Supplementary Table S1: Characteristics of selected sample (N=5,198) and excluded cases (N=1,850).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables** | **Categories** | **Total sample (7,048 cases)** | **Selected sample (5,198 cases)** | **Excluded sample (1,850 cases)** | **P-value**  **(selected sample vs excluded one)** |
| **Depressive symptoms** | Yes | 14.3 | 13.0 | 18.2 | 0.000 |
|  | No | 85.0 | 87.0 | 81.8 |  |
|  |  |  |  |  |  |
| **Age group** | 50-59 | 30.4 | 29.6 | 32.5 | 0.000 |
| 60-69 | 31.9 | 33.5 | 27.2 |  |
| 70-79 | 25.2 | 25.8 | 23.6 |  |
| 80 and above | 12.5 | 11.1 | 16.6 |  |
|  |  |  |  |  |  |
| **Sex** | Male | 44.5 | 44.8 | 43.6 | 0.371 |
| Female | 55.5 | 55.2 | 56.4 |  |
|  |  |  |  |  |  |
| **Current marital status** | Never married | 5.8 | 5.3 | 7.0 | 0.000 |
| First marriage | 53.9 | 56.3 | 47.1 |  |
| Remarried | 11.4 | 11.7 | 10.7 |  |
| Divorced | 11.5 | 10.5 | 14.5 |  |
| Widowed | 17.3 | 16.2 | 20.6 |  |
|  |  |  |  |  |  |
| **Childhood self-rated health** | Good | 87.8 | 88.1 | 87.5 | 0.493 |
| Fair/poor | 12.1 | 11.9 | 12.5 |  |
|  |  |  |  |  |  |
| **ADL difficulties** | None | 81.3 | 82.3 | 78.6 | 0.001 |
|  | 1 item | 10.0 | 9.6 | 11.1 |  |
|  | 2 and more items | 8.7 | 8.1 | 10.3 |  |
|  |  |  |  |  |  |
| **Education** | Low (<=14 years) | 16.5 | 15.2 | 20.2 | 0.000 |
| Intermediate (15-16 years) | 54.9 | 55.0 | 54.6 |  |
| High (>=17 years) | 28.5 | 29.7 | 25.1 |  |
|  |  |  |  |  |  |
| **NS-SEC** | Higher managerial/professional | 33.1 | 34.3 | 29.7 | 0.000 |
| Intermediate | 25.3 | 26.1 | 23.0 |  |
| Routine/manual | 40.3 | 38.4 | 45.7 |  |
| Long-term unemployed | 1.2 | 1.1 | 1.6 |  |
|  |  |  |  |  |  |
| **Housing wealth** | None | 17.6 | 15.6 | 23.2 | 0.000 |
| £1-£149,999 | 19.6 | 19.0 | 21.1 |  |
| £150,000-£299,999 | 40.6 | 41.7 | 37.9 |  |
| £300,000-£449,999 | 14.5 | 15.5 | 11.7 |  |
| £450,000+ | 7.6 | 8.2 | 6.1 |  |
|  |  |  |  |  |  |
| **Smoking status** | Never smoked | 39.2 | 39.7 | 37.8 | 0.000 |
| Current smoker | 14.0 | 12.9 | 17.1 |  |
| Former smoker | 46.8 | 47.4 | 45.1 |  |
|  |  |  |  |  |  |
| **Drinking status** | <Daily | 14.6 | 15.7 | 11.6 | 0.000 |
| Daily | 71.5 | 75.1 | 61.2 |  |
| Missing | 13.9 | 9.2 | 27.2 |  |
|  |  |  |  |  |  |
| **Physical activity** | Low | 30.7 | 29.0 | 35.4 | 0.000 |
| Moderate | 50.0 | 51.0 | 47.2 |  |
| High | 19.3 | 20.0 | 17.4 |  |
|  |  |  |  |  | . |
| **Work status** | Not retired | 48.4 | 47.7 | 50.2 | 0.066 |
|  | Retired | 51.6 | 52.3 | 49.8 |  |
|  |  |  |  |  |  |
| **Social isolation** | Low | 25.2 | 27.5 | 18.9 | 0.000 |
| Median | 22.9 | 24.4 | 18.8 |  |
| High | 10.3 | 10.3 | 10.5 |  |
| Missing | 41.5 | 37.8 | 51.8 |  |

Source: Authors’ analysis of ELSA, Wave 2006.

Supplementary Table S2: Gender differences on single reported adversity distribution

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Total | Male | Female | P |
| Had close friend/relative at risk of death/died due to illness/serious accident | 63.3 | 61.8 | 64.5 | \* |
| Ever had a life-threatening illness or accident | 26.7 | 30.9 | 23.3 | \*\*\* |
| Ever provided long-term care to disabled/impaired relative or friend | 23.1 | 16.2 | 28.6 | \*\*\* |
| Ever experienced severe financial hardship | 19.5 | 18.1 | 20.6 | \* |
| Whether when aged <16 parents argue or fight very often | 19.1 | 17.2 | 20.7 | \*\*\* |
| Witnessed accident/violent act when person was killed/seriously wounded (not war) | 13.8 | 21.7 | 7.4 | \*\*\* |
| Ever lost a very close friend/relative in war or military service | 11.2 | 13.3 | 9.5 | \*\*\* |
| Ever experienced a major fire, flood, earthquake or other natural disaster | 10.7 | 12.5 | 9.2 | \*\*\* |
| Whether when aged <16 either parents unemployed for over 6mths when wanted to work | 7.3 | 7.9 | 6.8 |  |
| Ever been a victim of sexual assault (including rape or harassment) | 5.8 | 2.6 | 8.4 | \*\*\* |
| Whether when aged <16 parents drunk/took drugs/had mental health problems | 5.8 | 5.4 | 6.2 |  |
| Ever witnessed the serious injury/death of someone in war or military action? | 5.8 | 11 | 1.6 | \*\*\* |
| Ever been a victim of serious physical attack or assault | 5.7 | 6.8 | 4.9 | \*\* |
| Ever fired a weapon in combat or been fired upon | 5.7 | 11.8 | 0.7 | \*\*\* |
| Ever had a husband/wife/partner/child who has been addicted to drugs or alcohol | 4.7 | 2.5 | 6.6 | \*\*\* |
| Whether when aged <16 was physically abused by your parents | 3.3 | 2.9 | 3.6 |  |

Source: Authors’ analysis of ELSA, Wave 2006.

Total sample size is 5,198.

\*\*\*p<0.001, \*\*p<0.01, \*p<0.05

Supplementary Table S3: Hazard ratios of attrition

|  |  |  |  |
| --- | --- | --- | --- |
| Variables | Categories | Hazard ratio | P |
|  |  |  |  |
| Life-course adversities | No/few adversities |  |  |
|  | Relationship lost | .97 |  |
|  | Chained adversities | 1.02 |  |
|  | Childhood adversities | .95 |  |
|  | War-related adversities | 1.05 |  |
|  |  |  |  |
| Age group | 50-59 |  |  |
|  | 60-69 | .87 |  |
|  | 70-79 | .89 |  |
|  | 80 and above | .93 |  |
|  |  |  |  |
| Sex | Male |  |  |
|  | Female | .98 |  |
|  |  |  |  |
| Current marital status | Never married |  |  |
|  | First marriage | .94 |  |
|  | Remarried | 1.07 |  |
|  | Divorced | 1.10 |  |
|  | Widowed | .92 |  |
|  |  |  |  |
| Childhood self-rated health | Good |  |  |
|  | Fair/poor | .96 |  |
|  |  |  |  |
| Education | Low (<=14 years) |  |  |
|  | Intermediate (15-16 years) | .97 |  |
|  | High (>=17 years) | .97 |  |
|  |  |  |  |
| NS-SEC | Higher managerial/professional |  |  |
|  | Intermediate | .99 |  |
|  | Routine/manual | 1.01 |  |
|  | Long-term unemployed | 1.04 |  |
|  |  |  |  |
| Housing wealth | None |  |  |
|  | £1-£149,999 | .87 |  |
|  | £150,000-£299,999 | .93 |  |
|  | £300,000-£449,999 | .89 |  |
|  | £450,000+ | 1.03 |  |
|  |  |  |  |
| Smoking status | Never smoked |  |  |
|  | Current smoker | 1.03 |  |
|  | Former smoker | 1.02 |  |
|  |  |  |  |
| Drinking status | <Daily |  |  |
|  | Daily | 1.05 |  |
|  | Missing | 1.05 |  |
|  |  |  |  |
| Physical activity | Low |  |  |
|  | Moderate | .97 |  |
|  | High | .99 |  |
|  |  |  |  |
| Work | Not retired | 0.96 |  |
|  |  |  |  |
| *Childhood self-rated health* | Good(ref) |  |  |
|  | Fair/poor | 0.93 |  |
|  |  |  |  |
| *ADL difficulties* | Continuous variable | 1.03 |  |
|  |  |  |  |
| Social isolation | Low |  |  |
|  | Median | .94 |  |
|  | High | 1.04 |  |
|  | Missing | .97 |  |

\*\*\*p<0.001, \*\*p<0.01, \*p<0.05

Total sample size in Wave 2006 is 4,520, lost follow-up cases is 1,689 from Wave 2006 to Wave 2014.

Source: Authors’ analysis of ELSA, Wave 2006, 2008, 2010, 2012 and 2014.

Supplementary Table S4. Goodness of fit and quality of classification measures of different class models.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Number of latent classes | | | | |
|  | 2 | 3 | 4 | **5** | 6 |
| Akaike information criterion (AIC) | 55738.481 | 54755.663 | 54451.403 | **54339.647** | 54254.363 |
| Schwarz’s Bayesian information criterion (BIC) | 55954.830 | 55083.464 | 54890.657 | **54890.353** | 54916.522 |
| Sample size adjusted BIC  (A-BIC) | 55849.966 | 54924.581 | 54677.753 | **54623.429** | 54595.577 |
| P value for the Lo-Mendell-Rubin likelihood ratio test (LMR) | 0.0000 | 0.0000 | 0.0000 | **0.0309** | 0.0478 |
| P values for Vuong-Lo-Mendell-Rubin likelihood ratio test (vLMR) | 0.0000 | 0.0000 | 0.0000 | **0.0316** | 0.0488 |
| P values for bootstrap likelihood- ratio test (bLRT) | 0.0000 | 0.0000 | 0.0000 | **0.0000** | 0.0000 |
| Entropy | 0.614 | 0.740 | 0.673 | **0.678** | 0.701 |

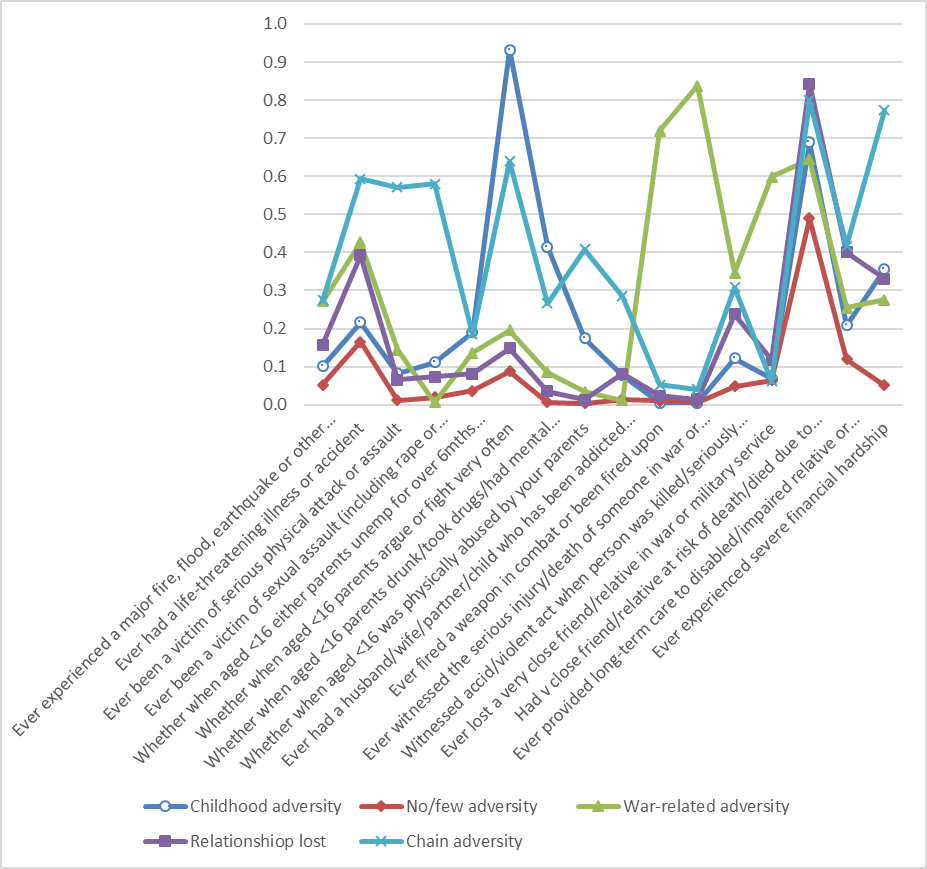
Source: Authors’ analysis of ELSA, Wave 2006. Total sample is 5,198.

Supplementary Table S5. Class-specific marginal means for each life time adversity (5-cluster)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Margin of life-course adversities cluster | | | | |
| Adversities | 1  No/few adversities | 2  Relationship lost | 3  Chained adversities | 4  Childhood adversities | 5  War-related adversities |
| Ever experienced a major fire, flood, earthquake or other natural disaster | 0.052 | 0.157 | 0.274 | 0.101 | 0.272 |
| Ever had a life-threatening illness or accident | 0.165 | 0.392 | 0.594 | 0.216 | 0.427 |
| Ever been a victim of serious physical attack or assault | 0.012 | 0.065 | 0.571 | 0.083 | 0.145 |
| Ever been a victim of sexual assault (including rape or harassment) | 0.019 | 0.073 | 0.580 | 0.112 | 0.007 |
| Whether when aged <16 either parents unemployed for over 6mths when wanted to work | 0.037 | 0.082 | 0.185 | 0.190 | 0.136 |
| Whether when aged <16 parents argue or fight very often | 0.088 | 0.148 | 0.640 | 0.932 | 0.196 |
| Whether when aged <16 parents drunk/took drugs/had mental health problems | 0.006 | 0.036 | 0.267 | 0.415 | 0.085 |
| Whether when aged <16 was physically abused by your parents | 0.004 | 0.013 | 0.408 | 0.175 | 0.034 |
| Ever had a husband/wife/partner/child who has been addicted to drugs or alcohol | 0.015 | 0.081 | 0.285 | 0.078 | 0.012 |
| Ever fired a weapon in combat or been fired upon | 0.011 | 0.024 | 0.053 | 0.005 | 0.720 |
| Ever witnessed the serious injury/death of someone in war or military action? | 0.007 | 0.014 | 0.041 | 0.005 | 0.838 |
| Witnessed accident/violent act when person was killed/seriously wounded (not war) | 0.049 | 0.237 | 0.309 | 0.122 | 0.346 |
| Ever lost a very close friend/relative in war or military service | 0.064 | 0.118 | 0.062 | 0.068 | 0.599 |
| Had close friend/relative at risk of death/died due to illness/serious accident | 0.490 | 0.843 | 0.799 | 0.689 | 0.644 |
| Ever provided long-term care to disabled/impaired relative or friend | 0.120 | 0.401 | 0.418 | 0.209 | 0.255 |
| Ever experienced severe financial hardship | 0.051 | 0.331 | 0.773 | 0.356 | 0.276 |

Source: Authors’ analysis of ELSA, Wave 2006. Total sample is 5,198.

Supplementary Figure S1. Class-specific marginal means for each life time adversity (5-class)



Source: Authors’ analysis of ELSA, Wave 2006. Total sample is 5,198.