SHARE
Survey of Health, Ageing and Retirement in Europe

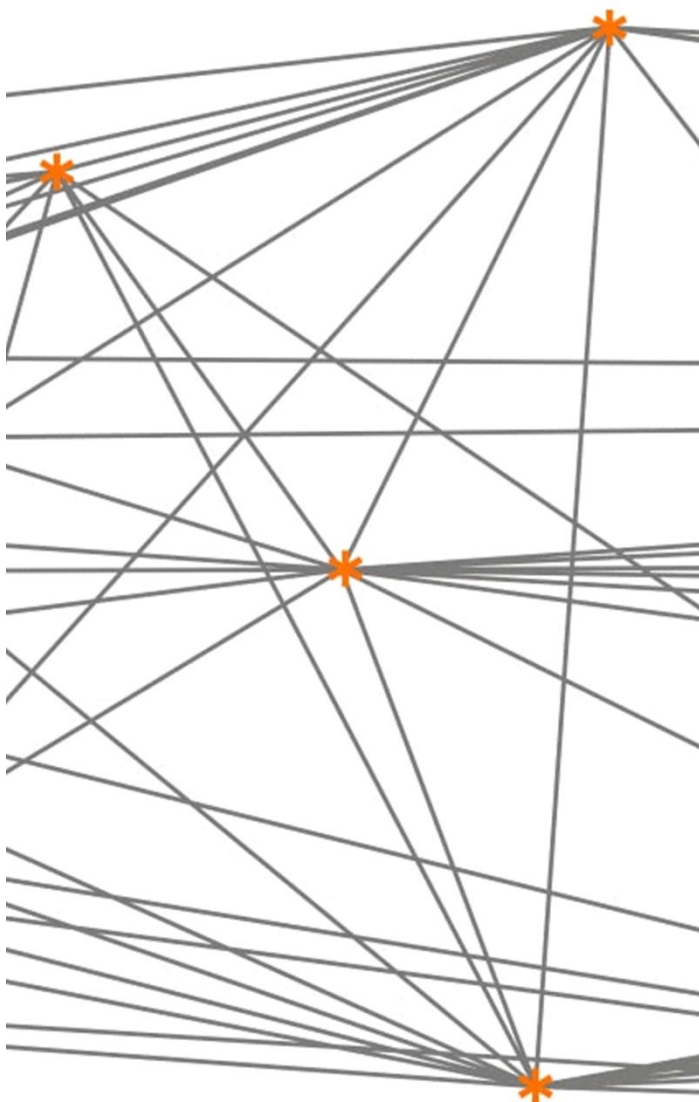# Scales and Multi-Item Indicators

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About this manual

The purpose of this manual is to provide an informative overview of all scales and item groups that are included in the questionnaire of Wave 1 to Wave 9 of the Survey of Health, Age and Retirement in Europe (SHARE). The manual covers literature-based information on the definition and content of the respective scale or multi-item indicator and its operationalisation in SHARE. All scales and multi-item indicators are displayed in English according to the generic version of the SHARE questionnaire.

Please note that due to the special structure of the questionnaire the number of missing values is very high for most scales in Wave 7. The Wave 7 questionnaire contains SHARELIFE modules for all respondents who did not participate in Wave 3 (first SHARELIFE wave), and standard modules for all respondents who already answered a SHARELIFE interview.

If you have feedback or questions on this manual, please contact info@share-project.org

I. Mental health measures

1. EURO-D

Definition

The EURO-D scale (Prince et al., 1999) was originally developed in an effort to derive a common depression symptoms scale from various instruments on late-life depression used in different European countries. The resulting scale consists of the following items: depression, pessimism, suicidality, guilt, sleep, interest, irritability, appetite, fatigue, concentration (on reading or entertainment), enjoyment, and tearfulness.

Operationalisation in SHARE

SHARE provides the EURO-D variable (*eurod*) and the EURO-D caseness variable (*eurodcat*) as generated variables in the gv_health module. *eurod* is generated from questions in the mental health module (*mh002_ – mh017_*) as a composite index of the sixteen items. Please note that information in *mh005_/mh006_, mh008_/mh009_, mh011_/mh012_* and *mh014_/mh015_* is combined when generating *eurod* so that the list of 16 items in table 1 is reduced to 12 final items. The maximum score a respondent can get is 12 "very depressed" and the minimum score is 0 "not depressed".

The attainment of a scale score of 4 or higher is categorized as "case of depression" and a scale score below 4 as "not depressed". The generated variable *eurodcat* equals 1 if the scale score is 4 or higher.

Table 1: List of relevant EURO-D variables in the mental health module (mh)

Waves 1, 2, 4, 5, 6, 7, 8, 9	Question text	Response options[a]
MH002[b]	In the last month, have you been sad or depressed?	1. Yes 5. No
MH003	What are your hopes for the future?	1. Any hopes mentioned 2. No hopes mentioned
MH004	In the last month, have you felt that you would rather be dead?	1. Any mention of suicidal feelings or wishing to be dead 2. No such feelings
MH005	Do you tend to blame yourself or feel guilty about anything?	1. Obvious excessive guilt or self blame 2. No such feelings 3. Mentions guilt or self blame, but it is unclear if these constitute obvious or excessive guilt or self-blame
MH006 (if MH005 = 3)	So, for what do you blame yourself?	1. Example(s) given constitute obvious excessive guilt or self-blame 2. Example(s) do not constitute obvious excessive guilt or self-blame, or it remains unclear if these constitute obvious or excessive guilt or self-blame
MH007[c]	Have you had trouble sleeping recently?	1. Trouble with sleep or recent change in pattern 2. No trouble sleeping
MH008	In the last month, what is your interest in things?	1. Less interest than usual mentioned 2. No mention of loss of interest 3. Non-specific or uncodeable response
MH009 (if MH008 = 3)	So, do you keep up your interests?	1. Yes 5. No
MH010	Have you been irritable recently?	1. Yes 5. No
MH011[d]	What has your appetite been like?	1. Diminution in desire for food 2. No diminution in desire for food 3. Non-specific or uncodeable response
MH012 (if MH011 = 3)	So, have you been eating more or less than usual?	1. Less 2. More 3. Neither more nor less

MH013	In the last month, have you had too little energy to do the things you wanted to do?	1. Yes 5. No
MH014	How is your concentration? For example, can you concentrate on a television programme, film or radio programme?	1. Difficulty in concentrating on entertainment 2. No such difficulty mentioned
MH015	Can you concentrate on something you read?	1. Difficulty in concentrating on reading 2. No such difficulty mentioned
MH016	What have you enjoyed doing recently?	1. Fails to mention any enjoyable activity 2. Mentions ANY enjoyment from activity
MH017	In the last month, have you cried at all?	1. Yes 5. No

[a] Please note that in Wave 5 the response options of these items differ from the other waves and thus from the values shown in table 1 (see the Wave 5 questionnaire).
[b] MH002 is also asked in the SHARE Corona Surveys 1 and 2: CAMH002
[c] MH007 is also asked in the SHARE Corona Surveys 1 and 2: CAMH007
[d] Please note that from Wave 5 onwards, the question text of MH011 slightly changed: What has your appetite been like in the last month?

References

Prince, M. J., Reischies, F., Beekman, A. T. F., Fuhrer, R., Jonker, C., Kivela, S. L., Lawlor, B., Lobo A., Magnusson, H., Fichter, M. M., Van Oyen, H., Roelands, M., Skoog, I., Turrina, C., & Copeland, J. R. (1999). Development of the EURO-D scale – a European Union initiative to compare symptoms of depression in 14 European centres. *The British Journal of Psychiatry, 174*(4), 330-338.

2. CASP-12

Definition

The original CASP-19 scale (Hyde et al., 2003) is a theoretically grounded measure of quality of life in older age. CASP-12 is the revised 12-item version of CASP-19. The scale is composed of four subscales, the initials of which make up the acronym: control, autonomy, self-realization and pleasure. The 12 items which are presented as questions or statements to survey respondents are assessed on a four-point Likert scale ("often", "sometimes", "rarely", "never"). The resulting score is the sum of these 12 items, and ranges from the minimum of 12 to the maximum of 48. A high score indicates high quality of life. The literature does not provide an indication of a threshold which categorizes quality of life in "low" and "high".

Operationalisation in SHARE

In Wave 1, the CASP-12 questions are part of the drop-off (self-completion of a paper-and-pencil questionnaire) leading to a higher share of missing data. From Wave 2 onwards, the CASP-12 questions are part of the regular SHARE questionnaire. SHARE provides the CASP-12 variable (*casp*) as a generated variable in the gv_health module.

Table 2: List of relevant CASP variables in the drop-off questionnaire

Wave 1	Question text	Subscale
q_2a	My age prevents me from doing the things I would like to.	Control
q_2b	I feel that what happens to me is out of my control.	Control
q_2c	I felt left out of things.	Control
q_2d	I can do the things that I want to do.	Autonomy
q_2e	Family responsibilities prevent me from doing what I want to do.	Autonomy
q_2f	Shortage of money stops me from doing the things I want to do.	Autonomy
q_2g	I look forward to each day.	Pleasure
q_2h	I feel that my life has meaning.	Pleasure
q_2i	On balance, I look back on my life with a sense of happiness.	Pleasure
q_2j	I feel full of energy these days.	Self-Realization
q_2k	I feel that life is full of opportunities.	Self-Realization
q_2l	I feel that the future looks good for me.	Self-Realization

Table 3: List of relevant CASP variables in the activities module (ac)

Waves 2, 3, 4, 5, 6, 7, 8, 9	Question text	Subscale
AC014	How often do you think your age prevents you from doing the things you would like to do?	Control
AC015	How often do you feel that what happens to you is out of your control?	Control
AC016	How often do you feel left out of things?	Control
AC017	How often do you think that you can do the things that you want to do?	Autonomy
AC018	How often do you think that family responsibilities prevent you from doing what you want to do?	Autonomy
AC019	How often do you think that shortage of money stops you from doing the things you want to do?	Autonomy
AC020	How often do you look forward to each day?	Pleasure
AC021	How often do you feel that your life has meaning?	Pleasure
AC022	How often, on balance, do you look back on your life with a sense of happiness?	Pleasure
AC023	How often do you feel full of energy these days?	Self-Realization
AC024	How often do you feel that life is full of opportunities?	Self-Realization
AC025	How often do you feel that the future looks good for you?	Self-Realization

References

Hyde, M., Wiggins, R. D., Higgs, P., & Blane, D. B. (2003). A measure of quality of life in early old age: the theory, development and properties of a needs satisfaction model (CASP-19). *Aging & mental health, 7*(3), 186-194.

Von dem Knesebeck, O., Hyde, M., Higgs, P., Kupfer, A., Siegrist, J. (2005). Quality of Life and Well-Being. In A. Börsch-Supan, A., Brugiavini, H. Jürges, J. Mackenbach, J. Siegrist, G. Weber (Eds.), *Health, ageing and retirement in Europe – First results from the Survey of Health, Ageing and Retirement in Europe* (pp. 199-203). Mannheim: Mannheim Research Institute for the Economics of Aging (MEA).

3. Three-Item Loneliness Scale

Definition

The Three-Item Loneliness Scale (Hughes et al., 2004) is a short version of the R-UCLA Loneliness Scale (Russell et al., 1980; Russel et al., 2010). It measures indirect loneliness. The three items companionship, left out, and isolated are answered on a three point Likert scale ("often", "some of the time", "hardly ever or never"). The minimum of the resulting score is 3 ("not lonely") and the maximum is 9 ("very lonely"). The literature does not provide an indication of a threshold which categorizes "lonely" and "not lonely".

Operationalisation in SHARE

SHARE provides the generated Loneliness Scale variable (*loneliness*) from Wave 5 onwards as part of the gv_health module. The variable is a sum score based on *mh034_, mh035_* and mh036_ from the mental health module that ranges between the values 3 "Not lonely" and 9 "Very lonely".

Table 4: Three-Item Loneliness Scale

Waves 5, 6, 7, 8, 9	Question text
MH034	How much of the time do you feel you lack companionship?
MH035	How much of the time do you feel left out?
MH036	How much of the time do you feel isolated from others?

Additional information on the respondent's self-assessment of loneliness can be derived from an direct over-all item answered on the same three point Likert scale ("often", "some of the time", "hardly ever or never").

Table 5: Additional information on respondent's self-assessment

Waves 5, 6, 7, 8, 9	SCS1*, SCS2*	Question text
MH037	CAMH037_	How much of the time do you feel lonely?

* SCS = SHARE Corona Survey

References

Hughes, M. E., Waite, L. J., Hawkley, L. C., & Cacioppo, J. T. (2004). A short scale for measuring loneliness in large surveys results from two population-based studies. *Research on Aging, 26*(6), 655-672.

Russell, D., Peplau, L. A. & Ferguson M. L. (2010) Developing a measure of loneliness. *Journal of Personality Assessment, 42*(3), 290-294.

Russel, D., Peplau, L. A. & Cutrona, C. E. (1980). The revised UCLA Loneliness Scale: concurrent and discriminant validity evidence. *Journal of Personality and Social Psychology, 39*(3), 472-480.

4. Multi-Item Indicator Anxiety

Definition

The Beck Anxiety Inventory (Beck et al., 1988) is used for measuring the severity of anxiety. The measure asks about common physiological and cognitive symptoms of anxiety that the respondent has had during the past week. The 21 questions are answered on a four-point Likert scale ("never", "hardly ever", "some of the time", "most of the time"). A high result score indicates high anxiety.

Operationalisation in SHARE

Anxiety is measured by five items in SHARE Waves 4 and 5. SHARE includes one item about psychological (MH023), two items about physiological (MH025, MH027) and two items about cognitive symptoms (MH024, MH026).

Table 6: Items measuring anxiety

Waves 4, 5	Question text
MH023	I had fear of the worst happening.
MH024	I was nervous.
MH025	I felt my hands trembling.
MH026	I had a fear of dying.
MH027	I felt faint.

References

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: psychometric properties. *Journal of Consulting and Clinical Psychology*, *56*(6), 893.

II.   Physical health measures

1. Global Activity Limitation Index (GALI)

Definition

The Global Activity Limitation Index[1] (GALI) was developed as an indicator for comparing health expectancy and disability across Europe. It is a global single-item instrument (with optional additional questions) that measures long-standing activity limitations (six months or more) referring to general health problems and activities people usually do (Robine and Jagger, 2003; Van Oyen et al., 2006).

Operationalisation in SHARE

SHARE provides the generated variable *gali* as part of the gv_health module. The resulting categories are "limited" and "not limited". It is based on *ph005_*.

Table 7: Measure for GALI in SHARE

Waves 1, 2, 4, 5, 6, 7, 8, 9	Question text	Response options
PH005	For the past 6 months at least, to what extent have you been limited because of a health problem in activities people usually do?	1. Severely limited 2. Limited, but not severely 3. Not limited

References

Robine, J. M., & Jagger, C. (2003). Creating a coherent set of indicators to monitor health across Europe. *The European Journal of Public Health*, *13*(1), 6-14.

Van Oyen, H., Van der Heyden, J., Perenboom, R., & Jagger, C. (2006). Monitoring population disability: evaluation of a new Global Activity Limitation Indicator (GALI). *Sozial- und Präventivmedizin*, *51*(3), 153-161.

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[1] Sometimes also referred to as "General Activity Limitation Index"

2. Activities of Daily Living (ADL)

Definition

The ADL index describes the number of limitations with activities of daily living (Katz et al., 1963). It refers to people's everyday self-care activities such as dressing, walking, grooming, eating, transferring bed, and toileting, which are fundamental for maintaining independence.

Operationalisation in SHARE

The modified version used in SHARE includes six activities (Steel et al., 2003). Thus, the result score ranges from 0 to 6. The higher the index is, the more difficulties with these activities and the lower the mobility of the respondent.

SHARE provides ADL as a generated variable and ADL2 which reclassifies ADL in two categories: 0 "no ADL limitations" and 1 "1+ ADL limitations" (see gv_health module).

Table 8: Measure of ADL in SHARE

Waves 1, 2, 4, 5, 6, 7, 8, 9	Question text	Response options
Part of PH049	Please look at card ^SHOWCARD_ID. Please tell me if you have any difficulty with these because of a physical, mental, emotional or memory problem. Exclude any difficulties you expect to last less than three months.	1. Dressing, including putting on shoes and socks 2. Walking across a room 3. Bathing or showering 4. Eating, such as cutting up your food 5. Getting in or out of bed 6. Using the toilet, including getting up or down 96. None of these

References

Katz, S., Ford, A. B., Moskowitz, R. W., Jackson, B. A., & Jaffe, M. W. (1963). Studies of illness in the aged: the index of ADL: a standardized measure of biological and psychosocial function. *Jama*, *185*(12), 914-919.

Steel, N., Huppert F. A., McWilliams B. & David Melzer (2003): *Physical and Cognitive Function*. In: Marmot, M., Banks, J., Blundell, R., Lessof C. & Nazroo J. (ed.) Health, wealth and lifestyles of the older population in England: ELSA 2002. London: Institute for Fiscal Studies. 249–271.

3. Instrumental Activities of Daily Living (IADL)

Definition

The IADL index describes the number of limitations with instrumental activities of everyday life (Lawton & Brody, 1969).

Operationalisation in SHARE

The modified version used in SHARE includes seven activities (Nicholas et al., 2003). Thus, the score ranges from 0 to 7. The higher the index is, the more difficulties with these activities and the lower the mobility. SHARE provides *iadl* and *iadl2* as generated variables in the gv_health module. The latter reclassifies *iadl* in: 0 "no IADL limitations" and 1 "1+ IADL limitations".

Table 9: Measure of IADL in SHARE

Waves 1, 2, 4, 5	Question text	Response options
Part of PH049	Please look at card ^SHOWCARD_ID. Please tell me if you have any difficulty with these because of a physical, mental, emotional or memory problem. Exclude any difficulties you expect to last less than three months.	7. Using a map to figure out how to get around in a strange place 8. Preparing a hot meal 9. Shopping for groceries 10. Making telephone calls 11. Taking medications 12. Doing work around the house or garden 13. Managing money, such as paying bills and keeping track of expenses 96. None of these
Wave 6, 7, 8, 9	**Question text**	**Response options**
Part of PH049	Please look at card ^SHOWCARD_ID. Please tell me if you have any difficulty with these because of a physical, mental, emotional or memory problem. Exclude any difficulties you expect to last less than three months.	7. Using a map to figure out how to get around in a strange place 8. Preparing a hot meal 9. Shopping for groceries 10. Making telephone calls 11. Taking medications 12. Doing work around the house or garden 13. Managing money, such as paying bills and keeping track of expenses 14. Leaving the house independently and accessing transportation services 15. Doing personal laundry 96. None of these

References

Lawton, M.P., & Brody, E.M. (1969). Assessment of older people: Self-maintaining and instrumental activities of daily living. *The Gerontologist*, 9(3), 179-186.

Nicholas, S., Huppert, F., McWilliams, B., & Melzer, D. (2003). Health, Wealth and Lifestyles of the Older Population in England: the 2002 English Longitudinal Study of Ageing.

4. Self-perceived Health – US Version (SPHUS) and EU Version (SPHEU)

Definition

sphus and *spheu* measure self-perceived health with a single item. Respondents rate their present general health on a five point Likert scale. The difference between the European and the US version is the range of response options. The answer categories in the European version (*spheu*) range between "very good" and "very poor". The answer categories in the US version (*sphus*), which are based on the SF-36 questionnaire (Ware & Gandek, 1998), range between "excellent" and "poor".

Operationalisation in SHARE

In Wave 1, SHARE contains both versions. Respondents answered the respective question either at the beginning or at the end of the PH module. The generated variables *sphus* and *sphus2* as well as *spheu* and *spheu2* are stored in the gv_health module. *sphus2* and *spheu2* are dichotomised versions with 0 indicating "good or very good health" and 1 "less than good health". From Wave 2 onwards, SHARE contains only the US version. For a comparison between the European and the US version, please see Jürges et al. (2008).

Table 10: Measures of self-perceived health in SHARE

Wave 1	Waves 2, 4, 5, 6, 7, 8, 9	Wave 3	SCS1*	SCS2*	Question text	Response options
PH002 PH052					Would you say your health is…	1. Very good 2. Good 3. Fair 4. Bad 5. Very bad
PH003 PH053	PH003	sl_ph003		CAPH003_	Would you say your health is…	1. Excellent 2. Very good 3. Good 4. Fair 5. Poor
			CAPH003_		Before the outbreak of Corona, would you say your health was excellent, very good, good, fair, or poor?	1. Excellent 2. Very good 3. Good 4. Fair 5. Poor

* SCS = SHARE Corona Survey

References

Ware, J. E., & Gandek, B. (1998). Overview of the SF-36 health survey and the international quality of life assessment (IQOLA) project. *Journal of clinical epidemiology*, *51*(11), 903-912.

Jürges, H., Avendano, M. & Mackenbach, J.P. (2008). Are different measures of self-rated health comparable? An assessment in five European countries. *Eur J Epidemiol 23*, 773-781.

5. Multi-Item Indicator Pain

Definition

Chronic pain is a public health concern that affects between 20 and 30 percent of the population of Western countries (Dansie & Turk, 2013). Usually, pain is regarded as chronic when it lasts or recurs for more than 3 to 6 months (Merskey & Bogduk, 1994).

Operationalisation in SHARE

In SHARE, pain perception is measured by four items in Wave 5 and by three items in Waves 6, 7, 8, and 9.

Table 11: Measures of pain perception in SHARE

Wave 5	Waves 6, 7, 8, 9	Question text	Response options
PH084	PH084	Are you troubled with pain?	1. Yes 5. No
PH085	PH085	How bad is the pain most of the time? Is it…	1. Mild 3. Moderate 5. Severe
PH087	PH087	Look at card ^SHOWCARD_ID. In which parts of the body do you feel pain? [Code all that apply]	1. Back 2. Hips 3. Knees 4. Other joints 5. Mouth/Teeth 6. Other parts of the body, but not joints 7. All over
PH088		You have just told me that you are bothered by pain in your back, knees, hips or another joint. Have you been bothered for the past six months at least by any of these joint pains?	1. Yes 5. No

References

Dansie, E. J., & Turk, D. C. (2013). Assessment of patients with chronic pain. *British Journal of Anaesthesia*, *111*(1), 19–25.

Merskey, H. & Bogduk, N. (1994) *Classification of chronic pain*. 2nd ed. Seattle: IASP Press.

6. Body Mass Index (BMI)

Definition

The Body Mass Index is a measure for evaluating body weight in relation to body height (Quetelet, 1832). It is defined as the mass divided by the square of the height, universally expressed in units of kg/m².

Operationalisation in SHARE

SHARE provides the generated variables *bmi* and *bmi2* (BMI categorised) in the gv_health module. The values of *bmi* are derived from the variables *ph012_* (weight) and *ph013_* (height) and calculated with the following formula: BMI = (*ph012_* / (*ph013_*)²) * 10000.

The *bmi2* variable classifies the variable *bmi* into the standard categories determined by the World Health Organization (WHO, 1995) "underweight" (< 18.5), "normal" (18.5-24.9), "overweight" (25-29.9) and "obese" (> 30).

Table 12: Relevant variables for BMI

Waves 1, 2, 4, 5, 6, 7, 8, 9	Question text	Response options
PH012	Approximately how much do you weigh?	Weight in kilos
PH013	How tall are you?	Length in centimetres

References

Quetelet, A. (1832). Recherches sur le poids de l'homme aux différents âges. *Nouveaux Memoires de l'Academie Royale des Sciences et Belles-Lettres de Bruxelles*, 1-83.

WHO (1995). Physical status: the use and interpretation of anthropometry. Report of a WHO Expert Committee. *WHO Technical Report Series 854.* Geneva: World Health Organization.

7. Grip Strength (GS)

Definition

Grip strength predicts disability, morbidity, frailty and mortality (Andersen-Ranberg et al., 2009). It is used as an indicator for overall health and usually declines with age. Grip strength differs by gender, height and weight. Within SHARE, grip strength is measured by using a handheld dynamometer on each hand (Smedley, S Dynamometer, TTM, Tokyo, 100 kg). Two measurements are taken on each hand, alternating between the hands.

Operationalisation in SHARE

SHARE measures the grip strength twice for each hand. The generated variable *maxgrip* is part of the gv_health module. It contains the maximum value of the grip strength measurements of both hands where only measures from one hand are considered if there are two valid values for that hand and the difference between the two measures does not exceed 20 kg.

Table 13: Measuring grip strength in SHARE

Waves 1, 2, 3, 4, 5, 6, 7, 8, 9	Question text	Response options
GS006	Left hand, first measurement.	Between 0 and 100, in kg
GS007	Left hand, second measurement.	Between 0 and 100, in kg
GS008	Right hand, first measurement.	Between 0 and 100, in kg
GS009	Right hand, second measurement.	Between 0 and 100, in kg

References

Andersen-Ranberg, K., Petersen, I., Frederiksen, H., Mackenbach, J. P., & Christensen, K. (2009). Cross-national differences in grip strength among 50+ year-old Europeans: results from the SHARE study. *European Journal of Ageing*, *6*(3), 227-236.

8. Walking Speed

Definition

Walking speed and steadiness predicts disability and mortality (Zaninotto et al., 2013). It is used as an indicator for overall health and usually declines with age.

Operationalisation in SHARE

In SHARE Waves 1 and 2, walking speed was assessed by measuring the time (in seconds) it takes for a respondent to walk a distance of two and a half meters. Respondents who need more than 0.54 seconds and less than 30 seconds are included. Walking speed is measured twice per respondent and only among respondents aged 75 years or older.

SHARE provides *wspeed* and *wspeed2* as generated variables in the gv_health module. *wspeed* contains the average speed of the two tests. *wspeed2* reclassifies *wspeed* in two categories: 0 "walking speed > 0.4 meters/second" and 1 "walking speed ≤ 0.4 meters/second".

Table 14: Measures of walking speed in SHARE

Waves 1, 2	Question text	Response options
WS010	Result of first trial	1. Completed successfully 2. Attempted but unable to complete 3. Stopped by the interviewer because of safety reasons 4. Not attempted, respondent felt it would be unsafe 5. Participant unable to understand instructions 6. Respondent refused
WS011	Time of the first walking speed test	Time recorded in seconds in two decimal places
WS012	Result of second trail	1. Completed successfully 2. Attempted but unable to complete 3. Stopped by the interviewer because of safety reasons 4. Not attempted, respondent felt it would be unsafe 5. Participant unable to understand instructions 6. Respondent refused
WS013	Time of second walking speed test	Time recorded in seconds in two decimal places

References

Zaninotto, P., Sacker, A., & Head, J. (2013). Relationship between wealth and age trajectories of walking speed among older adults: evidence from the English Longitudinal Study of Ageing. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences (68),* 1525-1531.

9. Peak Flow

Definition

The peak expiratory flow test or "breathing test" measures the respondent's maximal expiratory air flow in litres per minute (Ayres& Turpin, 2013). The respondent's ability to breath out air is measured by a Mini-Wright peak flow meter (Wright, 1978), a small, hand-held device with a disposable mouthpiece placed on it. The respondents take a breath as deep as possible, place the mouthpiece of the peak flow meter in their mouth and blow out as hard and as fast as possible.

Operationalisation in SHARE

In SHARE Waves 2, 4, and 6, two measurements of the respondent's airflow were taken. The higher the value shown on the peak flow meter scale the less constricted are the respondent's airways. Please note that value 993 indicates that the respondent tried but was unable to execute the test and value 999 that the respondent chose not to participate (see table 15).

Table 15: Measuring expiratory lung capacity

Waves 2, 4, 6	Question text	Response options
PF003	Value first measurement	30 – if less than 60 890 – if past last tick 993 – if respondent tried but was unable 999 – if respondent chose not to do it
PF004	Value second measurement	30 – if less than 60 890 – if past last tick 993 – if respondent tried but was unable 999 – if respondent chose not to do it

References

Ayres, J. G., & Turpin, P. J. (2013). *Peak flow measurement: an illustrated guide*. Springer.
Wright, B. M. (1978). A miniature Wright peak-flow meter. *British Medical Journal*, *2*(6152), 1627-1628.

10. Chair Stand Test

Definition

The chair stand test or "chair-rising test" measures strength and endurance in the lower body as well as speed and coordination. The performance in this test predicts mobility (Nevitt et al., 1989).

Operationalisation in SHARE

In SHARE Waves 2 and 5, the chair stand test is measured one time per respondent. The respondents fold their arms across their chest and stand up from a sitting position on a chair and sit down again for five times. The time (in seconds) the respondents need to stand up for five times without using their hands, is measured by a stop watch. Please note that in Wave 2 the chair stand test was only conducted for respondents aged 75 and below. In Wave 5 all respondents – irrespective of age – were asked to perform the test.

Table 16: Chair stand measure in SHARE

Waves 2, 5	Question text	Response options
CS008	Please stand up straight as quickly as you can, without stopping in between.After standing up each time, sit down and then stand up again. Keep your arms folded across your chest. I'll be timing you with a stopwatch. When I say "Ready, Stand" I will begin timing you.	0-60 – Time in seconds used for five stands 99 – if respondent failed to complete five stands in one minute

References

Nevitt, M. C., Cummings, S. R., Kidd, S., & Black, D. (1989). Risk factors for recurrent nonsyncopal falls: a prospective study. *Jama*, *261*(18), 2663-2668.

III.   Cognitive functioning measures[2]

1.   Temporal orientation

Definition

It reflects the respondents' orientation to date, month, year and day of week, which is part of many cognitive testing batteries, such as the Mini-Mental State Examination test (MMSE) (Folstein et al., 1975).

Operationalisation in SHARE

The respondents' orientation to date is measured by four items in SHARE. SHARE provides the variable *orienti* as generated variable in the gv_health module. It is based on *cf003_*, *cf004_*, *cf005_* and *cf006_*. The score ranges from 0 to 4: the higher the score, the better oriented the respondent is ranked.

Table 17: Measuring orientation to date, month, year and day of week

Waves 1, 2, 4, 5, 6, 7, 8, 9	Question text	Response options
CF003	First, I am going to ask about today's date. Which day of the month is it?	1. Given correctly 5. Given incorrectly/doesn't know
CF004	Which month is it?	1. Month given correctly 2. Month given incorrectly/doesn't know month
CF005	Which year is it?	1. Year given correctly 2. Year given incorrectly/doesn't know year
CF006	Can you tell me what day of the week it is?	1. Day of week given correctly 2. Day of week given incorrectly/doesn't know day

References

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[2] Additional information on measures of cognitive functioning in SHARE is available in:
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- Wagner, M., & Douhou, C. (2021). Cognition in Wave 8. In S. Bergmann & A. Börsch-Supan (Eds.), SHARE Wave 8 Methodology: Collecting cross-national survey data in times of COVID-19 (pp. 43-45). Munich: MEA, Max Planck Institute for Social Law and Social Policy, ISBN 978-3-00-069877-4

2. Numeracy

Definition

Numeracy is a measure of the respondents' mathematical performance.

Operationalisation in SHARE

The respondents' mathematical performance is measured by nine items in SHARE. Five items measure subtraction calculation skills, concentration and memory (serial seven test), and four items measure percentage calculation skills. The result score contains the number of correct answers and ranges from 0 to 5: the higher the score, the better the respondent's mathematical performance. For Waves 1, 2, 4 and 5, SHARE provides the variable *numeracy* as generated variable in the gv_health module containing a test for percentage calculation. From Wave 4 onwards, SHARE additionally provides the variable *numeracy2* as generated variable measuring the result of the serial seven test mathematical performance via subtraction. The serial seven test is part of the Mini-Mental State Examination test (MMSE) (Folstein et al., 1975), Telephone Interview of Cognitive Status-Modified (TICS-M) (Brandt et al., 1988) and asked in the Health and Retirement Study (HRS) and the English Longitudinal Study of Ageing (ELSA).

Table 18: Measuring mathematical performance: subtraction (serial seven test)

Waves 4, 5, 6, 7, 8, 9	Question text	Response options
CF108	Now let's try some subtraction of numbers. One hundred minus 7 equals what?	Open answer
CF109	And 7 from that	Open answer
CF110	And 7 from that	Open answer
CF111	And 7 from that	Open answer
CF112	And 7 from that	Open answer

Table 19: Measuring mathematical performance: percentage

Waves 1, 2, 4, 5, 6, 7, 8, 9	Question text	Response options (not read out by interviewer)
CF012	If the chance of getting a disease is 10 per cent, how many people out of 1,000 (one thousand) would be expected to get the disease?	1. 100 2. 10 3. 90 4. 900 97. Other answer
CF013	In a sale, a shop is selling all items at half price. Before the sale, a sofa costs 300 [currency]. How much will it cost in the sale?	1. 150 2. 600 97. Other answer
CF014	A second hand car dealer is selling a car for 6,000 [currency]. This is two-thirds of what it costs new. How much did the car cost new?	1. 9,000 2. 4,000 3. 8,000 4. 12,000 5. 18,000

		97. Other answer
CF015	Let's say you have 2000 [currency] in a savings account. The account earns ten per cent interest each year. How much would you have in the account at the end of two years?	1. 2420
		2. 2020
		3. 2040
		4. 2100
		5. 2200
		6. 2400
		97. Other answer

References

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Folstein, M. F., Folstein, S. E., & McHugh, P. R. (1975). "Mini-mental state": a practical method for grading the cognitive state of patients for the clinician. *Journal of psychiatric research, 12*(3), 189-198.

3. 10-words recall test

Definition

The 10-words recall test is used to assess cognitive impairment and dementia (Harris and Dowson, 1982). Recall tests are tests of memory performance in which the respondents are presented with stimuli that they are asked to remember after a delay time (Goldstein, 2011). The format of the 10-words recall test used in SHARE is based on the Telephone Interview of Cognitive Status-Modified (TICS-M) (Brandt et al., 1988).

Operationalisation in SHARE

The test consists of verbal registration and recall of a list of 10 words. The respondent listens to a list of words once and gets tested two times, once immediately after the encoding phase (first trial) and once after a delay time (delayed recall). The total scores of the two tests range from 0 to 10 and correspond to the number of words the respondent is able to recall.

In Waves 1 and 2, all respondents get the same list of words for verbal registration and recall. From Wave 4 onwards, there are different lists that are assigned randomly to the respondents. Since then, SHARE provides the two 10-words list learning variables from the immediate recall (*cf008tot*) and the delayed recall (*cf016tot*) as generated variables in the gv_health module.

Table 20: Assessing cognitive impairment and dementia

Waves 1, 2	Waves 4, 5, 6, 7, 8, 9	Question text	Response options
CF007	CF007	Now, I am going to read a list of words from my computer screen. We have purposely made the list long so it will be difficult for anyone to recall all the words. Most people recall just a few. Please listen carefully, as the set of words cannot be repeated. When I have finished, I will ask you to recall aloud as many of the words as you can, in any order. Is this clear?	1. Continue
CF008		Now please tell me all the words you can recall.	1. Butter 2. Arm 3. Letter 4. Queen 5. Ticket 6. Grass 7. Corner 8. Stone 9. Book 10. Stick 96. None of these
	CF104	Now please tell me all the words you can recall.	1. Hotel 2. River 3. Tree 4. Skin 5. Gold 6. Market 7. Paper 8. Child 9. King 10. Book 96. None of these
	CF105	Now please tell me all the words you can recall.	1. Sky 2. Ocean 3. Flag 4. Dollar 5. Wife 6. Machine 7. Home 8. Earth 9. College 10. Butter 96. None of these

Waves 1, 2	Waves 4, 5, 6, 7, 8, 9	Question text	Response options
	CF106	Now please tell me all the words you can recall.	1. Woman 2. Rock 3. Blood 4. Corner 5. Shoes 6. Letter 7. Girl 8. House 9. Valley 10. Engine 96. None of these
	CF107	Now please tell me all the words you can recall.	1. Water 2. Church 3. Doctor 4. Palace 5. Fire 6. Garden 7. Sea 8. Village 9. Baby 10. Table 96. None of these
CF016		A little while ago, I read you a list of words and you repeated the ones you could remember. Please tell me any of the words that you can remember now?	1. Butter 2. Arm 3. Letter 4. Queen 5. Ticket 6. Grass 7. Corner 8. Stone 9. Book 10. Stick 96. None of these
	CF113	A little while ago, I read you a list of words and you repeated the ones you could remember. Please tell me any of the words that you can remember now?	1. Hotel 2. River 3. Tree 4. Skin 5. Gold 6. Market 7. Paper 8. Child 9. King 10. Book 96. None of these

Waves 1, 2	Waves 4, 5, 6, 7, 8, 9	Question text	Response options
	CF114	A little while ago, I read you a list of words and you repeated the ones you could remember. Please tell me any of the words that you can remember now?	1. Sky 2. Ocean 3. Flag 4. Dollar 5. Wife 6. Machine 7. Home 8. Earth 9. College 10. Butter 96. None of these
	CF115	A little while ago, I read you a list of words and you repeated the ones you could remember. Please tell me any of the words that you can remember now?	1. Woman 2. Rock 3. Blood 4. Corner 5. Shoes 6. Letter 7. Girl 8. House 9. Valley 10. Engine 96. None of these
	CF116	A little while ago, I read you a list of words and you repeated the ones you could remember. Please tell me any of the words that you can remember now?	1. Water 2. Church 3. Doctor 4. Palace 5. Fire 6. Garden 7. Sea 8. Village 9. Baby 10. Table 96. None of these

References

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Goldstein, B. (2011). *Cognitive Psychology: Connecting Mind, Research, and Everyday Experience (3rd ed.).* Belmont, CA: Wadsworth.

Harris, S. J., & Dowson, J. H. (1982). Recall of a 10-word list in the assessment of dementia in the elderly. *The British Journal of Psychiatry*, *141*, 524-527.

4. Verbal fluency

Definition

Verbal fluency is a test of executive function and thereby an indicator of cognitive impairment, especially in old age (Rosen, 1980). "Animals" is the most popular semantic category due to the advantage that it is clear enough across languages and cultures (Ardila et al., 2006; Henley, 1969).

Operationalisation in SHARE

Verbal fluency is measured by one item in SHARE, the category or semantic verbal fluency test. Respondents have to name as many words as possible from the semantic category 'animals' in 60 seconds. As performance measure the total number of correct words is counted and stored in variable *cf010_* .

Table 21: Measuring cognitive impairment

Waves 1, 2, 4, 5, 6, 7, 8, 9	Question text	Response options
CF009	Now I would like you to name as many different animals as you can think of. You have one minute to do this. Ready, go.	1. Continue
CF010	Verbal fluency score	0 - 100

References

Ardila, A., Ostrosky-Solís, F., & Bernal, B. (2006). Cognitive testing toward the future: The example of Semantic Verbal Fluency (ANIMALS). *International Journal of Psychology*, *41*(5), 324-332.

Henley, N. M. (1969). A psychological study of the semantics of animal terms. *Journal of Verbal Learning and Verbal Behaviour*, *8*(2), 176-184.

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5. Self-rated Memory Change

Definition

With the self-report of memory change, problems concerning memory functions can be detected. People expressing subjective memory complaints have a higher risk of developing Alzheimer's disease (Reid & MacLullich, 2006). Memory complaints are also associated with mental health difficulties, such as anxiety disorders or depression (e.g. Kindermann & Brown, 1997).

Operationalisation in SHARE

The self-rated memory change is measured by one item in SHARE. It is asked to longitudinal respondents who are at least 60 years of age. The item is taken from and comparable to the Health and Retirement Study (HRS) and the English Longitudinal Study of Ageing (ELSA). The respondents rate the development of the performance of their memories compared to the time of the last interview. They choose between three response options. Their answer is stored in the variable *cf820.*

Table 22: Measuring self-rated memory change

Waves 8, 9	Question text	Response options
CF820	Compared to ^FLLastInterviewMonthYear;, would you say your memory is better now, about the same, or worse now than it was then?	1. Better 2. Same 3. Worse

References

Kindermann, S. S., & Brown, G. G. (1997). Depression and memory in the elderly: A meta-analysis. *Journal of Clinical and Experimental Neuropsychology, 19*(5), 625–642. https://doi.org/10.1080/01688639708403749

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6. Backward Count

Definition

The backward count is a speed test measuring processing speed and attention. In normal aging, there will be subtle or no decline, whereas for people with Alzheimer's disease, there will be strong decline (see, e.g. Driscoll et al., 2006). The test stems from the TICS-M questionnaire (Brandt et al., 1988) and part of the Health and Retirement Study (HRS) and the English Longitudinal Study of Ageing (ELSA).

Operationalisation in SHARE

The respondent is asked to count backwards as quickly as possible from number 20. The interviewer stops by signal after the respondent arrives at 10. If the respondent makes no mistakes, he/she passes this test correctly. The result is stored in variable *cf823*. If the respondent asks for a second trial, the interviewer allows for it. The result is stored in variable *cf826*.

Table 23: Measuring the backward count performance

Waves 8, 9	Question text	Response options
CF821	For this next question, please try to count backward as quickly as you can from the number I will give you. I will tell you when to stop. Please start with: 20.	1. Continue
CF823		1. Correct 5. Incorrect 6. Wants to start over
CF824	Let's try again. The number to count backward from is: 20.	1. Continue
CF826		1. Correct 5. Incorrect

References

Brandt, J., Spencer, M., & Folstein, M. (1988). The telephone interview for cognitive status. Neuropsychiatry, Neuropsychology and Behavioral Neurology, 1(2), 111–117.

Driscoll, I., Resnick, S. M., Troncoso, J. C., An, Y., O'Brien, R., & Zonderman A. B. (2006). Impact of Alzheimer's pathology on cognitive trajectories in nondemented elderly. *Annals of Neurology, 60(*6), 688–695. https://doi. org/10.1002/ana.21031

7. Object Naming Test

Definition

With the object naming test semantic memory is measured. In three simple questions the respondents must identify the correct object that is asked for. In pretests it was made sure that the questions cover semantic memory rather than specific knowledge which could vary between countries. For normal aging brains no decline regarding the semantic memory is expected, whereas in patients with Alzheimer's disease one can see a strong decline (see, for example, Petersen et al., 2010; Spaan et al., 2003). In line with these observations, the test is only given to respondents older than 65 and is supposed to detect early stages of cognitive decline. The questions used in the survey derive from the TICS-M questionnaire (Brandt et al., 1988) and the CSI-D questionnaire (Prince et al., 2011).

Operationalisation in SHARE

As cultural differences regarding correct answers to the questions can be observed, interviewers were to accept answers that are correct in the corresponding country or region. E.g., in some countries paper knives other than scissors are a commonly used tool to cut paper with (see cf827). In Table 24 the coding of correct and incorrect answers is depicted.

Table 24: Measuring semantic memory

Waves 8, 9	Question text	Response options
CF827	Now I'm going to ask you for the names of some people and things. What do people usually use to cut paper?	1. Correctly described (scissors, shears, etc.) 5. Not correct
CF828	What do you call the kind of prickly plant that grows in the desert?	1. Correctly described (cactus or name of kind of cactus) 5. Not correct
CF829	Where do people usually go to buy medicine?	1. Correctly described (pharmacist, chemist, etc.) 5. Not correct

References

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8. Drawing Exercises

Definition

Decline in visuospatial skills presents one indicator for Alzheimer's disease. Compared to a normal aging brain, stronger declines in visuospatial performance can be detected (see, for example, Iachini et al., 2009). To assess these skills, three drawing exercises were included in SHARE. Longitudinal respondents aged 60 or older were asked (1) to copy two intersecting infinity loops, (2) to copy a three-dimensional cube and (3) to draw a clock face with numbers and place the hands correctly at ten past five. The drawing exercise was derived from the Addenbrooke's Cognitive Examination-III battery (ACE-III, Hsieh et al., 2013).

Operationalisation in SHARE

The tests were slightly adapted to make them applicable in a CAPI mode setting with immediate rating by the interviewers (Wagner & Douhou, 2021). Most importantly, instructions for consistent ratings are given as part of the interviewer instructions together with the question text. On a showcard, a picture of two intersecting infinity loops (1) and a tree-dimensional cube (2) are displayed, which the respondent is asked to copy into a blank page of the recording booklet. The clock draw (3) is done without visual help. Respondents are allowed to correct mistakes in their drawings or go for a second try for each of the exercises. It is noted when respondents are not able to work on the tasks due to physical reasons like trembling hands or poor eyesight instead of rating answers as incorrect. In Table 25, the operationalization of the drawing exercises is depicted. With two and three rating options, respectively, the rating of the infinity loops (1) and the cube exercise (2) is straightforward and the results are stored in variables *cf830_* and *cf831_*. In the ACE-III battery, a correctly copied infinity loop counts 1 point, a fully correct wire cube 2 points (a partially correct wire cube is 1 point).

Table 25: Measuring the intersecting infinity loops (1) and the tree-dimensional cube (2)

Waves 8, 9	Question text	Response options
CF830 (*draw intersecting infinity loops*)	Please look at card ^SHOWCARD_ID. Next I want you to please copy this diagram.	1. Correct copy 5. Incorrect copy 7. Drawing is impossible due to physical reasons (e.g. trembling hands, poor eyesight)
CF831 (*draw cube*)	Please look at card ^SHOWCARD_ID. Now, please copy this drawing.	1. Fully correct copy. The cube has 12 lines even if the proportions are not perfect 2. Partially correct copy. The cube has fewer than 12 lines but a general cube shape is maintained 5. Incorrect copy 7. Drawing is impossible due to physical reasons (e.g. trembling hands, poor eyesight)

The clock face exercise (3) is more complex and is split for the respondents into two parts. First, they are asked to draw a clock face with numbers (but to leave the hands; question *cf832*). If at least a reasonable circle is visible, the respondents are asked to put the hands at ten past five. The instructions on how to rate the respondent's drawing are displayed in Figure 1.

Fig. 1. Flow and rating of the clock drawing exercise
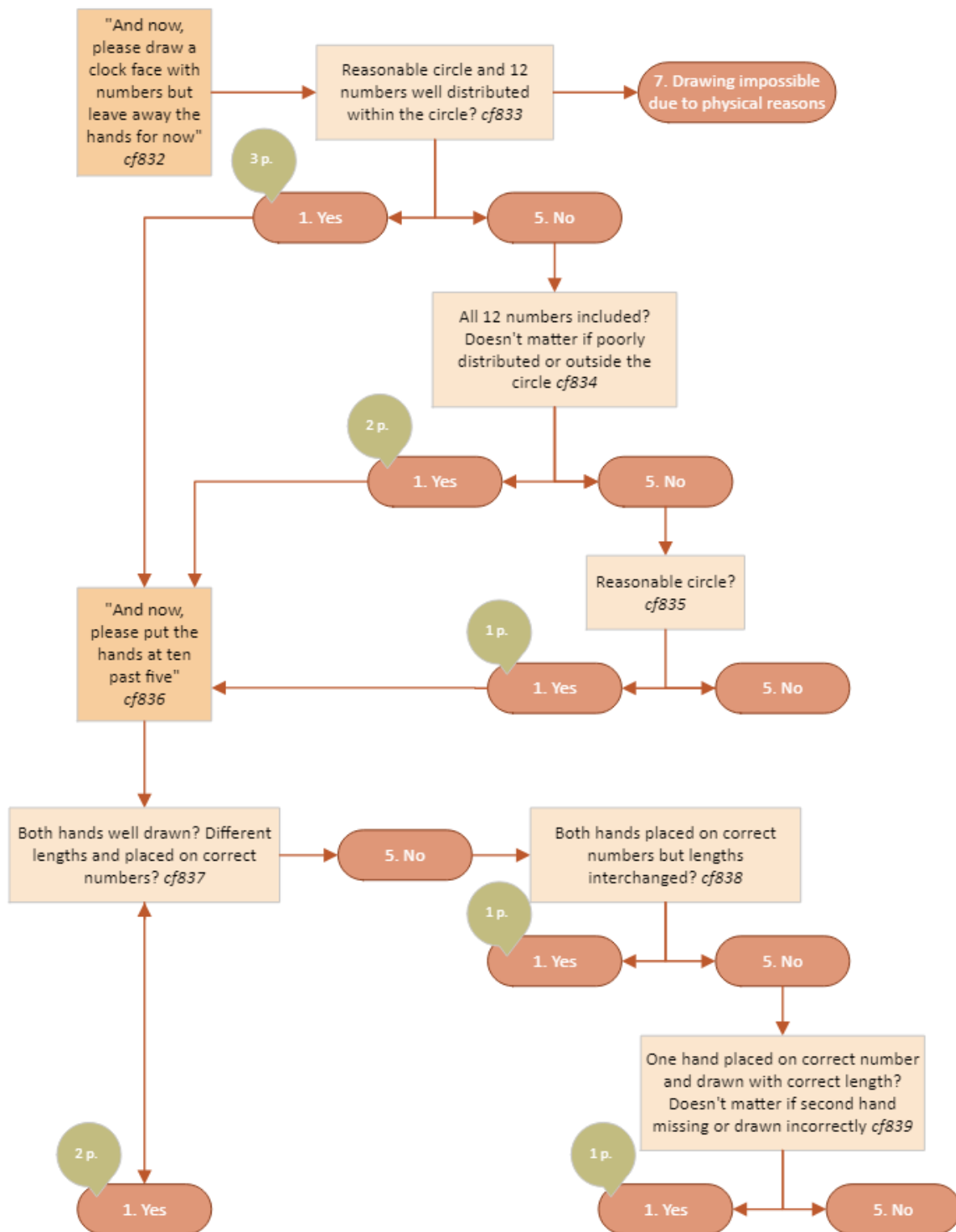
In the ACE-III battery, the correct drawing of a circle counts as 1 point, up to 2 points are given for placing the numbers correctly (1 point if partially correct), and again up to 2 points are given for placing the hands correctly at ten past five (1 point if partially correct: either lengths of hands interchanged or only one correct hand). In total, 5 points are possible for the clock draw exercise.

References

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9. Proxy Cognition Questions

Definition

Letting proxies (or informants) rate the cognitive functioning is an important tool in multidimensional diagnostics of mild cognitive impairment and dementia in clinical settings (see, for example, Mackinnon & Mulligan, 1998). Therefore, the respondents' past and present cognitive functioning is assessed by considering their memory and other mental abilities (like temporal orientation, learning, decision-making and reasoning) as well as problematic behaviour (like wandering off). The questions used are adaptations of the short form of the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE; Jorm, 1994, 2004). For SHARE, the respective time frame for rating change in mental abilities was adapted from 10 to two years. Furthermore, the response scale was reduced from five to three points (Improved – Not much changed – Gotten worse) and a response option "Does not apply; R doesn't do activity" was added. For more information, see Wagner and Douhou (2021). In the beginning of the section interviewers are motivated conduct the questions without the presence of the respondents, as sometimes they tend to influence the proxies or give the answers themselves. Therefore, respondents are kindly asked to leave the room to prevent biases like these in the proxies' answers.

Operationalisation in SHARE

Firstly, the proxy is asked to rate the respondent's current memory functioning. In the following, the proxy assesses the respondent's change in memory functioning comparing the current state with the one from two years ago on a general level and on other more specific dimensions regarding memory and other mental abilities. Lastly, the proxy is asked for the occurrence of problematic behavior related to cognitive decline (e.g. wandering off without returning). In Table 26 a list of all questions the proxies are asked about the respondents'

cognitive functioning is displayed. At the end the interviewers checked who was present during this section in addition to the proxy (*cf855_*).

Table 26: Assessing the respondent's cognition by a proxy

Waves 8, 9	Question text	Response options
CF841	Now I would like to ask some questions to you (as the one who answers on behalf of the Respondent). Part of this study is concerned with people's memory, and ability to think about things. First, how would you rate ^FLRespondentName;'s memory at the present time? Would you say it is excellent, very good, good, fair or poor?	1. Excellent 2. Very good 3. Good 4. Fair 5. Poor
CF842	Compared to two years ago, would you say ^FLRespondentName;'s memory is better now, about the same, or worse now than it was then?	1. Better 2. Same 3. Worse
CF843	Compared with two years ago, how is ^FLRespondentName; at: Remembering things about family and friends, such as occupations, birthdays, and addresses. Has this improved, not much changed, or gotten worse?	1. Improved 2. Not much changed 3. Gotten worse 4. Does not apply; R doesn't do activity
CF844	Compared with two years ago, how is ^FLRespondentName; at: Remembering things that have happened recently? (Has this improved, not much changed, or gotten worse?)	1. Improved 2. Not much changed 3. Gotten worse 4. Does not apply; R doesn't do activity
CF845	Recalling conversations a few days later? (Has this improved, not much changed, or gotten worse?)	1. Improved 2. Not much changed 3. Gotten worse 4. Does not apply; R doesn't do activity
CF846	Compared with two years ago, how is ^FLRespondentName; at: Remembering what day and month it is? (Has this improved, not much changed, or gotten worse?)	1. Improved 2. Not much changed 3. Gotten worse 4. Does not apply; R doesn't do activity
CF847	Compared with two years ago, how is ^FLRespondentName; at: Learning new things in general? (Has this improved, not much changed, or gotten worse?)	1. Improved 2. Not much changed 3. Gotten worse 4. Does not apply; R doesn't do activity
CF848	Compared with two years ago, how is ^FLRespondentName; at: Handling money for shopping? (Has this improved, not much changed, or gotten worse?)	1. Improved 2. Not much changed 3. Gotten worse 4. Does not apply; R doesn't do activity

CF849	Compared with two years ago, how is ^FLRespondentName; at: Handling financial matters, that is, [his/ her] pension or dealing with the bank (Has this improved, not much changed, or gotten worse?)	1. Improved 2. Not much changed 3. Gotten worse 4. Does not apply; R doesn't do activity
CF850	Now, (thinking about some current behaviors,) does [he/ she] ever get lost in a familiar environment?	1. Yes 5. No
CF851	Does [he/ she] ever wander off and not return by [himself/ herself]?	1. Yes 5. No
CF852	Can [he/ she] be left alone for an hour or so?	1. Yes 5. No
CF853	Does [he/ she] ever see or hear things that are not really there?	1. Yes 5. No

References

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IV. Occupational measures

1. Effort-Reward Imbalance (ERI) questionnaire

Definition

The Effort-Reward Imbalance Model (Siegrist, 1996) focuses on perceived reciprocity in working life and claims that an imbalance between costs and gains, i.e. high effort/ low reward, causes distress. The questionnaire developed on the basis of the ERI Model (Siegrist et al., 2004), measures the respondents' efforts and received rewards in the job context. To calculate the Effort-Reward ratio, the effort score is put in the numerator and the reward score in the denominator. This ratio is multiplied with a correction factor, adjusting for the different numbers of items of the two scales (effort/ reward * correction factor) (e.g. Hoven et al., 2015; Siegrist et al., 2014).

Operationalisation in SHARE

7 out of the 23 items were selected based on psychometric properties and are presented in SHARE as statements which respondents assess on a four-point Likert scale (from "strongly agree" to "strongly disagree").

Table 27: Measuring the respondents' efforts and received rewards in the job context

Waves 1, 2, 4, 5, 6, 7, 8, 9	Question text
EP027	My job is physically demanding.
EP028	I am under constant time pressure due to a heavy workload.
EP031	I receive adequate support in difficult situations.
EP032	I receive the recognition I deserve for my work.
EP033	Considering all my efforts and achievements, my salary is/ my earnings are adequate.
EP034	My job promotion prospects/ prospects for job advancement/ job promotion prospects are poor.
EP035	My job security is poor.

References

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2. International Standard Classification of Occupations (ISCO)

Definition

The International Standard Classification of Occupations (International Labour Organization, 2004) is a socio-economic classification system which organizes occupations into groups that allow for international comparisons. Adjusted and improved ISCO versions are adopted every few years.

Operationalisation in SHARE

In SHARE, ISCO-88 (adopted in 1988) and ISCO-08 (adopted in 2008) are used. In Wave 1, ISCO-88 is used to code respondents' answers about their first and second job, their last job, their former partner's job, their mother's job and their father's job. The answers are given on an open question format without response options and get encoded afterwards at a 4-digit level using the major, sub-major, minor, and unit groups of the ISCO-88. In addition, there are codes for special values. SHARE provides the variables of the respondent's first job (isco_1job), the respondent's second job (isco_2job), the respondent's last job (isco_ljob), the former partner's job (isco_exp), the mother's job (isco_mo) and the father's job (isco_fa) as generated variables (see gv_isco module).

In Waves 2, 4 and 5, ISCO-88 is used to code respondents' answers about their current main job and their last job using the ten major groups of the ISCO-88 as response options.

In the SHARELIFE interview of Wave 3, ISCO-88 is used to code respondents' answers about each job the Respondent had throughout his/her life and the household's main breadwinner's job when the respondent was 10 years old using the ten major groups of the ISCO-88 as response options.

From Wave 6 onwards, a job coder tool is used to automatically encode the job title on a 4-digit level using the major, sub-major, minor, and unit groups of the ISCO-08. In Waves 6, 8, and 9, respondents' answers about their first job, their last job, their former partner's job, their mother's job and their father's job are coded. In Wave 7, respondents who get the regular panel interview, ISCO-08 codes about their current main job are coded. For those who get the life histories interview, each job spell and the household's main breadwinner's job when the respondent was 10 years old are coded.

Table 28: Classification of occupations

Wave 1	Question text
EP016_1	What is your main job called? Please give the exact name or title.
EP16_2	What is your secondary job called? Please give the exact name or title.
EP052	Last job – What was your job called? Please give the exact name or title.
DN025	What is the most recent job your ex-/late husband/wife had? Please give the exact description.
DN029_1	What is or was the last job your mother had? Please give the exact description.
DN029_2	What is or was the last job your father had? Please give the exact description.

Waves 2, 4, 5	Question text	Response options
EP016	Current main job – Please look at card^ SHOWCARD_ID. What best describes this job?	1. Legislator, senior official or manager 2. Professional 3. Technician or associate professional 4. Clerk 5. Service worker and shop and market sales worker 6. Skilled agricultural or fishery worker 7. Craft and related trades worker 8. Plant and machine operator or assembler 9. Elementary occupation 10. Armed forces
EP052	Last job – Please look at card ^SHOWCARD_ID. What best describes this job?	1. Legislator, senior official or manager 2. Professional 3. Technician or associate professional 4. Clerk 5. Service worker and shop and market sales worker 6. Skilled agricultural or fishery worker 7. Craft and related trades worker 8. Plant and machine operator or assembler 9. Elementary occupation 10. Armed forces

Wave 3	Question text	Response options
RE013	Please look at card ^SHOWCARD_ID. What best describes your job as _____?	1. Legislator, senior official or manager 2. Professional 3. Technician or associate professional 4. Clerk 5. Service worker and shop and market sales worker 6. Skilled agricultural or fishery worker 7. Craft and related trades worker 8. Plant and machine operator or assembler 9. Elementary occupation 10. Armed forces
CS009	Please look at card ^SHOWCARD_ID. What best describes the occupation of the household's main breadwinner when you were 10?	1. Legislator, senior official or manager 2. Professional 3. Technician or associate professional 4. Clerk 5. Service worker and shop and market sales worker 6. Skilled agricultural or fishery worker 7. Craft and related trades worker 8. Plant and machine operator or assembler 9. Elementary occupation 10. Armed forces

Waves 6, 8, 9	Question text	Response options
EP616	Current main job – What is this job called? Please give the exact name or title.	JobCode
EP152	Last job – What is this job called? Please give the exact name or title.	JobCode
EX603	What is the most recent job your husband/wife/ partner had?	JobCode
DN029_1	What was the job your mother/father had when you were about 10 years old? Please give the exact name or title.	JobCode
DN029_2	What was the job your mother/father had when you were about 10 years old? Please give the exact name or title.	JobCode

Wave 7	Question text	Response options
EP616	Current main job – What was this job called? Please give the exact name or title.	JobCode
CC009	What best describes the occupation of the household's main breadwinner when you were 10?	Job Code
RE012	What was your job called? Please give the exact name or title.	JobCode

References

International Labour Organization (2004). *ISCO – International Standard Classification of Occupations.* Retrieved from http://www.ilo.org/public/english/bureau/stat/isco/intro.html

3. Statistical Classification of Economic Activities in the European Community (NACE)

Definition

The Statistical Classification of Economic Activities in the European Community, referred to as NACE (from the French term "Nomenclature statistique des activités économiques dans la Communauté européenne"), is the industry standard classification system used in the European Union.

Operationalisation in SHARE

In SHARE, the NACE Version 4 Rev. 1 1993 (EUROSTAT, 1996) is used in a modified, summarized form to code respondents' answers about the corresponding industry to their job. SHARE is using broader, fewer categories for the industry codes than NACE does and employs some additional general categories and categories for missing values.

NACE uses four hierarchical levels. Level 1 sections get identified by alphabetical letters, level 2 divisions by two-digit numerical codes, level 3 groups by three-digit numerical codes, and level 4 classes by four-digit numerical codes. The levels go from a specific description of the industry to a broad description of the industry numerically downwards.

In Wave 1, the modified NACE codes are used to classify the industry in which the respondent is pursuing his/ her profession. This is split into two string variables, depending on the respondent's employment status (employed or self-employed). The answers are given on an open question format without response options and get identified afterwards with a 2-digit or 4-digit numerical code. SHARE provides the information of the NACE code of the two respective string questions combined in one variable about the respondent's first job (nace_1job), second job (nace_2job) and last job (nace_ljob) as generated variables, and the corresponding English descriptions of the respective NACE codes (ind_1job, ind_2job and ind_ljob) (see gv_isco module).

In Waves 2, 4, 5, 6, 8, and 9 the modified NACE codes are used to classify the respondents' answers about the corresponding industries to their current main job and their last job using 14 broad sections as response options.

In Waves 3 and 7, the modified NACE codes are used to classify the respondents' answers about the corresponding industries to their jobs using 14 broad sections as response options.

Table 29: Classification of industries

Wave 1	Question text
EP018_1	Employed, main job – What kind of business, industry or services do you work in (that is, what do they make or do at the place where you work)?
EP18_2	Employed, secondary job – What kind of business, industry or services do you work in (that is, what do they make or do at the place where you work)?
EP054	Employed, last job – What kind of business, industry or services did you work in (that is, what did they make or do at the place where you worked)?

EP023_1	Self-employed, main job – What kind of business or industry are you in (that is, what do you make or do at the place where you work)?
EP023_2	Self-employed, secondary job – What kind of business or industry are you in (that is, what do you make or do at the place where you work)?
EP060	Self-employed, last job – What kind of business or industry were you in (that is, what did you make or do at the place where you worked)?

Waves 2, 4, 5, 6, 7, 8, 9	Question text	Response options
EP018	Current main job – Please look at card ^SHOWCARD_ID. What kind of business, industry or services do you work in?	1. Agriculture, hunting, forestry, fishing 2. Mining and quarrying 3. Manufacturing 4. Electricity, gas and water supply 5. Construction 6. Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods 7. Hotels and restaurants 8. Transport, storage and communication 9. Financial intermediation 10. Real estate, renting and business activities 11. Public administration and defence; compulsory social security 12. Education 13. Health and social work 14. Other community, social and personal service activities
EP054	Last job – Please look at card ^SHOWCARD_ID. What kind of business, industry or services did you work in?	1. Agriculture, hunting, forestry, fishing 2. Mining and quarrying 3. Manufacturing 4. Electricity, gas and water supply 5. Construction 6. Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods 7. Hotels and restaurants 8. Transport, storage and communication

		9. Financial intermediation 10. Real estate, renting and business activities 11. Public administration and defence; compulsory social security 12. Education 13. Health and social work 14. Other community, social and personal service activities

Waves 3, 7	Question text	Response options
RE014	Please look at card ^SHOWCARD_ID. What kind of business, industry or services were you working in as _____?	1. Agriculture, hunting, forestry, fishing 2. Mining and quarrying 3. Manufacturing 4. Electricity, gas and water supply 5. Construction 6. Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods 7. Hotels and restaurants 8. Transport, storage and communication 9. Financial intermediation 10. Real estate, renting and business activities 11. Public administration and defence; compulsory social security 12. Education 13. Health and social work 14. Other community, social and personal service activities

References

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V. Educational measures

1. International Standard Classification of Education (ISCED)

Definition

The International Standard Classification of Education (ISCED) is a statistical standard coding of education for international and national comparisons, maintained by the UNESCO. The ISCED is organized in hierarchical education levels. SHARE uses country specific codes based on the revised versions ISCED-97 (UNESCO, 2006) and ISCED-11 (UNESCO, 2012). Due to the importance of the duration criteria of educational programs for classification, SHARE also asks about years of education derived from the ISCED.

Operationalisation in SHARE

In Wave 1, the ISCED-97 is used to code the educational level. The response options are country specific categories which are comparable across all SHARE countries. SHARE provides the variables about the education of the respondent (*isced1997_r*), the respondent's former spouse (*isced1997_sp*), the respondent's selected child 1 (*isced1997_c1*), the respondent's selected child 2 (*isced1997_c2*), the respondent's selected child 3 (*isced1997_c3*), the respondent's selected child 4 (isced1997_c4) and the interviewer (*isced1997_iv*) as generated variables in the gv_isced module. The duration of education is derived from the ISCED-97 coding of the aforementioned variables. SHARE provides the respondents' years of education (*iscedy_r*), the respondent's former spouse (*iscedy_sp*), selected child 1 (*iscedy_c1*), selected child 2 (*iscedy_c2*), selected child 3 (*iscedy_c3*), selected child 4 (*iscedy_c4*) and of the interviewer (*iscedy_i*) as generated variables.

In Wave 2, the ISCED-97 is used to code the educational level of the respondent, the respondent's former spouse (divorced, widowed, living separated) and up to four selected children of the respondent. The response options are country specific categories which are comparable across all SHARE countries. Additionally, the years of education of the respondent and his/ her former spouse are asked. SHARE provides the variables about the education of the respondent (*isced1997_r*), the respondent's former spouse (*isced1997_sp*), the respondent's selected child 1 (*isced1997_c1*), the respondent's selected child 2 (*isced1997_c2*), the respondent's selected child 3 (*isced1997_c3*) and the respondent's selected child 4 (*isced1997_c4*) as generated variables in the gv_isced module.

In Wave 4, the ISCED-97 is used to code the educational level of the respondent, the respondent's former spouse (divorced, widowed, living separated) and all the children of the respondent. The response options are country specific categories which are comparable across all SHARE countries. Additionally, the years of education of the respondent and his/ her former spouse are asked. SHARE provides the variables about the education of the respondent (*isced1997_r*), the respondent's former spouse (*isced1997_sp*) and all of the respondent's children 1-20 (*isced1997_c1-c20*) as generated variables (see gv_isced module).

In Waves 5, 6, 7, 8 and 9 both ISCED versions, the ISCED-97 and the ISCED-11, are used to code the educational level of the respondent, the respondent's former spouse (divorced, widowed, living separated) and all the children of the respondent. Except in Wave 7, the educational degree of the respondent's father and mother is asked, too. The response options are country specific categories that are comparable across all SHARE countries. In Wave 5, additionally, the years of education of the respondent and his/ her former spouse are asked.

SHARE provides the variables about the education of the respondent (*isced1997_r*; *isced_2011_r*), the respondent's former spouse (*isced1997_sp*; *isced2001_sp*), all of the respondent's children (*isced1997_c1-c18*; *isced2011_c1-c18*), the respondent's mother (*isced1997_m*; *isced2011_m*) and the respondent's father (*isced1997_f*; *isced2011_f*) as generated variables in the gv_isced module.

Table 30: Measuring education

Wave 1	Wave 2, 4	Wave 5	Wave 6, 8, 9	Wave 7	Question text
DN010	DN010	DN010	DN010	DN010	Please look at card ^SHOWCARD_ID. What is the highest school leaving certificate or school degree that you have obtained?
DN012	DN012	DN012	DN012	DN012	Please look at card ^SHOWCARD_ID. Which degrees of higher education or vocational training do you have?
DN021	DN021	DN021	DN021	DN021	Please look at card ^SHOWCARD_ID. What is the highest school certificate or degree that your ex-/ late husband/ wife has obtained?
DN023	DN023	DN023	DN023	DN023	Please look at card ^SHOWCARD_ID. Which degrees of higher education or vocational training does your ex-/ late husband/wife have?
		DN051_1	DN051_1		Please look at card ^SHOWCARD_ID. What is the highest school certificate or degree that your mother has obtained?
		DN051_2	DN051_2		Please look at card ^SHOWCARD_ID. What is the highest school certificate or degree that your father has obtained?

		DN053_1	DN053_1		Please look at card ^SHOWCARD_ID. Which degrees of higher education or vocational training does your mother have?
		DN053_2	DN053_2		Please look at card ^SHOWCARD_ID. Which degrees of higher education or vocational training does your mother have?
CH017	CH017	CH017	CH017	CH017	Please look at card ^SHOWCARD_ID. What is the highest school leaving certificate or school degree _____ has obtained?
CH018	CH018	CH018	CH018	Ch018	Please look at card ^SHOWCARD_ID. Which degrees of higher education or vocational training does _____ have?
			CH510	CH510	What is the highest school leaving certificate or school degree that _____ has obtained?
			CH513	CH513	Which degrees of higher education or vocational training has _____ obtained?
IV015					Interviewer – What is the highest school certificate or degree that you have obtained?
IV016					Interviewer – Which degrees of higher education or vocational training do you have?
	DN041	DN041	DN041	DN041	How many years have you been in full time education?
	EX102	EX102			How many years has your husband/ wife /partner been in full time education?

References

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VI. Other

1. The 10-item Big Five Inventory (BFI-10)

Definition

Personality is associated with a broad range of life outcomes, including income, health, well-being, marital stability, and social participation (e.g., Roberts et al., 2007). The 10-item Big-Five inventory (BFI-10) was introduced for the first time in SHARE Wave 7 (Levinsky & Litwin, 2019). Introduced by Rammstedt and John (2007), the BFI-10 is today an established personality inventory measuring the "Big Five" personality dimensions with two items each.

Operationalisation in SHARE

In Waves 7, 8, and 9 the variables of BFI-10 are stored in the AC module. Please also recognize the generated variable module *gv_big5*. Routing: In Wave 7, BFI-10 items were asked to all respondents. From wave 8 onwards, they were asked to baseline respondents only, meaning those who have their first regular SHARE interview. This has two consequences: All Respondents who joined SHARE in Wave 7 got the BFI-10 questions twice (they did a SHARELIFE interview in Wave 7 and were thus baseline respondents in wave 8). All longitudinal respondents who omitted Wave 7 but joined again afterwards did not get the BFI-10 items.

Table 31: Measuring BFI-10

Waves 7, 8, 9	Question Text	Response options	Trait	gv_big5
AC705_ AC710_	I see myself as someone who has few artistic interests I see myself as someone who has an active imagination	1. Disagree strongly 2. Disagree a little 3. Neither agree nor disagree 4. Agree a little 5. Agree strongly	Openness	*bfi10_open*
AC703_ AC708_	I see myself as someone who tends to be lazy I see myself as someone who does a thorough job	1. Disagree strongly 2. Disagree a little 3. Neither agree nor disagree 4. Agree a little 5. Agree strongly	Conscientious-ness	*bfi10_consc*
AC701_ AC706_	I see myself as someone who is reserved I see myself as someone who is outgoing, sociable	1. Disagree strongly 2. Disagree a little 3. Neither agree nor disagree 4. Agree a little 5. Agree strongly	Extraversion	*bfi10_extra*
AC702_ AC707_	I see myself as someone who is generally trusting I see myself as someone who tends to find fault with others	1. Disagree strongly 2. Disagree a little 3. Neither agree nor disagree 4. Agree a little 5. Agree strongly	Agreeableness	*bfi10_agree*

AC704_	I see myself as someone who is relaxed, handles stress well	1. Disagree strongly 2. Disagree a little 3. Neither agree nor disagree	Neuroticism	*bfi10_neuro*
AC709_	I see myself as someone who gets nervous easily	4. Agree a little 5. Agree strongly		

References

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Roberts, B. W., Kuncel, N. R., Shiner, R., Caspi, A., & Goldberg, L. R. (2007). The Power of Personality The Comparative Validity of Personality Traits, Socioeconomic Status, and Cognitive Ability for Predicting Important Life Outcomes (Vol. 2). Retrieved from http://journals.sagepub.com/doi/pdf/10.1111/j.1745-6916.2007.00047.x

2. Multi-Item Indicator Residential Environment Quality

Definition

The PREQ covers many different facets about respondents' perception of residential environment quality within their neighbourhoods (Bonaiuto et al., 1999; Bonaiuto et al., 2003). It compromises spatial aspects (e.g. architectural planning space, organization and accessibility of space), human aspects (e.g. social relations), functional aspects (e.g. public transportation), and contextual aspects (e.g. environmental health).

Operationalisation in SHARE

The respondents' perception of different aspects in their local area is measured by four items in Wave 5 and 6, and in Wave 5 additionally, the access to some basic services is measured by four items. The items are partially based on the multidimensional perceived residential environment quality (PREQ) questionnaire.

Table 32: Respondents' perception of residential environment quality

Wave 5	Waves 6, 7	Question text	Response options
HH022	HH022	I really feel part of this area.	1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree
HH023	HH023	Vandalism or crime is a big problem in this area.	1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree
HH024	HH024	This area is kept very clean.	1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree
HH025	HH025	If I were in trouble, there are people in this area who would help me.	1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree
HH027		How easy is it to get to the nearest bank or cash point?	1. Very easy 2. Easy 3. Difficult 4. Very difficult
HH028		How easy is it to get to the nearest grocery shop or supermarket?	1. Very easy 2. Easy 3. Difficult 4. Very difficult
HH029		How easy is it to get to your general practitioner or the nearest health centre?	1. Very easy 2. Easy 3. Difficult 4. Very difficult
HH030		How easy is it to get to the nearest pharmacy?	1. Very easy 2. Easy 3. Difficult 4. Very difficult

References

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*Bonaiuto, M., Fornara, F., & Bonnes, M. (2003). Indexes of perc*eived residential environment quality and neighbourhood attachment in urban environments: a confirmation study on the city of Rome. *Landscape and Urban Planning*, *65*(1), 41-52.

3. Social Integration Index

Definition

The Social Integration Index is based on the Social Network Index by Berkman & Syme (1979). It reflects close and extended ties and adapts similar procedures described in Berkman & Syme (1979) and Tsai et al. (2014) to the data on social networks and social activity available in SHARE. Certain adaptations have been made to these procedures and variables, taking into account the available data in SHARE. Voluntary or charity work has been used instead of church visits and informal and formal group associations have been selected based on question AC035. The index can take on integer values from 1 to 4. A higher value indicates more social integration. Less social integration is related to lower health and higher mortality (Domènech-Abella et al. 2017; Eng et al. 2002).

Operationalisation in SHARE

The index is called social_integration and is stored in the gv_networks generated variable module. The index distinguishes between close ties (cohabiting spouse or partner, hereinafter partner, and other relatives or friends with contact at least once a month) and extended ties (with two distinct activities: 1) voluntary or charity work and 2) other social activity, such as education, sports, political or community-related group activity, playing card games or board games). Close ties have 3 levels:
- low: if a respondent has no partner and no close ties, or has a partner but no other close ties, or less than 3 close ties, but no partner
- intermediate: if a respondent has a partner and less than 3 close ties or more than 3 close ties, but no partner
- high: if a respondent has a partner and more than 3 close ties.

Extended ties have 4 levels based on the two types of activities:
- low: no voluntary/charity work and no other social activity
- intermediate-low: no voluntary/charity work, but other social activity groups
- intermediate-high: voluntary/charity work, but not other social activity
- high: voluntary/charity work and other social activity

The Social Integration Index has four levels ranging from 1 to 4 defined by close and extended ties (see Table 1):
- 1: low level of close and extended ties
- 2: intermediate level of close ties and low level of extended ties or vice versa
- 3: intermediate level of close and extended ties
- 4: high level of close ties

Table 32: values of social integration index

		Close ties		
		Low	Medium	High
Extended ties	Low	1	2	4
	Intermediate-low	2	3	4
	Intermediate-high	2	3	4
	High	2	4	4

Table 33: Measures of social integration in SHARE

Waves 6, 8, 9	Question text	Response options
partner_var (gv_networks)	Relationship status	No partner in data Partner in household No Partner in household
SN005_1-SN005_7	What is [SN002_Roster]'s relationship to you?	Spouse/Partner; Mother; Father; Mother-in-law; Father-in-law; Stepmother; Stepfather; Brother; Sister; Child, Step-child/your current partner's child; Son-in-law; Daughter-in-law; Grandchild; Grandparent; Aunt; Uncle; Niece; Nephew; Other relative; Friend; (Ex-)colleague/co-worker; Neighbour; Ex-spouse/partner; Minister, priest, or other clergy; Therapist or other professional helper; Housekeeper/Home health care provider; None of these
SN007_1-SN007_7	During the past twelve months, how often did you have contact with [{--FLRosterName--}] either in person, by phone or mail, email or any other electronic means?	1. Daily 2. Several times a week 3. About once a week 4. About every two weeks 5. About once a month 6. Less than once a month 7. Never
AC035	Please look at ^SHOWCARD_ID: which of the activities listed on this card - if any - have you done in the last twelve months?	1. Done voluntary or charity work 4. Attended an educational or training course 5. Gone to a sport, social or other kind of club 7. Taken part in a political or community-related organization 10. Played cards or games such as chess.

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4. Social Connectedness Scale

Definition

The social connectedness scale is a summary scale of the social network data that has been used previously in research (Litwin & Stoeckel 2015). The scale incorporates the five main characteristics of the social network into one composite measure to capture the key facets of social network resources within a single indicator (Malter & Börsch-Supan 2017). These characteristics include (1) the number of persons cited (network size), (2) the number of cited social network members living within 25 km (proximity), (3) the number of cited persons with weekly or more contact (contact frequency), (4) the number of cited persons with very or extremely close emotional ties (support), and (5) the number of different types of relationships present within the network (diversity).

Operationalisation in SHARE

The first four of these characteristics are scored as: 0 = 0; 1 = 1; 2 = 2-3; 3 = 4-5; 4 = 6-7 persons cited. The fifth characteristic reflects the number of different relationship categories [(a) spouse, (b) other family, including children, (c) friend, and (d) other] that were present in the network (0-4). For each of these individual components of the scale, the underlying assumption is that having more social network members in each category is representative of stronger network resources. Principal component factor analysis conducted on the Wave 6 sample confirmed that the 5 items in the scale loaded on a single factor. The total raw score on the scale ranged from 0 to 20. A calibrated version of the scale (*sn_scale* in the gv_networks module) was employed according to the following conversion: 0 = 0; 1 = 1-5; 2 = 6-10; 3 = 11-

15; 4 = 16-20. By default, survey respondents who did not identify any social network members received a score of zero. Respondents who did not answer the social networks module were coded as "does not apply".

Table 34: Variables used for generating the social connectedness scale

Waves 6, 8, 9	Question text	Response options
sn_size_w6/8/9 (gv_networks)	Size of social network in the respective wave	0 to 7
SN006_1 – SN006_7	Where does [{--FLRosterName--}] live?	1. In the same household 2. In the same building 3. Less than 1 kilometre away 4. Between 1 and 5 kilometres away 5. Between 5 and 25 kilometres away 6. Between 25 and 100 kilometres away 7. Between 100 and 500 kilometres away 8. More than 500 kilometres away
SN007_1 – SN007_7	During the past twelve months, how often did you have contact with [{--FLRosterName--}] either in person, by phone or mail, email or any other electronic means?	1. Daily 2. Several times a week 3. About once a week 4. About every two weeks 5. About once a month 6. Less than once a month 7. Never
SN009_1 – SN009_7	How close do you feel to [{--FLRosterName--}]?	1. Not very close 2. Somewhat close 3. Very close 4. Extremely close
SN005_1- SN005_7	What is [SN002_Roster]'s relationship to you?	Spouse/Partner; Mother; Father; Mother-in-law; Father-in-law; Stepmother; Stepfather; Brother; Sister; Child, Step-child/your current partner's child; Son-in-law; Daughter-in-law; Grandchild; Grandparent; Aunt; Uncle; Niece; Nephew; Other relative; Friend; (Ex-)colleague/co-worker; Neighbour; Ex-spouse/partner; Minister, priest, or other clergy; Therapist or other professional helper; Housekeeper/Home health care provider; None of these

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