

## X. Physical function Tests

### 1) Physical fitness

- Sitting trunk flexion
- Right grip strength
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- Foot balance with eye closed
- Reaction time
- Leg extension power
- Sit up
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- Step length, pitch and velocity with maximum speed

### 3) Stabilometry

- With eye opened
- With eye closed

### 4) Physical activity

### 5) Physical activity questionnaire\*

\*Iwai N, Yoshiike N, Saitoh S, Nose T, Kushiro T, Tanaka H: Leisure-time physical activity and related lifestyle characteristics among middle-aged Japanese. Japan Lifestyle Monitoring Study Group. *J Epidemiol* 10: 226-33, 2000.

1. Physical fitness (Takei corp.)

Sitting trunk flexion (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	2.8	8.5	291	3.1	8.8	278	2.2	8.9	281	1.0	8.7	272	2.3	8.7	1122
Female	9.5	7.2	282	9.6	7.7	278	9.7	7.3	281	8.8	7.2	264	9.4	7.3	1105
Total	6.1	8.5	573	6.3	8.9	556	6.0	9.0	562	4.9	8.9	536	5.8	8.8	2227

Right grip strength (kg)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	47.0	7.0	290	43.1	7.0	281	38.7	6.6	282	34.4	6.0	275	40.9	8.2	1128
Female	28.0	5.0	282	25.6	4.7	278	23.6	4.4	277	20.7	4.1	272	24.5	5.3	1109
Total	37.7	11.3	572	34.4	10.6	559	31.3	9.4	559	27.6	8.6	547	32.8	10.7	2237

Left grip strength (kg)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	45.2	6.5	291	41.5	6.8	281	37.4	6.2	281	33.2	6.5	276	39.4	7.9	1129
Female	26.6	4.8	281	24.5	4.5	277	22.1	4.4	277	19.2	4.0	271	23.1	5.2	1106
Total	36.0	10.9	572	33.0	10.3	558	29.8	9.4	558	26.3	8.8	547	31.3	10.5	2235

Foot balance with eye closed (sec)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	35.4	41.9	291	19.0	23.1	280	8.8	12.1	283	5.3	5.5	271	17.4	27.7	1125
Female	27.3	29.2	282	16.7	22.4	278	6.9	7.3	279	3.7	3.6	258	13.9	21.2	1097
Total	31.4	36.4	573	17.9	22.8	558	7.9	10.0	562	4.5	4.7	529	15.6	24.7	2222

Reaction time (sec)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.420	0.065	291	0.440	0.075	279	0.471	0.098	283	0.535	0.123	269	0.466	0.102	1122
Female	0.462	0.072	279	0.478	0.081	276	0.519	0.105	275	0.632	0.175	248	0.520	0.131	1078
Total	0.441	0.071	570	0.459	0.080	555	0.495	0.104	558	0.582	0.158	517	0.492	0.120	2200

Leg extension power (W)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	683.8	176.0	290	584.4	140.3	276	479.7	126.6	278	375.4	120.1	255	535.6	183.3	1099
Female	354.2	109.0	279	334.5	94.2	272	288.0	83.9	262	215.4	83.0	235	301.4	107.1	1048
Total	522.2	220.9	569	460.4	173.0	548	386.7	144.4	540	298.7	131.1	490	421.3	191.1	2147

Sit up (reps/30sec)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	15.8	4.3	290	13.4	4.0	274	10.7	4.0	275	8.5	4.1	245	12.3	4.9	1084
Female	10.6	4.1	272	6.5	5.0	262	3.9	4.4	256	3.5	4.0	226	6.3	5.2	1016
Total	13.3	4.9	562	10.1	5.7	536	7.5	5.4	531	6.1	4.8	471	9.4	5.9	2100

Right leg strength (kg)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	47.0	9.9	201	44.1	10.5	202	37.1	8.7	208	31.9	8.1	183	40.2	11.0	794
Female	28.6	7.4	209	26.9	6.5	200	24.2	5.8	190	21.3	6.1	183	25.4	7.1	782
Total	37.6	12.7	410	35.6	12.3	402	31.0	9.8	398	26.6	8.9	366	32.9	11.9	1576

Left leg strength (kg)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	46.3	9.2	201	43.1	10.6	201	36.1	8.9	208	31.0	7.4	180	39.3	10.8	790
Female	28.4	7.0	209	26.6	6.1	200	23.7	6.1	189	20.6	5.9	185	24.9	7.0	783
Total	37.1	12.1	410	34.8	11.9	401	30.2	9.9	397	25.7	8.5	365	32.2	11.6	1573

2. Gait performance (Yagami corp.)

Step length of gait with comfortable speed (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	71.0	6.6	286	69.9	8.0	274	67.9	7.8	276	64.2	8.4	263	68.3	8.1	1099
Female	66.8	6.5	269	66.1	7.1	264	63.2	6.6	271	58.0	7.5	260	63.6	7.7	1064
Total	68.9	6.9	555	68.0	7.8	538	65.6	7.6	547	61.1	8.6	523	66.0	8.3	2163

Pitch of gait with comfortable speed (step/min)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	115.5	9.9	286	115.5	10.3	273	115.6	10.2	276	115.1	11.5	263	115.4	10.4	1098
Female	123.0	12.4	269	122.8	12.5	264	121.7	12.3	270	117.6	11.2	260	121.3	12.3	1063
Total	119.1	11.8	555	119.1	12.0	537	118.6	11.7	546	116.3	11.4	523	118.3	11.8	2161

Velocity of gait with comfortable speed (m/min)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	81.9	10.5	287	80.6	11.2	275	78.5	11.2	277	73.9	11.4	263	78.8	11.4	1102
Female	82.1	10.8	273	81.1	10.5	266	76.9	10.1	271	68.2	10.8	260	77.2	11.9	1070
Total	82.0	10.6	560	80.8	10.8	541	77.7	10.7	548	71.0	11.5	523	78.0	11.7	2172

Step length of gait with maximum speed (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	82.5	8.1	283	81.1	8.1	271	78.7	8.5	269	73.6	8.7	257	79.1	9.0	1080
Female	74.3	7.0	267	73.2	7.9	262	68.9	7.8	268	64.3	9.4	253	70.2	8.9	1050
Total	78.5	8.6	550	77.2	8.9	533	73.8	9.5	537	69.0	10.1	510	74.7	10.0	2130

Pitch of gait with maximum speed (step/min)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	137.9	16.8	283	135.1	14.3	271	131.9	14.1	269	131.8	13.9	257	134.2	15.0	1080
Female	144.3	15.4	267	141.9	17.1	262	141.5	16.3	268	133.3	14.1	253	140.3	16.3	1050
Total	141.0	16.4	550	138.4	16.1	533	136.7	15.9	537	132.6	14.0	510	137.2	16.0	2130

Velocity of gait with maximum speed(m/min)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	113.3	14.0	287	109.3	13.8	275	103.9	14.5	278	96.7	13.1	260	106.0	15.2	1100
Female	106.9	12.0	273	104.0	12.5	268	97.2	11.8	270	85.1	12.5	256	98.5	14.8	1067
Total	110.1	13.5	560	106.7	13.4	543	100.6	13.6	548	90.9	14.0	516	102.3	15.4	2167

3. Stabilometry (NEC corp.)

Stabilometry - out around area with eye opened (cm<sup>2</sup>)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.99	1.05	212	2.25	1.08	222	2.62	1.35	221	3.06	1.86	223	2.49	1.43	878
Female	1.71	0.84	225	2.07	0.92	220	2.42	1.19	225	2.81	1.48	209	2.24	1.20	879
Total	1.85	0.96	437	2.16	1.01	442	2.52	1.27	446	2.94	1.69	432	2.36	1.33	1757

Stabilometry - total power spectram X with eye opened (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.26	0.20	213	0.28	0.22	222	0.32	0.21	221	0.37	0.25	223	0.31	0.23	879
Female	0.21	0.14	225	0.25	0.19	220	0.30	0.22	225	0.36	0.29	209	0.28	0.22	879
Total	0.23	0.17	438	0.26	0.20	442	0.31	0.21	446	0.37	0.27	432	0.29	0.22	1758

Stabilometry - total power spectram Y with eye opened (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.46	0.43	213	0.50	0.37	222	0.53	0.41	221	0.58	0.46	223	0.52	0.42	879
Female	0.38	0.32	225	0.47	0.39	220	0.50	0.40	225	0.52	0.35	209	0.47	0.37	879
Total	0.42	0.38	438	0.48	0.38	442	0.52	0.41	446	0.55	0.41	432	0.49	0.40	1758

Stabilometry - center coodainates X with eye opened (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	-0.09	0.76	213	-0.05	0.83	222	0.02	0.68	221	0.08	0.83	223	-0.01	0.78	879
Female	0.01	0.66	225	0.07	0.69	220	0.13	0.70	225	0.21	0.70	209	0.10	0.69	879
Total	-0.04	0.71	438	0.01	0.76	442	0.08	0.69	446	0.14	0.77	432	0.05	0.74	1758

Stabilometry - center coordinates Y with eye opened (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.24	1.54	213	0.47	1.64	222	0.42	1.45	221	0.78	1.62	223	0.48	1.57	879
Female	-0.84	1.40	225	-0.63	1.46	220	-0.62	1.50	225	-0.46	1.43	209	-0.64	1.45	879
Total	-0.31	1.56	438	-0.08	1.64	442	-0.11	1.56	446	0.18	1.65	432	-0.08	1.61	1758

Stabilometry - back and forth difference with eye opened (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	2.30	0.77	213	2.50	0.76	222	2.62	0.79	221	2.72	0.94	223	2.54	0.83	879
Female	2.14	0.66	225	2.37	0.66	220	2.51	0.69	225	2.58	0.73	209	2.40	0.70	879
Total	2.22	0.72	438	2.43	0.71	442	2.57	0.75	446	2.65	0.84	432	2.47	0.77	1758

Stabilometry - right and left difference with eye opened (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.86	0.54	213	1.97	0.54	222	2.16	0.62	221	2.38	0.90	223	2.10	0.69	879
Female	1.72	0.46	225	1.90	0.51	220	2.08	0.61	225	2.30	0.79	209	1.99	0.64	879
Total	1.79	0.51	438	1.94	0.53	442	2.12	0.62	446	2.34	0.85	432	2.05	0.67	1758

Stabilometry - total locus length with eye opened (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	75.26	15.33	213	79.40	14.03	222	83.67	14.22	221	97.46	29.27	223	84.05	21.06	879
Female	69.83	10.06	225	75.06	12.99	220	79.37	14.52	225	85.57	18.23	209	77.32	15.28	879
Total	72.47	13.16	438	77.24	13.68	442	81.50	14.52	446	91.71	25.24	432	80.69	18.70	1758

Stabilometry - out around area with eye closed (cm<sup>2</sup>)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	3.88	5.76	213	3.88	2.13	222	4.73	2.85	221	5.46	3.60	223	4.49	3.86	879
Female	2.87	1.83	225	3.16	1.74	220	4.09	2.61	225	4.38	3.49	209	3.61	2.57	879
Total	3.36	4.25	438	3.52	1.98	442	4.40	2.75	446	4.94	3.59	432	4.05	3.31	1758

Stabilometry - total power spectram X with eye closed (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.42	0.40	213	0.43	0.30	222	0.57	0.45	221	0.66	0.54	223	0.52	0.44	879
Female	0.35	0.29	225	0.37	0.36	220	0.48	0.33	225	0.54	0.50	209	0.43	0.39	879
Total	0.39	0.35	438	0.40	0.33	442	0.52	0.40	446	0.60	0.52	432	0.48	0.42	1758

Stabilometry - total power spectram Y with eye closed (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.60	0.49	213	0.62	0.37	222	0.77	0.54	221	0.78	0.55	223	0.70	0.50	879
Female	0.49	0.40	225	0.53	0.34	220	0.69	0.60	225	0.65	0.44	209	0.59	0.46	879
Total	0.54	0.45	438	0.57	0.36	442	0.73	0.57	446	0.72	0.51	432	0.64	0.48	1758

Stabilometry - center coodainates X with eye closed (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	-0.14	0.82	213	-0.11	0.83	222	-0.04	0.77	221	-0.05	0.85	223	-0.08	0.82	879
Female	0.03	0.67	225	0.04	0.73	220	0.06	0.72	225	0.17	0.74	209	0.07	0.72	879
Total	-0.05	0.75	438	-0.03	0.78	442	0.01	0.75	446	0.06	0.81	432	-0.01	0.77	1758

Stabilometry - center coodainates Y with eye closed (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.59	1.62	213	0.83	1.55	222	0.71	1.43	221	1.04	1.59	223	0.79	1.55	879
Female	-0.58	1.30	225	-0.20	1.46	220	-0.28	1.46	225	-0.15	1.46	209	-0.31	1.43	879
Total	-0.01	1.57	438	0.32	1.59	442	0.21	1.52	446	0.46	1.64	432	0.24	1.59	1758

Stabilometry - back and forth difference with eye closed (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	2.91	0.85	213	3.03	0.85	222	3.29	1.03	221	3.41	1.14	223	3.16	1.00	879
Female	2.61	0.86	225	2.72	0.78	220	3.09	1.04	225	3.06	0.93	209	2.87	0.93	879
Total	2.75	0.87	438	2.87	0.83	442	3.19	1.04	446	3.24	1.06	432	3.01	0.97	1758



Stabilometry - right and left difference with eye closed (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	2.48	0.84	213	2.57	0.83	222	2.92	0.99	221	3.11	1.16	223	2.77	1.00	879
Female	2.21	0.71	225	2.36	0.83	220	2.66	0.87	225	2.82	1.16	209	2.51	0.93	879
Total	2.34	0.79	438	2.46	0.84	442	2.79	0.94	446	2.97	1.16	432	2.64	0.97	1758

Stabilometry - total locus length with eye closed (cm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	104.09	33.74	213	108.91	28.39	222	120.28	39.42	221	144.91	62.32	223	119.73	45.81	879
Female	89.84	18.57	225	95.02	22.64	220	107.59	30.49	225	114.07	40.44	209	101.44	30.54	879
Total	96.77	27.92	438	102.00	26.59	442	113.88	35.73	446	129.99	55.02	432	110.59	39.98	1758

4. Physical activity (Electric pedometer, Sanei corp.)

Electric pedmeter - total energy expenditure average (kcal)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	2067.6	188.3	101	2046.7	183.7	98	1857.8	219.2	119	1690.6	187.8	92	1917.1	246.1	410
Female	1737.6	193.7	103	1670.8	169.6	107	1571.4	145.5	100	1432.8	144.4	100	1605.3	200.2	410
Total	1900.9	252.3	204	1850.5	257.7	205	1727.0	236.8	219	1556.3	210.4	192	1761.2	273.1	820

Electric pedmeters - energy expenditure average (kcal)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	224.1	96.4	101	237.5	108.4	98	205.2	112.0	119	173.0	92.2	92	210.4	105.4	410
Female	214.2	90.2	103	199.4	78.4	107	165.6	76.3	100	124.7	61.7	100	176.6	84.4	410
Total	219.1	93.2	204	217.6	95.7	205	187.1	99.1	219	147.9	81.3	192	193.5	96.9	820

Electric pedmeters - steps average (step/day)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	7832	3042	101	8269	3339	98	7664	3246	119	6987	3185	92	7698	3225	410
Female	8945	2776	103	8671	2734	107	7544	2863	100	6273	2575	100	7880	2925	410
Total	8394	2957	204	8479	3037	205	7609	3070	219	6615	2898	192	7789	3078	820

5. Physical activity questioners

Distribution of 4 categories of leisure-time physical activity

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
2.5METs	Male	128	44.1	173	61.3	181	64.4	194	68.6	676	59.5
	Female	122	43.6	128	46.2	153	54.1	169	60.1	572	51.0
	Total	250	43.9	301	53.8	334	59.2	363	64.4	1248	55.3
4.5METs	Male	142	49.0	136	48.2	122	43.4	89	31.4	489	43.0
	Female	109	38.9	97	35.0	111	39.2	53	18.9	370	33.0
	Total	251	44.0	233	41.7	233	41.3	142	25.2	859	38.1
6.5METs	Male	31	10.7	22	7.8	7	2.5	2	0.7	62	5.5
	Female	11	3.9	6	2.2	3	1.1	1	0.4	21	1.9
	Total	42	7.4	28	5.0	10	1.8	3	0.5	83	3.7
8.5METs	Male	0	0	1	0.4	0	0	0	0	1	0.1
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	1	0.2	0	0	0	0	1	0.0
Total	Male	290	100.0	282	100.0	281	100.0	283	100.0	1136	100.0
	Female	280	100.0	277	100.0	283	100.0	281	100.0	1121	100.0
	Total	570	100.0	559	100.0	564	100.0	564	100.0	2257	100.0

Leisure-time physical activity score (2.5METs) (METs\*min/1000/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	7.75	12.87	280	14.24	21.90	281	27.44	35.64	278	39.65	47.07	281	22.27	34.37	1120
Female	10.03	23.18	272	12.39	19.12	273	17.05	26.62	283	23.26	36.22	273	15.70	27.46	1101
Total	8.87	18.70	552	13.33	20.58	554	22.20	31.81	561	31.57	42.83	554	19.01	31.31	2221

Leisure-time physical activity score (4.5METs) (METs\*min/1000/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	15.76	29.13	280	18.67	31.61	281	34.52	67.04	277	23.05	47.85	281	22.96	46.86	1119
Female	16.30	33.93	272	12.86	24.79	273	19.35	42.63	283	10.08	29.82	273	14.69	33.67	1101
Total	16.02	31.55	552	15.81	28.58	554	26.85	56.51	560	16.66	40.48	554	18.86	41.05	2220

Leisure-time physical activity score (6.5METs) (METs\*min/1000/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	3.99	15.20	280	3.22	15.71	281	2.05	16.05	278	0.28	3.59	281	2.38	13.73	1120
Female	1.60	9.08	272	0.93	7.23	273	0.12	1.68	283	0.10	1.70	273	0.68	5.92	1101
Total	2.81	12.61	552	2.09	12.33	554	1.07	11.40	561	0.19	2.82	554	1.54	10.63	2221

Leisure-time physical activity score (8.5METs) (METs\*min/1000/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.00	0.00	280	0.02	0.37	281	0.00	0.00	278	0.00	0.00	281	0.01	0.18	1120
Female	0.00	0.00	272	0.00	0.00	273	0.00	0.00	283	0.00	0.00	273	0.00	0.00	1101
Total	0.00	0.00	552	0.01	0.26	554	0.00	0.00	561	0.00	0.00	554	0.00	0.13	2221

Leisure-time physical activity score (METs\*min/1000/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	7.75	12.87	280	14.24	21.90	281	27.44	35.64	278	39.65	47.07	281	22.27	34.37	1120
Female	10.03	23.18	272	12.39	19.12	273	17.05	26.62	283	23.26	36.22	273	15.70	27.46	1101
Total	8.87	18.70	552	13.33	20.58	554	22.20	31.81	561	31.57	42.83	554	19.01	31.31	2221

Time spent on the leisure-time physical activity (hour/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	172	156	197	222	197	219	399	344	220	445	340	223	314	298	859
Female	190	210	188	201	149	180	270	253	198	271	271	194	234	230	760
Total	181	184	385	213	177	399	338	310	418	364	322	417	277	271	1619

Leisure-time physical activity score (METs\*min/1000/day)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.08	0.11	280	0.11	0.13	281	0.19	0.23	278	0.19	0.19	281	0.14	0.18	1120
Female	0.08	0.12	272	0.08	0.10	273	0.11	0.15	283	0.10	0.14	275	0.09	0.13	1103
Total	0.08	0.12	552	0.09	0.11	554	0.15	0.20	561	0.14	0.17	556	0.12	0.16	2223

Time spent on the leisure-time physical activity (hour/day)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.51	0.47	197	0.66	0.59	219	1.19	1.02	220	1.32	1.01	223	0.93	0.89	859
Female	0.57	0.62	188	0.60	0.44	180	0.80	0.75	198	0.81	0.81	194	0.70	0.68	760
Total	0.54	0.55	385	0.63	0.53	399	1.01	0.92	418	1.08	0.96	417	0.82	0.81	1619

Distribution of 4 categories of the job physical activity

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
1.5METs	Male	282	97.2	270	95.7	200	71.2	129	45.6	881	77.6
	Female	261	93.2	249	89.9	203	71.7	149	53.0	862	76.9
	Total	543	95.3	519	92.8	403	71.5	278	49.3	1743	77.2
2.5METs	Male	262	90.3	254	90.1	189	67.3	153	54.1	858	75.5
	Female	277	98.9	276	99.6	281	99.3	268	95.4	1102	98.3
	Total	539	94.6	530	94.8	470	83.3	421	74.6	1960	86.8
4.5METs	Male	51	17.6	47	16.7	62	22.1	69	24.4	229	20.2
	Female	124	44.3	139	50.2	163	57.6	127	45.2	553	49.3
	Total	175	30.7	186	33.3	225	39.9	196	34.8	782	34.6
7.5METs	Male	26	9.0	21	7.4	22	7.8	5	1.8	74	6.5
	Female	8	2.9	3	1.1	2	0.7	0	0	13	1.2
	Total	34	6.0	24	4.3	24	4.3	5	0.9	87	3.9
Total	Male	290	100.0	282	100.0	281	100.0	283	100.0	1136	100.0
	Female	280	100.0	277	100.0	283	100.0	281	100.0	1121	100.0
	Total	570	100.0	559	100.0	564	100.0	564	100.0	2257	100.0

On the job physical activity score (1.5METs) (METs\*min/1000/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	138.81	81.05	288	127.29	77.22	282	56.11	71.19	274	20.73	44.17	280	86.35	85.50	1124
Female	63.03	57.85	279	51.71	60.45	276	32.32	44.77	283	19.14	37.80	278	41.51	53.71	1116
Total	101.52	80.08	567	89.91	79.01	558	44.02	60.39	557	19.94	41.09	558	64.01	74.88	2240

On the job physical activity score (2.5METs) (METs\*min/1000/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	119.57	103.8	288	127.81	114.8	282	73.52	96.26	274	44.29	72.90	280	91.66	103.9	1124
Female	240.42	106.7	279	239.00	114.1	276	184.62	104.2	283	148.89	91.10	278	203.12	111.1	1116
Total	179.04	121.3	567	182.81	127.2	558	129.97	114.7	557	96.40	97.62	558	147.19	121.1	2240

On the job physical activity score (4.5METs) (METs\*min/1000/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	28.51	87.43	288	27.33	88.45	282	29.33	84.64	274	29.07	87.30	280	28.55	86.87	1124
Female	23.20	55.67	279	27.81	66.55	276	25.88	58.60	283	18.52	52.11	278	23.86	58.48	1116
Total	25.90	73.52	567	27.57	78.32	558	27.58	72.54	557	23.82	72.08	558	26.21	74.12	2240

On the job physical activity score (7.5METs) (METs\*min/1000/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	15.61	75.92	288	10.98	55.60	282	8.29	46.40	274	2.20	19.06	280	9.32	53.71	1124
Female	2.37	18.91	279	1.66	24.99	276	0.59	6.97	283	0.00	0.00	278	1.15	16.01	1116
Total	9.09	56.06	567	6.37	43.47	558	4.37	33.12	557	1.10	13.54	558	5.25	39.89	2240

On the job physical activity score (METs\*min/1000/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	119.57	103.8	288	127.81	114.8	282	73.52	96.26	274	44.29	72.90	280	91.66	103.9	1124
Female	240.42	106.7	279	239.00	114.1	276	184.62	104.2	283	148.89	91.10	278	203.12	111.1	1116
Total	179.04	121.3	567	182.81	127.2	558	129.97	114.7	557	96.40	97.62	558	147.19	121.1	2240

Time spent on the job (hour/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	2488	588	287	2392	668	282	1472	950	231	945	842	189	1929	979	989
Female	2399	807	279	2275	937	276	1687	816	283	1308	730	271	1920	935	1109
Total	2444	705	566	2334	814	558	1590	884	514	1159	798	460	1924	956	2098

On the job physical activity score (METs\*min/1000/day)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.90	0.34	289	0.87	0.36	282	0.50	0.47	274	0.29	0.41	280	0.64	0.47	1125
Female	0.98	0.36	279	0.95	0.41	276	0.72	0.36	283	0.56	0.33	278	0.80	0.40	1116
Total	0.94	0.35	568	0.91	0.39	558	0.61	0.43	557	0.42	0.39	558	0.72	0.45	2241

Time spent on the job (hour/day)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	7.41	1.75	287	7.12	1.99	282	4.38	2.83	231	2.81	2.51	189	5.74	2.91	989
Female	7.14	2.40	279	6.77	2.79	276	5.02	2.43	283	3.89	2.17	271	5.71	2.78	1109
Total	7.27	2.10	566	6.95	2.42	558	4.73	2.63	514	3.45	2.37	460	5.73	2.85	2098

Residual physical activity score (METs\*min/1000/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	278.44	60.39	290	278.37	62.82	282	352.52	84.63	281	384.93	72.60	283	323.27	84.59	1136
Female	293.95	71.13	280	300.29	79.44	277	323.81	69.71	283	352.57	68.26	281	317.75	75.73	1121
Total	286.06	66.28	570	289.23	72.31	559	338.11	78.76	564	368.81	72.25	564	320.53	80.34	2257

Time spent on residual physical activity (hour/day)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	9.21	2.00	290	9.21	2.08	282	11.66	2.80	281	12.73	2.40	283	10.69	2.80	1136
Female	9.72	2.35	280	9.93	2.63	277	10.71	2.31	283	11.66	2.26	281	10.51	2.50	1121
Total	9.46	2.19	570	9.56	2.39	559	11.18	2.60	564	12.20	2.39	564	10.60	2.66	2257

Sleeping time (hour/day)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	7.12	0.87	290	7.16	1.07	282	7.81	1.09	281	8.35	1.20	283	7.61	1.17	1136
Female	6.79	0.85	280	6.93	1.05	277	7.71	1.15	283	8.03	1.30	281	7.37	1.22	1121
Total	6.95	0.88	570	7.05	1.06	559	7.76	1.12	564	8.19	1.26	564	7.49	1.20	2257

Sleep activity score (METs\*min/1000/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	107.59	13.18	290	108.28	16.14	282	118.12	16.43	281	126.22	18.09	283	115.01	17.77	1136
Female	102.61	12.83	280	104.85	15.91	277	116.55	17.41	283	121.41	19.71	281	111.40	18.40	1121
Total	105.14	13.23	570	106.58	16.10	559	117.33	16.93	564	123.82	19.05	564	113.21	18.17	2257

Total physical activity score (METs\*min/1000/year)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	712.99	95.74	290	716.17	92.33	282	696.94	96.22	281	669.20	78.83	283	698.90	92.84	1136
Female	751.53	67.22	280	749.98	72.07	277	720.59	64.69	283	691.16	59.37	281	728.20	70.38	1121
Total	731.92	85.11	570	732.93	84.55	559	708.81	82.71	564	680.14	70.61	564	713.46	83.72	2257

Total physical activity score (METs\*min/1000/day)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	2.12	0.28	290	2.13	0.27	282	2.07	0.29	281	1.99	0.23	283	2.08	0.28	1136
Female	2.24	0.20	280	2.23	0.21	277	2.14	0.19	283	2.06	0.18	281	2.17	0.21	1121
Total	2.18	0.25	570	2.18	0.25	559	2.11	0.25	564	2.02	0.21	564	2.12	0.25	2257

Intensity index (METs)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.47	0.20	290	1.48	0.19	282	1.44	0.20	281	1.38	0.16	283	1.44	0.19	1136
Female	1.55	0.14	280	1.55	0.15	277	1.49	0.13	283	1.43	0.12	281	1.51	0.15	1121
Total	1.51	0.18	570	1.51	0.17	559	1.46	0.17	564	1.41	0.15	564	1.47	0.17	2257

Active intensity index (METs)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.78	0.28	290	1.79	0.28	282	1.77	0.28	281	1.72	0.24	283	1.77	0.27	1136
Female	1.87	0.19	280	1.88	0.20	277	1.84	0.18	283	1.77	0.16	281	1.84	0.19	1121
Total	1.82	0.25	570	1.83	0.25	559	1.81	0.24	564	1.74	0.21	564	1.80	0.24	2257



# XI. Anthropometry and Body Composition

## XI. Anthropometry and Body composition

### 1) Anthropometric measurements

### 2) Body composition

1. Percent body fat

2. Total body water, extracellular fluid volume, intracellular fluid volume

### 3) Thickness of subcutaneous fat, thickness of preperitoneal fat, thickness of muscle

1) Anthropometric measurements

Height (cm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	168.4	5.9	291	165.8	5.8	282	163.2	5.6	283	160.6	5.6	283	164.5	6.4	1139
Female	154.8	4.8	282	153.3	4.9	279	150.4	5.4	285	146.7	5.7	282	151.3	6.1	1128
Total	161.7	8.6	573	159.5	8.2	561	156.8	8.4	568	153.6	9.0	565	157.9	9.1	2267

Weight (kg)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	65.9	9.0	291	63.9	8.2	282	61.0	8.5	283	57.7	8.8	283	62.1	9.2	1139
Female	54.3	8.4	282	53.6	7.6	279	52.5	7.5	285	49.5	8.5	282	52.4	8.2	1128
Total	60.2	10.5	573	58.8	9.4	561	56.7	9.1	568	53.6	9.6	565	57.3	10.0	2267

Trochanterion height (cm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	82.0	4.4	291	80.6	3.8	281	79.6	3.5	283	78.7	3.7	283	80.2	4.0	1138
Female	75.2	3.4	282	74.6	3.3	279	73.9	3.6	285	72.5	3.8	281	74.0	3.7	1127
Total	78.6	5.2	573	77.6	4.7	560	76.7	4.5	568	75.6	4.8	564	77.2	4.9	2265

Iliocrystal height (cm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	96.8	4.9	278	95.3	4.2	270	93.8	4.1	263	92.9	4.0	271	94.7	4.6	1082
Female	89.1	3.4	267	88.2	3.8	266	87.1	4.0	266	85.5	4.0	265	87.5	4.0	1064
Total	93.0	5.7	545	91.8	5.4	536	90.4	5.3	529	89.2	5.5	536	91.1	5.6	2146

Waist circumference at midway (cm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	82.3	7.8	291	82.9	7.6	282	83.0	8.3	283	81.3	9.5	283	82.3	8.4	1139
Female	72.5	8.4	282	74.3	8.5	279	76.8	8.9	285	77.0	10.0	282	75.2	9.2	1128
Total	77.5	9.5	573	78.6	9.1	561	79.9	9.1	568	79.1	10.0	565	78.8	9.5	2267

Waist circumference at umbilicus (cm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	84.2	7.7	291	84.5	7.4	282	84.7	7.9	282	83.3	8.7	283	84.2	8.0	1138
Female	80.7	9.2	282	83.1	8.6	279	85.6	9.3	285	85.3	10.5	282	83.7	9.6	1128
Total	82.5	8.6	573	83.8	8.1	561	85.2	8.7	567	84.3	9.7	565	83.9	8.8	2266

Hip circumference (cm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	92.9	5.1	291	91.8	4.6	282	90.6	4.9	283	89.0	4.9	283	91.1	5.1	1139
Female	91.8	5.5	282	91.0	5.0	279	90.4	5.3	285	89.3	6.2	282	90.7	5.6	1128
Total	92.4	5.3	573	91.4	4.8	561	90.5	5.1	568	89.2	5.6	565	90.9	5.3	2267

Thigh circumference (cm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	49.7	3.9	291	48.6	3.4	282	47.1	3.8	283	45.7	3.9	283	47.8	4.1	1139
Female	49.0	4.1	281	47.9	3.7	279	47.0	3.9	285	45.1	4.4	282	47.2	4.3	1127
Total	49.3	4.0	572	48.3	3.6	561	47.1	3.8	568	45.4	4.2	565	47.5	4.2	2266

Thigh circumference (10cm above knee) (cm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	45.3	3.6	291	44.6	3.3	282	43.4	3.5	283	42.4	3.7	283	43.9	3.7	1139
Female	45.1	3.8	281	44.1	3.5	279	43.5	3.6	285	42.1	4.2	282	43.7	3.9	1127
Total	45.2	3.7	572	44.3	3.4	561	43.4	3.6	568	42.2	4.0	565	43.8	3.8	2266