**Supplementary Materials**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [1] Neuroticism |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [2] Extraversion | -.208\*\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [3] Openness to Experience | -.233\*\*\* | .507\*\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [4] Agreeableness | -.156\*\*\* | .518\*\*\* | .324\*\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| [5] Conscientiousness | -.166\*\*\* | .199\*\*\* | .229\*\*\* | .251\*\*\* |  |  |  |  |  |  |  |  |  |  |  |  |
| [6] IL-6 | -.066\* | -.004 | -.057 | .053 | -.118\*\*\* |  |  |  |  |  |  |  |  |  |  |  |
| [7] CRP | .003 | .034 | -.038 | .125\*\*\* | -.033 | .492\*\*\* |  |  |  |  |  |  |  |  |  |  |
| [8] Age | -.263\*\*\* | .101\*\* | .047 | .095\*\* | .014 | .239\*\*\* | .014 |  |  |  |  |  |  |  |  |  |
| [9] Sex | -.090\*\* | -.062 | .029 | -.250\*\*\* | -.131\*\*\* | -.012 | -.155\*\*\* | .074\* |  |  |  |  |  |  |  |  |
| [10] Race  | .044 | .065\* | .035 | .023 | -.033 | <.001 | .031 | -.124\*\*\* | -.010 |  |  |  |  |  |  |  |
| [11] Education | -.074\* | -.038 | .184\*\*\* | -.090\*\* | .008 | -.092\*\* | -.131\*\*\* | -.083\* | .094\*\* | -.036 |  |  |  |  |  |  |
| [12] Chronic Conditions | .059 | .062 | .068\* | .083\* | -.023 | .057 | -.013 | .132\*\*\* | -.053 | -.032 | .052 |  |  |  |  |  |
| [13] ADL | .151\*\*\* | -.041 | -.085\*\* | .039 | -.137\*\*\* | .158\*\*\* | .133\*\*\* | .102\*\* | -.081\* | .023 | -.144\*\*\* | .110\*\* |  |  |  |  |
| [14] Smoking | .064\* | .067\* | .072\* | .042 | -.091\*\* | .091\*\* | .022 | .101\*\* | .086\*\* | .006 | -.154\*\*\* | .065\* | .070\* |  |  |  |
| [15] Corticosteroid Medication | .095\*\* | -.097\*\* | -.061 | .018 | -.026 | .073\* | .043 | .002 | -.048 | .011 | -.011 | .083\* | .103\*\* | .058 |  |  |
| [16] Oral NSAID | -.025 | -.020 | -.017 | -.033 | .004 | .043 | .044 | .190\*\*\* | .104\*\* | -.062 | -.060 | .013 | .093\*\* | .087\*\* | .014 |  |
| [17] Parenteral NSAID | .076\* | -.066\* | -.035 | -.049 | -.067\* | -.087\*\* | -.024 | -.135\*\*\* | -.084\*\* | -.043 | .019 | -.036 | .043 | .001 | .073\* | .386\*\*\* |

Supplementary Table. Correlation table of all variables.

Note: Both IL-6 and CRP values represent following transformation. \* *p* < .05, \*\* *p* < .01, \*\*\* *p* < .001

Supplementary Table. *Mediation models for extraversion, agreeableness, and openness predicting mortality.*

|  |  |  |  |
| --- | --- | --- | --- |
|  | Extraversion | Agreeableness | Openness |
|  | IL-6 | CRP | IL-6 | CRP | IL-6 | CRP |
|  | Estimate/HR, [95% CI], *p*  | Estimate/HR, [95% CI], *p* | Estimate/HR, [95% CI], *p*  | Estimate/HR, [95% CI], *p* | Estimate/HR, [95% CI], *p*  | Estimate/HR, [95% CI], *p* |
| Model 5 |  |  |  |  |  |  |
|  Indirect effect1, ^ | -0.007, [-0.057, 0.044], 0.799 | 0.000, [-0.016, 0.016], 0.971 | 0.062, [0.014, 0.109], 0.011 | -0.030, [-0.072, 0.013], 0.170 | -0.046, [-0.097, 0.005], 0.078 | 0.014, [-0.010, 0.038], 0.239 |
|  Total effect2, ^ | -0.060, [-0.308, 0.188], 0.635 | -0.054, [-0.295, 0.188], 0.663 | 0.015, [-0.186, 0.217], 0.881 | -0.076, [-0.274, 0.122], 0.452 | 0.066, [-0.179, 0.312], 0.596 | 0.126, [-0.116, 0.369], 0.306 |
|  Full indirect effect3, ^ | -0.007, [-0.052, 0.038], 0.763 | 0.032, [-0.020, 0.084], 0.232 | -0.032, [-0.077, 0.014], 0.178 |
|  Direct effect4, \* | 0.948, [-0.295, 0.189], 0.666 | 0.955, [0.766, 1.143], 0.646 | 1.119, [0.847, 1.391], 0.374 |
|  AIC  | 3472.824 | 3472.824 | 3472.824 |
|  BIC | 3579.689 | 3579.689 | 3579.689 |
|   |  |  |  |  |  |  |
| Model 6 |  |  |  |  |  |  |
|  Indirect effect1, ^ | -0.007, [-0.033, 0.018], 0.580 | 0.000, [-0.002, 0.002], 0.947 | 0.022, [-0.006, 0.050], 0.121 | -0.001, [-0.031, 0.029], 0.939 | -0.014, [-0.042, 0.014], 0.316 | 0.000, [-0.009, 0.010], 0.939 |
|  Total effect2, ^ | -0.115, [-0.374, 0.145], 0.386 | -0.108, [-0.365, 0.150], 0.413 | 0.035, [-0.198, 0.268], 0.768 | 0.012, [-0.224, 0.247], 0.923 | 0.161, [-0.084, 0.406], 0.199 | 0.176, [-0.068, 0.419], 0.159 |
|  Full indirect effect3, ^ | -0.007, [-0.032, 0.018], 0.577 | 0.021, [-0.014, 0.056], 0.235 | -0.014, [-0.041, 0.013], 0.316 |
|  Direct effect4, \* | 0.898, [0.667, 1.129], 0.413 | 1.013, [0.779, 1.246], 0.913 | 1.191, [0.901, 1.482], 0.159 |
|  AIC  | 5954.699 | 5899.425 | 5941.243 |
|  BIC | 6148.789 | 6093.515 | 6135.333 |
|  |  |  |  |  |  |  |
| Model 7 |  |  |  |  |  |  |
|  Indirect effect1, ^ | -0.005, [-0.032, 0.022], 0.737 | 0.000, [-0.004, 0.004], 0.989 | 0.017, [-0.010, 0.044], 0.222 | -0.005, [-0.032, 0.023], 0.736 | -0.016, [-0.046, 0.014], 0.303 | 0.001, [-0.008, 0.011], 0.753 |
|  Total effect2, ^ | -0.097, [-0.358, 0.164], 0.465 | -0.093, [-0.352, 0.166], 0.483 | -0.020, [-0.253, 0.212], 0.864 | -0.042, [-0.279, 0.195], 0.729 | 0.190, [-0.055, 0.436], 0.128 | 0.208, [-0.037, 0.453], 0.096 |
|  Full indirect effect3, ^ | -0.005, [-0.030, 0.021], 0.719 | 0.012, [-0.022, 0.046], 0.486 | -0.014, [-0.043, 0.014], 0.321 |
|  Direct effect4, \* | 0.912, [0.675, 1.148], 0.483 | 0.964, [0.740, 1.187], 0.754 | 1.229, [0.929, 1.529], 0.098 |
|  AIC  | 5879.147 | 5821.198 | 5865.001 |
|  BIC | 6160.084 | 6102.136 | 6145.939 |
|  |  |  |  |  |
|  |  |  |  |  |

Note: HR = Hazard Ratio, AIC = Akaike Information Criterion, BIC = Bayesian Information Criterion.

Model 5 adjusts for the remaining personality traits not under direct examination.

Model 6 in addition to the previous adjustment, Model 5 adjusts for age, sex, race, education.

Model 7 in addition to confounding variables in Model 5 and 6, adjusts for chronic conditions, ADL, smoking, corticosteroid medication, oral NSAID, and parenteral NSAID.

1Effect of personality on mortality through the indirect inflammation path

2Effect of the indirect inflammation path and direct path of the personality trait on mortality

3Sum of the indirect paths

4Direct effect of the personality trait on mortality

^ indicates that the estimate is presented

\* indicates that the HR is presented