

Table 1: Mean birthweight (kg) and BMI (kg/m<sup>2</sup>), prevalence of normal, overweight and obese participants, 7y to 50y, in the total sample and in those with poor physical functioning<sup>1,2,3</sup>

	Males		Females	
	Total sample	Poor Functioning	Total sample	Poor Functioning
Birthweight (kg) <sup>4</sup> - Mean (SD)	3.41(0.52)	3.36(0.52)	3.27(0.51)	3.22(0.54)
7y - Mean (SD)	16.2 (1.60)	16.4(1.65)	16.2 (1.92)	16.3 (2.10)
Normal - N (%)	2968 (87.6)	268 (87.3)	3151 (87.1)	340 (85.9)
Overweight - N (%)	359 (10.6)	31 (10.1)	357 (9.87)	43 (10.9)
Obese - N (%)	62 (1.83)	8(2.61)	108 (2.99)	13 (3.28)
11y - Mean (SD)	17.0 (2.44)	17.3 (2.61)	17.3 (2.70)	17.6 (2.81)
Normal - N (%)	3052 (92.3)	292 (89.9)	3194 (90.0)	326 (87.2)
Overweight - N (%)	207 (6.26)	27 (8.31)	300 (8.46)	42 (11.2)
Obese - N (%)	48 (1.45)	6 (1.85)	54 (1.52)	6 (1.60)
16y - Mean (SD)	20.9 (2.73)	24.2(3.60)	21.6(2.87)	22.6 (3.30)
Normal - N (%)	2708 (89.9)	245 (86.0)	2750 (85.8)	243 (76.4)
Overweight - N (%)	246 (8.17)	29 (10.2)	406 (12.7)	65 (20.4)
Obese - N (%)	58 (1.93)	11 (3.86)	50 (1.56)	10 (3.14)
23y - Mean (SD)	23.4 (2.84)	24.2 (3.58)	22.5 (3.24)	23.8 (4.29)
Normal - N (%)	2692 (77.5)	222 (69.2)	3203 (83.8)	279 (69.2)
Overweight - N (%)	692 (19.9)	81 (25.2)	492 (12.9)	92 (22.8)
Obese - N (%)	89 (2.56)	18 (5.61)	128 (3.35)	32 (7.94)
33y - Mean (SD)	25.5 (3.92)	26.8 (4.90)	24.5(4.90)	26.5 (6.39)
Normal - N (%)	1719 (49.6)	123 (39.7)	2522 (65.0)	207 (50.9)
Overweight - N (%)	1381 (39.8)	128 (41.3)	930 (24.0)	100 (24.6)
Obese - N (%)	367 (10.6)	59 (19.0)	431 (11.1)	100 (24.6)
45y - Mean (SD)	27.9 (4.45)	29.7(5.86)	26.9 (5.62)	29.7(7.53)
Normal - N (%)	875 (24.8)	51 (18.9)	1700 (44.6)	120 (30.9)
Overweight - N (%)	1757 (49.9)	132 (43.1)	1218 (32.0)	107 (27.6)
Obese - N (%)	890 (25.3)	123 (40.2)	894 (23.5)	161 (41.5)
50y - Mean (SD)	27.6 (4.69)	27.5 (4.47)	26.8 (5.73)	29.6 (7.66)
Normal - N (%)	1060 (30.2)	84 (26.0)	1656 (44.4)	118 (30.0)
Overweight - N(%)	1601 (45.7)	126 (39.1)	1205 (32.3)	121 (30.8)
Obese - N (%)	844 (24.1)	113 (34.9)	873 (23.4)	154 (39.2)

<sup>1</sup>Table based on observed data.

<sup>2</sup> Participants with SF-36 PF scores in the lowest gender-specific 10<sup>th</sup> centile ( $\leq 60$  for males;  $\leq 55$  for females;) were classified as having poor PF.

<sup>3</sup> BMIs were age-standardised

<sup>4</sup> Birthweight (kg) adjusted for gestational age (in weeks).

Table 2: Odds ratios (95% CI) of poor physical functioning at 50y, per standard deviation increment in birthweight and BMI and in overweight and obese (vs normal BMI) at ages 7y to 50y.

	Males		Females	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Birthweight <sup>2</sup>	0.82 (0.66,1.02)	0.91 (0.73,1.13)	0.81 (0.66,0.99)	0.88 (0.72,1.08)
7y BMI <sup>3</sup>	1.07 (0.96,1.19)	1.08 (0.97,1.21)	1.06 (0.97,1.17)	1.05 (0.96,1.16)
Normal	Ref	Ref	Ref	Ref
Overweight	1.13 (0.76,1.70)	1.16 (0.78,1.74)	1.16 (0.81,1.66)	1.16 (0.80,1.67)
Obese	1.47 (0.68,3.17)	1.63 (0.74,3.62)	1.13 (0.60,2.12)	1.12 (0.58,2.14)
11y BMI <sup>3</sup>	1.13 (1.03,1.25)	1.13 (1.02,1.25)	1.15 (1.05,1.25)	1.12 (1.02,1.22)
Normal	Ref	Ref	Ref	Ref
Overweight	1.46 (0.99,2.14)	1.45 (0.97,2.16)	1.51 (1.12,2.04)	1.48 (1.09,2.01)
Obese	1.51 (0.72,3.18)	1.37 (0.64,2.95)	1.28 (0.62,2.64)	1.05 (0.50,2.22)
16y BMI <sup>3</sup>	1.12 (1.01,1.24)	1.12 (1.01,1.24)	1.29 (1.18,1.41)	1.24 (1.13,1.35)
Normal	Ref	Ref	Ref	Ref
Overweight	1.44 (0.97,2.14)	1.39 (0.92,2.10)	1.74 (1.32,2.30)	1.57 (1.18,2.09)
Obese	2.40 (1.20,4.78)	2.14 (1.05,4.37)	2.34 (1.17,4.70)	1.82 (0.89,3.69)
23y BMI <sup>3</sup>	1.27 (1.15,1.39)	1.20 (1.09,1.32)	1.43 (1.32,1.56)	1.32 (1.21,1.44)
Normal	Ref	Ref	Ref	Ref
Overweight	1.64 (1.26,2.15)	1.43 (1.09,1.87)	2.37 (1.84,3.06)	1.93 (1.49,2.51)
Obese	2.72 (1.63,4.55)	2.28 (1.34,3.91)	3.43 (2.24,5.23)	2.67 (1.72,4.14)
33y BMI <sup>3</sup>	1.30 (1.19,1.43)	1.26 (1.15,1.39)	1.41 (1.30,1.53)	1.33 (1.22,1.44)
Normal	Ref	Ref	Ref	Ref
Overweight	1.28 (1.00,1.64)	1.19 (0.93,1.53)	1.35 (1.05,1.74)	1.22 (0.94,1.57)
Obese	2.36 (1.74,3.19)	2.10 (1.53,2.87)	3.05 (2.37,3.91)	2.52 (1.94,3.26)
45y BMI <sup>3</sup>	1.37 (1.26,1.50)	1.34 (1.22,1.47)	1.52 (1.40,1.65)	1.46 (1.34,1.58)
Normal	Ref	Ref	Ref	Ref
Overweight	1.10 (0.81,1.50)	1.16 (0.84,1.60)	1.32 (1.02,1.70)	1.24 (0.96,1.61)
Obese	2.15 (1.59,2.90)	2.05 (1.50,2.81)	2.74 (2.16,3.48)	2.42 (1.89,3.09)
50y BMI <sup>3</sup>	1.36 (1.25,1.49)	1.34 (1.22,1.47)	1.58 (1.46,1.71)	1.50 (1.38,1.63)
Normal	Ref	Ref	Ref	Ref
Overweight	1.00 (0.76,1.31)	0.98 (0.74,1.30)	1.44 (1.11,1.86)	1.30 (1.00,1.69)
Obese	1.99 (1.52,2.61)	1.77 (1.33,2.35)	2.90 (2.29,3.67)	2.48 (1.95,3.16)

<sup>1</sup>Adjusted for breastfed status, social class at birth and 50y, physical impairment at 7y, physical activity at 42y, smoking at 42y, educational qualifications at 50y.

<sup>2</sup>Birthweight adjusted for gestational age (in weeks).

<sup>3</sup>Odds ratio per standard deviation increment in BMI

Table 3: Odds ratio (95% CI) of poor physical functioning per standard deviation increase in BMI over specified age intervals, adjusted for “baseline” BMI.

BMI change between:	Males		Females	
	Unadjusted	Adjusted <sup>1</sup>	Unadjusted	Adjusted <sup>1</sup>
Birth-7y	0.92(0.82,1.03)	0.92(0.84,1.01)	0.92(0.84, 1.02)	0.93(0.86,1.01)
7-11y	1.15 (1.00,1.31)	1.13 (0.98,1.29)	1.20 (1.06,1.36)	1.15 (1.01,1.31)
11-16y	1.05 (0.89,1.23)	1.04 (0.89,1.23)	1.40 (1.22,1.61)	1.35 (1.17,1.56)
16-23y	1.34 (1.17,1.54)	1.23 (1.07,1.41)	1.43 (1.26,1.62)	1.28 (1.13,1.46)
23-33y	1.20 (1.04,1.39)	1.21 (1.04,1.41)	1.19 (1.06,1.35)	1.19 (1.05,1.35)
33-45y	1.32 (1.13,1.53)	1.32 (1.13,1.54)	1.50 (1.31,1.73)	1.50 (1.30,1.73)
45-50y	1.18 (1.01,1.39)	1.17 (0.98,1.39)	1.46 (1.20,1.78)	1.36 (1.11,1.65)

<sup>1</sup>adjusted for breastfed status, social class at birth and 50y, physical impairment at 7y, physical activity at 42y, smoking at 42y, educational qualifications at 50y.

Table 4: Odds ratio (95% CI) of poor physical functioning at 50y by age of obesity onset<sup>1</sup>

Age of obesity onset	Males (n=4173)				Females (n=4501)			
	N (%)	BMI at 50y Mean (SD)	Unadjusted	Adjusted <sup>2</sup>	N (%)	BMI at 50y Mean (SD)	Unadjusted	Adjusted <sup>2</sup>
Never	2761 (66.2)	25.3(2.53)	Ref	Ref	3061 (68.0)	24.1 (2.81)	Ref	Ref
Childhood only	40 (0.97)	25.7 (2.51)	1.09 (0.25,4.71)	1.11 (0.25,4.92)	39 (0.86)	25.1 (2.51)	0.78 (0.20,3.10)	0.72 (0.18,2.94)
Mid adulthood	865 (20.7)	31.4 (3.62)	1.69 (1.30,2.19)	1.50 (1.16,1.96)	850 (18.9)	31.9 (3.43)	1.89 (1.48,2.41)	1.78 (1.39,2.28)
Young adulthood	413 (9.89)	34.1 (5.57)	2.48 (1.80,3.41)	2.19 (1.58,3.05)	419 (9.31)	35.7 (6.32)	3.53 (2.70,4.61)	2.95 (2.23,3.89)
Child/adolescence	94 (2.25)	35.1 (5.47)	2.48 (1.37,4.49)	2.32 (1.26,4.29)	132 (2.93)	37.3 (7.74)	2.36 (1.43,3.89)	1.98 (1.19,3.31)

<sup>1</sup> Age of onset was grouped as: i) never obese, ii) obese in childhood/adolescence only (7y or 11y or 16y) and not thereafter, iii) obese in childhood/adolescence through to adulthood (7y or 11y or 16y through to 23y or 33y or 45y or 50y), iv) young adulthood onset (first obese at 23y or 33y), and v) mid-adult onset (first obese at 45y or 50y).

<sup>2</sup>Adjusted for breastfed status, social class at birth and 50y, physical disability at 7y, physical activity at 42y, smoking at 42y, and educational qualifications at 50y.

