

## SUPPLEMENTARY DATA

**Table S1. Hazard ratios (95% confidence interval) for the association of father's social class with total and cardiovascular disease mortality– the English Longitudinal Study of Ageing (N=7846)**

	Father's social class				
	High	Middle		Low	
<b>Total mortality (1301 deaths)</b>	HR (95%CI)	HR (95%CI)	%Δ	HR (95%CI)	%Δ
<b>Model 1:</b> Age, sex, & health conditions	1.00 (ref)	1.07 (0.93;1.23)		1.22 (1.07;1.40)	
<b>Model 2:</b> Model 1 + behavioural factors	1.00	1.01 (0.88;1.17)	-	1.13 (0.98;1.29)	-40
<b>Model 3:</b> Model 1 + psychosocial factors	1.00	1.05 (0.91;1.22)	-	1.18 (1.03;1.35)	-15
<b>Model 4:</b> Model 1 + physiological factors	1.00	1.05 (0.91;1.21)	-	1.19 (1.04;1.36)	-13
<b>Model 5:</b> Model 1 + inflammatory markers	1.00	1.02 (0.85;1.13)	-	1.16 (0.96;1.29)	-27
<b>Model 6:</b> Model 1 + all risk factors	1.00	0.97 (0.84;1.12)	-	1.07 (0.93;1.23)	-74
<b>CVD mortality (438 deaths)</b>					
<b>Model 1:</b> Age, sex, & health conditions	1.00	1.07 (0.83;1.38)		1.43 (1.13;1.81)	
<b>Model 2:</b> Model 1 + behavioural factors	1.00	1.01 (0.88;1.30)	-	1.31 (1.03;1.66)	-25
<b>Model 3:</b> Model 1 + psychosocial factors	1.00	1.06 (0.82;1.37)	-	1.38 (1.09;1.75)	-10
<b>Model 4:</b> Model 1 + physiological factors	1.00	1.03 (0.80;1.33)	-	1.36 (1.07;1.72)	-15
<b>Model 5:</b> Model 1 + inflammatory markers	1.00	1.02 (0.79;1.31)	-	1.36 (1.07;1.72)	-15
<b>Model 6:</b> Model 1 + all risk factors	1.00	0.97 (0.75;1.25)	-	1.24 (0.97;1.57)	-40

Δ: Attenuation, and representing the proportion of the SES-mortality association explained by the risk factor in question. % attenuation is calculated only for statistically significant associations.

Behavioural factors include current smoking, physical activity, alcohol consumption and BMI; psychosocial factors include loneliness score, social network size, negative and positive support from spouse; physiological factors include systolic and diastolic blood pressure, cholesterol and triglycerides levels; inflammatory markers include C-Reactive protein and fibrinogen.

**Table S2. Hazard ratios (95% confidence interval) for the association of education with total and cardiovascular disease mortality– the English Longitudinal Study of Ageing (N=7846)**

	Education				
	High	Middle	%Δ	Low	%Δ
<b>Total mortality (1301 deaths)</b>	<b>HR (95%CI)</b>	<b>HR (95%CI)</b>		<b>HR (95%CI)</b>	
<b>Model 1:</b> Age, sex, & health conditions	1.00 (ref)	1.31 (1.12;1.53)		1.41 (1.20;1.64)	
<b>Model 2:</b> Model 1 + behavioural factors	1.00	1.17 (1.00;1.37)	-41	1.23 (1.05;1.45)	-39
<b>Model 3:</b> Model 1 + psychosocial factors	1.00	1.29 (1.10;1.50)	-7	1.36 (1.16;1.60)	-9
<b>Model 4:</b> Model 1 + physiological factors	1.00	1.29 (1.11;1.51)	-4	1.36 (1.16;1.59)	-9
<b>Model 5:</b> Model 1 + inflammatory markers	1.00	1.24 (1.06;1.45)	-20	1.26 (1.07;1.48)	-33
<b>Model 6:</b> Model 1 + all risk factors	1.00	1.13 (0.97;1.33)	-53	1.14 (0.97;1.34)	-62
<hr/>					
<b>CVD mortality (438 deaths)</b>					
<b>Model 1:</b> Age, sex, & health conditions	1.00	1.42 (1.07;1.87)		1.52 (1.16;2.00)	
<b>Model 2:</b> Model 1 + behavioural factors	1.00	1.25 (0.94;1.65)	-37	1.29 (0.97;1.70)	-40
<b>Model 3:</b> Model 1 + psychosocial factors	1.00	1.39 (1.05;1.83)	-6	1.46 (1.11;1.93)	-9
<b>Model 4:</b> Model 1 + physiological factors	1.00	1.39 (1.05;1.84)	-6	1.43 (1.09;1.83)	-14
<b>Model 5:</b> Model 1 + inflammatory markers	1.00	1.33 (1.01;1.75)	-18	1.33 (1.01;1.76)	-32
<b>Model 6:</b> Model 1 + all risk factors	1.00	1.18 (1.89;1.57)	-52	1.15 (0.87;1.53)	-66

Δ: Attenuation, and representing the proportion of the SES-mortality association explained by the risk factor in question.

Behavioural factors include current smoking, physical activity, alcohol consumption and BMI; psychosocial factors include loneliness score, social network size, negative and positive support from spouse; physiological factors include systolic and diastolic blood pressure, cholesterol and triglycerides levels; inflammatory markers include C-Reactive protein and fibrinogen.

**Table S3. Hazard ratios (95% confidence interval) for the association of adult wealth with total and cardiovascular disease mortality–  
the English Longitudinal Study of Ageing (N=7846)**

	Occupational position				
	High	Middle		Low	
<b>Total mortality (1301 deaths)</b>	<b>HR (95%CI)</b>	<b>HR (95%CI)</b>	<b>%Δ</b>	<b>HR (95%CI)</b>	<b>%Δ</b>
<b>Model 1:</b> Age, sex, & health conditions	1.00 (ref)	1.10 (0.94;1.27)		1.59 (1.38;1.82)	
<b>Model 2:</b> Model 1 + behavioural factors	1.00	1.00 (0.86;1.16)	-	1.18 (1.02;1.87)	-64
<b>Model 3:</b> Model 1 + psychosocial factors	1.00	1.08 (0.93;1.25)	-	1.51 (1.31;1.74)	-16
<b>Model 4:</b> Model 1 + physiological factors	1.00	1.08 (0.93;1.25)	-	1.54 (1.34;1.78)	-6
<b>Model 5:</b> Model 1 + inflammatory markers	1.00	1.03 (0.89;1.20)	-	1.41 (1.22;1.62)	-25
<b>Model 6:</b> Model 1 + all risk factors	1.00	0.96 (0.82;1.11)	-	1.07 (0.92;1.25)	-85
<hr/>					
<b>CVD mortality (438 deaths)</b>					
<b>Model 1:</b> Age, sex, & health conditions	1.00	1.16 (0.88;1.53)		2.00 (1.55;2.57)	
<b>Model 2:</b> Model 1 + behavioural factors	1.00	1.04 (0.79;1.38)	-	1.44 (1.10;1.88)	-47
<b>Model 3:</b> Model 1 + psychosocial factors	1.00	1.15 (0.87;1.51)	-	1.91 (1.48; 2.46)	-7
<b>Model 4:</b> Model 1 + physiological factors	1.00	1.12 (0.85;1.48)	-	1.89 (1.46;2.43)	-8
<b>Model 5:</b> Model 1 + inflammatory markers	1.00	1.10 (0.83;1.45)	-	1.76 (1.36;2.27)	-18
<b>Model 6:</b> Model 1 + all risk factors	1.00	0.99 (0.75;1.32)	-	1.30 (0.99;1.70)	-62

Δ: Attenuation, representing the proportion of the SES-mortality association explained by the risk factor in question. % attenuation is calculated only for statistically significant associations.

Behavioural factors include current smoking, physical activity, alcohol consumption and BMI; psychosocial factors include loneliness score, social network size, negative and positive support from spouse; physiological factors include systolic and diastolic blood pressure, cholesterol and triglycerides levels; inflammatory markers include C-Reactive protein and fibrinogen.

**Table S4. Hazard ratios (95% confidence interval) for the association of occupational position with total and cardiovascular disease mortality– the English Longitudinal Study of Ageing (N=7846)**

	Adult wealth				
	High	Middle		Low	
<b>Total mortality (1301 deaths)</b>	HR (95%CI)	HR (95%CI)	%Δ	HR (95%CI)	%Δ
<b>Model 1:</b> Age, sex, & health conditions	1.00 (ref)	1.14 (0.98;1.33)		1.26 (1.11;1.43)	
<b>Model 2:</b> Model 1 + behavioural factors	1.00	1.05 (0.90;1.23)	-	1.08 (0.95;1.24)	-65
<b>Model 3:</b> Model 1 + psychosocial factors	1.00	1.12 (0.96;1.31)	-	1.22 (1.06;1.38)	-16
<b>Model 4:</b> Model 1 + physiological factors	1.00	1.13 (0.98;1.32)	-	1.24 (1.08;1.41)	-9
<b>Model 5:</b> Model 1 + inflammatory markers	1.00	1.12 (0.96;1.31)	-	1.19 (1.04;1.35)	-26
<b>Model 6:</b> Model 1 + all risk factors	1.00	1.04 (0.89;1.22)	-	1.04 (0.91;1.19)	-83
<hr/>					
<b>CVD mortality (438 deaths)</b>					
<b>Model 1:</b> Age, sex, & health conditions	1.00	1.37 (1.05;1.80)		1.46 (1.15;1.84)	
<b>Model 2:</b> Model 1 + behavioural factors	1.00	1.25 (0.96;1.64)	-28	1.24 (0.97;1.57)	-44
<b>Model 3:</b> Model 1 + psychosocial factors	1.00	1.34 (1.03;1.76)	-6	1.40 (1.10;1.77)	-11
<b>Model 4:</b> Model 1 + physiological factors	1.00	1.36 (1.04;1.78)	-2	1.39 (1.10;1.77)	-12
<b>Model 5:</b> Model 1 + inflammatory markers	1.00	1.37 (1.05;1.80)	0	1.37 (1.08;1.74)	-16
<b>Model 6:</b> Model 1 + all risk factors	1.00	1.26 (0.96;1.66)	-26	1.18 (0.92;1.50)	-57

Δ: Attenuation, representing the proportion of the SES-mortality association explained by the risk factor in question. % attenuation is calculated only for statistically significant associations.

Behavioural factors include current smoking, physical activity, alcohol consumption and BMI; psychosocial factors include loneliness score, social network size, negative and positive support from spouse; physiological factors include systolic and diastolic blood pressure, cholesterol and triglycerides levels; inflammatory markers include C-Reactive protein and fibrinogen.

**Table S5. Hazard ratios (95% confidence interval) for the association of lifecourse cumulative socioeconomic score with cardiovascular disease mortality, and the contribution of inflammation using different cut-offs for the exclusion of participants with elevated CRP – the English Longitudinal Study of Ageing**

	<b>CRP &lt;4 mg/L</b>	<b>CRP &lt;6 mg/L</b>	<b>CRP &lt;8 mg/L</b>	<b>CRP &lt;10mg/L</b>	<b>Full sample</b>
N deaths /N population	255/5644	321/6508	355/6922	371/7182	438/7846
<b>Model 1:</b> Adjusted for age, sex and prevalent health conditions	2.65 (1.67;4.16)	2.64 (1.76 ;3.97)	2.52 (1.71 ;3.72)	2.42 (1.66 ;3.53)	2.57 (1.81;3.65)
<b>Model 2:</b> Model 1 + inflammatory markers <sup>a</sup>	2.41 (1.53;3.80)	2.32 (1.54;3.51)	2.20 (1.48;3.26)	2.12 (1.44;3.10)	2.17 (1.52;3.09)

<sup>a</sup> Inflammatory markers include C-Reactive protein and fibrinogen

**Table S6. Hazard ratios (95% confidence interval) for the association of lifecourse social trajectories and cumulative SES score with cardiovascular disease mortality – the English Longitudinal Study of Ageing (N=7846) – ANALYSES WITHOUT ADJUSTMENT FOR HEALTH STATUS-**

	Lifecourse social trajectories						
	Stable high	Upward		Downward		Stable low	
CVD mortality (438 deaths)	HR (95%CI)	HR (95%CI)	%Δ	HR (95%CI)	%Δ	HR (95%CI)	%Δ
<b>Model 1:</b> Age, sex	1.00 (ref)	1.29 (0.92;1.83)		1.26 (0.89;1.78)		2.00 (1.41;2.84)	
<b>Model 2:</b> Model 1 + behavioural factors	1.00	1.25 (0.88;1.77)	-	1.13 (0.79;1.62)	-	1.68 (1.17;2.40)	-26
<b>Model 3:</b> Model 1 + psychosocial factors	1.00	1.27 (0.90;1.79)	-	1.21 (0.85;1.73)	-	1.90 (1.34;2.70)	-8
<b>Model 4:</b> Model 1 + physiological factors	1.00	1.24 (0.88;1.75)	-	1.20 (0.85;1.71)	-	1.83 (1.29;2.61)	-13
<b>Model 5:</b> Model 1 + inflammatory markers	1.00	1.20 (0.85;1.71)	-	1.14 (0.80;1.62)	-	1.78 (1.26;2.54)	-16
<b>Model 6:</b> Model 1 + all risk factors	1.00	1.16 (0.82;1.66)	-	1.05 (0.73;1.49)	-	1.51 (1.06;2.17)	-40
	Lifecourse cumulative SES score						
CVD mortality (438 deaths)	Lowest vs. highest score						
	HR (95%CI)	%Δ					
<b>Model 1:</b> Age, sex	2.80 (1.97;3.98)						
<b>Model 2:</b> Model 1 + behavioural factors	1.86 (1.29;2.68)	-44					
<b>Model 3:</b> Model 1 + psychosocial factors	2.59 (1.81;3.69)	-11					
<b>Model 4:</b> Model 1 + physiological factors	2.47 (1.73;3.53)	-12					
<b>Model 5:</b> Model 1 + inflammatory markers	2.34 (1.64;3.35)	-16					
<b>Model 6:</b> Model 1 + all risk factors	1.57 (1.08;2.29)	-57					

CI: Confidence Interval; CVD: Cardiovascular disease; HR: Hazard Ratio; Δ: Attenuation, representing the proportion of the SES-mortality association explained by the risk factor in question.

% attenuation is calculated only for statistically significant associations.

Behavioural factors include current smoking, physical activity, alcohol consumption and BMI; psychosocial factors include loneliness score, social network size, negative and positive support

from spouse; physiological factors include systolic and diastolic blood pressure, cholesterol and triglycerides levels; inflammatory markers include C-Reactive protein and fibrinogen.

**Table S7. Hazard ratios (95% confidence interval) for the association of lifecourse social trajectories and cumulative SES score with cardiovascular disease mortality – the English Longitudinal Study of Ageing (N=7846) – ANALYSES STRATIFIED BY AGE GROUP-**

<b>Lifecourse social trajectories</b>										
	<b>AGE ≤65 years (N=3993, 56 CVD deaths)</b>					<b>AGE &gt;65 years (N=3853, 382 CVD deaths)</b>				
	<b>Stable</b>	<b>Upward</b>		<b>Downward</b>		<b>Stable low</b>	<b>Upward</b>		<b>Downward</b>	<b>Stable low</b>
<b>CVD mortality</b>	HR	HR (95%CI)	%Δ	HR (95%CI)	%	HR (95%CI)	%Δ			
<b>Model 1:</b> Age, sex	1.00	1.79 (0.61;5.28)		1.70 (0.56;5.18)	3.09 (1.05;9.13)			1.21 (0.84; 1.75)	1.17 (0.80; 1.69)	1.78 ( 1.23;2.57)
<b>Model 2:</b> Model 1 + behavioural	1.00	1.24 (0.42;3.68)	-	0.91 (0.29;2.88)	- 1.54 (0.51;4.68)	-61		1.21 (0.83; 1.74)	1.11 (0.76; 1.61)	1.62 (1.11; 2.37) -16
<b>Model 3:</b> Model 1 + psychosocial	1.00	1.58 (0.53;4.67)	-	1.34 (0.44;4.14)	- 2.37 (0.80;7.09)	-23		1.21 (0.84; 1.75)	1.16 (0.80;1.68)	1.73 (1.19; 2.51) -4
<b>Model 4:</b> Model 1 + physiological	1.00	1.67 (0.57;4.94)	-	1.63 (0.53;4.98)	- 2.88 (0.97;8.56)	-6		1.17 (0.81; 1.69)	1.13 (0.78;1.63)	1.65 (1.14;02.40) -12
<b>Model 5:</b> Model 1 + inflammatory	1.00	1.92 (0.64;5.73)	-	1.74 (0.56;5.40)	- 3.02 (1.01;9.02)	-2		1.14 (0.79; 1.74)	1.07 (0.74; 1.54)	1.62 (1.12; 2.35) -16
<b>Model 6:</b> Model 1 + all risk factors	1.00	1.12 (0.36;3.43)	-	0.76 (0.23;3.48)	- 1.23 (0.39;3.89)	-81		1.14 (0.78; 1.66)	1.03 (0.70; 1.51)	1.50 (1.02; 2.21) -29

  

<b>Lifecourse cumulative SES score</b>				
	<b>AGE ≤65 years</b>		<b>AGE &gt;65 years</b>	
	<b>Lowest vs. highest</b>		<b>Lowest vs. highest</b>	
<b>CVD mortality</b>	HR (95%CI)	%Δ	HR (95%CI)	%Δ
<b>Model 1:</b> Age, sex	9.26 (3.00;28.4)		2.18 (1.51; 3.16)	
<b>Model 2:</b> Model 1 + behavioural	2.77 (0.83;9.19)	-54	1.71 (1.17; 2.53)	-31
<b>Model 3:</b> Model 1 + psychosocial	6.00 (1.88;19.1)	-19	2.09 (1.44; 3.05)	-5
<b>Model 4:</b> Model 1 + physiological	8.58 (2.74;26.7)	-3	1.99 (1.36; 2.90)	-12
<b>Model 5:</b> Model 1 + inflammatory	6.57 (2.16;19.9)	-15	1.90 (1.30; 2.76)	-18
<b>Model 6:</b> Model 1 + all risk factors	1.89 (0.55;6.55)	-71	1.51 (1.02; 2.25)	-47

CI: Confidence Interval; CVD: Cardiovascular disease; HR: Hazard Ratio; Δ: Attenuation, representing the proportion of the SES-mortality association explained by the risk factor in question.

% attenuation is calculated only for statistically significant associations.

Behavioural factors include current smoking, physical activity, alcohol consumption and BMI; psychosocial factors include loneliness score, social network size, negative and positive support from spouse; physiological factors include systolic and diastolic blood pressure, cholesterol and triglycerides levels; inflammatory markers include C-Reactive protein and fibrinogen.

**Table S8. Hazard ratios (95% confidence interval) for the association of risk factors at baseline with cardiovascular disease mortality (N=7846) – the English Longitudinal Study of Ageing – ANALYSES STRATIFIED BY AGE GROUP-**

	CVD mortality	
	≤65 years	> 65 years
<b>Deaths</b>	56	382
<i>Behavioural factors</i>		
Smoking		
Never/Former	1.00 (ref)	1.00 (ref)
Current smoker	3.03 (1.77;5.18)	1.75 (1.28;2.41)
Physical activity		
Active/ Moderately active	1.00	1.00
Inactive	5.10 (2.93;8.86)	2.36 (1.89;2.93)
Alcohol consumption		
Less than daily	1.00	1.00
Daily	0.80 (0.42;1.52)	1.05 (0.82;1.32)
Body Mass Index		
<30 kg/m <sup>2</sup>	1.00	1.00
≥30 kg/m <sup>2</sup>	1.53 (0.89;2.60)	1.14 (0.91;1.43)
<i>Psychosocial factors</i>		
Loneliness score		
Low	1.00	1.00
High	3.07 (1.80;5.22)	1.27 (1.03;1.56)
Social network size		
Large	1.00	1.00
Small	1.32 (0.78;1.22)	1.28 (1.04;1.57)
Positive support score		
High	1.00	1.00
Low	1.64 (0.96;2.80)	1.07 (0.87;1.30)
Negative support score		
Low	1.00	1.00
High	1.60 (0.90;2.82)	1.07 (0.83;1.37)
<i>Physiological factors</i>		
Blood pressure		
Normotensive	1.00	1.00
Hypertensive	1.00 (0.94;1.08)	1.01 (0.74;1.35)
Total cholesterol level		
Low	1.00	1.00
High	0.78 (0.44;1.36)	0.70 (0.56;0.86)
Triglycerides level		
Low	1.00	1.00
High	0.96 (0.57;1.52)	1.02 (0.83;1.24)
<i>Inflammatory markers</i>		
Fibrinogen level		
Low	1.00	1.00
High	3.40 (2.00;5.45)	1.58 (1.30;1.94)
C-reactive protein level		
Low	1.00	1.00
High	1.97 (1.14;3.38)	1.47 (1.20;1.79)

CVD: Cardiovascular disease; SD: Standard Deviation; SBP: Systolic Blood Pressure; DBP: Diastolic Blood Pressure

High CRP and high fibrinogen were represented by the highest tertiles of their distribution.

<sup>a</sup>Hazard ratios adjusted for age, sex and prevalent conditions at baseline.



**Table S9. Hazard ratios (95% confidence interval) for the association of lifecourse social trajectories with total and cardiovascular disease mortality – the English Longitudinal Study of Ageing (N=8861) – MULTIPLE IMPUTATION-**

	Lifecourse social trajectories						
	Stable high	Upward		Downward		Stable low	
<b>CVD mortality (438 deaths)</b>	HR (95%CI)	HR (95%CI)	%Δ	HR (95%CI)	%Δ	HR (95%CI)	%Δ (95%CI)
<b>Model 1:</b> Age, sex, & health conditions	1.00 (ref)	1.29 (0.92;1.32)		1.25 (0.88;1.57)		1.94 (1.37;2.75)	
<b>Model 2:</b> Model 1 + behavioural factors	1.00	1.26 (0.87;1.81)	-	1.12 (0.77;1.69)	-	1.57 (1.07;2.29)	-32
<b>Model 3:</b> Model 1 + psychosocial factors	1.00	1.16 (0.80;1.69)	-	1.10 (0.75;1.61)	-	1.62 (1.10;2.37)	-28
<b>Model 4:</b> Model 1 + physiological factors	1.00	1.25 (0.88;1.77)	-	1.22 (0.86;1.76)	-	1.83 (1.29;2.60)	-8
<b>Model 5:</b> Model 1 + inflammatory markers	1.00	1.19 (0.78;1.83)	-	1.19 (0.77;1.84)	-	1.76 (1.16;2.68)	-15
<b>Model 6:</b> Model 1 + all risk factors	1.00	1.05 (0.65;1.69)	-	0.98 (0.60;1.59)	-	1.25 (0.76;2.04)	-67

CI: Confidence Interval; CVD: Cardiovascular disease; HR: Hazard Ratio; Δ: Attenuation, representing the proportion of the SES-mortality association explained by the risk factor in question.

% attenuation is calculated only for statistically significant associations.

Behavioural factors include current smoking, physical activity, alcohol consumption and BMI; psychosocial factors include loneliness score, social network size, negative and positive support from spouse; physiological factors include systolic and diastolic blood pressure, cholesterol and triglycerides levels; inflammatory markers include C-Reactive protein and fibrinogen.