# Age and Cohort Trends in Formal Volunteering and Informal Helping in Later Life: Evidence from the Health and Retirement Study 

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## Supplementary Materials

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Figure S1. Graphical representation of the longitudinal study design for the five 10-year birth cohorts employed in this study.


Figure S2. Weighted rates of volunteering and informal helping, respectively, by 10-year birth cohorts based on longitudinal data from the Health and Retirement Study (1998-2016). Data from the 2018 wave were not included because survey weights for the wave was not yet available as of this writing (July 2021).

## Table S1

Descriptive Statistics of All Study Variables by 10-year Cohort Membership: Health and Retirement Study 1998-2018

| Variable | 1909-1918 |  | 1919-1928 |  | 1929-1938 |  | 1939-1948 |  | 1949-1958 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mean/\% | (SD) | Mean/\% | (SD) | Mean/\% | (SD) | Mean/\% | (SD) | Mean/\% | (SD) |
| Volunteering, \% | 19.36 |  | 29.43 |  | 33.55 |  | 35.17 |  | 36.54 |  |
| Informal helping, \% | 30.13 |  | 41.88 |  | 50.63 |  | 58.45 |  | 58.34 |  |
| Age (years) | 84.58 | (2.86) | 79.02 | (4.98) | 71.79 | (6.52) | 63.89 | (6.53) | 58.59 | (4.24) |
| Female, \% | 62.95 |  | 56.97 |  | 55.94 |  | 58.29 |  | 56.65 |  |
| Race/ethnic status, \% |  |  |  |  |  |  |  |  |  |  |
| Non-Hispanic White | 80.45 |  | 81.68 |  | 74.87 |  | 72.18 |  | 54.54 |  |
| Non-Hispanic Black | 12.46 |  | 10.17 |  | 14.42 |  | 15.50 |  | 23.41 |  |
| Non-Hispanic other | 1.47 |  | 1.78 |  | 1.96 |  | 2.49 |  | 4.14 |  |
| Hispanic | 5.61 |  | 6.37 |  | 8.75 |  | 9.83 |  | 17.91 |  |
| Coupled, \% | 36.13 |  | 55.51 |  | 64.23 |  | 71.88 |  | 66.49 |  |
| Education in years | 10.90 | (3.63) | 11.78 | (3.51) | 12.16 | (3.27) | 12.76 | (3.07) | 12.98 | (3.25) |
| Wealth (in \$1,000) | 278.39 | (879.89) | 361.53 | (881.76) | 400.31 | (1237.27) | 387.89 | (1241.47) | 309.87 | (1552.10) |
| Working for pay, \% | 4.04 |  | 10.04 |  | 23.65 |  | 45.22 |  | 61.28 |  |
| Religious, \% | 66.50 |  | 66.98 |  | 66.38 |  | 61.45 |  | 65.24 |  |
| ADL limitations | 0.70 | (1.25) | 0.45 | (1.04) | 0.33 | (0.90) | 0.25 | (0.78) | 0.28 | (0.82) |
| Family caregiving, \% | 5.66 |  | 7.98 |  | 11.17 |  | 15.78 |  | 19.30 |  |
| Attrition, \% | 2.08 |  | 3.39 |  | 3.91 |  | 4.43 |  | 1.98 |  |
| Person-wave observations | 6,307 |  | 26,123 |  | 54,266 |  | 54,201 |  | 39,568 |  |

Notes. $N=180,465$ person-wave observations. ADL = activities of daily living.

## Table S2

Predicted Probabilities of Helping Behavior Participation at Select Ages along with Ratios of Probabilities for Adjacent Cohorts

|  |  | Age | 1949-1958 | 1939-1948 | $\begin{gathered} \text { Cohorts } \\ \text { 1929-1938 } \end{gathered}$ | 1919-1928 | 1909-1918 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Volunteering | Unadjusted | 55 | . 385 [0.375,0.393] | . 331 [0.322,0.340] | . 326 [0.315,0.334] | . 303 [0.292,0.313] | . 169 [0.154,0.191] |
|  |  |  | v.1939-1948: 1.164 |  |  |  |  |
|  |  | 65 | . 345 [0.335,0.357] | . 345 [0.337,0.353] |  |  |  |
|  |  |  | v.1939-1948: 1.002 | v.1929-1938: 1.058 |  |  |  |
|  |  | 75 |  | . 297 [0.284,0.310] | . 307 [0.298,0.314] |  |  |
|  |  |  |  | v.1929-1938: 0.967 | v.1919-1928: 1.014 |  |  |
|  |  | 85 |  |  | . 161 [0.148,0.173] | . 172 [0.162,0.183] |  |
|  |  | 85 |  |  | v.1919-1928: 0.933 | v.1909-1918: 1.019 |  |
|  |  | 55 | . 338 [0.328,0.348] | . 286 [0.275,0.298] |  |  |  |
|  |  | 5 | v.1939-1948: 1.183 |  |  |  |  |
|  |  | 65 | . 286 [0.273,0.299] | . 324 [0.314,0.335] | .310[0.301, 0.319] |  |  |
|  |  | 65 | v.1939-1948: 0.883 | v.1929-1938: 1.044 |  |  |  |
|  |  | 75 |  | . 248 [0.233,0.266] | . $304[0.295, ~ 0.313]$ | .319[0.307, 0.333] |  |
|  |  | 75 |  | v.1929-1938: 0.816 | v.1919-1928: . 953 |  |  |
|  |  | 85 |  |  | .116[0.105, 0.127] | .173[0.162, 0.185] | .217[0.204, 0.235] |
|  |  | 85 |  |  | v.1919-1928: 0.670 | v.1909-1918: 0.797 |  |
|  |  | 55 | . 636 [0.629,0.644] | . 669 [0.660,0.677] |  |  |  |
|  |  |  | v.1939-1948: . 951 |  |  |  |  |
|  |  | 65 | . 558 [0.547,0.570] | . 559 [0.551,0.567] | . 598 [0.590,0.606] |  |  |
| Informal | Unadjusted | 65 | v.1939-1948: 1.000 | v.1929-1938: . 934 |  |  |  |
| helping | Unadjusted | 75 |  | . 413 [0.401,0.426] | . 417 [0.408,0.425] | . 484 [0.474,0.494] |  |
|  |  | 75 |  | v.1929-1938: 0.992 | v.1919-1928: 0.861 |  |  |
|  |  | 85 |  |  | . 163 [0.408,0.425] | . 198 [0.474,0.494] | .281[0.269, 0.293] |
|  |  | 85 |  |  | v.1919-1928: 0.825 | v.1909-1918: 0.704 |  |



Notes. Predicted probabilities are based on coefficients from the unadjusted and adjusted multivariate models presented in Table 2; 95\% credible intervals are presented in brackets. Ratios comparing helping behavior participation probabilities for adjacent cohorts at a given age are presented in grey shade.

Table S3
Multivariate Multilevel Models Predicting Volunteering and Informal Helping: Adjustment for Education

|  | Unadjusted (copied from Table 2) |  |  |  | Unadjusted + Education |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Volunteering |  | Informal helping |  | Volunteering |  | Informal helping |  |
|  | $\beta$ | [95\% CI] | $\beta$ | [95\% CI] | $\beta$ | [95\% CI] | $\beta$ | [95\% CI] |
| Fixed effects |  |  |  |  |  |  |  |  |
| Age linear | -0.120 | [-0.139,-0.107] | -0.112 | [-0.121,0.000] | -0.127 | [-0.144,-0.117] | -0.117 | [-0.133,0.000] |
| Age quadratic ${ }^{\text {a }}$ | 0.091 | [-0.020,0.182] | -0.747 | [-0.835,-0.586] | -0.430 | [-0.520,-0.340] | -0.802 | [-0.995,-0.578] |
| Age cubic ${ }^{\text {b }}$ | -0.096 | [-0.124,-0.068] | -0.049 | [-0.079,-0.023] | -0.151 | [-0.179,-0.121] | -0.092 | [-0.129,-0.043] |
| 10-year cohort |  |  |  |  |  |  |  |  |
| 1919-1928 | 0.637 | [0.467,0.765] | 0.373 | [0.308,0.437] | 0.564 | [0.379,0.691] | 0.320 | [0.241,0.394] |
| 1929-1938 | 0.995 | [0.796,1.124] | 0.812 | [0.756,0.876] | 0.836 | [0.681,0.962] | 0.718 | [0.643,0.791] |
| 1939-1948 | 1.086 | [0.898,1.210] | 1.061 | [1.010,1.107] | 0.780 | [0.600,0.907] | 0.894 | [0.824,0.967] |
| 1949-1958 | 1.225 | [1.043,1.350] | 1.216 | [1.162,1.274] | 0.765 | [0.582,0.870] | 0.976 | [0.910,1.059] |
| Age linear by cohort interaction |  |  |  |  |  |  |  |  |
| $\times 1919-1928$ | 0.047 | [0.034,0.065] | 0.005 | [-0.003,0.014] | 0.041 | [0.026,0.059] | 0.007 | [-0.003, 0.022] |
| $\times 1929-1938$ | 0.106 | [0.093,0.125] | 0.046 | [0.038,0.054] | 0.111 | [0.098,0.127] | 0.050 | [0.040,0.064] |
| $\times 1939-1948$ | 0.123 | [0.110,0.143] | 0.072 | [0.063,0.081] | 0.132 | [0.122,0.148] | 0.078 | [0.067,0.093] |
| $\times 1949-1958$ | 0.100 | [0.086,0.119] | 0.085 | [0.076,0.095] | 0.102 | [0.091,0.120] | 0.089 | [0.078,0.104] |
|  |  |  |  |  |  |  |  |  |
| $\times 1919-1928$ | -0.531 | [-0.661,-0.391] | 0.469 | [0.302,0.583] | -0.293 | [-0.441,-0.138] | 0.478 | [0.261,0.691] |
| $\times 1929-1938$ | -0.400 | [-0.490,-0.311] | 0.585 | [0.427,0.680] | -0.089 | [-0.199,0.016] | 0.626 | [0.401,0.821] |
| $\times 1939-1948$ | -0.231 | [-0.316,-0.131] | 0.707 | [0.544,0.802] | 0.128 | [0.035,0.216] | 0.771 | [0.526,0.976] |
| $\times 1949-1958$ | -0.011 | [-0.141,0.116] | 0.772 | [0.590,0.900] | 0.426 | [0.303,0.564] | 0.849 | [0.574,1.075] |
| Covariates |  |  |  |  |  |  |  |  |
| Female | 0.162 | [0.126,0.209] | -0.326 | [-0.354,-0.299] | 0.218 | [0.181,0.255] | -0.323 | [-0.348,-0.302] |
| Race/ethnicity |  |  |  |  |  |  |  |  |
| Non-Hispanic black | -0.151 | [-0.197,-0.105] | -0.404 | [-0.434,-0.372] | 0.161 | [0.104,0.232] | -0.265 | [-0.300,-0.223] |
| Non-Hispanic other | -0.360 | [-0.488,-0.194] | -0.399 | [-0.479,-0.308] | -0.273 | [-0.393,-0.121] | -0.337 | [-0.419,-0.255] |
| Hispanic | -1.028 | [-1.088,-0.961] | -1.083 | [-1.127,-1.041] | -0.286 | [-0.344,-0.204] | -0.708 | [-0.758,-0.647] |
| Education in years |  |  |  |  | 0.216 | [0.206,0.223] | 0.099 | [0.093,0.104] |
| Attrition | -0.105 | [-0.199,-0.025] | 0.009 | [-0.049,0.067] | -0.182 | [-0.287,-0.083] | -0.023 | [-0.083,0.034] |


| Intercept | -1.812 | [-1.928,-1.639] | -0.438 | [-0.496,-0.385] | -1.864 | [-1.977,-1.690] | -0.394 | [-0.462,-0.328] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Selected random effects |  |  |  |  |  |  |  |  |
| Intercept | 2.787 | [2.686,2.889] | 0.968 | [0.936, 0.998 ] | 3.052 | [2.956,3.159] | 0.930 | [0.874,0.975] |
| Cov (volunteering, helping) | 0.973 | [0.935,1.009] |  |  | 0.979 | [0.874,0.961] |  |  |
| Age | 0.001 | [0.000,0.002] | 0.001 | [ $0.000,0.001]$ | 0.013 | [0.011,0.014] | 0.003 | [0.001,0.005] |
| Cov (volunteering, helping) | -0.0002 | [-0.0004,0.00001] |  |  | 0.003 | [0.002,0.003] |  |  |
| Intercept-slope covariance | 0.017 | [0.013,0.024] | 0.014 | [ $0.011,0.018]$ | 0.029 | [0.022,0.036] | 0.014 | [0.012,0.017] |

Notes. Sample $N=29,816$ (180,465 person-wave observations). Posterior means for the coefficients and $95 \%$ Bayesian credible intervals (CIs). CIs are based on the 2.5th and 97.5th quantiles of the posterior distribution; Bayesian CIs that do not contain zero are bolded. HRS =
 reduce leading zeros.

Table S4
Multivariate Multilevel Models Predicting Volunteering and Informal Helping: Additional Adjustment for Family Caregiving

|  | Adjusted (copied from Table 2) |  |  |  | Adjusted + Family Caregiving |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Volunteering |  | Informal helping |  | Volunteering |  | Informal helping |  |
|  | $\beta$ | [95\% CI] | $\beta$ | [95\% CI] | $\beta$ | [95\% CI] | $\beta$ | [95\% CI] |
| Fixed effects |  |  |  |  |  |  |  |  |
| Age linear | -0.101 | [-0.115,-0.081] | -0.104 | [-0.113,-0.092] | -0.093 | [-0.110,-0.076] | -0.106 | [-0.116,-0.095] |
| Age quadratic ${ }^{\text {a }}$ | -0.205 | [-0.321,-0.093] | -0.401 | [-0.467,-0.328] | -0.451 | [-0.652,-0.281] | -0.725 | [-0.876,-0.619] |
| Age cubic ${ }^{\text {b }}$ | -0.148 | [-0.177,-0.116] | -0.092 | [-0.128,-0.053] | -0.139 | [-0.173,-0.099] | -0.091 | [-0.127,-0.045] |
| 10-year cohort |  |  |  |  |  |  |  |  |
| 1919-1928 | 0.387 | [0.238,0.510] | 0.269 | [-0.128,-0.053] | 0.355 | [0.270,0.475] | 0.225 | [-0.127,-0.045] |
| 1929-1938 | 0.628 | [0.486,0.741] | 0.633 | [0.586,0.713] | 0.606 | [0.549,0.695] | 0.591 | [0.544,0.637] |
| 1939-1948 | 0.609 | [0.465,0.718] | 0.815 | [0.764,0.888] | 0.596 | [0.530,0.672] | 0.764 | [0.717,0.813] |
| 1949-1958 | 0.615 | [0.503,0.713] | 0.912 | [0.861,0.978] | 0.608 | [0.532,0.699] | 0.856 | [0.803,0.901] |
| Age linear by cohort interaction |  |  |  |  |  |  |  |  |
| $\times 1919-1928$ | 0.026 | [0.006,0.042] | 0.003 | [-0.008,0.012] | 0.017 | [-0.005,0.037] | 0.006 | [-0.005,0.017] |
| $\times 1929-1938$ | 0.091 | [0.069,0.105] | 0.042 | [0.031,0.050] | 0.082 | [0.064,0.100] | 0.045 | [0.033,0.055] |
| $\times 1939-1948$ | 0.109 | [0.086,0.123] | 0.068 | [0.056,0.077] | 0.100 | [0.083,0.117] | 0.071 | [0.058,0.082] |
| $\times 1949-1958$ | 0.077 | [0.056,0.092] | 0.078 | [0.065,0.087] | 0.069 | [0.050,0.087] | 0.081 | [0.068,0.093] |
| Age quadratic by cohort interaction ${ }^{\text {a }}$ |  |  |  |  |  |  |  |  |
| $\times 1919-1928$ | -0.422 | [-0.574,-0.256] | 0.131 | [0.016,0.243] | -0.171 | [-0.380,0.053] | 0.460 | [0.322,0.626] |
| $\times 1929-1938$ | -0.262 | [-0.382,-0.134] | 0.264 | [0.181,0.335] | -0.019 | [-0.180,0.193] | 0.582 | [0.456,0.743] |
| $\times 1939-1948$ | -0.067 | [-0.190,0.054] | 0.387 | [0.305,0.466] | 0.177 | [0.018,0.383] | 0.716 | [0.576,0.874] |
| $\times 1949-1958$ | 0.208 | [0.045,0.361] | 0.444 | [0.339,0.560] | 0.444 | [0.249,0.680] | 0.774 | [0.613,0.945] |
| Covariates |  |  |  |  |  |  |  |  |
| Female | 0.085 | [-0.399,0.125] | -0.345 | [-0.377,-0.318] | 0.082 | [-0.426,0.121] | -0.352 | [-0.378,-0.320] |
| Race/ethnicity |  |  |  |  |  |  |  |  |
| Non-Hispanic black | 0.019 | [-0.058,0.096] | -0.232 | [-0.267,-0.196] | -0.003 | [-0.058,0.053] | -0.242 | [-0.283,-0.205] |
| Non-Hispanic other | -0.284 | [-0.389,-0.174] | -0.315 | [-0.390,-0.227] | -0.306 | [-0.435,-0.151] | -0.321 | [-0.398,-0.244] |
| Hispanic | -0.310 | [-0.399,-0.229] | -0.232 | [-0.267,-0.196] | -0.349 | [-0.426,-0.272] | -0.242 | [-0.283,-0.205] |
| Coupled | 0.073 | [0.046,0.102] | -0.032 | [-0.053,-0.010] | 0.062 | [0.031,0.101] | -0.050 | [-0.076,-0.028] |
| Education in years | 0.204 | [0.193,0.212] | 0.086 | [0.081,0.091] | 0.204 | [0.197,0.211] | 0.086 | [0.081,0.091] |


| Household wealth ${ }^{\text {c }}$ | 0.042 | [0.037,0.048] | 0.028 | [0.024,0.033] | 0.041 | [0.034,0.048] | 0.028 | [0.023,0.033] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Working for pay | 0.045 | [0.015,0.073] | 0.041 | [0.021,0.065] | 0.034 | [0.007,0.069] | 0.044 | [0.023,0.067] |
| Religious | 1.093 | [1.057,1.135] | 0.228 | [0.201, 0.258$]$ | 1.082 | [1.043,1.129] | 0.228 | [0.201,0.263] |
| ADL limitations ${ }^{\text {d }}$ | -0.251 | [-0.267,-0.236] | -0.255 | [-0.266,-0.243] | -0.249 | [-0.269,-0.232] | -0.254 | [-0.267,-0.242] |
| Family caregiving ${ }^{\text {e }}$ |  |  |  |  | -0.023 | [-0.058,0.008] | 0.138 | [0.113,0.163] |
| Attrition | -0.199 | [-0.304,-0.100] | -0.054 | [-0.113,0.005] | -0.187 | [-0.297,-0.085] | -0.049 | [-0.110,0.011] |
| Intercept | -2.468 | [-2.551,-2.319] | -0.516 | [-0.568,-0.444] | -2.408 | [-2.494,-2.333] | 0.138 | [0.113,0.163] |
| Selected random effects |  |  |  |  |  |  |  |  |
| Intercept | 2.600 | [2.513,2.702] | 0.838 | [0.792,0.871] | 2.586 | [2.514,2.608] | 0.832 | [0.788,0.866] |
| Cov (volunteering, helping) | 0.750 | [0.718,0.786] |  |  | 0.746 | [0.715,0.786] |  |  |
| Age | 0.012 | [0.011,0.013] | 0.003 | [0.001,0.004] | 0.012 | [0.011,0.013] | 0.003 | [0.001,0.004] |
| Cov (volunteering, helping) | 0.003 | [0.002,0.003] |  |  | 0.003 | [0.002,0.003] |  |  |
| Intercept-slope covariance | 0.030 | [0.023,0.039] | 0.013 | [0.011,0.015] | 0.030 | [0.022,0.037] | 0.013 | [ $0.011,0.015]$ |

Notes. Sample $N=29,816$ (180,465 person-wave observations). Posterior means for the coefficients and $95 \%$ Bayesian credible intervals (CIs). CIs are based on the 2.5th and 97.5th quantiles of the posterior distribution; Bayesian CIs that do not contain zero are bolded. HRS = Health and Retirement Study. CI = Credible intervals. ADL = Activities of daily living. ${ }^{\text {a }}$ Estimates multiplied by 100 to reduce leading zeros.
${ }^{\mathrm{b}}$ Estimates multiplied by 1000 to reduce leading zeros. ${ }^{\text {c }}$ Transformed by the inverse hyperbole sine. ${ }^{\text {d }}$ Count of five ADL limitations.
${ }^{\mathrm{e}}$ Whether provided caregiving to parents (including in-laws) and spouses with self-care and household task items.

## Table S5

Multivariate Multilevel Models Predicting Volunteering and Informal Helping: Gender Interaction

|  | S5-A: Gender $\times$ Cohort InteractionVolunteering $\quad$ Informal helping |  |  |  | S5-B: Three-way Interaction |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Volunteering |  | Informal helping |  |
|  | $\beta$ | [95\% CI] | $\beta$ | [95\% CI] | $\beta$ | [95\% CI] | $\beta$ | [95\% CI] |
| Fixed effects |  |  |  |  |  |  |  |  |
| Age linear | -0.112 | [-0.125,-0.090] | -0.118 | [-0.124,-0.107] | -0.117 | [-0.140,-0.086] | -0.126 | [-0.137,-0.114] |
| 10-year cohort |  |  |  |  |  |  |  |  |
| 1919-1928 | 0.374 | [0.261,0.498] | 0.346 | [0.291,0.397] | 0.382 | [0.253,0.538] | 0.388 | [0.326,0.446] |
| 1929-1938 | 0.727 | [0.630,0.831] | 0.865 | [0.811,0.930] | 0.733 | [0.627,0.909] | 0.916 | [0.866,0.957] |
| 1939-1948 | 0.857 | [0.762,0.979] | 1.131 | [1.078,1.186] | 0.874 | [0.730,1.032] | 1.196 | [1.147,1.239] |
| 1949-1958 | 0.944 | [0.830,1.075] | 1.204 | [1.144,1.271] | 0.949 | [0.780,1.154] | 1.257 | [1.190,1.314] |
| Female | -0.186 | [-0.303,-0.113] | -0.307 | [-0.396,-0.217] | -0.183 | [-0.299,-0.054] | -0.257 | [-0.295,-0.194] |
| Two-way interactions |  |  |  |  |  |  |  |  |
| Age linear by cohort interaction |  |  |  |  |  |  |  |  |
| $\times 1919-1928$ | 0.039 | [0.017,0.054] | 0.011 | [0.001,0.018] | 0.040 | [0.008,0.063] | 0.015 | [0.000,0.028] |
| $\times 1929-1938$ | 0.097 | [0.076,0.111] | 0.052 | [0.041,0.058] | 0.106 | [0.076,0.128] | 0.064 | [0.051,0.074] |
| $\times 1939-1948$ | 0.115 | [0.094,0.128] | 0.077 | [0.066,0.083] | 0.121 | [0.089,0.145] | 0.093 | [0.079,0.106] |
| $\times 1949-1958$ | 0.091 | [0.069,0.106] | 0.090 | [0.078,0.096] | 0.099 | [0.068,0.121] | 0.103 | [0.087,0.116] |
| Age $\times$ female |  |  |  |  | -0.019 | [-0.032,-0.011] | 0.006 | [-0.010,0.026] |
| Female by cohort interaction |  |  |  |  |  |  |  |  |
| $\times 1919-1928$ | 0.365 | [0.255,0.471] | 0.069 | [-0.068,0.170] | 0.379 | [0.254,0.529] | 0.038 | [-0.025,0.105] |
| $\times 1929-1938$ | 0.391 | [0.305,0.541] | -0.062 | [-0.162,0.071] | 0.387 | [0.230,0.490] | -0.117 | [-0.186,-0.045] |
| $\times 1939-1948$ | 0.343 | [0.231,0.462] | -0.090 | [-0.181,0.001] | 0.305 | [0.143,0.459] | -0.171 | [-0.250,-0.108] |
| $\times 1949-1958$ | 0.413 | [0.311,0.515] | 0.045 | [-0.056,0.145] | 0.415 | [0.256,0.580] | -0.002 | [-0.086,0.052] |
| Three-way interaction |  |  |  |  |  |  |  |  |
| Age, female by cohort interaction |  |  |  |  |  |  |  |  |
| $\times 1919-1928$ |  |  |  |  | 0.027 | [0.013,0.040] | 0.003 | [-0.019,0.024] |
| $\times 1929-1938$ |  |  |  |  | 0.014 | [0.004,0.027] | -0.012 | [-0.031,0.005] |
| $\times 1939-1948$ |  |  |  |  | 0.019 | [0.009,0.031] | -0.016 | [-0.037,0.001] |
| $\times 1949-1958$ |  |  |  |  | 0.015 | [0.005,0.029] | -0.013 | [-0.035,0.008] |

## Selected random effects

| Intercept | 2.778 | [2.682,2.879] | 0.971 | [0.944,1.002] | 2.800 | [2.697,2.955] | 0.973 | [0.942,1.003] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cov (volunteering, helping) | 0.972 | [0.935,1.012] |  |  | 0.977 | [0.938,1.023] |  |  |
| Age | 0.0003 | [0.0001,0.0007] | 0.0004 | [0.0002,0.0007] | 0.001 | [0.000,0.002] | 0.001 | [0.000,0.001] |
| Cov (volunteering, helping) | $>-0.0001$ | -0.0001,0.0001] |  |  | -0.0002 | [-0.001,0.000] |  |  |
| Intercept-slope covariance | 0.019 | [0.014,0.025] | 0.013 | [0.009,0.017] | 0.019 | [0.014,0.025] | 0.014 | [0.011,0.018] |

Notes. Sample $N=29,816$ (180,465 person-wave observations). Posterior means for the coefficients and $95 \%$ Bayesian credible intervals (CIs). CIs are based on the 2.5th and 97.5th quantiles of the posterior distribution; Bayesian CIs that do not contain zero are bolded. Estimates are for all variables shown in unadjusted model presented in Table 2, including higher-order age terms. HRS = Health and Retirement Study. $\mathrm{CI}=$ Credible intervals. ${ }^{\text {a }}$ Estimates multiplied by 100 to reduce leading zeros. ${ }^{\text {b }}$ Estimates multiplied by 1000 to reduce leading zeros. We note here that, while we find positive and sizable estimates for the interaction terms between gender and cohort membership in Model S5-A, the interaction effects are difficult to interpret because cohorts have different mean ages. In the three-way interaction model (Model S5-B), we found evidence for gender differences in age-cohort trends for volunteering (but not informal helping); however, the size of the estimates and the $95 \%$ CIs indicated the gender differences were minor.

