

VII. Psychological Examinations

1) Depression

1. Center for Epidemiologic Studies Depression Scale (CES-D)

The Japanese version of the scale, same as the original, comprises 20 items with 4 options. This scale consists of 4 subscales as follows: somatic and retarded activity, depressed affect, positive affect, and interpersonal relations. Higher scores indicate higher depressive symptoms. A person with total score at and above 16 is considered to have clinically significant depressive tendency.

CES-D: total score of 4 subscales (20 items, possible range 0-60)
CES-D subscale 1: somatic and retarded activity (7 items, possible range 0-21)
CES-D subscale 2: depressed affect (7 items, possible range 0-21)
CES-D subscale 3: positive affect (4 items, possible range 0-12)
CES-D subscale 4: interpersonal relations (2 items, possible range 0-6)
CES-D: parameter of distribution using cutoff score (cutoff score=15/16)

2) Subjective Well-being

1. Life Satisfaction Index-K (LSI-K)

The LSI-K has 9 items with 2- or 3-point response format to measure overall subjective well-being. This scale also consists of 3 subscales including: satisfaction with life as a whole, psychological stability, and evaluation of own aging. Response to 3-point scale is dichotomized when calculating total score, so that the possible total score range is 0 to 9. Higher scores indicate higher life satisfaction.

LSI-K: total score of 3 subscales (9 items, possible range 0-9)
LSI-K subscale 1: satisfaction with life as a whole (4 items, possible range 0-4)
LSI-K subscale 2: psychological stability (3 items, possible range 0-3)
LSI-K subscale 3: evaluation of own aging (2 items, possible range 0-2)

3) Personality

1. Self-Esteem Scale

This scale comprises 10 items (4 options) to measure self-regard, an evaluation of one's own worth. Higher score indicates higher self-esteem.

Rosenberg self-esteem scale: total score of 10 items (possible range 10-40)

2. Psychological Well-Being Scale (PWB)

This scale comprises 43 items (6 options) to measure psychological well-being. This scale consists of 6 dimensions: personal growth, purpose in life, autonomy, self-acceptance, environmental mastery, and positive relations with others. Higher scores indicate higher well-being.

PWB subscale 1 : personal growth (8 items, possible range 8-48)
PWB subscale 2 : purpose in life (8 items, possible range 8-48)
PWB subscale 3 : autonomy (8 items, possible range 8-48)
PWB subscale 4 : self-acceptance (7 items, possible range 7-42)
PWB subscale 5 : environmental mastery (6 items, possible range 6-36)
PWB subscale 6 : positive relations with others (6 items, possible range 6-36)

3. Attitude toward Death Scale for the middle-aged and older Adults (ATDS-A)

Multidimensional attitudes toward death are measured using 31-item scale (5 options). Five subscales and an extra two indices of the scale are as follows: fear of death, belief in existence of afterlife, intention to live out own life, meaning of death for life, approval of death with dignity, experience of thinking over death, and frequency of thinking about death. Higher scores indicate stronger tendency of each subscale or index.
NOTE: Construction of this scale was partially revised from the seventh wave.

ATDS-A subscale 1: fear of death (9 items, possible range 9-45)
ATDS-A subscale 2: belief in existence of afterlife (4 items, possible range 4-20)
ATDS-A subscale 3: intention to live out own life (4 items, possible range 4-20)
ATDS-A subscale 4: meaning of death for life (5 items, possible range 5-25)
ATDS-A subscale 5: approval of death with dignity (3 items, possible range 3-15)
ATDS-A item 29: experience of thinking over death (1 item, possible range 1-5)
ATDS-A item 30: frequency of thinking about death (1 item, possible range 1-5)

4) Social Relations

1. Social Support

Social support is measured using a 12-item scale (4 options). This scale assesses three functional properties of social support (emotional support, instrumental support, and negative support) from two specific social domains (family members/friends or acquaintances). A higher score means higher perception of support.

Social support subscale 1: emotional support from family members (4 items, possible range 4-16)
Social support subscale 2: instrumental support from family members (4 items, possible range 4-16)
Social support subscale 3: negative support from family members (4 items, possible range 4-16)
Social support subscale 4: emotional support from friends or acquaintances (4 items, possible range 4-16)
Social support subscale 5: instrumental support from friends or acquaintances (4 items, possible range 4-16)
Social support subscale 6: negative support from friends or acquaintances (4 items, possible range 4-16)

5) Activities of Daily Living (ADL)

1. Tokyo Metropolitan Institute of Gerontology (TMIG) Index of Competence

This scale comprises 13 items to measure higher physical and social functions such as instrumental activities of daily living (IADL). Each item has Yes (1)/No (0) response options. Higher score indicates higher competence level.

TMIG index of competence: total score of 13 items (possible range 0-13)

6) Intelligence and Cognitive Function

1. Wechsler Adult Intelligence Scale-Revised Short Forms (WAIS-R-SF)

This short form of WAIS-R provides cost-effective and useful estimates of intelligence particularly for older participants since their attention and motivation could diminish easily if testing becomes prolonged. WAIS-R-SF has the following four subtests: information, similarities, picture completion, and digit symbol. Estimated intelligence quotient (EIQ) is derived from all four subtests. Intelligence level of individuals are ranked according to EIQ scores as low (EIQ<80), middle (80≤EIQ<120), and high (120≤EIQ).

WAIS-R-SF: estimated intelligence quotient (EIQ)
WAIS-R-SF: parameter of distribution by EIQ level
WAIS-R-SF subtest 1: information (29 items, possible range 0-29)
WAIS-R-SF subtest 2: similarities (14 items, possible range 0-28)
WAIS-R-SF subtest 3: picture completion (21 items, possible range 0-21)
WAIS-R-SF subtest 4: digit symbol (possible range 0-93)

2. Short-term Memory Function

We also assessed the WAIS-R digit span test (forwards and backwards) for estimating participants' short-term memory function.

Short-term memory function: WAIS-R digit span (possible range 0-28)

3. Mini-Mental State Examination (MMSE)

MMSE is a brief, easily scored test of several cognitive functions. This scale comprises questions concerning orientation in place and time, immediate and delayed recall of three words, attention and calculation, language and praxis, and visual construction. Cognitive impaired person might fall in the total score of 23 or less in the scale. Only participants over 60 years old take this test because the characteristics of the test serve as screening for dementia.

MMSE: total score of 30 items (possible range 0-30 / less than 60 years old unperformed)

MMSE: parameter of distribution using cutoff score (cutoff score=23/24)

7) Other measures

1. Life-events Checklist

By using a life event checklist (39 items), participants are asked to report the occurrence of each event between the 6th and 7th examinations in the NILS-LSA. Total number of events experienced is calculated by summing up the responses to the list.

Total number of life events experienced between 6th and 7th examinations (possible range 0-39)

2. Daily Hassles Checklist

By using a daily hassles checklist (25 items), participants are asked to report the experiences of each hassle between the 6th and 7th examinations in the NILS-LSA. Total number of hassles experienced is calculated by summing up the responses to the list.

Total number of daily hassles experienced between 6th and 7th examinations (possible range 0-25)

3. Social and Domestic Activities

To comprehend participants' social and psychological characteristics, the NILS-LSA seventh wave asked participants to report the extent of the following unpaid activities they were doing in their home and community.

Social activities

Fitness or sports

- Hobby
- Community events
- Environment improvement work
- Education or culture
- Production or work
- Safety management
- Support of the older adults
- Support of raising children
- Other
- Nothing

Roles in family

- Housework
- Care for small children
- Care for sick or disabled family member
- Advise family member
- Income earner
- Leader
- Other
- Nothing

Leisure activities

- Reading newspapers
- Reading books
- Writing
- Answering quizzes or solving crossword puzzles
- Playing board games or cards
- Participating in organized group discussion
- Playing musical instruments or singing in choruses
- Creative activity
- Art appreciation
- Using computers for communication
- Playing individual sports
- Participating in team games
- Performing exercise
- Swimming
- Walking
- Jogging
- Hiking or climbing
- Fishing
- Gardening
- Traveling
- Intellectual learning
- Physical learning
- Volunteer

4. Work commitment scale

This scale comprises 16 items (4 options) to measure commitment to work. Higher score indicates higher commitment to work. Only participants who have jobs respond to this scale.

Work commitment scale: total score of 16 items (possible range 16-64/only employed person)

5. Work-Family Conflict/ Work-Family Facilitation Scale (WFC/WFF)

The WFC/WFF scale has 16 items (5 options) to measure conflict and facilitation between work and family life bidirectionally (work-to-family, family-to-work). This scale consists of 4 subscales: work-to-family conflict, family-to-work conflict, work-to-family facilitation, and family-to-work facilitation. Higher score of WFC means higher inter-role conflict. A higher score of WFF means more positive facilitation. Only participants who have job respond to this scale.

WFC/WFF subscale 1: work-to-family conflict (5 items, possible range 5-25/ only employed person)
WFC/WFF subscale 2: family-to-work conflict (5 items, possible range 5-25/ only employed person)
WFC/WFF subscale 3: work-to-family facilitation (3 items, possible range 3-15/ only employed person)
WFC/WFF subscale 4: family-to-work facilitation (3 items, possible range 3-15/ only employed person)

8) Background examinations

Present life worth living

- Connection with family
- Growth of children or grandchildren
- Connection with friends
- Work
- Housework
- Voluntary social activity
- Community activity
- Saving money
- Going out
- Learning or study
- Religion or spiritual training
- Sports
- Health maintenance and promotion
- Hobby or amusement
- Gardening
- Pets
- Other
- Nothing

State of employment
Present job (only employed person)
Working hours per one week (only employed person)
Period of full-time employment (years)
Years of education
Marital status
State of habitation
Sum of family annual income
Level of satisfaction in annual income

1) Depression

1. Center for Epidemiologic Studies Depression Scale (CES-D)

The Japanese version of the scale comprises 20 items with 4 options, the same as the original. This scale consists of 4 subscales as follows: somatic and retarded activity, depressed affect, positive affect, and interpersonal relations. Higher scores indicate higher depressive symptoms. A person with total score at and above 16 is supposed to have clinically significant depressive tendency.

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N									
Male	6.9	6.4	268	6.3	6.9	265	5.7	6.2	284	7.0	6.8	261	8.7	7.4	99	6.6	6.7	1177
Female	7.1	6.8	276	7.0	7.2	260	6.9	6.8	265	7.7	7.4	246	11.0	9.2	105	7.5	7.3	1152
Total	7.0	6.6	544	6.7	7.1	525	6.2	6.5	510	7.2	7.1	507	9.0	8.4	204	7.1	7.0	2329

	40-49yr				50-59yr				60-69yr				70-79yr				80yr+				Total			
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N			
Male	2.0	2.5	268	1.9	2.7	265	1.8	2.4	284	2.4	2.8	261	3.3	3.3	99	2.1	2.7	1177						
Female	2.2	2.6	276	2.2	2.6	260	2.2	2.6	265	2.8	3.0	246	4.1	3.8	105	2.5	2.9	1152						
Total	2.1	2.6	544	2.0	2.7	555	2.0	2.6	510	2.6	2.9	507	3.2	3.6	204	2.3	2.9	2000						

