**Supplementary Material 1 – Description of all input variables**

Table A1. List of the input variables with description, possible values and number of missing values

| Variable Type | # | Variable | Description | Values | # Missing Values |
|---|---|---|---|---|---|
| Basic | 1 | Gender | Subject's gender | • Male<br>• Female | 0 |
| | 2 | Age | Subject's age | numeric | 0 |
| | 3 | BMI | Subject's BMI | numeric | 0 |
| Social | 4 | Education | Subject's highest level of education | • Unfinished elementary school<br>• Elementary school<br>• High school<br>• Vocational training<br>• University<br>• Doctorate | 51 (5.2%) |
| | 5 | Religion | "Do you have a religious belief?" | • Yes<br>• No | 57 (5.8%) |
| | 6 | ReligiousActivities | "Do you participate in religious activities?" | • Not at all<br>• Sometimes<br>• Often | 39 (4%) |
| | 7 | VoluntaryAssociation | "If you are a member of a voluntary association, could you say that you feel strong associations with this association and its members?" | • Not a member of the association<br>• Highly<br>• To some extent<br>• Not especially<br>• Not at all | 56 (5.7%) |
| | 8 | SocialNetwork | Assesses the subject's social network in terms of personal relationships and social interactions. See "Description 1" | • Very bad social network<br>• Bad social network<br>• Normal social network | 57 (5.8%) |

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| | 9 | SupportNetwork | Assesses the subject's support network in terms of people that can help them with life issues. See "Description 2" | numeric | 53 (5.4%) |
| | 10 | Loneliness | Assesses the subject's feeling of loneliness. See "Description 3" | • Very high level of loneliness<br>• Some level of loneliness<br>• Normal level of loneliness | 76 (7.8%) |
| Lifestyle | 11 | Exercise | Frequency of light exercise in last 12 months. | • Wheelchair or balance problems<br>• Never<br>• Once a month<br>• 2-3 times a month<br>• More than 3 times a month<br>• Every day | 99 (10.1%) |
| | 12 | Alcohol_Consumption | "How often do you drink alcohol" | • Never<br>• Once a month or more rarely<br>• 2-4 times a month<br>• 2-3 times a week<br>• 4 or more times a week | 46 (4.7%) |
| | 13 | Alcohol_Quantity | "How many "glasses" do you drink on a typical day when you drink alcohol?" | • Do not drink alcohol<br>• 1-2<br>• 3-4<br>• 5-6<br>• 7-9<br>• 10+ | 94 (9.6%) |
| | 14 | Working65 | "When did you stop working?" | • Stopped working before 65 years | 0 |

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| | | | | • Worked until 65 years<br>• Still working/worked after 65 years | |
| | 15 | PresentSmoker | Do you smoke? | • Yes, smoke regularly<br>• Yes, smoke sometimes<br>• No, quitted smoking<br>• No, never smoked | 34 (3.5%) |
| | 16 | PastSmoker_CigarsDay | If you have quitted smoking, how many cigarettes/day did you smoke on average before you stopped? | numeric | 63 (6.4%) |
| | 17 | SocialActivities | Assesses the subject's engagement in sociocultural activities in the past 12 months. See "Description 4". | numeric | 85 (8.6%) |
| | 18 | PhysicallyDemandingActivities | Assesses the subject's engagement in physically demanding activities in the past 12 months. See "Description 5". | numeric | 85 (8.6%) |
| | 19 | LeisureActivities | Assesses the subject's engagement in leisure and hobby activities in the past 12 months. See "Description 6". | numeric | 96 (9.8%) |
| Medical History | 20 | Medications | Number of medications taken regularly by the subject | numeric | 0 |
| | 21 | FamilyHistory | Subject's family (first degree relatives) medical history of importance, regarding cardiovascular disease, Parkinson's disease and dementia | • Yes<br>• No | 2 (≈0%) |
| | 22 | Infarct | Subject's history of infarct | • Yes<br>• No | 8 (≈0%) |
| | 23 | Arrhythmia | Subject's history of arrhythmia | • Yes<br>• No | 13 (1.3%) |

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| | 24 | HeartFailure | Subject's history of heart failure | • Yes<br>• No | 1 (≈0%) |
| | 25 | Stroke | Subject's history of stroke | • Yes<br>• No | 6 (≈0%) |
| | 26 | TIARIND | Subject's history of Transient Ischemic Attacks or Reversible Ischemic Neurological Deficit (TIA/RIND) | • Yes<br>• No | 11 (1.1%) |
| | 27 | Diabetes_type1 | Subject's history of diabetes type 1 | • Yes<br>• No | 1 (≈0%) |
| | 28 | Diabetes_type2 | Subject's history of diabetes type 2 | • Yes<br>• No | 2 (≈0%) |
| | 29 | ThyroidDisease | Subject's history of thyroid disease | • Yes<br>• No | 5 (≈0%) |
| | 30 | Cancer | Subject's history of cancer | • Yes<br>• No | 1 (≈0%) |
| | 31 | Epilepsy | Subject's history of epilepsy | • Yes<br>• No | 0 |
| | 32 | AtrialFibrillation | Subject's history of atrial fibrillation | • Yes<br>• No | 75 (7.7%) |
| | 33 | IschemicSigns | Subject's history of ischemic signs | • Yes<br>• No | 76 (7.8%) |
| | 34 | Parkinsons | Subject's history of Parkinson's disease | • Yes<br>• No | 3 (≈0%) |
| | 35 | Depression | Subject's history of depression | • Yes<br>• No | 0 |
| | 36 | OtherPsychiatricDiseases | Subject's history of other psychiatric diseases | • Yes<br>• No | 5 (≈0%) |
| | 37 | Snoring | Subject's history of snoring | • Yes<br>• No | 3 (≈0%) |
| | 38 | SleepApnea | Subject's history of sleep apnea | • Yes<br>• No | 7 (≈0%) |

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| | 39 | HipFracture | Subject's history of hip fracture | • Yes<br>• No | 10<br>(1.0%) |
| | 40 | HeadTrauma | Subject's history of head trauma | • Yes<br>• No | 8 (≈0%) |
| | 41 | DevelopmentalDisabilities | Subject's history of developmental disabilities | • Yes<br>• No | 0 |
| | 42 | HighBloodPressure | Subject's history of high blood pressure | • Yes<br>• No | 11<br>(1.1%) |
| Blood Test | 43 | HB | Blood test analysis of the amount of haemoglobin in the blood (g/L) | numeric | 19<br>(1.9%) |
| | 44 | CRP | Blood test analysis of the amount of C-reactive protein in the blood (mg/L) | numeric | 30<br>(3.0%) |
| Physical Examination | 45 | Pain | "Have you had pain in the last 4 weeks?" | • Yes<br>• No | 53<br>(5.4%) |
| | 46 | HeartRate_Sitting | Subject's heart rate in beats per minute, while sitting | numeric | 16<br>(1.6%) |
| | 47 | HeartRate_Lying | Subject's heart rate in beats per minute, while lying | numeric | 25<br>(2.5%) |
| | 48 | BloodPressure_Right | Subject's systolic blood pressure measured on the right arm, while lying (mmHg). | numeric | 21<br>(2.1%) |
| | 49 | HandStrength_Right | Subject's right hand strength in Newtons, during an interval of 10s, measured by the Grippit instrument. | numeric | 85<br>(8.6%) |
| | 50 | HandStrength_Left | Subject's left hand strength in Newtons, during an interval of 10s, measured by the Grippit instrument. | numeric | 88<br>(8.9%) |
| | 51 | Rise_Safe | "Does it feel "safe" for you to rise from a chair without using your arms?" | • Yes<br>• No, it feels unsafe<br>• Cannot stand up | 63<br>(6.4%) |
| | 52 | Rise_How | Rising from the chair. How? | • Got up without using their arms | 67<br>(6.8%) |

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| | | | | • Got up, but used their arms<br>• Tried but couldn't<br>• Not tried for security reasons<br>• Not tried as there was no suitable chair<br>• On a wheelchair | |
| | 53 | WeightLoss_3months | Any weight loss during the last 3 months? | • Yes, more than 3kg<br>• Don't know<br>• Yes, more than 1 kg, but less than 3 kg<br>• No weight loss | 16 (1.6%) |
| | 54 | StandingTest_Right | Single leg standing with right leg. Best value in seconds of three tries. | numeric | 72 (7.3%) |
| | 55 | StandingTest_Left | Single leg standing with left leg. Best value in seconds of three tries. | numeric | 72 (7.3%) |
| | 56 | Dental_Prothesis | Assessment via x-ray of the subject's jaws in regards to their own teeth and prosthesis. | • Only own teeth<br>• Own teeth and removable dentures<br>• Own teeth as well as removable prosthesis in one tooth jaw, or toothless and whole prosthesis in one tooth jaw<br>• Completely toothless<br>• Completely toothless and complete denture in one or both jaws<br>• With implants | 4 (≈0%) |

| | 57 | Dental_TeethNumber | Assessment via x-ray of the subject's jaws in regards to the number of own teeth. | numeric | 96 (9.8%) |
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| Psychological | 58 | MemoryLoss | Assessment of the subjects' memory in daily life situations. See "Description 7". | numeric | 91 (9.3%) |
| | 59 | MemoryDecline | "Do you think your memory has gotten worse?" | • No<br>• Somewhat<br>• A lot | 10 (1.0%) |
| | 60 | MemoryDecline2 | "Does anyone in your circle think that your memory has gotten worse?" | • Yes<br>• No | 18 (1.8%) |
| | 61 | AbstractThinking | "Explain the following phrase: 'The apple does not fall far from the tree'" | • Wrong answer<br>• Wrong, only concrete answer<br>• Wrong abstract answer<br>• Right answer | 46 (4.7%) |
| | 62 | PersonalityChange | Assesses if the subject experienced changes regarding personality traits. See "Description 8" | • Yes<br>• No | 19 (1.9%) |
| | 63 | Identity | First, the subject is asked questions about their identity: first name, last name, year of birth, date of birth and age. Then, the S_Psychological_Identity index is calculated as the sum of correct answers given by the subject. | numeric | 6 (≈0%) |
| Health Instruments | 64 | SOC | Sense of Coherence [1]: assesses the subject's comprehensibility (how they perceive events as making logical sense), manageability (how they feel they can cope with situations), and meaningfulness (how they feel that life makes sense | numeric | 56 (5.7%) |

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| | | and challenges are worthy overcomming). | | |
| | 65 | DigitSpan_Forward | Forward Digit Span Test [2]: The tester say to the subject a sequence of numbers and the subject has to repeat it in the way they hear it. It starts with two 3-number sequence, going up to two 9-number sequence. Each correct sequence said by the subject counts as 1 point. | numeric | 12 (1.2%) |
| | 66 | DigitSpan_Backwards | Backward Digit Span Test [2]: The tester say to the subject a sequence of numbers and the subject has to repeat it backwards. It starts with two 3-number sequence, going up to two 9-number sequence. Each correct sequence said by the subject counts as 1 point. | numeric | 14 (1.4%) |
| | 67 | Livingston | Livingston Index [3]: a sleep disorder scale, composed of eight items regarding difficulty falling asleep or staying asleep, sleep medication usage, sleep interrupted at night, moods or tension, difficulty sleeping owing to pain or itching, inability to return to sleep after walking at night, waking up too early, or feeling tired more than two hours a day. | • No sleeping problems<br>• Presence of sleeping problems | 31 (3.2%) |
| | 68 | EQ5D | EuroQol (EQ-5D) Index [4]: a generic instrument (non-disease specific) that aims to assess physical, mental and social functioning. The instrument is filled | • High quality of life<br>• Low quality of life | 77 (7.9%) |

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| | | | by the subject who describes their own health-related quality of life in regards to mobility, self-care, usual activities, pain/discomfort and anxiety/distress. We used a dichotomised version of EQ-5D by the lower quartile index values. | | |
| | 69 | Index_Katz | Katz Index of Independence in Activities of Daily Living (ADL) [5]: Assesses functional status of the subject in regards to their capacity to perform activities of daily living independently. | • Severe impairment<br>• Moderate impairment<br>• Full function | 17 (1.7%) |
| | 70 | IADL | Lawton Instrumental Activities of Daily Living (IADL) [6]: Assesses independent living skills of the subjects. Considers more complex skills than the ADL index. | • Dependent<br>• Independent | 21 (2.1%) |
| | 71 | MMSE | Mini-Mental State Examination (MMSE) [7]: Assesses the cognitive aspects of mental functions. | numeric | 5 (≈0%) |
| | 72 | ClockTest_Sum | Clock Drawing test [8]: Assesses cognitive impairment of a subject, in regards to verbal understanding, memory, spatially coded knowledge and construction skills. The 10-point score version was used in this study. | numeric | 37 (3.7%) |
| | 73 | MCS12 | Dichotomised Mental Composite Score of the SF-12 Health Survey [9]. The SF-12 is composed of 12 weighted questions that assess mental and physical functioning, and health-related quality of life. The Mental Composite Score is | • Low level of health<br>• High Level of health | 98 (10.0%) |

| | | | calculated from the designated questions and compared to the age-specific mean. An age-specific mean difference score of -5.5 points indicates a low level of health. | | |
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| | 74 | PCS12 | Dichotomised Physical Composite Score of the SF-12 Health Survey [9]. The SF-12 is composed of 12 weighted questions that assess mental and physical functioning, and health-related quality of life. The Physical Composite Score is calculated from the designated questions and compared to the age-specific mean. An age-specific mean difference score of -5.5 points indicates a low level of health. | • Low level of health<br>• High level of health | 98 (10.0%) |
| | 75 | CPRS | Comprehensive Psychopathological Rating Scale [10]: It assesses the psychiatric state of the subject as to their level of depression. | • Absence of depression<br>• Mild depression<br>• Moderate depression<br>• Severe depression | 13 (1.3%) |

**Description 1: SocialNetwork**
This is a categorical index that assesses the subjects' social network into one of the following categories: "Very bad social network", "Bad social network" and "Normal social network". It is built upon the questions described below, whose alternatives are attributed to a value held in parenthesis. The sum score of the values determines the category, as the following: a sum score of 5 characterizes a "Very bad social network"; a sum score in the range of 1 to 4 characterizes a "Bad social network"; a sum score of 0 characterizes a "Normal social network".

Questions:
- Do you think your number of friends is enough?
  - Too few (1)
  - Enough (0)
  - Too many (0)

- How many people do you think you know well and can talk about most of the time?
  - No one (1)
  - 1-3 (1)
  - 4-6 (0)
  - 7-9 (0)
  - 10-15 (0)
  - 16-30 (0)
  - More than 30 (0)

- Do you have someone who you feel you can be yourself in, who accepts you with all your merits and flaws?
  - Yes, without a doubt (0)
  - Yes, probably (0)
  - No, probably not (1)
  - Not at all (1)

- Do you feel close to your family (other than your husband, spouse, partner and children)?
  - Missing relatives (1)
  - Highly (0)
  - To some extent (0)
  - Not especially (1)
  - Not at all (1)

**Description 2: SupportNetwork**
This index was built as the sum score of the questions' value regarding the subjects' social support network. The highest the score the worse social support network the subject has. The alternatives for the questions (with their respective values in parenthesis) are the following: Yes, without a doubt (1); Yes, probably (2); No, probably not (3); Not at all (4).

Questions:
- o  Can you get help from someone or someone in case of illness or other practical problems?
- o  Do you know someone or someone who can help you to write an official letter or appeal a government decision?
- o  Do you know that you have someone or someone who can provide you with proper personal support to cope with the stress and the problems of life?


**Description 3 – Loneliness**
This is a categorical index that assesses the subjects' felling of loneliness into one of the following categories: "Very high level of loneliness", "Some level of loneliness" and "Normal level of loneliness". It is built upon the questions described below, whose alternatives are attributed to a value held in parenthesis. The sum score of the values determines the category, as the following: a sum score of 4 characterizes a "Very bad social network"; a sum score in the range of 1 to 3 characterizes a "Some level of loneliness"; a sum score of 0 characterizes a "Normal level of loneliness".

Questions:
- o  Do you feel lonely?
  - • Yes, often (1)
  - • Yes, sometimes (0)
  - • No, rarely (0)
  - • No, never (0)

- o  When you look back on the last five years of your life, which of the following options best suits you?
  - • I have not felt loneliness at any time in the past 5 years (0)
  - • I have experienced occasional occasions with loneliness (0)
  - • I have experienced recurrent periods of loneliness (1)
  - • I have lived with a more or less constant feeling of loneliness (1)

- o  Do you feel a strong affinity with your local community?
  - • Highly (0)
  - • To some extent (0)

- Not especially (1)
- Not at all (1)

   o  Are you in a group of friends who have or do something in common?
- Yes (0)
- No (1)


**Description 4: SocialActivities**
The subjects were asked if they engaged in the following sociocultural activities in the past 12 months from the date they responded the questionnaire: "Cinema, theatre, or concert"; "Restaurant, café, or pub"; "Church or religious meetings"; and "Study circle or course of some kind". The possible answers were "yes" or "no". The "SocialActivities" index was built as the number of "yes" answers given by the subject.


**Description 5: PhysicallyDemandingActivities**
The subjects were asked if they engaged in the following physically demanding activities in the past 12 months from the date they responded the questionnaire: "Gardening"; "Taking walks outside"; "Picking berries or mushrooms"; "Hunting or fishing"; "Knit, weave or sew"; "Painting, drawing or sculpting"; "Home repairs"; and "Repairing cars or other mechanical equipment". The possible answers were "yes" or "no". The "PhysicallyDemandingActivities" index was built as the number of "yes" answers given by the subject.


**Description 6: LeisureActivities**
The subjects were asked if they engaged in the following leisure activities in the past 12 months from the date they responded the questionnaire: "Reading the newspaper"; "Reading magazines"; "Reading books"; "Watching television"; "Playing games or cards"; "Playing musical instruments"; "Listening to music"; and "Using the internet or playing computer games". The possible answers were "yes" or "no". The "LeisureActivities" index was built as the number of "yes" answers given by the subject.


**Description 7: MemoryLoss**
This index was built as the sum score of the questions' value about the subjects' memory in daily life situations. The highest the score means the highest memory decline of the subject. The alternatives for the questions (with their respective values in parenthesis) are the following: Never (1); Rarely (2); Sometimes (3); Often (4); Always (5).

Questions:
   o  Do you happen to come to the store and have forgotten what to trade?
   o  Do you have trouble remembering what happened the day before?
   o  Do you lose or place things?

- Do you find it hard to know where you are?
- Do you find it difficult to find the right home / at department?
- Do you find it difficult to find the store / post office?
- Do you find it difficult to find in a foreign environment?


**Description 8: PersonalityChange**
The tester asks the subject if they felt like they changed in regards to the items in the questions below. A positive answer to 2 or more items defines a change in personality.

Questions:
- More or less talkative?
- More or less grumpy?
- More or less agitated?
- More or less withdrawn?
- More or less apathetic?
- More or less worried?
- More difficult than before to make decisions?
- More difficult than before to take the initiative?

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