Original research article

The association between BMI and mortality using early adulthood BMI as an instrumental variable for midlife BMI.

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Supplementary table A. Associations between Body Mass Index (BMI) measured in midlife and in early adulthood (dependent variable) and risk factors for cardiovascular disease in midlife, in three weight categories. From crude linear regressions.

	BMI, early adulthood (18-20 years) β (95 % CI)	BMI, midlife (40-50 years) β (95 % CI)
Normal- and underweight		
Cholesterol (mmol/L)	-0.02 (-0.02, -0.02)	0.08 (0.08, 0.09)
Systolic Blood Pressure (mmHg)	-0.27 (-0.33, -0.22)	1.48 (1.42 1.54)
Diastolic Blood Pressure (mmHg)	-0.17 (-0.21, -0.14)	0.63 (0.59, 0.67)
Heart Rate (beats/min)	-0.30 (-0.35, -0.25)	-0.98 (-1.03, -0.92)
Smoking, ref: no	1.02 (1.01, 1.03)	0.87 (0.86, 0.87)
Current treatment for hypertension, ref: no	1.10 (0.97, 1.05)	1.17 (1.11, 1.24)
BMI, midlife (kg/m^2)		0.35 (0.34, 0.36)
Overweight		
Cholesterol (mmol/L)	-0.02 (-0.03, -0.02)	0.60 (0.06, 0.08)
Systolic Blood Pressure (mmHg)	-0.25 (-0.30, -0.20)	1.09 (1.01, 1.16)

Diastolic Blood Pressure (mmHg)	-0.15 (-0.18, -0.11)	0.08 (0.80, 0.91)
Heart Rate (beats/min)	-0.17 (-0.21, -0.12)	0.62 (0.54, 0.69)
Smoking, ref: no	1.09 (1.08, 0.10)	0.96 (0.95, 0.97)
Current treatment for hypertension, ref: no	1.01 (0.99, 1.04)	1.26 (1.21, 1.31)
BMI, midlife (kg/m^2)		0.39 (0.38, 0.40)

Obese

Cholesterol (mmol/L)	-0.01 (-0.02, –0.01)	-0.00 (-0.01, 0.00)
Systolic Blood Pressure (mmHg)	0.05 (-0.03, 0.12)	0.59 (0.50, 0.67)
Diastolic Blood Pressure (mmHg)	0.02 (-0.03, 0.08)	0.34 (0.27, 0.40)
Heart Rate (beats/min)	0.05 (-0.02, 0.12)	0.67 (0.59, 0.75)
Smoking, ref: no	1.09 (1.07, 1.10)	0.98 (0.97, 1.00)
Current treatment for hypertension, ref: no	1.04 (1.02, 1.06)	1.11 (1.09, 1.13)
BMI, midlife (kg/m^2)		0.43 (0.41, 0.44)

Supplementary Table B. Hazard ratios for cardiovascular (CVD) and all-cause mortality with body mass

index (BMI) percentiles from cox regressions.

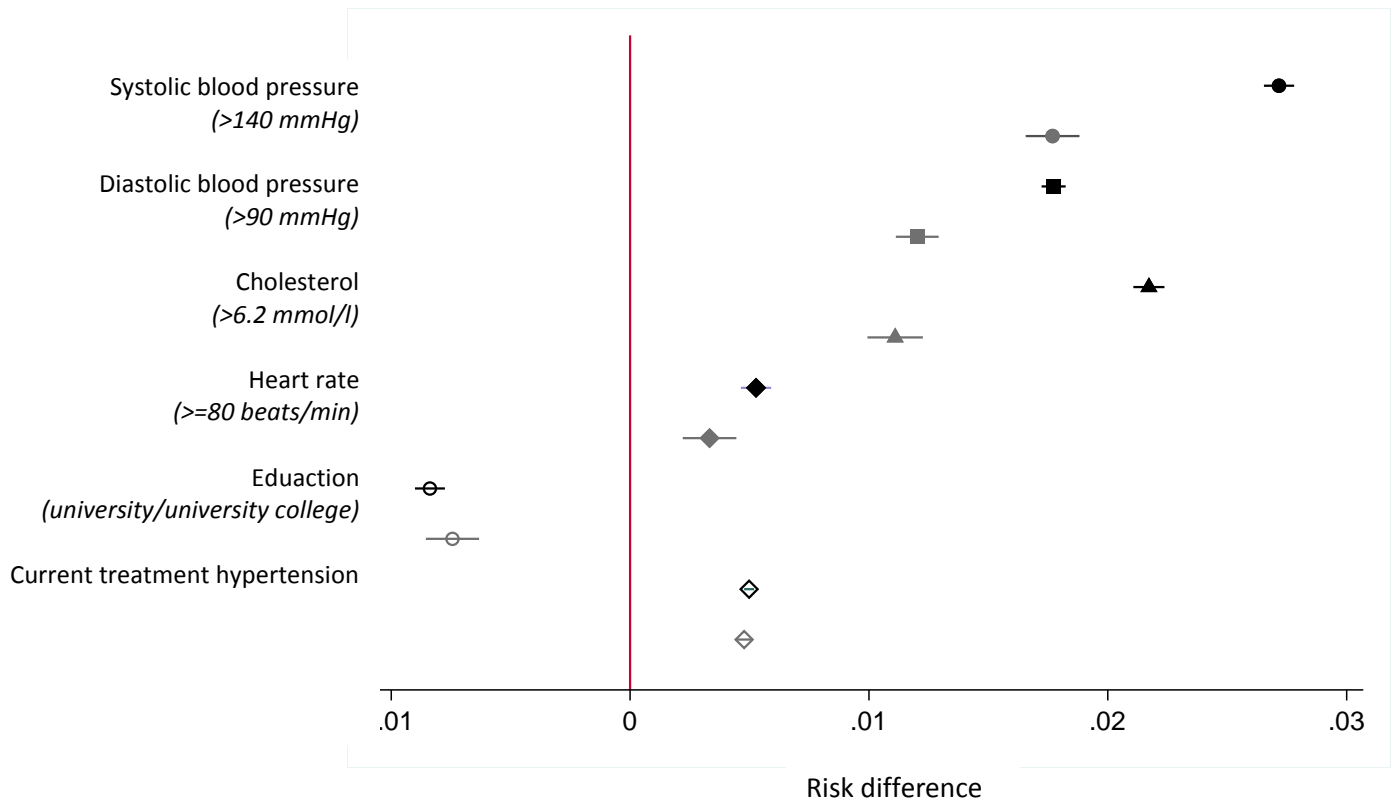|	HR (95 % CI)					
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
CVD		Men			Women	
Midlife						
10 percentile	1.45 (0.91, 1.43)	1.11 (0.89, 1.39)	1.11 (0.89, 1.40)	0.88 (0.60, 1.30)	0.88 (0.60, 1.30)	0.91 (0.61, 1.34)
10-50 percentile	1	1	1	1	1	1
50-90 percentile	1.12 (0.99, 1.26)	1.07 (0.95, 1.21)	0.93 (0.82, 1.05)	1.22 (0.86, 1.74)	1.14 (0.80, 1.62)	0.91 (0.64, 1.31)
90 percentile	2.43 (2.10, 2.81)	2.19 (1.89, 2.54)	1.47 (1.25, 1.72)	2.20 (1.45, 3.33)	1.91 (0.26, 2.89)	1.20 (0.76, 1.88)
Early						
adulthood						
10 percentile	1.21 (1.00, 1.46)	1.17 (0.97, 1.41)	1.17 (0.96, 1.41)	1.02 (0.62, 1.70)	0.96 (0.58, 1.58)	0.98 (0.59, 1.60)
10-50 percentile	1	1	1	1	1	1
50-90 percentile	1.17 (1.04, 1.32)	1.16 (1.03, 1.31)	1.08 (0.96, 1.22)	1.02 (0.62, 1.70)	1.06 (0.72, 1.40)	0.91 (0.65, 1.26)
90 percentile	2.22 (1.90, 2.58)	2.06 (1.77, 2.40)	1.57 (1.34, 1.84)	1.56 (1.05, 2.32)	1.41 (0.95, 2.09)	1.06 (0.71, 1.59)

All cause

Midlife

10 percentile	1.53 (1.39, 1.69)	1.50 (1.36, 1.65)	1.38 (0.95, 1.25)	1.24 (1.10, 1.40)	1.25 (1.11, 1.41)	1.24 (1.12, 1.38)
10-50 percentile	1	1	1	1	1	1
50-90 percentile	1.03 (0.97, 1.09)	0.99 (0.94, 1.05)	0.95 (0.90, 1.01)	1.10 (0.97, 1.25)	1.06 (0.94, 1.20)	1.01 (0.89, 1.15)
90 percentile	1.60 (1.47, 1.73)	1.47 (1.35, 1.59)	1.25 (1.14, 1.37)	1.66 (1.42, 1.96)	1.54 (1.31, 1.81)	1.39 (1.18, 1.64)
Early						
adulthood						
10 percentile	1.17 (1.06, 1.28)	1.13 (1.11, 1.48)	1.10 (1.00, 1.21)	1.07 (0.91, 1.26)	1.04 (0.88, 1.22)	1.02 (0.86, 1.20)
10-50 percentile	1	1	1	1	1	1
50-90 percentile	1.12 (1.05, 1.19)	1.11 (1.05, 1.18)	1.05 (1.03, 1.16)	0.97 (0.87, 1.08)	0.96 (0.86, 1.07)	0.93 (0.83, 1.04)
90 percentile	1.57 (1.45, 1.71)	1.48 (1.36, 1.56)	1.32 (1.21, 1.44)	1.30 (1.213, 1.50)	1.24 (1.07, 1.42)	1.12 (0.97, 1.29)

Supplementary Figure A. Covariate balance (with 95 % confidence intervals) by levels of Body Mass Index (black) and instrument (grey).