**Table S3:** Coefficient estimates for associations between cognitive test performance and Healthy Aging in Neighborhoods of Diversity across the Life Span (HANDLS) Alzheimer’s Risk Score (hAlzScore) by time and diet, for HANDLS participants >50 years of age with complete and reliable cognitive test scores derived from mixed-effects linear regression models (β-Coefficients and standard errors) ‡

|  |  |  |  |
| --- | --- | --- | --- |
|  | All | Women | Men |
| *Mini-Mental State Exam, MMSE*\*\*\*,†††*,*‡‡‡ | N=225; k=1.82 | N=123; k=1.85 | N=181; k=1.77 |
| Time | -0.0±0.17 | -0.64±0.55 | -0.10±0.26 |
| hAlzScore | **-0.12**§**±0.07** | -0.05±0.09 | -0.15±0.11 |
| hAlzScore × Time | 0.02±0.02 | 0.01±0.02 | 0.02±0.03 |
| Diet Change\* | 0.06±0.14 | -0.09±0.16 | 0.02±0.26 |
| Diet Change × Time | -0.02±0.04 | 0.05±0.04 | 0.02±0.07 |
| hAlzScore × Diet Change | -0.00±0.08 | -0.06±0.09 | 0.19±0.14 |
| hAlzScore × Diet Change × Time | 0.03±0.02 | **0.04**||**±0.02** | -0.04±0.04 |
| Initial Diet† | -0.05±0.11 | -0.18±0.13 | -0.10±0.22 |
| Initial Diet × Time | 0.01±0.03 | 0.04±0.03 | 0.06±0.06 |
| hAlzScore × Initial Diet | 0.05±0.06 | -0.02±0.07 | **0.25**||**±0.12** |
| hAlzScore × Initial Diet ×Time | 0.02±0.01 | 0.02±0.01 | -0.03±0.03 |
| *California Verbal Learning Test CVLT, List A*‡‡*,*¶¶ | N=223; k=1.76 | N=122; k=1.8 | N=173; k=1.71 |
| Time | **-0.80**§**±0.43** | -2.22±1.52 | -0.57±0.53 |
| hAlzScore | **-0.36**§**±0.20** | **-0.44**§**±0.24** | -0.24±0.33 |
| hAlzScore × Time | 0.05±0.05 | 0.16||±0.07 | -0.08±0.07 |
| Diet Change | 0.36±0.36 | 0.06±0.42 | 0.99±0.70 |
| Diet Change × Time | -0.04±0.10 | -0.16±0.13 | 0.24±0.15 |
| hAlzScore × Diet Change | -0.22±0.22 | -0.17±0.26 | -0.25±0.38 |
| hAlzScore × Diet Change × Time | **0.15**¶**±0.06** | **0.21**¶**±0.08** | 0.02±0.08 |
| Initial Diet | -0.07±0.31 | -0.13±0.36 | -0.07±0.57 |
| Initial Diet × Time | -0.04±0.08 | -0.06±0.10 | 0.06±0.13 |
| hAlzScore × Initial Diet | -0.10±0.18 | -0.30±0.21 | -0.05±0.32 |
| hAlzScore × Initial Diet ×Time | **0.12**¶**±0.04** | **0.18**¶**±0.06** | 0.03±0.07 |
| *California Verbal Learning Test CVLT, Free Recall Long Delay FRLD* | N=219; k=1.74 | N=121; k=1.78 | N=167; k=1.7 |
| Time | **-0.41**||**±0.19** | **-1.15**§**±0.63** | **-0.83**||**±0.27** |
| hAlzScore | **-0.21**||**±0.10** | 0.02±0.13 | **-0.50**¶**±0.14** |
| hAlzScore × Time | 0.02±0.02 | 0.02±0.03 | 0.04±0.04 |
| Diet Change | -0.05±0.18 | -0.29±0.23 | **0.71**||**±0.29** |
| Diet Change × Time | 0.03±0.04 | 0.08±0.06 | -0.05±0.07 |
| hAlzScore × Diet Change | 0.11±0.11 | 0.19±0.14 | -0.09±0.16 |
| hAlzScore × Diet Change × Time | 0.03±0.02 | 0.04±0.03 | 0.03±0.04 |
| Initial Diet | -0.03±0.16 | -0.15±0.21 | **0.42**§**±0.24** |
| Initial Diet × Time | -0.02±0.03 | 0.02±0.04 | **-0.10**§**±0.06** |
| hAlzScore × Initial Diet | 0.03±0.09 | 0.02±0.12 | -0.14±0.14 |
| hAlzScore × Initial Diet ×Time | **0.04**||**±0.02** | **0.05**||**±0.03** | 0.05±0.04 |
| *Benton Visual Retention Test, BVRT* †† | N=227; k=1.89 | N=123; k=1.92 | N=192; k=1.85 |
| Time | **0.80**§**±0.41** | **-2.84**§**±1.46** | **1.04**||**±0.48** |
| hAlzScore | 0.29±0.19 | **0.71**¶**±0.26** | -0.09±0.27 |
| hAlzScore × Time | -0.07±0.04 | -0.10±0.06 | 0.02±0.06 |
| Diet Change | -0.31±0.37 | -0.35±0.46 | -0.48±0.67 |
| Diet Change × Time | -0.07±0.10 | 0.00±0.13 | -0.08±0.16 |
| hAlzScore × Diet Change | -0.20±0.23 | -0.29±0.30 | 0.27±0.35 |
| hAlzScore × Diet Change × Time | 0.05±0.06 | 0.06±0.08 | -0.02±0.08 |
| Initial Diet | -0.16±0.31 | -0.16±0.37 | -0.07±0.55 |
| Initial Diet × Time | 0.00±0.07 | 0.07±0.10 | -0.11±0.12 |
| hAlzScore × Initial Diet | 0.07±0.17 | 0.05±0.20 | 0.36±0.30 |
| hAlzScore × Initial Diet ×Time | **-0.10**||**±0.04** | **-0.10**||**±0.05** | -0.07±0.07 |
| *Brief Test of Attention* | N=220; k=1.78 | N=121; k=1.81 | N=173; k=1.75 |
| Time | 0.27±0.24 | 0.11±0.55 | 0.21±0.24 |
| hAlzScore | -0.04±0.09 | -0.14±0.11 | -0.01±0.13 |
| hAlzScore × Time | -0.01±0.03 | 0.00±0.02 | 0.01±0.03 |
| Diet Change | **-0.29**§**±0.18** | -0.32±0.20 | -0.19±0.30 |
| Diet Change × Time | 0.04±0.06 | 0.02±0.04 | 0.10±0.07 |
| hAlzScore × Diet Change | 0.08±0.10 | 0.23§±0.12 | -0.10±0.16 |
| hAlzScore × Diet Change × Time | -0.00±0.03 | -0.01±0.02 | 0.04±0.04 |
| Initial Diet | **-0.37**||**±0.15** | **-0.50**¶**±0.17** | 0.03±0.26 |
| Initial Diet × Time | 0.04±0.04 | 0.04±0.03 | -0.03±0.06 |
| hAlzScore × Initial Diet | 0.09±0.09 | -0.00±0.09 | -0.01±0.15 |
| hAlzScore × Initial Diet ×Time | -0.01±0.02 | -0.01±0.02 | 0.05±0.04 |
| *Animal Fluency* | N=228; k=1.95 | N=124; k=1.95 | N=201; k=1.93 |
| Time | 0.33±0.26 | 0.48±1.65 | 0.63±0.39 |
| hAlzScore | 0.05±0.18 | 0.13±0.25 | 0.15±0.29 |
| hAlzScore × Time | -0.04±0.03 | -0.05±0.07 | **-0.09**§**±0.05** |
| Diet Change | -0.14±0.35 | -0.05±0.44 | -0.20±0.71 |
| Diet Change × Time | **0.11**§**±0.06** | 0.16±0.14 | 0.03±0.12 |
| hAlzScore × Diet Change | 0.00±0.21 | -0.18±0.26 | 0.12±0.37 |
| hAlzScore × Diet Change × Time | 0.02±0.04 | 0.01±0.08 | 0.06±0.06 |
| Initial Diet | 0.04±0.29 | 0.30±0.36 | -0.59±0.59 |
| Initial Diet × Time | 0.02±0.05 | 0.02±0.11 | -0.00±0.10 |
| hAlzScore × Initial Diet | **0.32**||**±0.16** | 0.30±0.20 | 0.32±0.32 |
| hAlzScore × Initial Diet ×Time | -0.03±0.03 | -0.05±0.06 | 0.04±0.05 |
| *Digits Span, forward*§§§ | N=226; k=1.85 | N=123; k=1.83 | N=192; k=1.86 |
| Time | 0.14±0.11 | 0.25±0.36 | **0.31**§**±0.16** |
| hAlzScore | 0.01±0.07 | -0.02±0.09 | 0.13±0.11 |
| hAlzScore × Time | -0.00±0.01 | -0.00±0.02 | -0.00±0.02 |
| Diet Change | **0.24**§**±0.14** | **0.44**¶**±0.17** | 0.06±0.26 |
| Diet Change × Time | -0.00±0.03 | 0.01±0.03 | -0.01±0.05 |
| hAlzScore × Diet Change | -0.01±0.08 | 0.03±0.10 | -0.00±0.14 |
| hAlzScore × Diet Change × Time | 0.00±0.02 | 0.00±0.02 | -0.02±0.03 |
| Initial Diet | 0.14±0.11 | 0.20±0.14 | 0.03±0.21 |
| Initial Diet × Time | -0.01±0.02 | -0.02±0.03 | 0.00±0.04 |
| hAlzScore × Initial Diet | -0.03±0.06 | -0.08±0.07 | 0.10±0.12 |
| hAlzScore × Initial Diet ×Time | -0.00±0.01 | 0.01±0.01 | -0.03±0.02 |
| *Digits Span, backward*\*\* | N=226; k=1.84 | N=123; k=1.82 | N=192; k=1.86 |
| Time | **-0.26**§**±0.15** | -0.40±0.51 | -0.17±0.21 |
| hAlzScore | -0.06±0.07 | **-0.19**||**±0.09** | 0.13±0.10 |
| hAlzScore × Time | 0.01±0.02 | 0.03±0.02 | -0.00±0.03 |
| Diet Change | 0.07±0.13 | 0.14±0.16 | -0.04±0.24 |
| Diet Change × Time | 0.02±0.04 | 0.05±0.05 | -0.00±0.06 |
| hAlzScore × Diet Change | 0.00±0.08 | 0.05±0.10 | -0.08±0.13 |
| hAlzScore × Diet Change × Time | 0.02±0.02 | **0.05**§**±0.03** | -0.03±0.03 |
| Initial Diet | -0.13±0.11 | -0.21±0.14 | 0.08±0.19 |
| Initial Diet × Time | 0.05±0.03 | **0.06**§**±0.04** | 0.00±0.05 |
| hAlzScore × Initial Diet | -0.05±0.06 | -0.06±0.07 | -0.11±0.11 |
| hAlzScore × Initial Diet ×Time | 0.02±0.02 | 0.01±0.02 | 0.01±0.03 |
| *Clock, Command*‡‡ | N=228; k=1.93 | N=125; k=1.95 | N=195; k=1.89 |
| Time | 0.06±0.09 | 0.18±0.32 | 0.03±0.12 |
| hAlzScore | -0.01±0.04 | -0.02±0.06 | -0.04±0.07 |
| hAlzScore × Time | 0.01±0.01 | -0.01±0.01 | **0.04**¶**±0.02** |
| Diet Change | **0.14**§**±0.08** | 0.03±0.10 | **0.26\*±0.16** |
| Diet Change × Time | -0.02±0.02 | -0.02±0.03 | -0.04±0.04 |
| hAlzScore × Diet Change | -0.02±0.05 | 0.01±0.06 | -0.12±0.08 |
| hAlzScore × Diet Change × Time | -0.00±0.01 | 0.00±0.02 | -0.01±0.02 |
| Initial Diet | 0.01±0.07 | -0.12±0.08 | 0.13±0.13 |
| Initial Diet × Time | 0.02±0.02 | 0.02±0.02 | -0.00±0.03 |
| hAlzScore × Initial Diet | 0.05±0.04 | 0.05±0.05 | 0.01±0.07 |
| hAlzScore × Initial Diet ×Time | 0.01±0.01 | 0.01±0.01 | 0.01±0.02 |
| *Trailmaking Test, part A* | N=224; k=1.84 | N=123; k=1.87 | N=101; k=1.81 |
| Time | -0.01±0.04 | 0.13±0.11 | 0.02±0.05 |
| hAlzScore | -0.00±0.02 | 0.02±0.02 | 0.00±0.02 |
| hAlzScore × Time | 0.03±0.03 | -0.01±0.01 | -0.00±0.00 |
| Diet Change | -0.01±0.01 | -0.00±0.04 | 0.03±0.06 |
| Diet Change × Time | 0.01±0.02 | -0.01±0.01 | -0.03±0.02 |
| hAlzScore × Diet Change | 1.07±0.75 | 0.02±0.03 | -0.01±0.03 |
| hAlzScore × Diet Change × Time | -0.00±0.00 | -0.01±0.01 | 0.00±0.00 |
| Initial Diet | -0.01±0.03 | -0.05±0.03 | -0.00±0.05 |
| Initial Diet × Time | -0.01±0.01 | **-0.02**¶**±0.01** | 0.00±0.01 |
| hAlzScore × Initial Diet | -0.00±0.02 | -0.02±0.02 | 0.01±0.03 |
| hAlzScore × Initial Diet ×Time | 0.00±0.00 | 0.00±0.00 | 0.00±0.01 |
| *Trailmaking Test, part B*§§*,*||||*,*‡‡‡ | N=222; k=1.77 | N=123; k=1.76 | N=99; k=1.78 |
| Time | -0.07±0.05 | **-0.25**§**±0.15** | -0.06±0.06 |
| hAlzScore | -0.06±0.02 | -0.00±0.04 | -0.08±0.03 |
| hAlzScore × Time | 0.00±0.01 | -0.00±0.01 | 0.00±0.07 |
| Diet Change | 0.06±0.05 | **0.12**§**±0.07** | -0.09±0.08 |
| Diet Change × Time | -0.02±0.01 | **-0.03**¶**±0.01** | 0.01±0.01 |
| hAlzScore × Diet Change | 0.02±0.03 | 0.04±0.04 | 0.02±0.04 |
| hAlzScore × Diet Change × Time | -0.00±0.01 | -0.01±0.01 | 0.06±0.01 |
| Initial Diet | -0.02±0.04 | -0.01±0.05 | -0.06±0.06 |
| Initial Diet × Time | -0.00±0.01 | -0.01±0.01 | 0.03±0.01 |
| hAlzScore × Initial Diet | 0.05±0.02 | 0.03±0.03 | 0.06±0.03 |
| hAlzScore × Initial Diet ×Time | -0.00±0.00 | -0.00±0.01 | -0.00±0.01 |

Abbreviations: MMSE= Mini-Mental State Examination; CVLT-List A= California Verbal Learning test- List A; CVLT-DFR= California Verbal Learning Test-Long-Delayed Free Recall; BVRT= Benton Visual Retention Test; Attention= Brief Test of Attention; Trails A= Trailmaking Test A; Trails B= Trailmaking Test B; Digit Span Forward= Digits Span Forward Test; Digit Span Backward= Digits Span Backward Test; Clock Command= Clock Command Test; Identical Pictures= Identical Pictures Test; Card Rotation= Card rotation Test; Animal Fluency= Animal Fluency Test.

\* Represents change in diet quality over time (~5 years from baseline)

† Represents diet quality at baseline (Time 0)

‡ Continuous covariates were mean-centered.

k= the total number of observations/total number of groups per test

§ *p*<0.10, || *p*<0.05, ¶ *p*<0.01; \*\* indicates significant interaction between sex and hAlzScore at the *p*<0.05 level; †† indicates significant interaction between sex and hAlzScore at the *p*<0.10 level; ‡‡ indicates significant interaction between sex and hAlzScore and time at the *p*<0.05 level; §§ indicates significant interaction between sex and diet (change) at the *p*<0.05 level; |||| indicates significant interaction between sex and diet (change) and time at the *p*<0.05 level; ¶¶ indicates significant interaction between sex and diet (change) and time at the *p*<0.10 level;\*\*\* indicates significant interaction between sex and diet (change) and hAlzScore at the *p*<0.10 level; ††† indicates significant interaction between sex and diet (change) and hAlzScore and time at the *p*<0.05 level; ‡‡‡ indicates significant interaction between sex and diet and time at the *p*<0.05 level; ‡‡‡ indicates significant interaction between sex and diet and hAlzScore at the *p*<0.05 level; §§§ indicates significant interaction between sex and diet and hAlzScore at the *p*<0.10 level;