 0.79)	8062.866	2852	2358.866
E	-	-	1.00 (1.00, 1.00)	8148.966	2853	2442.966
Grapes						
Sat				6789.618	2846	1097.618
ACE ¹	0.36 (0.27, 0.43)	0.00 (0.00, 0.06)	0.64 (0.57, 0.71)	6809.582	2849	1111.582
AE ²	0.36 (0.29, 0.43)	-	0.64 (0.57, 0.71)	6809.582	2850	1109.582
CE ²	-	0.23 (0.18, 0.28)	0.77 (0.72, 0.82)	6834.820	2850	1134.820
E	-	-	1.00 (1.00, 1.00)	6901.461	2851	1199.461

Online Supplemental Material

Food category	Additive genetic effect (A)	Shared environment effect (C)	Nonshared environment effect (E)	-2LL ³	Df ³	AIC ³
Carrots						
Sat				8086.426	2842	2402.426
ACE ¹	0.26 (0.15, 0.33)	0.00 (0.00, 0.08)	0.74 (0.67, 0.81)	8095.553	2845	2405.553
AE²	0.26 (0.19, 0.33)	-	0.74 (0.67, 0.81)	8095.553	2846	2403.553
CE ²	-	0.17 (0.15, 0.22)	0.83 (0.78, 0.85)	8107.846	2846	2415.846
E ²	-	-	1.00 (1.00, 1.00)	8143.404	2847	2449.404
Green beans						
Sat				9076.185	2807	3462.185
ACE ¹	0.23 (0.14, 0.31)	0.00 (0.00, 0.05)	0.77 (0.69, 0.85)	9087.237	2810	3467.237
AE²	0.23 (0.15, 0.31)	-	0.77 (0.69, 0.85)	9087.237	2811	3465.237
CE ²	-	0.13 (0.07, 0.18)	0.87 (0.82, 0.93)	9101.163	2811	3479.163
E ²	-	-	1.00 (1.00, 1.00)	9120.476	2812	3496.476
Cucumber						
Sat				9375.050	2834	3707.050
ACE ¹	0.33 (0.20, 0.40)	0.00 (0.00, 0.09)	0.67 (0.60, 0.74)	9379.711	2837	3705.711
AE²	0.33 (0.26, 0.40)	-	0.67 (0.60, 0.74)	9379.711	2838	3703.711
CE ²	-	0.22 (0.16, 0.27)	0.78 (0.73, 0.84)	9394.588	2838	3718.588
E ²	-	-	1.00 (1.00, 1.00)	9452.156	2839	3774.156
Celery						
Sat				10003.67	2758	4487.669
ACE ¹	0.46 (0.26, 0.52)	0.00 (0.00, 0.15)	0.54 (0.48, 0.62)	10006.63	2761	4484.634
AE²	0.46 (0.39, 0.52)	-	0.54 (0.48, 0.61)	10006.63	2762	4482.634
CE ²	-	0.32 (0.26, 0.37)	0.68 (0.63, 0.74)	10026.92	2762	4502.916
E ²	-	-	1.00 (1.00, 1.00)	10149.51	2763	4623.510
Mushrooms						
Sat				10770.80	2817	5136.802
ACE ¹	0.42 (0.33, 0.48)	0.00 (0.00, 0.06)	0.58 (0.52, 0.65)	10775.31	2820	5135.311
AE²	0.42 (0.35, 0.48)	-	0.58 (0.52, 0.65)	10775.31	2821	5133.311
CE ²	-	0.26 (0.21, 0.32)	0.74 (0.68, 0.79)	10805.21	2821	5163.207
E ²	-	-	1.00 (1.00, 1.00)	10890.46	2822	5246.463
Parsnips						
Sat				10146.02	2765	4616.018
ACE ¹	0.43 (0.35, 0.50))	0.00 (0.00, 0.05)	0.57 (0.50, 0.64)	10154.94	2768	4618.938
AE²	0.43 (0.36, 0.50)	-	0.57 (0.50, 0.64)	10154.94	2769	4616.938
CE ²	-	0.26 (0.20, 0.31)	0.74 (0.69, 0.80)	10191.28	2769	4653.278
E ²	-	-	1.00 (1.00, 1.00)	10270.36	2770	4730.358
Peas						
Sat				9345.844	2839	3667.844
ACE ¹	0.23 (0.14, 0.30)	0.00 (0.00, 0.07)	0.77 (0.70, 0.85)	9349.353	2842	3665.353
AE²	0.23 (0.16, 0.30)	-	0.77 (0.70, 0.85)	9349.353	2843	3663.353
CE ²	-	0.14 (0.08, 0.19)	0.86 (0.81, 0.92)	9359.689	2843	3673.689
E	-	-	1.00 (1.00, 1.00)	9383.234	2844	3695.234
Sweetcorn						
Sat				8969.364	2833	3303.364
ACE ¹	0.29 (0.18, 0.36)	0.00 (0.00, 0.07)	0.71 (0.64, 0.79)	8977.853	2836	3305.853
AE²	0.29 (0.21, 0.36)	-	0.71 (0.64, 0.79)	8977.853	2837	3303.853
CE ²	-	0.17 (0.11, 0.22)	0.83 (0.78, 0.89)	8992.295	2837	3318.295
E	-	-	1.00 (1.00, 1.00)	9026.559	2838	3350.559

Online Supplemental Material

Food category	Additive genetic effect (A)	Shared environment effect (C)	Nonshared environment effect (E)	-2LL ³	Df ³	AIC ³
Broccoli						
Sat				9098.603	2822	3454.603
ACE ¹	0.33 (0.30, 0.40)	0.00 (0.00, 0.05)	0.67 (0.60, 0.70)	9106.205	2825	3456.205
AE²	0.33 (0.29, 0.40)	-	0.67 (0.60, 0.71)	9106.205	2826	3454.205
CE ²	-	0.19 (0.14, 0.25)	0.81 (0.75, 0.86)	9128.262	2826	3476.262
E ²	-	-	1.00 (1.00, 1.00)	9173.445	2827	3519.445
Salad						
Sat				8348.106	2839	2670.106
ACE ¹	0.28 (0.22, 0.35)	0.00 (0.00, 0.05)	0.72 (0.65, 0.80)	8356.041	2842	2672.041
AE²	0.28 (0.24, 0.35)	-	0.72 (0.65, 0.76)	8356.041	2843	2670.041
CE ²	-	0.17 (0.16, 0.22)	0.83 (0.78, 0.84)	8373.445	2843	2687.445
E ²	-	-	1.00 (1.00, 1.00)	8409.077	2844	2721.077
Red Pepper						
Sat				9298.561	2816	3666.561
ACE ¹	0.39 (0.31, 0.45)	0.00 (0.00, 0.05)	0.61 (0.55, 0.69)	9309.677	2819	3671.677
AE²	0.39 (0.31, 0.45)	-	0.61 (0.55, 0.69)	9309.677	2820	3669.677
CE ²	-	0.22 (0.17, 0.28)	0.78 (0.72, 0.83)	9338.079	2820	3698.079
E ²	-	-	1.00 (1.00, 1.00)	9398.713	2821	3756.713
Raw tomato						
Sat				10804.55	2831	5142.546
ACE ¹	0.41 (0.34, 0.48)	0.00 (0.00, 0.04)	0.59 (0.52, 0.66)	10815.41	2834	5147.410
AE²	0.41 (0.34, 0.48)	-	0.59 (0.52, 0.66)	10815.41	2835	5145.410
CE ²	-	0.24 (0.19, 0.29)	0.76 (0.71, 0.81)	10851.85	2835	5181.853
E ²	-	-	1.00 (1.00, 1.00)	10923.88	2836	5251.880
Beetroot						
Sat				9862.769	2672	4518.769
ACE ¹	0.52 (0.41, 0.58)	0.00 (0.00, 0.11)	0.48 (0.42, 0.54)	9863.324	2675	4513.324
AE²	0.52 (0.46, 0.58)	-	0.48 (0.42, 0.54)	9863.324	2676	4511.324
CE ²	-	0.35 (0.30, 0.40)	0.65 (0.60, 0.70)	9895.997	2676	4543.997
E ²	-	-	1.00 (1.00, 1.00)	10036.726	2677	4682.726
Brussel Sprouts						
Sat				10378.68	2792	4794.681
ACE ¹	0.43 (0.36, 0.49)	0.00 (0.00, 0.06)	0.57 (0.51, 0.64)	10383.78	2793	4793.778
AE²	0.43 (0.36, 0.49)	-	0.57 (0.51, 0.64)	10383.78	2794	4791.778
CE ²	-	0.27 (0.22, 0.32)	0.73 (0.68, 0.78)	10415.79	2794	4823.794
E ²	-	-	1.00 (1.00, 1.00)	10504.68	2795	4910.683
Veg Soup						
Sat				9424.132	2795	3834.132
ACE ¹	0.38 (0.29, 0.44)	0.00 (0.00, 0.05)	0.62 (0.56, 0.69)	9435.558	2798	3839.558
AE²	0.38 (0.31, 0.44)	-	0.62 (0.56, 0.70)	9435.558	2799	3837.558
CE ²	-	0.24 (0.18, 0.29)	0.76 (0.71, 0.82)	9463.509	2799	3865.509
E	-	-	1.00 (1.00, 1.00)	9527.264	2800	3927.264
Coriander						
Sat				8792.655	2588	3616.655
ACE ¹	0.43 (0.33, 0.50)	0.00 (0.00, 0.07)	0.57 (0.51, 0.64)	8796.727	2591	3614.727
AE²	0.43 (0.36, 0.50)	-	0.57 (0.50, 0.64)	8796.727	2592	3612.727
CE ²	-	0.27 (0.21, 0.33)	0.73 (0.67, 0.79)	8823.654	2592	3639.654
E	-	-	1.00 (1.00, 1.00)	8897.636	2593	3711.636

Online Supplemental Material

Food category	Additive genetic effect (A)	Shared environment effect (C)	Nonshared environment effect (E)	-2LL ³	Df ³	AIC ³
Butter						
Sat				8365.026	2785	2795.026
ACE ¹	0.26 (0.15, 0.33)	0.00 (0.00, 0.07)	0.74 (0.67, 0.82)	8368.888	2788	2792.888
AE²	0.26 (0.18, 0.33)	-	0.74 (0.67, 0.82)	8368.888	2789	2790.888
CE ²	-	0.16 (0.10, 0.21)	0.84 (0.79, 0.90)	8380.604	2789	2802.604
E ²	-	-	1.00 (1.00, 1.00)	8408.574	2790	2828.574
Butter-like spread						
Sat				8647.343	2823	3001.343
ACE ¹	0.37 (0.27, 0.44)	0.00 (0.00, 0.06)	0.63 (0.56, 0.70)	8653.058	2826	3001.058
AE²	0.37 (0.30, 0.44)	-	0.63 (0.56, 0.70)	8653.058	2827	2999.058
CE ²	-	0.23 (0.17, 0.28)	0.77 (0.72, 0.83)	8675.948	2827	3021.948
E ²	-	-	1.00 (1.00, 1.00)	8738.345	2828	3082.345
Cream						
Sat				9071.395	2782	3507.395
ACE ¹	0.20 (0.11, 0.28)	0.00 (0.00, 0.05)	0.80 (0.72, 0.89)	9083.610	2785	3513.610
AE²	0.20 (0.11, 0.28)	-	0.80 (0.72, 0.89)	9083.610	2786	3511.610
CE ²	-	0.10 (0.04, 0.16)	0.90 (0.84, 0.96)	9093.284	2786	3521.284
E ²	-	-	1.00 (1.00, 1.00)	9103.907	2787	3529.907
Mayonnaise						
Sat				9853.247	2807	4239.247
ACE ¹	0.45 (0.38, 0.51)	0.00 (0.00, 0.06)	0.55 (0.49, 0.62)	9858.602	2810	4238.602
AE²	0.45 (0.38, 0.51)	-	0.55 (0.49, 0.62)	9858.602	2811	4236.602
CE ²	-	0.28 (0.22, 0.33)	0.72 (0.67, 0.78)	9893.792	2811	4271.792
E ²	-	-	1.00 (1.00, 1.00)	9988.203	2812	4364.203
Plain biscuits						
Sat				7471.347	2845	1781.347
ACE ¹	0.34 (0.12, 0.43)	0.02 (0.00, 0.18)	0.64 (0.57, 0.73)	7490.648	2848	1794.648
AE²	0.37 (0.29, 0.44)	-	0.63 (0.57, 0.71)	7490.722	2849	1792.722
CE ²	-	0.24 (0.19, 0.30)	0.76 (0.70, 0.81)	7499.357	2849	1801.357
E ²	-	-	1.00 (1.00, 1.00)	7567.613	2850	1867.613
Chocolate biscuits						
Sat				6411.041	2845	721.0410
ACE ¹	0.26 (0.11, 0.34)	0.00 (0.00, 0.10)	0.74 (0.66, 0.82)	6455.597	2848	759.5968
AE²	0.26 (0.18, 0.34)	-	0.74 (0.66, 0.82)	6455.597	2849	757.5968
CE ²	-	0.16 (0.11, 0.22)	0.84 (0.78, 0.89)	6464.126	2849	766.1264
E ²	-	-	1.00 (1.00, 1.00)	6494.320	2850	794.3204
Cake						
Sat				6967.982	2845	1277.982
ACE ¹	0.07 (0.00, 0.26)	0.11 (0.00, 0.21)	0.82 (0.74, 0.90)	6968.759	2848	1272.759
AE²	0.21 (0.13, 0.28)	-	0.79 (0.72, 0.87)	6970.264	2849	1272.264
CE ²	-	0.16 (0.10, 0.21)	0.85 (0.79, 0.90)	6969.146	2849	1271.146
E	-	-	1.00 (1.00, 1.00)	6997.604	2850	1297.604
Apple pie						
Sat				9931.490	2818	4295.490
ACE ¹	0.45 (0.38, 0.51)	0.00 (0.00, 0.08)	0.55 (0.49, 0.62)	9932.469	2821	4290.469
AE²	0.45 (0.38, 0.51)	-	0.55 (0.49, 0.62)	9932.469	2822	4288.469
CE ²	-	0.30 (0.24, 0.35)	0.70 (0.65, 0.76)	9957.550	2822	4313.550
E	-	-	1.00 (1.00, 1.00)	10065.838	2823	4419.838

Online Supplemental Material

Food category	Additive genetic effect (A)	Shared environment effect (C)	Nonshared environment effect (E)	-2LL ³	Df ³	AIC ³
Ice Cream						
Sat				6831.304	2842	1147.304
ACE ¹	0.27 (0.17, 0.34)	0.00 (0.00, 0.07)	0.73 (0.66, 0.80)	6837.031	2845	1147.031
AE²	0.27 (0.20, 0.34)	-	0.73 (0.66, 0.80)	6837.031	2846	1145.031
CE ²	-	0.17 (0.11, 0.22)	0.83 (0.78, 0.89)	6848.051	2846	1156.051
E ²	-	-	1.00 (1.00, 1.00)	6882.356	2847	1188.356
Custard						
Sat				9447.313	2784	3879.313
ACE ¹	0.47 (0.35, 0.53)	0.00 (0.00, 0.09)	0.53 (0.47, 0.59)	9448.633	2787	3874.633
AE²	0.47 (0.41, 0.53)	-	0.53 (0.47, 0.59)	9448.633	2788	3872.633
CE ²	-	0.31 (0.26, 0.36)	0.69 (0.64, 0.74)	9479.303	2788	3903.303
E ²	-	-	1.00 (1.00, 1.00)	9600.222	2789	4022.222
Chocolate						
Sat				16291.41	2846	10599.41
ACE ¹	0.25 (0.14, 0.33)	0.00 (0.00, 0.07)	0.75 (0.67, 0.83)	5446.417	2849	-251.5831
AE²	0.25 (0.17, 0.33)	-	0.75 (0.67, 0.83)	5446.417	2850	-253.5831
CE ²	-	0.15 (0.09, 0.21)	0.85 (0.79, 0.91)	5457.526	2850	-242.4739
E ²	-	-	1.00 (1.00, 1.00)	5482.869	2851	-219.1308
Crisps						
Sat				6972.759	2846	1280.759
ACE ¹	0.34 (0.26, 0.41)	0.00 (0.00, 0.09)	0.66 (0.59, 0.74)	6982.397	2849	1284.397
AE²	0.34 (0.26, 0.41)	-	0.66 (0.59, 0.74)	6982.397	2850	1282.397
CE ²	-	0.20 (0.15, 0.26)	0.80 (0.74, 0.85)	7001.619	2850	1301.619
E ²	-	-	1.00 (1.00, 1.00)	7050.525	2851	1348.525
Peanut butter						
Sat				10054.72	2654	4746.721
ACE ¹	0.49 (0.30, 0.56)	0.01 (0.00, 0.16)	0.50 (0.44, 0.57)	10055.26	2657	4741.261
AE²	0.50 (0.43, 0.56)	-	0.50 (0.44, 0.57)	10055.26	2658	4739.265
CE ²	-	0.34 (0.29, 0.39)	0.66 (0.61, 0.71)	10078.40	2658	4762.396
E ²	-	-	1.00 (1.00, 1.00)	10211.40	2659	4893.403
Gummy sweets						
Sat				8533.489	2824	2885.489
ACE ¹	0.40 (0.31, 0.47)	0.00 (0.00, 0.06)	0.60 (0.53, 0.67)	8540.938	2827	2886.938
AE²	0.40 (0.33, 0.47)	-	0.60 (0.53, 0.67)	8540.938	2828	2884.938
CE ²	-	0.25 (0.19, 0.30)	0.75 (0.70, 0.81)	8566.693	2828	2910.693
E ²	-	-	1.00 (1.00, 1.00)	8640.388	2829	2982.388

Standard Maximum Likelihood Structural Equation Modelling (MLSEM) was used to derive estimates of A, C and E, as well as provide two goodness-of-fit statistics; -2LL and the AIC respectively. The selection of the most parsimonious model was indicated by the lowest absolute value of the AIC and smallest $\Delta\chi^2$.

¹ The full ACE model was nested within the saturated model

² Sub-models were nested within the full ACE model

³ Abbreviations; - 2LL: -2 times log-likelihood of data, Δ -2LL: Change in the -2 times log likelihood of data, df: degrees of freedom, AIC: Akaike Information Criterion

Supplemental Table 2 Model fit and parameter estimates for the saturated, ADE model and sub models of food category preferences

Food category	Additive genetic effect (A)	Dominant genetic effect (D)	Nonshared environment effect (E)	-2LL ³	Df ³	AIC ³	Δ -2LL
Vegetables⁴ n=2864							
Sat				6109.386	2856	397.3862	
ADE ¹	0.54 (0.42, 0.62)	0.03 (0.00, 0.12)	0.46 (0.41, 0.52)	6110.895	2859	392.8953	1.509
AE ²	0.58 (0.52, 0.63)	-	0.42 (0.37, 0.48)	6111.381	2860	391.3814	0.486
DE ²	-	0.32 (0.27, 0.37)	0.68 (0.63, 0.73)	6183.445	2860	463.4448	72.549
E ²	-	-	1.00 (1.00, 1.00)	6316.762	2861	594.7621	205.867
Fruit⁵ n=2862							
Sat				6310.121	2854	602.1213	
ADE ¹	0.35 (0.29, 0.46)	0.15 (0.06, 0.24)	0.50 (0.44, 0.57)	6315.440	2857	601.3774	5.256
AE ²	0.51 (0.45, 0.57)	-	0.51 (0.45, 0.57)	6324.980	2858	608.9802	9.603
DE ²	-	0.35 (0.30, 0.40)	0.65 (0.60, 0.70)	6344.889	2858	628.8892	29.512
E ²	-	-	1.00 (1.00, 1.00)	6500.514	2859	782.5141	185.137
Meat/Fish⁶ n=2854							
Sat				5864.102	2846	172.1023	
ADE ¹	0.39 (0.27, 0.52)	0.08 (0.00, 0.17)	0.53 (0.46, 0.60)	5868.383	2849	172.3828	4.281
AE ²	0.48 (0.41, 0.54)	-	0.52 (0.46, 0.59)	5870.868	2850	170.8679	2.485
DE ²	-	0.28 (0.22, 0.33)	0.72 (0.67, 0.78)	5899.942	2850	199.9424	31.56
E ²	-	-	1.00 (1.00, 1.00)	5992.453	2851	290.4527	124.07
Dairy⁷ n=2863							
Sat				6059.620	2855	349.6199	
ADE ¹	0.42 (0.29, 0.53)	0.05 (0.00, 0.15)	0.53 (0.47, 0.60)	6061.036	2858	345.0356	1.416
AE ²	0.48 (0.41, 0.54)	-	0.52 (0.46, 0.59)	6062.200	2859	344.2002	1.165
DE ²	-	0.28 (0.23, 0.33)	0.72 (0.67, 0.77)	6099.114	2859	381.1137	38.078
E ²	-	-	1.00 (1.00, 1.00)	6198.533	2860	478.5330	137.497
Snacks n=2864							
Sat				4366.211	2856	-1345.79	
ADE ¹	0.41 (0.28, 0.52)	0.05 (0.00, 0.15)	0.54 (0.48, 0.61)	4375.872	2859	-1342.13	9.661
AE ²	0.47 (0.40, 0.53)	-	0.53 (0.47, 0.60)	4376.928	2860	-1343.07	1.055
DE ²	-	0.27 (0.22, 0.32)	0.73 (0.68, 0.78)	4410.221	2860	-1309.78	34.348
E ²	-	-	1.00 (1.00, 1.00)	4498.200	2861	-1223.80	122.3272
Starches⁸ n=2864							
Sat				5848.940	2856	136.9400	
ADE ¹	0.37 (0.25, 0.46)	0.00 (0.00, 0.08)	0.63 (0.61, 0.71)	5854.182	2859	136.1816	5.242
AE ²	0.37 (0.29, 0.45)	-	0.63 (0.55, 0.71)	5854.182	2860	134.1816	0
DE ²	-	0.18 (0.13, 0.24)	0.82 (0.76, 0.87)	5881.719	2860	161.7192	27.537
E ²	-	-	1.00 (1.00, 1.00)	5922.439	2861	200.4394	68.257

Standard Maximum Likelihood Structural Equation Modelling (MLSEM) was used to derive estimates of A, C and E, as well as provide two goodness-of-fit statistics; -2LL and the AIC respectively. The selection of the most parsimonious model was indicated by the lowest absolute value of the AIC and smallest Δχ².

¹ The full ADE model was nested within the saturated model

² Sub-models were nested within the full ADE model

³ Abbreviations; - 2LL: -2 times log-likelihood of data, Δ -2LL: Change in the -2 times log likelihood of data, df: degrees of freedom, AIC: Akaike Information Criterion

⁴ excludes observations for celery liking from individuals self-reporting an allergy against celery.

⁵ excludes observations for strawberries, apples and oranges for individuals self-reporting a strawberry, apple or orange allergy.

⁶ excludes observations for all meat items from self-reported pescetarians, vegetarians and vegan. White fish, oily fish, tinned tuna and smoked salmon liking includes pescetarians' observations but excludes preference scores from individuals reporting a fish allergy

⁷ excludes observation for egg liking from individuals reporting an egg allergy and vegans. Food preference scores for soft cheese, hard cheese, butter, cream, yoghurt, cottage cheese and custard were excluded from vegans and individuals self-reporting a dairy allergy.

⁸ excludes observations for wheat cereal from individuals reporting a wheat/gluten allergy.

Supplemental Table 3 Model fit and parameter estimates for the saturated, ACE model and submodels of food category preferences

Food category	Additive genetic effect (A)	Shared environment effect (C)	Nonshared environment effect (E)	-2LL ³	Df ³	AIC ³	Δ -2LL
Vegetables⁴ n=2864							
Sat				6109.386	2856	397.3862	
ACE ¹	0.54 (0.47, 0.59)	0.00 (0.00, 0.04)	0.46 (0.41, 0.52)	6121.434	2859	403.4342	12.048
AE²	0.54 (0.47, 0.59)	-	0.46 (0.41, 0.53)	6121.434	2860	401.4342	0
CE ²	-	0.32 (0.27, 0.37)	0.68 (0.63, 0.73)	6183.445	2860	463.4448	62.011
E ²	-	-	1.00 (1.00, 1.00)	6316.762	2861	594.7621	195.328
Fruit⁵ n=2862							
Sat				6310.121	2854	602.1213	
ACE ¹	0.49 (0.33, 0.55)	0.00 (0.00, 0.13)	0.51 (0.45, 0.57)	6315.440	2857	601.4399	5.219
AE²	0.49 (0.43, 0.55)	-	0.51 (0.45, 0.57)	6315.440	2858	599.4399	0
CE ²	-	0.35 (0.30, 0.40)	0.65 (0.60, 0.70)	6344.889	2858	628.8892	29.45
E ²	-	-	1.00 (1.00, 1.00)	6500.514	2859	782.5141	185.074
Meat/Fish⁶ n=2854							
Sat				5864.102	2846	172.1023	
ACE ¹	0.44 (0.34, 0.51)	0.00 (0.00, 0.07)	0.56 (0.49, 0.62)	5870.797	2849	172.7974	6.695
AE²	0.44 (0.38, 0.51)	-	0.56 (0.49, 0.62)	5870.797	2850	170.7974	0
CE ²	-	0.28 (0.22, 0.33)	0.72 (0.67, 0.78)	5899.942	2850	199.9424	29.145
E ²	-	-	1.00 (1.00, 1.00)	5992.453	2851	290.4527	121.656
Dairy⁷ n=2863							
Sat				6059.620	2855	349.6199	
ACE ¹	0.44 (0.35, 0.50)	0.00 (0.00, 0.06)	0.56 (0.50, 0.63)	6065.078	2858	349.0779	4.542
AE²	0.44 (0.37, 0.50)	-	0.56 (0.50, 0.63)	6065.078	2859	347.0779	0
CE ²	-	0.28 (0.23, 0.33)	0.72 (0.67, 0.77)	6099.114	2859	381.1137	34.036
E ²	-	-	1.00 (1.00, 1.00)	6198.533	2860	478.5330	133.455
Snacks n=2864							
Sat				4366.211	2856	-1345.79	
ACE ¹	0.43 (0.33, 0.49)	0.00 (0.00, 0.06)	0.57 (0.51, 0.64)	4379.694	2859	-1338.31	13.429
AE²	0.43 (0.36, 0.49)	-	0.57 (0.51, 0.64)	4379.694	2860	-1340.31	0
CE ²	-	0.27 (0.22, 0.32)	0.73 (0.68, 0.78)	4410.221	2860	-1309.78	30.527
E ²	-	-	1.00 (1.00, 1.00)	4498.200	2861	-1223.80	118.506
Starches⁸ n=2864							
Sat				5848.940	2856	136.9400	
ACE ¹	0.32 (0.23, 0.39)	0.00 (0.00, 0.05)	0.68 (0.61, 0.76)	5861.103	2859	143.1027	12.163
AE²	0.32 (0.24, 0.39)	-	0.68 (0.61, 0.76)	5861.103	2860	141.1027	0
CE ²	-	0.18 (0.13, 0.24)	0.82 (0.76, 0.87)	5881.719	2860	161.7192	20.616
E ²	-	-	1.00 (1.00, 1.00)	5922.439	2861	200.4394	61.336

Standard Maximum Likelihood Structural Equation Modelling (MLSEM) was used to derive estimates of A, C and E, as well as provide two goodness-of-fit statistics; -2LL and the AIC respectively. The selection of the most parsimonious model was indicated by the lowest absolute value of the AIC and smallest Δχ².

¹ The full ACE model was nested within the saturated model

² Sub-models were nested within the full ACE model

³ Abbreviations; - 2LL: -2 times log-likelihood of data, Δ -2LL: Change in the -2 times log likelihood of data, df: degrees of freedom, AIC: Akaike Information Criterion

⁴ excludes observations for celery liking from individuals self-reporting an allergy against celery.

⁵ excludes observations for strawberries, apples and oranges for individuals self-reporting a strawberry, apple or orange allergy.

⁶ excludes observations for all meat items from self-reported pescetarians, vegetarians and vegan. White fish, oily fish, tinned tuna and smoked salmon liking includes pescetarians' observations but excludes preference scores from individuals reporting a fish allergy

⁷ excludes observation for egg liking from individuals reporting an egg allergy and vegans. Food preference scores for soft cheese, hard cheese, butter, cream, yoghurt, cottage cheese and custard were excluded from vegans and individuals self-reporting a dairy allergy.

⁸ excludes observations for wheat cereal from individuals reporting a wheat/gluten allergy.

Supplemental Table 4 Model fit and parameter estimates for the saturated, ACE model and submodels of food preferences excluding all observations from pescetarians, vegetarians, vegans or participants with self-reported food allergies

Food category	Additive genetic effect (A)	Shared environment effect (C)	Nonshared environment effect (E)	-2LL ³	Df ³	BIC ³
Vegetables	Cronbach α = 0.863					
Sat				6329.102	2299	-5027.810
ACE ¹	0.54 (0.45, 0.60)	0.00 (0.00, 0.06)	0.45 (0.13, 0.17)	6334.023	2304	-5043.167
CE ²	-	0.35 (0.29, 0.40)	0.65 (0.60, 0.71)	6382.774	2305	-9460.736
AE²	0.55 (0.48, 0.60)	-	0.45 (0.40, 0.52)	6334.023	2305	-5046.730
E ²	-	-	1.00 (1.00, 1.00)	6518.468	2306	-4958.071
Fruit	Cronbach α = 0.828					
Sat				6425.249	2298	-4976.173
ACE ¹	0.41 (0.21, 0.54)	0.06 (0.00, 0.21)	0.53 (0.46, 0.60)	6431.420	2303	-4460.175
CE ²	-	0.36 (0.30, 0.41)	0.64 (0.59, 0.70)	6447.581	2304	-4366.514
AE²	0.48 (0.42, 0.54)	-	0.52 (0.46, 0.58)	6431.939	2304	-4994.209
E ²	-	-	1.00 (1.00, 1.00)	6588.245	2305	-4919.619
Meat/Fish	Cronbach α = 0.772					
Sat				6373.927	2299	-5005.397
ACE ¹	0.48 (0.35, 0.55)	0.00 (0.00, 0.10)	0.52 (0.45, 0.59)	6376.772	2304	-5021.792
CE ²	-	0.32 (0.41, 0.50)	0.54 (0.50, 0.59)	6404.454	2305	-5011.515
AE²	0.49 (0.42, 0.55)	-	0.52 (0.45, 0.59)	6376.772	2305	-5025.356
E ²	-	-	1.00 (1.00, 1.00)	6512.751	2306	-4960.929
Dairy	Cronbach α = 0.750					
Sat				6393.926	2299	-4995.398
ACE ¹	0.45 (0.33, 0.51)	0.00 (0.00, 0.08)	0.55 (0.49, 0.62)	6398.550	2304	-5010.903
CE ²	-	0.29 (0.24, 0.35)	0.71 (0.65, 0.76)	6425.587	2305	-5000.948
AE²	0.45 (0.38, 0.51)	-	0.55 (0.49, 0.62)	6398.550	2305	-5014.466
E ²	-	-	1.00 (1.00, 1.00)	6519.198	2306	-4957.706
Snacks	Cronbach α = 0.771					
Sat				6467.658	2299	-4958.532
ACE ¹	0.41 (0.27, 0.48)	0.00 (0.00, 0.10)	0.59 (0.52, 0.67)	6489.264	2304	-4965.546
CE ²	-	0.26 (0.21, 0.32)	0.74 (0.68, 0.79)	6508.619	2305	-4959.432
AE²	0.41 (0.33, 0.48)	-	0.59 (0.52, 0.67)	6489.264	2305	-4969.110
E ²	-	-	1.00 (1.00, 1.00)	6581.813	2306	-4926.398
Starch	Cronbach α = 0.677					
Sat				6505.276	2299	-4939.723
ACE ¹	0.32 (0.21, 0.40)	0.00 (0.00, 0.06)	0.68 (0.60, 0.77)	6515.695	2304	-4952.330
CE ²	-	0.18 (0.12, 0.24)	0.82 (0.76, 0.88)	6532.634	2305	-4947.425
AE²	0.32 (0.23, 0.40)	-	0.68 (0.60, 0.77)	6515.695	2305	-4955.894
E ²	-	-	1.00 (1.00, 1.00)	6567.452	2306	-4933.579

Standard Maximum Likelihood Structural Equation Modelling (MLSEM) was used to derive estimates of A, C and E, as well as provide two goodness-of-fit statistics; -2LL and the AIC respectively. The selection of the most parsimonious model was indicated by the lowest absolute value of the AIC and smallest $\Delta\chi^2$.

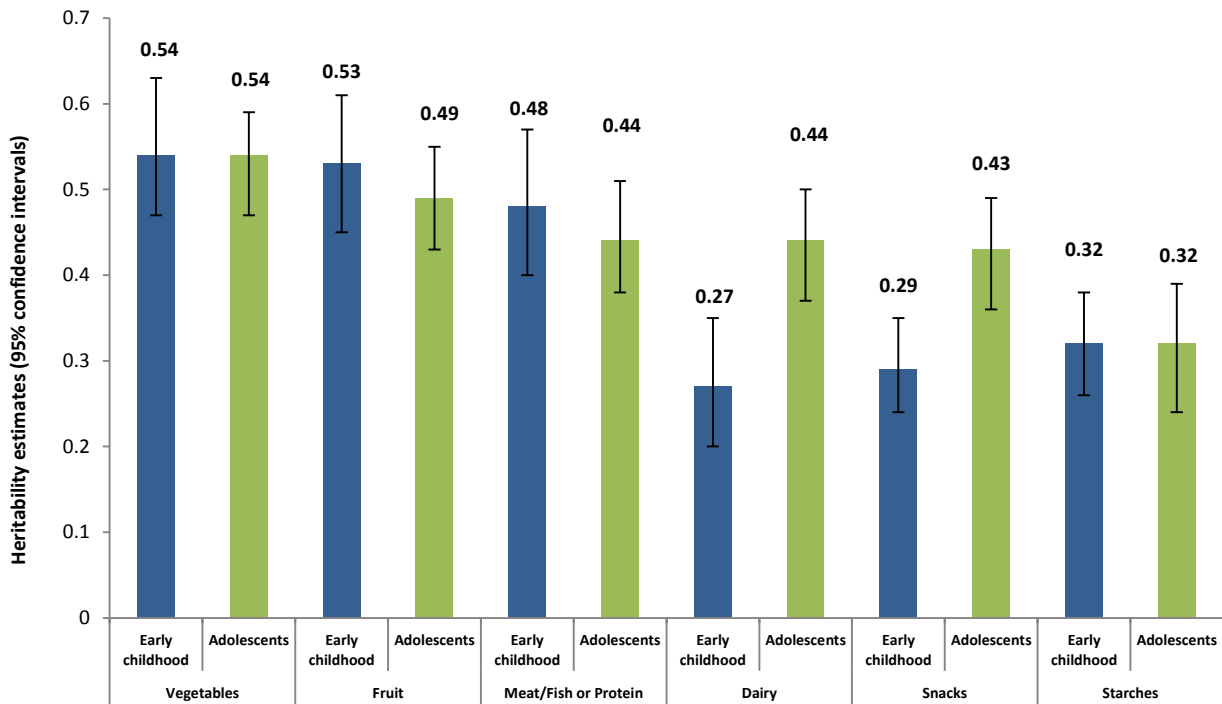
¹ The full ACE model was nested within the saturated model

² Sub-models were nested within the full ACE model

³ Abbreviations; - 2LL: -2 times log-likelihood of data, df: degrees of freedom, AIC: Akaike Information Criterion (AIC)

⁴ Cronbach α calculated for the sample excl. all self-reported pescetarians, vegetarians, vegans and individuals self-reporting a food allergy (n=2507).

Supplemental Figure 1 Comparison of genetic influences on food preference categories in a pediatric¹ and adolescent² sample



¹ Estimates of the percentage in food preference variation explained by genetic factors in this graph are based on n=2686 participants of the pediatric GEMINI twin cohort. Food preference data were collected from a parent-completed food preference questionnaire when the participants were 3 years old. Data for this part of the figure is based on a previous publication by Fildes et al (2014).

² Estimates of the percentage in food preference variation explained by genetic factors in this graph are based on n=2865 participants of the adolescent TEDS twin cohort. Food preference data were ascertained by self-report using a food preference questionnaire when the participants were 19 years old.