

Analysis 1: 14 - 30 y
Cognitive stimulation → dementia

Baseline

7 cohort studies

29 243 x in high-stimulating jobs
50 724 x in medium-stimulating jobs
27 929 x in low-stimulating jobs

Follow-up

1143 x new dementia cases in 1.8 million person-years

The risk of dementia was lower for participants who had high cognitive stimulation at work compared to those with low cognitive stimulation (confounder-adjusted hazard ratio 0.82, 95% CI 0.68 to 0.98)

Analysis 2: 3 y
Cognitive stimulation → proteins

1 cohort study

759 x in high-stimulating jobs
949 x in medium-stimulating jobs
553 x in low-stimulating jobs

Assessment of 4953 plasma proteins

Higher cognitive stimulation at work was associated with lower levels of 3 proteins that inhibit central nervous system axonogenesis and synaptogenesis: SLIT2 (confounder-adjusted beta -0.34, $p < 0.001$), CHSTC (beta -0.33, $p < 0.001$) and AMD (-0.32, $p < 0.001$)

Analysis 3: 18 - 20 y
Proteins → dementia

Baseline

2 cohort studies

2261 x in Whitehall
11 395 x in ARIC

Follow-up

2051 x new dementia cases in 247 909 person-years

These proteins were associated with increased dementia risk, confounder-adjusted hazard ratio per 1SD being 1.16 (95%CI 1.05 to 1.28) for SLIT2, 1.13 (95%CI 1.00 to 1.27) for CHSTC, and 1.04 (95%CI 0.97 to 1.13) for AMD.