

SUPPLEMENTARY TABLES

Supplementary Table 1. Correlations of BMI across different time points.

| | BMI at 25 | BMI 10 years before survey | BMI 1 year before survey | BMI burden |
|----------------------------|-----------|----------------------------|--------------------------|------------|
| BMI 10 years before survey | 0.560 | | | |
| BMI 1 year before survey | 0.492 | 0.796 | | |
| BMI burden | 0.779 | 0.950 | 0.828 | |
| Current BMI | 0.395 | 0.727 | 0.881 | 0.732 |

P<0.00001 for all correlation coefficients.

Supplementary Table 2. Correlations of BMI across different time points with cognitive function measures.

| Outcome | BMI at age 25 | | BMI 10 years before | | BMI burden | | Current BMI | |
|--------------------------------|-------------------------|-------|-------------------------|-------|-------------------------|-------|-------------------------|-------|
| | Correlation coefficient | P |
| Composite Score | -0.049 | 0.011 | -0.025 | 0.199 | -0.029 | 0.143 | 0.046 | 0.018 |
| CERAD Word Learning | -0.057 | 0.003 | -0.018 | 0.350 | -0.028 | 0.150 | 0.036 | 0.068 |
| CERAD Delayed Recall | -0.037 | 0.054 | -0.001 | 0.970 | -0.006 | 0.750 | 0.054 | 0.005 |
| Animal Fluency Test | 0.002 | 0.923 | -0.003 | 0.892 | 0.005 | 0.815 | 0.050 | 0.010 |
| Digit Symbol Substitution Test | -0.062 | 0.002 | -0.057 | 0.004 | -0.060 | 0.002 | 0.004 | 0.824 |