

**Supplementary table S1. Hazard ratios (95% confidence interval) for the association of a 10 unit increase in cognitive function between early adulthood and middle-age with selected causes of mortality (N=4289) – with additional adjustment for baseline cognitive function**

Adjustments	All causes (237 deaths)	CVD (62 deaths)	All cancers (47 deaths)	Injury (51 deaths)
Age, baseline CF <sup>a</sup>	0.83 (0.75, 0.91)	0.77 (0.64, 0.93)	1.10 (0.86, 1.40)	0.94 (0.75, 1.19)
Age, baseline CF + army rank, ethnicity	0.86 (0.77, 0.95)	0.80 (0.66, 0.97)	1.09 (0.86, 1.40)	0.95 (0.75, 1.20)
Age, baseline CF + behavioural factors <sup>a</sup>	0.84 (0.76, 0.93)	0.78 (0.64, 0.95)	1.09 (0.86, 1.40)	0.96 (0.76, 1.22)
Age, baseline CF + chronic disease factors <sup>b</sup>	0.84 (0.76, 0.93)	0.79 (0.65, 0.96)	1.11 (0.87, 1.41)	0.96 (0.76, 1.21)
Age, baseline CF + physiological factors <sup>c</sup>	0.87 (0.78, 0.96)	0.80 (0.66, 0.97)	1.14 (0.89, 1.45)	0.96 (0.76, 1.22)
Age, baseline CF + socioeconomic factors <sup>d</sup>	0.90 (0.81, 0.99)	0.83 (0.69, 1.01)	1.10 (0.85, 1.42)	1.06 (0.83, 1.34)
All above covariates	0.95 (0.85, 1.05)	0.88 (0.72, 1.08)	1.10 (0.85, 1.42)	1.07 (0.83, 1.37)

CVD, cardiovascular disease

<sup>a</sup> Behavioural factors are: smoking habit, alcohol consumption

<sup>b</sup> Chronic disease factors are: somatic disease, psychiatric factors (depression, post traumatic stress disorder, anxiety)

<sup>c</sup> Physiological factors are: systolic blood pressure, diastolic blood pressure, pulse rate, blood glucose, FEV1, BMI, cholesterol

<sup>d</sup> Socioeconomic factors are: marital status, occupational prestige, education, family income

**Supplementary table S2. Hazard ratios (95% confidence interval) for the association of a 10 unit increase in cognitive function between early adulthood and middle-age with selected causes of mortality (N=4289) – with cognitive change score estimated from residuals**

Adjustments	All causes (237 deaths)	CVD (62 deaths)	All cancers (47 deaths)	Injury (51 deaths)
Age	0.81 (0.73, 0.89)	0.75 (0.62, 0.91)	1.11 (0.85, 1.43)	0.94 (0.74, 1.19)
Age + army rank, ethnicity	0.86 (0.77, 0.95)	0.80 (0.66, 0.97)	1.11 (0.86, 1.44)	0.95 (0.75, 1.21)
Age + behavioural factors <sup>a</sup>	0.83 (0.74, 0.92)	0.77 (0.63, 0.93)	1.10 (0.85, 1.43)	0.96 (0.75, 1.22)
Age + chronic disease factors <sup>b</sup>	0.83 (0.74, 0.91)	0.77 (0.64, 0.94)	1.11 (0.86, 1.44)	0.95 (0.75, 1.21)
Age + physiological factors <sup>c</sup>	0.86 (0.77, 0.95)	0.79 (0.65, 0.96)	1.15 (0.89, 1.49)	0.96 (0.76, 1.22)
Age + socioeconomic factors <sup>d</sup>	0.90 (0.81, 1.00)	0.83 (0.69, 1.01)	1.12 (0.86, 1.45)	1.04 (0.83, 1.31)
All above covariates	0.94 (0.85, 1.05)	0.87 (0.71, 1.07)	1.13 (0.87, 1.47)	1.04 (0.82, 1.33)

<sup>a</sup> Behavioural factors are: smoking habit, alcohol consumption

<sup>b</sup> Chronic disease factors are: somatic disease, psychiatric factors (depression, post traumatic stress disorder, anxiety)

<sup>c</sup> Physiological factors are: systolic blood pressure, diastolic blood pressure, pulse rate, blood glucose, FEV1, BMI, cholesterol

<sup>d</sup> Socioeconomic factors are: marital status, occupational prestige, education, family income