

VII. Psychological Examinations

VII. Psychological Examinations

1) Depressive symptoms

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

2) Subjective Well-being

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

3) Personality

- 1.Rosenberg Self-Esteem Scale
- 2.Locus of Control
- 3.The Scale of Attitude toward Death (ATD)

4) Social Relations

1. Social Exchanges

5) Stress-Related Factors

1. Stress Checklist
2. Stress Coping Scale

6) Activities of Daily Living

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

7) Intelligence and Cognitive Function

1. Wechsler Adult Intelligence Scale-Revised Short Forms (WAIS-R-SF)
2. Mini Mental State Examination (MMSE)

8) Other measures

1. Age awareness
2. Social and Domestic Activities

1) Depression Scales

1. The 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.

CES-D :total score of 4 subscales (20 items, possible range 0-60)

	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
Male	7.4	6.5	265	7.2	6.8	329	6.7	6.7	289	7.8	6.9	261	8.9	7.3	39	7.3	6.7	1183
Female	8.3	7.3	292	7.3	6.5	278	7.7	7.3	284	8.4	7.4	264	10.2	7.7	33	8.0	7.1	1151
Total	7.9	6.9	557	7.3	6.6	607	7.2	7.0	573	8.1	7.1	525	9.5	7.5	72	7.7	6.9	2334

CES-D subscale 1: somatic and retarded activity (7 items, possible range 0-21)

	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
Male	2.3	2.7	265	2.4	2.7	331	2.3	2.7	293	2.8	3.3	267	2.9	3.0	40	2.4	2.9	1196
Female	2.7	2.8	293	2.5	2.7	282	2.7	3.1	285	3.2	3.2	269	4.2	3.9	34	2.8	3.0	1163
Total	2.5	2.8	558	2.4	2.7	613	2.5	2.9	578	3.0	3.3	536	3.5	3.4	74	2.6	2.9	2359

CES-D subscale 2: depressed affect (7 items, possible range 0-21)

	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
Male	1.8	2.4	266	1.7	2.3	330	1.5	2.4	294	1.6	2.1	262	2.0	2.4	40	1.7	2.3	1192
Female	2.1	2.9	294	1.8	2.6	283	1.8	2.6	286	2.2	2.8	270	2.3	2.4	33	2.0	2.7	1166
Total	2.0	2.7	560	1.7	2.4	613	1.7	2.5	580	1.9	2.5	532	2.1	2.4	73	1.8	2.5	2358

CES-D subscale 3: positive affect (4 items, possible range 0-12)

	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
Male	3.0	2.5	266	2.8	2.6	330	2.6	2.6	297	3.1	2.9	267	3.5	2.7	42	2.9	2.6	1202
Female	3.3	2.7	293	2.7	2.5	283	2.9	2.8	286	2.9	2.7	275	3.6	3.2	34	3.0	2.7	1171
Total	3.1	2.6	559	2.8	2.5	613	2.7	2.7	583	3.0	2.8	542	3.5	2.9	76	2.9	2.7	2373

CES-D subscale 4: interpersonal relations (2 items, possible range 0-6)

	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
Male	0.3	0.8	266	0.4	0.9	331	0.3	0.7	296	0.3	0.7	264	0.5	0.8	42	0.3	0.8	1199
Female	0.3	0.7	294	0.2	0.6	285	0.3	0.7	285	0.3	0.9	275	0.3	0.8	34	0.3	0.7	1173
Total	0.3	0.7	560	0.3	0.8	616	0.3	0.7	581	0.3	0.8	539	0.4	0.8	76	0.3	0.8	2372

CES-D: parameter of distribution using cutoff score

		40-49yr		50-59yr		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Under score of 16	Male	246	92.8	291	88.4	261	90.3	226	86.6	31	79.5	1055	89.2
	Female	251	86.0	248	89.2	243	85.6	220	83.3	25	75.8	987	85.8
	Total	497	89.2	539	88.8	504	88.0	446	85.0	56	77.8	2042	87.5
At and above score of 16	Male	19	7.2	38	11.6	28	9.7	35	13.4	8	20.5	128	10.8
	Female	41	14.0	30	10.8	41	14.4	44	16.7	8	24.2	164	14.2
	Total	60	10.8	68	11.2	69	12.0	79	15.0	16	22.2	292	12.5

2. Geriatric Depression Scale (GDS)

GDS is another depression scale adopted in our research. Each of 15 items has yes/no response keys. Higher score indicates higher depressive symptoms. Total score of 6 and higher means significant depressive tendency. Only participants over 60 years old performed the scale in the NILS-LSA since this scale is designed specifically for elderly.

GDS (15 items, possible range 0-15, less than 60 years older unperformed)

	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
Male	0	0	0	0	0	0	2.5	2.5	292	3.1	2.9	262	4.1	3.5	40	2.9	2.8	594
Female	0	0	0	0	0	0	3.3	2.7	283	3.9	3.0	262	4.0	2.7	32	3.6	2.9	577
Total	0	0	0	0	0	0	2.9	2.6	575	3.5	3.0	524	4.1	3.1	72	3.2	2.9	1171

GDS parameter of distribution using cutoff score

		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%
Under score of 6	Male	259	88.7	219	83.6	26	65.0	504	84.8
	Female	225	79.5	192	73.3	22	68.8	439	76.1
	Total	484	84.2	411	78.4	48	66.7	943	80.5
At and above score of 6	Male	33	11.3	43	16.4	14	35.0	90	15.2
	Female	58	20.5	70	26.7	10	31.3	138	23.9
	Total	91	15.8	113	21.6	24	33.3	228	19.5

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 include: 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 score indicates higher life satisfaction.

LSI-K: total score of 3 subscales (9 items, possible range 0-9)

	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
Male	4.9	1.7	265	5.0	1.9	329	5.0	1.9	296	4.3	2.3	262	4.1	2.3	40	4.8	2.0	1192
Female	4.9	1.9	292	5.2	2.0	280	5.0	2.1	284	4.2	2.2	269	3.9	1.8	32	4.8	2.1	1157
Total	4.9	1.8	557	5.1	2.0	609	5.0	2.0	580	4.2	2.2	531	4.0	2.1	72	4.8	2.0	2349

LSI-K subscale 1: satisfaction with life as a whole (4 items, possible range 0-4)

	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
Male	1.5	1.0	266	1.7	1.1	331	1.8	1.2	297	1.8	1.3	264	1.7	1.2	40	1.7	1.2	1198
Female	1.6	1.1	293	1.9	1.2	281	2.0	1.2	285	1.9	1.3	270	1.8	1.3	32	1.8	1.2	1161
Total	1.6	1.1	559	1.8	1.2	612	1.9	1.2	582	1.8	1.3	534	1.7	1.3	72	1.8	1.2	2359

LSI-K subscale 2: psychological stability (3 items, possible range 0-3)

	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
Male	1.8	0.9	265	1.7	0.9	330	1.7	0.9	296	1.5	0.9	265	1.5	0.9	40	1.7	0.9	1196
Female	1.7	0.9	293	1.7	0.9	284	1.7	1.0	285	1.3	1.0	269	1.4	1.0	33	1.6	1.0	1164
Total	1.7	0.9	558	1.7	0.9	614	1.7	0.9	581	1.4	0.9	534	1.4	1.0	73	1.6	0.9	2360

LSI-K subscale 3: evaluation of own aging (2 items, possible range 0-2)

	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
Male	1.7	0.5	266	1.5	0.6	330	1.4	0.7	297	1.0	0.8	265	0.9	0.7	40	1.4	0.7	1198
Female	1.6	0.6	294	1.6	0.6	285	1.4	0.7	286	1.0	0.8	270	0.7	0.7	34	1.4	0.7	1169
Total	1.7	0.6	560	1.6	0.6	615	1.4	0.7	583	1.0	0.8	535	0.8	0.7	74	1.4	0.7	2367

3) Personality

1. The Rosenberg Self-Esteem Scale

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

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

	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
Male	28.8	4.1	266	29.4	4.3	330	29.5	4.2	295	29.3	5.1	265	28.0	4.6	40	29.2	4.4	1196
Female	27.4	4.4	294	28.2	4.7	285	27.8	4.7	285	27.4	4.5	270	27.8	4.5	31	27.7	4.6	1165
Total	28.0	4.3	560	28.8	4.5	615	28.7	4.6	580	28.3	4.9	535	27.9	4.6	71	28.5	4.6	2361

2. Locus of Control

This scale has 18 items (4 options) to measure cognitive aspects about the self and the environment. Persons with higher score in the scale are supposed to consider themselves to be in control of what happens in life.

Locus of control: total score of 18 items (possible range 18-72)

	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
Male	43.6	5.1	259	44.3	5.0	328	43.4	5.8	297	44.6	5.7	260	46.1	6.9	41	44.1	5.5	1185
Female	43.7	4.8	292	43.3	5.6	283	43.7	6.6	283	44.6	7.3	267	45.5	5.8	33	43.9	6.1	1158
Total	43.6	4.9	551	43.9	5.3	611	43.6	6.2	580	44.6	6.6	527	45.8	6.4	74	44.0	5.8	2343

3. The Scale of Attitude toward Death (ATD)

Multidimensional attitudes toward death are measured using 31-item scale (5 options). Five subscales and extra two indices of the scale are the following: fear of death, intention to live out own life, belief in existence of afterlife, 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.

ATD subscale 1: fear of death (9 items, possible range 9-45)

	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
Male	23.4	7.7	261	22.6	7.6	321	20.4	7.5	274	19.3	7.3	248	19.8	6.7	37	21.4	7.7	1141
Female	23.9	7.4	290	21.6	7.2	268	20.4	7.2	273	20.3	6.9	242	19.5	7.7	31	21.6	7.4	1104
Total	23.7	7.6	551	22.1	7.4	589	20.4	7.3	547	19.8	7.1	490	19.7	7.1	68	21.5	7.5	2245

ATD subscale 2: intention to live out own life (5 items, possible range 5-25)

	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
Male	20.9	3.0	261	20.9	3.4	320	21.4	3.5	274	21.4	3.4	249	21.1	3.4	37	21.1	3.3	1141
Female	21.0	3.1	288	21.1	3.0	267	21.8	2.8	274	21.7	3.1	247	21.2	3.0	32	21.4	3.0	1108
Total	21.0	3.0	549	21.0	3.2	587	21.6	3.2	548	21.5	3.2	496	21.1	3.2	69	21.3	3.2	2249

ATD subscale 3: belief in existence of afterlife (4 items, possible range 4-20)

	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
Male	10.3	3.8	261	9.2	4.0	321	9.0	3.8	275	9.1	4.1	250	8.7	3.6	36	9.4	4.0	1143
Female	11.8	3.5	291	10.6	3.5	270	10.3	3.7	275	10.3	3.9	246	9.8	4.2	31	10.7	3.7	1113
Total	11.1	3.7	552	9.8	3.8	591	9.6	3.8	550	9.7	4.1	496	9.2	3.9	67	10.0	3.9	2256

ATD subscale 4: meaning of death for life (5 items, possible range 5-25)

	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
Male	14.5	4.1	260	14.8	4.0	321	15.0	4.0	273	15.7	4.3	249	14.8	4.4	37	15.0	4.1	1140
Female	15.4	3.3	290	15.3	3.6	270	15.8	3.7	272	15.8	3.9	247	17.6	4.2	30	15.6	3.6	1109
Total	15.0	3.7	550	15.0	3.8	591	15.4	3.8	545	15.7	4.1	496	16.1	4.5	67	15.3	3.9	2249

ATD subscale 5: approval of death with dignity (4 items, possible range 4-20)

	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
Male	14.7	2.7	261	15.0	2.4	321	14.8	2.4	275	15.1	2.5	251	14.7	3.3	37	14.9	2.5	1145
Female	15.4	2.5	291	15.7	2.5	270	16.0	2.4	274	15.8	2.7	247	16.0	2.7	31	15.7	2.5	1113
Total	15.1	2.6	552	15.3	2.5	591	15.4	2.5	549	15.4	2.7	498	15.3	3.1	68	15.3	2.6	2258

ATD item 29: experience of thinking over death (1 item, possible range 1-5)

	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
Male	2.7	1.2	261	2.3	1.1	321	2.3	1.2	275	2.4	1.2	251	2.4	1.2	37	2.4	1.2	1145
Female	2.9	1.2	291	2.6	1.2	271	2.4	1.1	275	2.4	1.3	249	3.1	1.2	32	2.6	1.2	1118
Total	2.8	1.2	552	2.5	1.1	592	2.4	1.1	550	2.4	1.3	500	2.7	1.3	69	2.5	1.2	2263

ATD item 30: frequency of thinking about death (1 item, possible range 1-5)

	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
Male	1.9	0.9	261	1.8	0.8	321	1.8	0.9	273	1.9	1.0	252	1.9	1.0	37	1.8	0.9	1144
Female	2.0	0.9	291	2.1	1.0	271	2.0	0.9	275	2.1	1.2	249	2.5	1.1	32	2.1	1.0	1118
Total	1.9	0.9	552	1.9	0.9	592	1.9	0.9	548	2.0	1.1	501	2.2	1.1	69	1.9	1.0	2262

4) Social Relations

1. Social Exchanges

Social exchanges are measured using 12-item scale (4 options). This scale assesses three functional properties of social exchanges (emotional support, instrumental support, and negative exchanges) with two specific social domains (family members/friends and acquaintances) are separately probed in the scale. Higher scores of the scale means higher perception of each exchanges.

Social exchanges with family members, subscale 1: emotional support (4 items. possible range 4-16)

	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
Male	12.6	2.2	265	12.4	2.2	331	12.7	2.2	296	12.8	2.4	266	12.3	2.1	40	12.6	2.2	1198
Female	12.7	2.3	294	12.7	2.2	285	13.0	2.1	286	12.4	2.7	270	12.9	3.0	34	12.7	2.4	1169
Total	12.7	2.2	559	12.6	2.2	616	12.8	2.1	582	12.6	2.6	536	12.6	2.6	74	12.7	2.3	2367

Social exchanges with family members, subscale 2: instrumental support (4 items. possible range 4-16)

	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
Male	12.4	2.0	265	12.2	2.1	331	12.4	2.0	297	12.4	2.4	265	12.0	1.9	40	12.3	2.1	1198
Female	12.0	2.0	294	12.1	2.1	284	12.3	2.1	286	11.8	2.7	270	12.4	2.5	34	12.1	2.3	1168
Total	12.2	2.0	559	12.1	2.1	615	12.4	2.1	583	12.1	2.6	535	12.2	2.2	74	12.2	2.2	2366

Social exchanges with family members, subscale 3: negative exchanges (4 items. possible range 4-16)

	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
Male	9.8	2.2	265	9.5	2.4	331	9.4	2.3	297	8.8	2.4	267	8.4	2.3	40	9.3	2.3	1200
Female	10.2	2.2	292	8.8	2.3	285	8.9	2.4	286	8.3	2.7	269	8.6	2.8	34	9.0	2.5	1166
Total	10.0	2.2	557	9.2	2.4	616	9.1	2.4	583	8.6	2.6	536	8.5	2.5	74	9.2	2.4	2366

Social exchanges with friends and acquaintances, subscale 1: emotional support (4 items. possible range 4-16)

	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
Male	11.1	2.4	265	11.0	2.5	331	11.0	2.5	296	10.6	3.0	263	9.9	3.0	40	10.9	2.6	1195
Female	12.5	2.3	293	12.2	2.2	285	12.3	2.3	283	11.7	2.6	266	11.7	2.9	34	12.2	2.4	1161
Total	11.9	2.5	558	11.6	2.4	616	11.6	2.5	579	11.1	2.9	529	10.7	3.1	74	11.5	2.6	2356

Social exchanges with friends and acquaintances, subscale 2: instrumental support (4 items, possible range 4-16)

	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
Male	8.4	2.7	265	8.7	2.7	330	8.8	2.7	294	8.6	3.0	261	8.1	2.8	40	8.6	2.8	1190
Female	9.4	2.7	294	9.5	2.9	284	9.6	2.7	284	9.1	3.1	265	8.6	3.1	34	9.4	2.9	1161
Total	8.9	2.7	559	9.1	2.8	614	9.2	2.7	578	8.8	3.1	526	8.4	2.9	74	9.0	2.8	2351

Social exchanges with friends and acquaintances, subscale 3: negative exchanges (4 items, possible range 4-16)

	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
Male	9.1	2.2	265	8.5	2.5	331	7.7	2.3	293	6.9	2.1	264	6.4	2.0	40	8.0	2.4	1193
Female	8.2	2.4	292	7.5	2.3	284	7.2	2.1	284	6.4	2.2	263	6.6	2.7	34	7.3	2.4	1157
Total	8.6	2.4	557	8.1	2.5	615	7.5	2.2	577	6.6	2.2	527	6.5	2.4	74	7.7	2.4	2350

5) Stress-Related Factors

1. Stress Checklist

Fifty-eight items are picked up from some traditional checklists and scales to estimate stressful life-events and daily hassles. Participants are asked to check off the items they confronted in recent past (between second and third examinations in the NLS-LSA). Total number of experienced events is calculated by summing up the responses to the list.

Total number of life events and daily hassles experienced between the surveys (possible range 0-58)

	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
Male	4.4	3.3	266	4.0	2.9	329	3.7	2.5	295	3.0	2.4	265	3.4	3.1	43	3.7	2.8	1198
Female	4.9	3.9	293	4.1	2.9	284	3.4	2.5	286	2.9	2.3	270	4.4	3.3	33	3.9	3.1	1166
Total	4.6	3.6	559	4.0	2.9	613	3.5	2.5	581	2.9	2.3	535	3.9	3.2	76	3.8	2.9	2364

2. Stress Coping Scale

This scale includes 31 items (4 options) each of which comes under one of the 5 subscales as follows:

active problem solving, distancing, support seeking, escape/avoidance, and resignation. Higher score means frequent use of each coping strategy. Participants were asked to respond to the scale thinking of the most stressful life-event or daily hassle they had experienced between the NLS-LSA Wave 2 and Wave 3.

Stress coping scale, subscale 1: active problem solving (9 items, possible range 9-36)

	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
Male	19.4	5.6	260	19.1	6.1	320	17.6	6.2	286	17.4	6.4	255	16.5	6.6	37	18.3	6.1	1158
Female	19.3	5.8	290	18.2	5.7	279	17.4	5.9	276	16.7	5.5	252	16.2	5.5	29	17.9	5.8	1126
Total	19.4	5.7	550	18.7	5.9	599	17.5	6.1	562	17.0	6.0	507	16.4	6.1	66	18.1	6.0	2284

Stress coping scale, subscale 2: distancing (5 items, possible range 5-20)

	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
Male	10.6	3.3	260	10.5	3.4	320	10.0	3.5	286	10.5	3.5	255	9.9	3.8	37	10.4	3.4	1158
Female	11.6	3.0	290	10.8	3.5	279	10.6	3.7	276	10.8	3.5	252	11.0	4.2	29	10.9	3.5	1126
Total	11.1	3.2	550	10.6	3.5	599	10.3	3.6	562	10.6	3.5	507	10.3	4.0	66	10.6	3.5	2284

Stress coping scale, subscale 3: support seeking (5 items, possible range 5-20)

	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
Male	9.5	3.0	260	9.1	3.2	320	8.9	3.4	286	8.5	3.4	255	8.5	2.8	37	9.0	3.2	1158
Female	10.8	3.5	290	9.9	3.4	280	9.6	3.6	276	8.8	3.3	252	8.2	3.3	29	9.8	3.5	1127
Total	10.2	3.4	550	9.5	3.3	600	9.2	3.5	562	8.7	3.3	507	8.4	3.0	66	9.4	3.4	2285

Stress coping scale, subscale 4: escape/avoidance (7 items, possible range 7-28)

	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
Male	9.8	2.7	260	10.5	3.2	320	11.0	3.3	286	11.2	3.3	255	11.3	3.5	37	10.7	3.2	1158
Female	10.4	3.1	290	11.0	3.3	280	11.6	3.7	276	11.5	3.8	252	12.3	4.1	29	11.1	3.5	1127
Total	10.1	2.9	550	10.7	3.3	600	11.3	3.5	562	11.3	3.5	507	11.7	3.8	66	10.9	3.4	2285

Stress coping scale, subscale 5: resignation (5 items, possible range 5-20)

	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
Male	10.9	3.5	260	11.4	3.6	320	10.9	3.7	286	11.6	3.7	255	12.6	4.4	37	11.2	3.7	1158
Female	11.7	3.5	290	11.8	3.6	279	12.0	4.0	276	12.1	3.8	251	12.5	3.8	29	11.9	3.7	1125
Total	11.3	3.5	550	11.6	3.6	599	11.5	3.9	562	11.8	3.7	506	12.5	4.1	66	11.6	3.7	2283

6) ADL Scales

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

This scale comprises thirteen 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)

	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
Male	12.1	1.2	265	12.2	1.3	331	12.1	1.3	297	12.0	1.4	267	11.7	1.4	41	12.1	1.3	1201
Female	12.5	0.9	294	12.5	0.9	284	12.4	1.1	286	12.1	1.3	270	11.8	1.3	34	12.4	1.1	1168
Total	12.3	1.0	559	12.3	1.2	615	12.2	1.2	583	12.0	1.4	537	11.7	1.4	75	12.2	1.2	2369

2. The Katz Index

This scale generates the index of basic ADLs. The index permits ranking of individuals according to adequacy of performance in six functions (bathing, dressing, going to toilet, transferring, continence, and feeding). Adequacy is expressed as a grade (A to G). Level A means overall independence in the functions, and the opposite pole is level G, which means general dependence in ADL. None of the participants in the third-wave sample were graded as level D to G.

Katz index

		40-49yr		50-59yr		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
level A	Male	266	100.0	324	98.8	294	99.3	256	96.6	41	97.6	1181	98.7
	Female	293	99.7	277	97.5	278	97.2	259	95.2	32	97.0	1139	97.4
	Total	559	99.8	601	98.2	572	98.3	515	95.9	73	97.3	2320	98.1
level B	Male	0	0.0	3	0.9	2	0.7	9	3.4	1	2.4	15	1.3
	Female	1	0.3	7	2.5	8	2.8	13	4.8	1	3.0	30	2.6
	Total	1	0.2	10	1.6	10	1.7	22	4.1	2	2.7	45	1.9
level C	Male	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0	1	0.1
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	1	0.0

7) Intelligence and Cognitive Function Scales

I. 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 elderly 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 ($80 \leq EIQ < 120$), and high ($120 \leq EIQ$).

WAIS-R-SF: estimated total score with four-subtest full scale (possible range 6-76)

	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
Male	45.0	7.3	266	47.6	7.0	327	46.0	7.4	296	44.7	8.6	263	40.1	8.2	42	45.7	7.8	1194
Female	45.1	7.3	294	46.5	7.3	284	42.9	7.9	285	40.4	8.5	273	41.0	7.8	33	43.7	8.1	1169
Total	45.0	7.3	560	47.1	7.2	611	44.5	7.8	581	42.5	8.8	536	40.5	8.0	75	44.7	8.0	2363

WAIS-R-SF: estimated intelligence quotient (EIQ) with four-subtest full scale

	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
Male	108.1	13.8	266	113.0	12.0	327	109.9	12.5	296	107.4	13.7	263	100.2	13.2	42	109.5	13.3	1194
Female	108.6	14.0	294	111.2	12.2	284	104.9	13.0	285	100.7	13.6	273	101.5	12.5	33	106.3	13.7	1169
Total	108.4	13.9	560	112.2	12.1	611	107.5	13.0	581	104.0	14.0	536	100.8	12.9	75	107.9	13.6	2363

WAIS-R-SF: parameter of distribution by EIQ level

		40-49yr		50-59yr		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
low ($EIQ < 80$)	Male	5	1.9	2	0.6	1	0.3	5	1.9	1	2.4	14	1.2
	Female	5	1.7	2	0.7	5	1.8	15	5.5	2	6.1	29	2.5
	Total	10	1.8	4	0.7	6	1.0	20	3.7	3	4.0	43	1.8
middle ($80 \leq EIQ < 120$)	Male	201	75.6	218	66.7	227	76.7	204	77.6	39	92.9	889	74.5
	Female	224	76.2	217	76.4	240	84.2	232	85.0	28	84.8	941	80.5
	Total	425	75.9	435	71.2	467	80.4	436	81.3	67	89.3	1830	77.4
high ($120 \leq EIQ$)	Male	60	22.6	107	32.7	68	23.0	54	20.5	2	4.8	291	24.4
	Female	65	22.1	65	22.9	40	14.0	26	9.5	3	9.1	199	17.0
	Total	125	22.3	172	28.2	108	18.6	80	14.9	5	6.7	490	20.7

WAIS-R-SF subtest 1: information (29 items, possible range 0-29)

	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
Male	17.3	4.9	266	17.9	5.2	328	16.6	5.3	296	14.6	5.6	267	13.7	5.9	42	16.6	5.4	1199
Female	15.5	5.1	294	15.7	5.5	284	13.6	5.5	285	11.5	5.2	273	12.5	5.1	34	14.0	5.6	1170
Total	16.3	5.1	560	16.9	5.5	612	15.1	5.6	581	13.0	5.6	540	13.2	5.5	76	15.3	5.6	2369

WAIS-R-SF subtest 2: similarities (14 items, possible range 0-28)

	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
Male	17.1	4.1	266	16.0	4.6	328	13.2	5.2	296	11.2	5.6	267	9.8	6.0	42	14.3	5.5	1199
Female	16.9	4.1	294	15.5	4.4	284	12.0	5.0	285	10.2	5.2	273	10.3	5.6	34	13.6	5.4	1170
Total	17.0	4.1	560	15.7	4.5	612	12.6	5.1	581	10.7	5.4	540	10.0	5.8	76	13.9	5.5	2369

WAIS-R-SF subtest 3: picture completion (21 items, possible range 0-21)

	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
Male	13.9	2.3	266	13.2	2.6	328	12.0	3.1	296	10.9	3.2	266	9.2	2.8	42	12.4	3.1	1198
Female	14.0	2.5	294	12.8	2.8	284	10.7	3.4	285	8.7	3.9	273	9.4	3.3	33	11.5	3.8	1169
Total	13.9	2.4	560	13.0	2.7	612	11.3	3.3	581	9.8	3.7	539	9.3	3.0	75	12.0	3.5	2367

WAIS-R-SF subtest 4: digit symbol (possible range 0-93)

	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
Male	69.4	11.2	266	61.6	11.0	327	50.5	11.2	296	40.0	10.7	263	32.1	9.9	42	54.8	15.9	1194
Female	72.5	10.8	294	63.9	11.3	284	51.1	11.4	285	38.6	9.3	273	34.9	10.1	33	56.2	16.9	1169
Total	71.0	11.1	560	62.7	11.2	611	50.8	11.3	581	39.3	10.0	536	33.3	10.0	75	55.5	16.4	2363

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)

	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
Male	15.0	3.6	266	13.2	3.5	326	11.8	3.2	295	10.6	3.0	263	9.6	3.2	41	12.6	3.7	1191
Female	14.5	3.8	294	12.7	3.4	284	11.4	3.2	285	10.0	2.8	273	10.1	3.1	34	12.1	3.7	1170
Total	14.7	3.7	560	13.0	3.5	610	11.6	3.2	580	10.3	2.9	536	9.8	3.1	75	12.3	3.7	2361