**Supplementary Data**

**Attrition Analysis**

In the WLSG, participants without walking speed data at follow-up were older, *t*(6644)= 4.06, *p* < .001, less educated, *t*(6644)= 8.37, *p* < .001. In addition, they presented higher neuroticism, *t*(6644)= 5.00, *p* < .001, lower extraversion, *t*(6644)= 3.91, *p* < .001, and openness, *t*(6644)= 4.19, *p* < .001. No differences were found for agreeableness, *t*(6644)= 1.49, *p* =.13, conscientiousness, *t*(6644)= 1.56, *p* =.12, and sex, *χ*²(1, 6646)= 0.65, *p* =.42.

In the WLSS, participants without walking speed data at follow-up were older, *t*(3422)= 10.14, *p* < .001, less educated, *t*(3422)= 7.46, *p* < .001, and presented lower extraversion, *t*(3422)= 2.11, *p* < .05, openness, *t*(3422)= 2.70, *p* < .01, and agreeableness, *t*(3422)= 2.09, *p* < .05. No differences were found for neuroticism, *t*(3422)= 0.43, *p*=.66, conscientiousness, *t*(3422)= 1.66, *p* =.10, and sex, *χ*²(1, 3424)= 0.31, *p* =.58.

In the MIDUS, participants without walking speed data at follow-up were less educated, *t*(6064)= 9.75, *p* < .001, less likely to be white, *χ*²(1, 6066)= 17.12, *p* <.001, and presented higher neuroticism, *t*(6064)= 1.97, *p* < .05, and lower conscientiousness, *t*(6064)= 3.17, *p* < .01, and lower openness *t*(6064)= 2.70, *p* < .01. No differences were found for age, *t*(6064)= 1.63, *p =*.10, agreeableness, *t*(6064)= 1.58, *p*=.11, extraversion, *t*(6064)= 1.10, *p* =.27, and sex, *χ*²(1, 6066)= 2.00, *p* =.16.

In the HRS, participants with walking speed data at follow-up were older, *t*(12824)= 32.41, *p* < .001, more educated, *t*(12824)= 4.09, *p* < .001, more likely to be male, *χ*²(1, 12826)= 4.70, *p* <.05, and white, *χ*²(1, 12826)= 77.74, *p* <.001. In addition, they presented lower neuroticism, *t*(12824)= 12.47, *p* < .001, higher extraversion, *t*(12824)= 8.45, *p* < .001, openness, *t*(12824)= 3.37, *p* < .001, agreeableness, *t*(12824)= 3.86, *p* < .001, and conscientiousness, *t*(12824)= 7.64, *p* < .001.

In the NHATS, participants with walking speed data at follow-up were younger, *t*(2760)= -13.51, *p* < .001, more educated, *t*(2760)= 7.76, *p* < .001, more likely to be male, *χ*²(1, 2762)= 4.26, *p* <.05, and white, *χ*²(1, 2760)= 31.44, *p* <.001. In addition, they presented lower neuroticism, *t*(2760)= 4.27, *p* < .001, higher extraversion, *t*(2760)= 6.12, *p* < .001, openness, *t*(2760)= 5.40, *p* < .001, agreeableness, *t*(2760)= 3.90, *p* < .001, and conscientiousness, *t*(2760)= 8.94, *p* < .001.

Table 1

*Summary of Regression Analysis Predicting Follow-up Walking Speed from Baseline Personality Controlling for Disease Burden*

WLSGa  WLSS a MIDUSb  HRSb  NHATSc

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Neuroticism | -.03  (-0.059; -0.002) | -.05  (-0.092;-0.010) | -.02  (-0.087;0.042) | -.06\*\*  (-0.087;-0.040) | -.03  (-0.072;0.006) |
| Extraversion | .07\*\*  (0.044;0.099) | .09\*\*  (0.048;0.127) | .05  (-0.012;0.108) | .10\*\*  (0.078;0.124) | .07\*\*  (0.029;0.105) |
| Openness | .05\*\*  (0.021;0.081) | .02  (-0.027;0.059) | -.00  (-0.065;0.056) | .07\*\*  (0.048;0.096) | .08\*\*  (0.047;0.124) |
| Agreeableness | .01  (-0.016;0.040) | .01  (-0.032;0.049) | -.03  (-0.096;0.027) | .03\*  (0.011;0.059) | .03  (-0.007;0.069) |
| Conscientiousness | .05\*\*  (0.021;0.077) | .05  (0.010;0.090) | .05  (-0.012;0.109) | .09\*\*  (0.070;0.116) | .11\*\*  (0.071;0.148) |

Note. WLSG: N= 4603; WLSS: N= 2090; MIDUS : N= 989 ; HRS: N= 5966; NHATS: N=1919

\**p* <.01, \*\* *p*<.001. Coefficients are standardized regression coefficients. 95% confidence intervals are in parentheses. The sum of diagnosed conditions was computed in the three samples to obtain a measure of disease burden.

a Adjusted for age, sex, education, and disease burden.

b Adjusted for age, sex, education, race, and disease burden

c Adjusted for age, sex, education, race, time elapsed between assessment, and disease burden

Table 2

*Summary of Regression Analysis Predicting Follow-up Walking Speed From Baseline Personality With All Traits Entered Simultaneously*

WLSG a WLSS a  MIDUS b HRS b  NHATS c

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Neuroticism | -.03  (-0.061; 0.002) | -.06  (-0.101;-0.011) | -.04  (-0.105;0.023) | -.04\*\*  (-0.069;-0.020) | -.03  (-0.072;0.004) |
| Extraversion | .05\*\*  (0.024;0.084) | .09\*\*  (0.044;0.128) | .11\*  (0.037;0.188) | .11\*\*  (0.077;0.139) | .04  (-0.004;0.082) |
| Openness | .02  (-0.011;0.053) | -.04  (-0.083;0.009) | -.04  (-0.118;0.027) | .00  (-0.025;0.034) | .06\*  (0.015;0.099) |
| Agreeableness | -.01  (-0.044;0.018) | -.03  (-0.072;0.017) | -.10  (-0.170;-0.022) | -.07\*\*  (-0.104;-0.044) | -.02  (-0.061;0.024) |
| Conscientiousness | .04  (0.009;0.069) | .05  (0.003;0.090) | .06  (-0.001;0.127) | .08\*\*  (0.056;0.110) | .09\*\*  (0.050;0.129) |

WLSG: N= 4603; WLSS: N= 2090; MIDUS : N= 990 ; HRS: N= 5966; NHATS: N=1919

\**p* <.01, \*\* *p*<.001. Coefficients are standardized regression coefficients. 95% confidence intervals are in parentheses

a Adjusted for age, sex, and education.

b Adjusted for age, sex, education, and race

c Adjusted for age, sex, education, race, and time elapsed between assessment

Table 3

*Summary of Regression Analysis Predicting Walking Speed Changes From Baseline Personality With All Traits Entered Simultaneously*

HRSa  NHATSb

|  |  |  |
| --- | --- | --- |
| Neuroticism | -.03  (-0.056;-0.002) | -.03  (-0.057;-0.0002) |
| Extraversion | .09\*\*  (0.056;0.124) | -.01  (-0.039;0.024) |
| Openness | -.01  (-0.040;0.026) | .03  (-0.001;0.060) |
| Agreeableness | -.06\*\*  (-0.096;-0.029) | .01  (-0.026;0.037) |
| Conscientiousness | .05\*  (0.017;0.078) | .02  (-0.009;0.050) |

HRS: N= 4383; NHATS: N=1776

a Adjusted for age, sex, education, race, and baseline walking speed

b Adjusted for age, sex, education, race, baseline walking speed, and time elapsed between assessment

\**p* <.01, \*\* *p*<.001.

**Moderation analysis**

For sex, extraversion (βinteraction= -.05, 95% CI : -0.080, -0.019 ; *p*=.001) and conscientiousness (βinteraction= -.07, 95% CI : -0.117, -0.017, *p*=.008) were more strongly related to faster speed among women in the HRS and the NHATS, respectively, and neuroticism was associated with slower walking speed among women in the MIDUS (βinteraction= .09, 95% CI : 0.012, 0.172 *p*=.02). For age, the relation between extraversion and faster walking speed was stronger among older individuals in the WLSS (βinteraction= .05, 95% CI : 0.013, 0.093, *p*=.009) and the MIDUS (βinteraction= .06, 95% CI : 0.002, 0.122, *p*=.04), the relation between Openness and faster walking speed (βinteraction= .03, 95% CI : 0.007, 0.063, *p*=.01) and the association between neuroticism and slower speed (βinteraction= -.05, 95% CI : -0.079, -0.023, *p*=.0003) was stronger among older people in the WLSG, and conscientiousness (βinteraction= -.03, 95% CI : -0.050, -0.004, *p*=.02) and openness (βinteraction= -.02, 95% CI : -0.048, -0.001, *p*=.04) were more strongly related to faster speed among younger individuals in the HRS. No interaction replicated across all samples.

Finally, the association between neuroticism and a steeper decline in walking speed was more pronounced among older individuals in the HRS (βinteraction= -.03, 95% CI : -0.054, -0.002, *p*=.03)