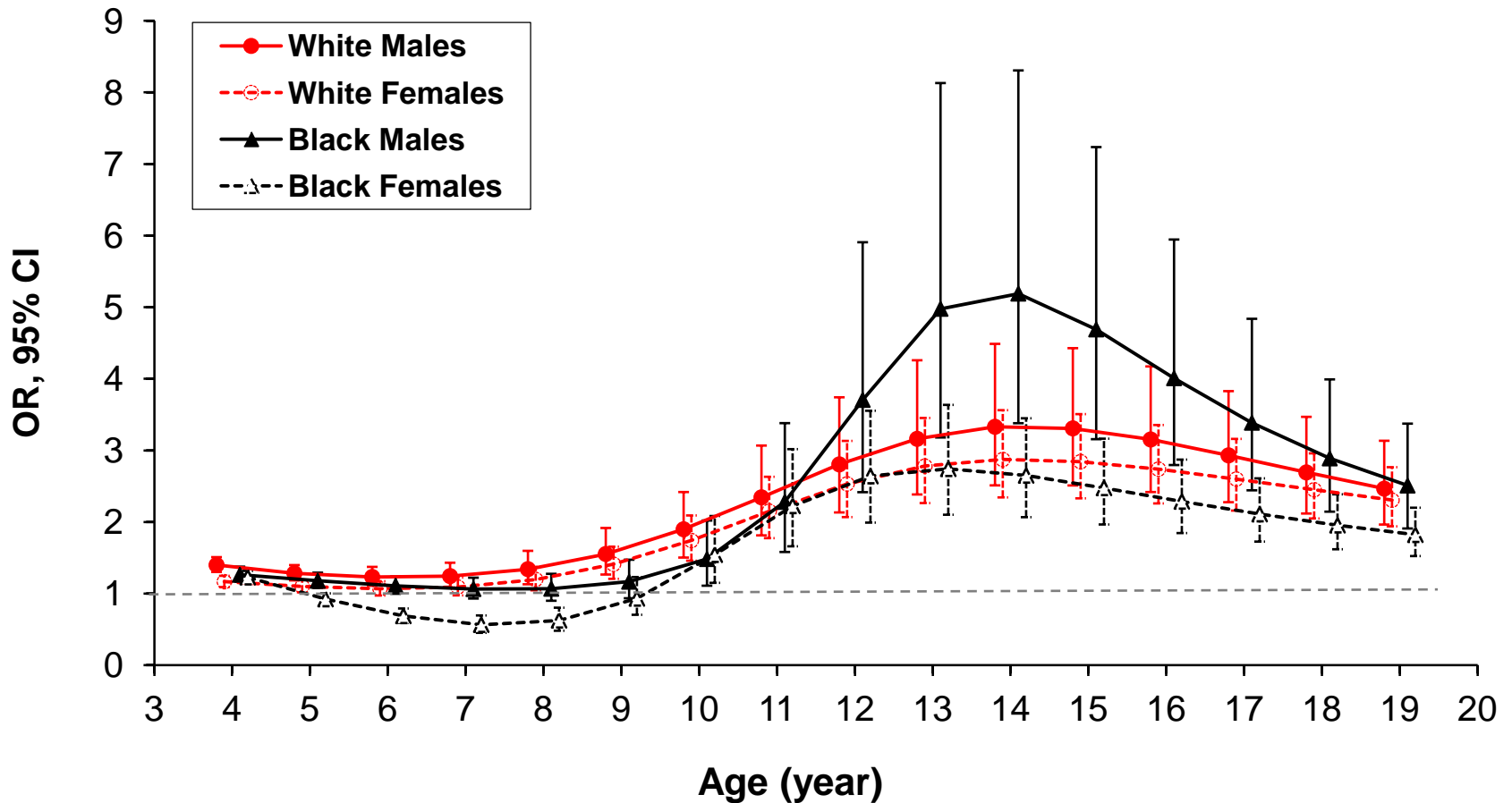**Supplementary Figure 1.** Model-estimated growth curves and observed values of BMI by race and sex

Supplementary Figure 2. Odds ratio (OR) and 95% confidence interval (CI) of level-adjusted linear slopes of BMI for adult obesity by childhood age, race and sex, adjusting for adult age, smoking and alcohol drinking

Supplementary Table 1. Combined fixed and random effects parameters of BMI in means (SD) by race and sex

Curve parameter	Whites (n=1772)		Blacks (n=960)		P for Race Difference	
	Males (n=803)	Females (n=969)	Males (n=423)	Females (n=537)	Males	Females
β_0+b_0 (kg/m^2)	23.9 (4.4)**	23.2 (5.0)	23.8 (4.8)**	25.3 (6.0)	0.582	<0.001
β_1+b_1 (kg/m^2/yr)	0.479 (0.200)**	0.419 (0.285)	0.508 (0.249)**	0.569 (0.351)	0.027	<0.001
β_2+b_2 (kg/m^2/yr^2)	-0.105 (0.090)**	-0.084 (0.090)	-0.101 (0.093)	-0.105 (0.113)	0.474	<0.001
β_3+b_3 (kg/m^2/yr^3)	0.002 (0.007)	0.002(0.008)	0.0009 (0.011)	0.0015 (0.010)	0.058	0.183

All curve parameters were significant (p<0.001) except 0.0009 (p=0.353) in Black males and 0.0015 (p=0.054) in Black females.

Gender difference within racial groups: * p<0.05; ** p<0.01

Supplementary Table 2. Model-estimated mean (SD) BMI levels (kg/m^2) during childhood by race and sex

Age (years)	Whites (n=1,772)		Blacks (n=960)		P for Race Difference	
	Males (n=803)	Females (n=969)	Males (n=423)	Females (n=537)	Males	Females
4	13.09 (1.02)**	13.79 (1.51)	12.78 (1.87)**	13.11 (0.88)	<0.001	<0.001
5	13.96 (1.21)**	14.54 (1.64)	13.64 (1.91)**	14.06 (1.07)	<0.001	<0.001
6	14.81 (1.51)**	15.28 (1.84)	14.47 (2.08)**	14.99 (1.45)	0.001	0.002
7	15.63 (1.84)**	15.98 (2.08)	15.28 (2.33)**	15.89 (1.87)	0.004	0.359
8	16.42 (2.16)*	16.67 (2.34)	16.06 (2.60)**	16.76 (2.28)	0.010	0.470
9	17.18 (2.46)	17.32 (2.59)	16.82 (2.87)**	17.60 (2.68)	0.023	0.050
10	17.92 (2.74)	17.96 (2.84)	17.56 (3.13)**	18.42 (3.06)	0.041	0.003
11	18.62 (3.00)	18.57 (3.08)	18.28 (3.37)**	19.21 (3.41)	0.066	<0.001
12	19.31 (3.23)	19.15 (3.31)	18.97 (3.59)**	19.98 (3.74)	0.097	<0.001
13	19.96 (3.44)	19.72 (3.53)	19.64 (3.79)**	20.72 (4.06)	0.135	<0.001
14	20.59 (3.62)	20.26 (3.75)	20.29 (3.97)**	21.44 (4.36)	0.179	<0.001
15	21.20 (3.79)*	20.79 (3.96)	20.92 (4.14)**	22.13 (4.65)	0.229	<0.001
16	21.78 (3.95)*	21.29 (4.17)	21.52 (4.29)**	22.80 (4.93)	0.287	<0.001
17	22.34 (4.08)**	21.77 (4.37)	22.11 (4.44)**	23.45 (5.20)	0.350	<0.001
18	22.88 (4.21)**	22.24 (4.57)	22.67 (4.57)**	24.07 (5.46)	0.420	<0.001
19	23.39 (4.32)**	22.68 (4.77)	23.21 (4.71)**	24.68 (5.72)	0.495	<0.001

Sex difference within racial groups: * p<0.05; ** p<0.01

Supplementary Table 3. Model-estimated means (SD) linear slopes of BMI (kg/m^2/year) during childhood by race and sex

Age (year)	Whites (n=1,772)		Blacks (n=960)		P for Race Difference	
	Males (n=803)	Females (n=969)	Males (n=423)	Females (n=537)	Males	Females
4	0.89 (0.52)**	0.77 (0.45)	0.87 (0.59)*	0.97 (0.60)	0.494	<0.001
5	0.86 (0.47)**	0.75 (0.41)	0.85 (0.53)**	0.94 (0.55)	0.570	<0.001
6	0.83 (0.43)**	0.72 (0.38)	0.82 (0.47)**	0.91 (0.51)	0.663	<0.001
7	0.80 (0.40)**	0.69 (0.35)	0.80 (0.42)**	0.88 (0.47)	0.777	<0.001
8	0.78 (0.36)**	0.67 (0.33)	0.77 (0.37)**	0.86 (0.43)	0.916	<0.001
9	0.75 (0.33)**	0.64 (0.31)	0.75 (0.33)**	0.83 (0.41)	0.922	<0.001
10	0.72 (0.30)**	0.62 (0.30)	0.73 (0.30)**	0.80 (0.38)	0.744	<0.001
11	0.69 (0.28)**	0.60 (0.29)	0.70 (0.27)**	0.78 (0.37)	0.562	<0.001
12	0.67 (0.26)**	0.58 (0.28)	0.68 (0.25)**	0.75 (0.36)	0.396	<0.001
13	0.64 (0.24)**	0.55 (0.28)	0.66 (0.23)**	0.73 (0.35)	0.261	<0.001
14	0.62 (0.22)**	0.53 (0.28)	0.64 (0.22)**	0.71 (0.34)	0.165	<0.001
15	0.59 (0.21)**	0.51 (0.28)	0.62 (0.22)**	0.68 (0.34)	0.104	<0.001
16	0.57 (0.21)**	0.49 (0.28)	0.59 (0.22)**	0.66 (0.34)	0.068	<0.001
17	0.55 (0.20)**	0.47 (0.28)	0.57 (0.23)**	0.64 (0.34)	0.048	<0.001
18	0.52 (0.20)**	0.46 (0.28)	0.55 (0.23)**	0.61 (0.35)	0.037	<0.001
19	0.50 (0.20)**	0.44 (0.28)	0.53 (0.24)**	0.59 (0.35)	0.030	<0.001

Sex difference within racial groups: * p<0.05; ** p<0.01

Linear slopes were all significantly greater than 0 (p<0.001).