

## Supplementary Materials

### Relationship between perception of body image on obesity and smoking status according to age groups in women: Findings of a 7-year Korea National Survey

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Supplementary Table 1. Sociodemographic characteristics of participants (N=12,515)

	Age Group																				
	19–29 years							30–49 years						50–64 years							
	Current smoker (CS)	Hidden smoker (HS)	Non-smoker (NS)	<i>p</i>	<i>p</i> by multiple comparison			Current smoker (CS)	Hidden smoker (HS)	Non-smoker (NS)	<i>p</i>	<i>p</i> by multiple comparison			Current smoker (CS)	Hidden smoker (HS)	Non-smoker (NS)	<i>p</i>	<i>p</i> by multiple comparison		
					CS vs. HS	CS vs. NS	HS vs. NS					CS vs. HS	CS vs. NS	HS vs. NS					CS vs. HS	CS vs. NS	HS vs. NS
Age (year)	24.54 ± 0.26	24.99 ± 0.63	23.94 ± 0.09	0.02 6	0.5 11	0.03 1	0.0 94	39.60 ± 0.34	40.44 ± 0.62	40.30 ± 0.11	0.13 5	0.22 0	0.05 1	0.81 9	56.26 ± 0.35	56.39 ± 0.82	56.57 ± 0.07	0.67 2	0.8 82	0.38 6	0.82 9
Married (%)	19.2 (3.48)	25.5 (12.75)	12.9 (1.07)	0.06 3	0.6 09	0.04 8	0.2 04	67.4 (2.93)	89.8 (3.14)	85.9 (0.62)	<0.0 01	<0.0 01	<0.0 01	0.28 6	57.6 (4.14)	50.4 (10.78)	84.4 (0.64)	<0.0 01	0.5 20	<0.0 01	<0.0 01
Residence (%)				0.95 9	0.7 67	0.94 6	0.7 45				0.54 1	0.64 7	0.48 5	0.36 8				0.17 4	0.5 59	0.09 1	0.99 9
City	92.1 (2.37)	90.2 (6.83)	92.3 (0.94)					87.7 (2.04)	86.0 (3.75)	89.0 (0.99)					81.1 (3.19)	85.8 (6.79)	85.8 (1.00)				
Rural	7.9 (2.37)	9.8 (6.83)	7.7 (0.94)					12.3 (2.04)	14.0 (3.75)	11.0 (0.99)					18.9 (3.19)	14.2 (6.79)	14.2 (1.00)				
Economic activity (%)				1.58 1	0.8 01	0.33 1	0.9 40				0.36 3	0.48 0	0.15 0	0.93 8							
Yes	63.6 (4.35)	60.0 (13.72)	59.0 (1.36)					63.8 (2.78)	59.1 (6.10)	59.6 (0.86)					56.3 (4.64)	43.7 (11.39)	56.3 (0.91)	0.63 7	0.3 01	0.99 9	0.27 0
No	36.4 (4.35)	40.0 (13.72)	41.0 (1.36)					36.2 (2.78)	40.9 (6.10)	40.4 (0.86)					43.7 (4.64)	56.3 (11.39)	43.7 (0.91)				
Household income (Quartiles)				<0.0 01	0.8 58	<.0 01	0.6 26				<0.0 01	0.00 4	<0.0 01	0.00 4				<0.0 01	0.8 27	<0.0 01	0.01 5
1 <sup>st</sup>	43.0	33.3	24.4					36.2	39.8	22.7					43.8	48.1	21.5				

(Lowest)	(4.62)	(13.55)	(1.42)				(2.89)	(5.55)	(0.75)				(3.98)	(10.73)	(0.72)	
2nd	22.6 (3.84)	32.1 (12.51)	24.4 (1.30)				28.9 (2.56)	16.1 (4.43)	24.3 (0.71)				27.0 (3.39)	27.4 (9.86)	24.3 (0.77)	
3rd	22.0 (3.87)	21.8 (11.25)	25.1 (1.36)				23.2 (2.58)	18.4 (4.02)	25.7 (0.72)				16.7 (3.07)	9.0 (6.08)	26.4 (0.77)	
4th (Highest)	12.4 (2.93)	12.8 (8.58)	26.0 (1.33)				11.7 (1.76)	25.6 (5.12)	27.2 (0.87)				12.6 (3.05)	15.5 (8.16)	27.9 (0.92)	
Types of health insurance (%)				<0.01	0.853	<0.01	0.119						<0.01	0.388	<0.01	0.013
National Health Insurance	92.6 (2.45)	91.1 (8.43)	97.9 (0.42)				93.5 (1.52)	95.5 (2.29)	98.1 (0.23)				83.7 (3.32)	90.6 (6.04)	98.0 (0.25)	
Government medical aids for low income	7.4 (2.45)	8.9 (8.43)	2.1 (0.42)				6.5 (1.52)	4.5 (2.29)	1.9 (0.23)				16.3 (3.32)	9.4 (6.04)	2.0 (0.25)	
Education level (%)				0.018	0.765	0.011	0.545						<0.01	0.205	<0.01	<0.01
≤High school	58.5 (4.56)	54.2 (13.55)	46.0 (1.46)				69.5 (2.79)	61.7 (5.64)	35.4 (0.91)				88.1 (2.76)	90.1 (6.65)	76.4 (0.88)	
University or higher	41.5 (4.56)	45.8 (13.55)	54.0 (1.46)				30.5 (2.79)	38.3 (5.64)	64.6 (0.91)				11.9 (2.76)	9.9 (6.65)	23.6 (0.88)	

Values are presented as weighted mean ± standard error (SE) or weighted percentage (SE). The *p* value was determined using analysis of variance –or the Rao-Scott Chi-Square test.

Supplementary Table 2. Clinical characteristics, health behaviours, and perceived health status of participants (N=12,515)

	19–29 years old								30–49 years old						50–64 years old						
	Current smoker (CS)	Hidden smoker (HS)	Non-smoker (NS)	<i>p</i>	<i>p</i> by multiple comparison			Current smoker (CS)	Hidden smoker (HS)	Non-smoker (NS)	<i>p</i>	<i>p</i> by multiple comparison			Current smoker (CS)	Hidden smoker (HS)	Non-smoker (NS)	<i>p</i>	<i>p</i> by multiple comparison		
					CS	CS	HS					CS	CS	HS					CS	CS	HS
					vs. HS	vs. NS	vs. NS					vs. HS	vs. NS	vs. NS					vs. HS	vs. NS	vs. NS
SBP (mmHg)	106.25 ± 0.82	105.11 ± 2.86	104.64 ± 0.26	0.154	0.701	0.053	0.870	110.26 ± 0.85	106.32 ± 1.58	108.35 ± 0.22	0.035	0.027	0.030	0.205	119.14 ± 1.33	116.88 ± 3.60	119.51 ± 0.29	0.736	0.557	0.783	0.464
DBP (mmHg)	70.92 ± 0.69	68.27 ± 2.29	69.13 ± 0.23	0.036	0.262	0.012	0.708	74.02 ± 0.63	71.43 ± 1.23	72.62 ± 0.15	0.058	0.060	0.031	0.338	76.54 ± 0.78	75.63 ± 2.21	76.47 ± 0.16	0.927	0.701	0.927	0.702
BMI (kg/m <sup>2</sup> )	22.27 ± 0.32	23.26 ± 1.36	21.70 ± 0.11	0.141	0.476	0.095	0.255	23.47 ± 0.25	22.97 ± 0.40	22.87 ± 0.06	0.065	0.277	0.020	0.802	23.78 ± 0.27	22.83 ± 0.73	23.84 ± 0.06	0.384	0.221	0.829	0.169
Waist circumference (cm)	74.37 ± 0.77	76.23 ± 2.28	72.00 ± 0.26	0.003	0.442	0.004	0.066	78.95 ± 0.69	77.29 ± 0.97	76.81 ± 0.16	0.010	0.158	0.003	0.627	81.49 ± 0.77	79.71 ± 2.15	80.45 ± 0.16	0.395	0.434	0.192	0.730
abdominal obesity (%)	12.4 (2.64)	8.9 (8.43)	8.1 (0.76)	0.202	0.726	0.071	0.926	28.5 (2.66)	18.9 (4.95)	17.1 (0.63)	<0.01	0.121	<0.01	0.703	33.8 (4.00)	23.1 (8.57)	27.9 (0.79)	0.221	0.294	0.137	0.597
Total cholesterol (mg/dL)	177.23 ± 2.52	174.39 ± 9.28	178.76 ± 0.85	0.766	0.766	0.562	0.639	188.56 ± 1.91	188.15 ± 3.97	190.71 ± 0.52	0.457	0.927	0.276	0.522	205.33 ± 3.92	205.41 ± 9.07	203.59 ± 0.65	0.890	0.994	0.661	0.841
LDL cholesterol (mg/dL)	100.00 ± 2.55	98.47 ± 5.56	103.99 ± 0.73	0.199	0.804	0.130	0.325	109.15 ± 1.85	110.87 ± 3.76	114.35 ± 0.44	0.015	0.683	0.006	0.357	122.49 ± 3.68	123.68 ± 6.67	124.89 ± 0.58	0.801	0.876	0.520	0.857
HDL cholesterol (mg/dL)	58.86 ± 1.18	56.14 ± 3.20	59.04 ± 0.36	0.658	0.423	0.882	0.364	56.44 ± 0.75	58.59 ± 1.34	57.03 ± 0.21	0.370	0.160	0.455	0.249	53.97 ± 1.24	56.44 ± 2.50	54.49 ± 0.22	0.679	0.379	0.675	0.438
Triglyceride (mg/dL)	99.01 ± 6.88	104.81 ± 17.47	79.89 ± 1.33	0.009	0.757	0.006	0.156	124.53 ± 4.75	96.23 ± 5.60	99.81 ± 1.27	<0.01	<0.01	<0.01	0.532	161.54 ± 11.91	125.03 ± 16.25	123.14 ± 1.25	0.006	0.071	0.001	0.908
Haemoglobin (g/dL)	13.43 ± 0.08	13.32 ± 0.33	13.15 ± 0.03	0.005	0.736	0.001	0.617	13.35 ± 0.07	13.28 ± 0.16	12.86 ± 0.02	<0.01	0.706	<0.01	0.009	13.68 ± 0.09	13.22 ± 0.16	13.30 ± 0.02	<0.01	0.014	<0.01	0.600
Fasting Blood Sugar (mg/dL)	90.09 ± 0.69	89.82 ± 1.88	88.74 ± 0.39	0.212	0.891	0.086	0.573	96.51 ± 1.03	92.63 ± 1.06	93.70 ± 0.26	0.017	0.009	0.008	0.313	103.03 ± 1.57	101.47 ± 3.06	100.55 ± 0.36	0.294	0.649	0.123	0.764

Hypertension (%)	1.1 (0.76)	-	1.6 (0.35)	-	-	0.59 5	-	12.5 (2.09)	8.6 (3.91)	7.0 (0.40)	0.00 7	0.42 7	0.00 1	0.66 0	33.9 (4.10)	33.9 (10.25)	30.4 (0.76)	0.60 9	0.9 95	0.39 5	0.72 3
Diabetes Mellitus (%)	0.3 (0.28)	-	0.8 (0.27)	-	-	0.31 8	-	6.5 (1.69)	1.3 (0.93)	3.3 (0.30)	0.00 7	0.01 6	0.01 6	0.16 9	13.9 (2.52)	16.1 (7.44)	12.8 (0.56)	0.81 0	0.7 69	0.65 9	0.62 7
Cardiovascular disease (%)	-	-	0.0 (0.03)	-	-	-	-	0.2 (0.16)	0.9 (0.87)	0.3 (0.08)	0.42 9	0.18 3	0.55 5	0.27 9	3.3 (1.03)	17.2 (8.05)	2.4 (0.24)	<0 01	0.0 02	0.36 0	<0 01
Cancer (%)	0.8 (0.75)	-	0.5 (0.18)	-	-	0.65 9	-	1.1 (0.65)	0.9 (0.93)	3.7 (0.32)	0.01 9	0.89 4	0.02 7	0.12 9	5.2 (1.72)	8.3 (7.85)	8.6 (0.50)	0.34 4	0.6 31	0.11 9	0.97 4
Anaemia (%)	8.1 (2.23)	7.3 (7.06)	8.7 (0.79)	0.95 7	0.9 18	0.81 1	0.85 9	9.6 (1.72)	10.8 (3.55)	17.1 (0.59)	0.00 1	0.75 2	<0 01	0.14 9	5.3 (1.94)	4.0 (3.25)	7.2 (0.47)	0.54 8	0.7 37	0.42 7	0.46 1
Arthritis, rheumatoid arthritis, or osteoporosis (%)	0.8 (0.79)	-	0.5 (0.17)	-	-	0.72 2	-	4.7 (1.31)	6.8 (3.41)	3.3 (0.29)	0.19 3	0.50 9	0.23 7	0.15 2	23.5 (3.34)	27.5 (9.56)	25.8 (0.71)	0.77 8	0.6 79	0.52 0	0.85 7
Liver cirrhosis (%)	-	-	-	-	-	-	-	-	-	0.0 (0.02)	-	-	-	-	4.4 (4.30)	0.3 (0.11)	-	-	-	-	<0 01
Trauma History (%)	14.9 (3.13)	18.0 (11.69)	7.0 (0.74)	0.00 3	0.7 88	0.00 1	0.16 3	7.6 (1.72)	18.1 (4.92)	4.8 (0.33)	<0 01	0.01 5	0.04 5	<0 01	5.8 (1.73)	26.2 (10.39)	7.8 (0.46)	0.00 9	0.0 01	0.31 6	0.00 4
Low-activity participation (%)	7.9 (2.54)	6.6 (6.37)	2.8 (0.47)	0.00 4	0.8 54	0.00 4	0.38 2	5.8 (1.46)	8.4 (3.28)	3.2 (0.29)	0.00 6	0.44 0	0.02 4	0.01 5	12.4 (2.54)	11.1 (6.91)	7.3 (0.43)	0.02 9	0.8 63	0.01 5	0.51 0
Drinking (%)	83.2 (3.36)	72.3 (12.11)	57.7 (1.45)	<0 01	0.3 18	<0 01	0.27 9	73.0 (2.76)	71.6 (5.01)	50.6 (0.81)	<0 01	0.81 0	<0 01	<0 01	60.3 (4.03)	60.9 (10.45)	34.2 (0.82)	<0 01	0.9 58	<0 01	0.00 9
Participation in aerobic PA (%)	56.6 (4.29)	55.1 (13.86)	58.9 (1.44)	0.83 8	0.9 20	0.60 8	0.78 4	44.7 (2.84)	50.2 (5.78)	47.7 (0.84)	0.51 9	0.38 8	0.30 9	0.66 2	32.1 (3.99)	28.9 (10.35)	45.9 (0.85)	0.00 1	0.7 83	0.00 1	0.13 6
Perceived health status (%)				<0 01	0.1 52	<0 01	0.00 2				<0 01	0.39 5	<0 01	0.00 5				<0 01	0.5 21	<0 01	0.00 8
Very good/Good	19.1 (3.25)	25.8 (11.51)	39.4 (1.38)					21.0 (2.45)	17.0 (3.97)	33.6 (0.75)					15.4 (2.92)	6.2 (5.97)	24.3 (0.73)				
Fair	57.5 (4.02)	31.7 (12.23)	48.8 (1.51)					56.2 (3.01)	64.5 (5.47)	53.8 (0.77)					46.2 (4.15)	45.4 (11.32)	55.6 (0.87)				
Poor/Very poor	23.3 (3.58)	42.4 (13.87)	11.8 (0.92)					22.8 (2.42)	18.6 (4.32)	12.5 (0.54)					38.4 (4.22)	48.4 (11.45)	20.1 (0.69)				
Perceived psychological stress (%)	55.9 (4.20)	59.4 (13.41)	38.9 (1.34)	<0 01	0.8 03	<0 01	0.12 7	48.6 (2.83)	39.3 (5.83)	28.0 (0.71)	<0 01	0.16 2	<0 01	0.03 8	41.8 (3.92)	42.9 (10.68)	22.8 (0.69)	<0 01	0.9 25	<0 01	0.02 8
EuroQol: anxiety/depression	16.5 (3.34)	19.5 (10.38)	9.1 (0.83)	0.00 9	0.7 70	0.00 9	0.17 6	17.5 (2.25)	8.6 (3.37)	6.4 (0.39)	<0 01	0.06 8	<0 01	0.44 9	27.0 (4.36)	40.2 (11.46)	11.2 (0.52)	<0 01	0.2 58	<0 01	<0 01

(%)																					
EQ-5D index	0.963 ± 0.005	0.954 ± 0.020	0.978 ± 0.001	0.01 7	0.6 63	0.00 9	0.23 4	0.953 ± 0.005	0.968 ± 0.007	0.973 ± 0.001	<.0 01	0.09 1	<.0 01	0.53 7	0.899 ± 0.013	0.914 ± 0.023	0.949 ± 0.001	<.0 01	0.5 82	<.0 01	0.12 5
Skipping meals (%)																					
Skipping breakfast	64.4 (4.15)	63.0 (13.27)	48.1 (1.46)	<.0 01	0.9 13	<.0 01	0.28 4	42.7 (3.01)	37.4 (5.63)	25.4 (0.74)	<.0 01	0.40 7	<.0 01	0.02 0	38.5 (3.91)	14.5 (7.99)	14.0 (0.58)	<.0 01	0.0 38	<.0 01	0.95 4
Skipping lunch	16.1 (3.46)	30.3 (12.73)	11.6 (0.86)	0.05 9	0.1 83	0.15 9	0.03 7	13.8 (1.99)	12.6 (3.64)	7.6 (0.42)	<.0 01	0.76 3	<.0 01	0.09 2	15.1 (3.01)	12.7 (7.02)	7.0 (0.41)	<.0 01	0.7 69	<.0 01	0.28 2
Skipping dinner	8.1 (2.41)	29.3 (11.85)	10.1 (0.85)	0.06 2	0.0 10	0.47 3	0.01 4	9.3 (1.77)	8.6 (4.01)	6.6 (0.42)	0.25 8	0.88 1	0.09 6	0.58 1	7.7 (2.17)	9.4 (5.69)	6.9 (0.43)	0.82 6	0.7 64	0.69 5	0.60 8
Daily calorie intake (kcal)	1891.1 5 ± 93.62	1339.8 3 ± 187.30	1799. 80 ± 22.48	0.03 3	0.0 09	0.34 2	0.01 5	1759.6 0 ± 42.09	1779.0 4 ± 118.75	1754. 63 ± 11.01	0.97 3	0.87 8	0.90 9	0.83 8	1604.8 2 ± 42.91	1398.1 8 ± 123.25	1687. 04 ± 11.23	0.01 3	0.11 2	0.06 3	0.01 9
Daily carbohydrate intake (g)	235.83 ± 10.56	161.70 ± 25.95	252.1 8 ± 3.08	<.0 01	0.0 08	0.13 9	<.0 01	234.80 ± 5.33	268.27 ± 25.15	263.8 3 ± 1.73	<.0 01	0.19 3	<.0 01	0.86 0	251.50 ± 8.03	207.04 ± 17.19	278.5 0 ± 1.95	<.0 01	0.0 18	0.00 1	<.0 01
Daily protein intake (g)	67.32 ± 3.73	54.13 ± 11.05	66.40 ± 1.02	0.52 7	0.2 60	0.80 8	0.27 0	65.69 ± 1.98	62.70 ± 4.27	64.98 ± 0.51	0.81 5	0.52 7	0.72 3	0.59 8	55.08 ± 1.90	49.40 ± 6.05	59.97 ± 0.49	0.01 1	0.3 69	0.01 3	0.08 1
Daily fat intake (g)	52.20 ± 3.57	33.49 ± 8.32	52.55 ± 1.02	0.07 8	0.0 39	0.92 5	0.02 4	44.09 ± 1.64	42.34 ± 3.02	44.44 ± 0.46	0.77 8	0.61 5	0.83 6	0.49 6	33.93 ± 1.61	36.33 ± 7.50	35.28 ± 0.41	0.71 2	0.7 54	0.41 8	0.88 9
Daily calcium intake (mg)	436.40 ± 27.52	284.94 ± 64.19	456.9 9 ± 7.70	0.02 4	0.0 29	0.46 2	0.00 8	448.16 ± 19.01	426.51 ± 30.28	475.7 7 ± 4.38	0.10 7	0.54 1	0.15 3	0.10 6	442.24 ± 18.78	409.84 ± 59.74	499.2 6 ± 5.25	0.00 5	0.6 07	0.00 4	0.13 5
Daily iron intake (mg)	10.97 ± 0.79	8.63 ± 2.26	10.68 ± 0.18	0.62 3	0.3 31	0.72 1	0.36 5	11.21 ± 0.42	11.41 ± 0.89	12.13 ± 0.12	0.08 5	0.83 5	0.03 3	0.41 8	10.92 ± 0.51	9.52 ± 1.12	12.69 ± 0.13	<.0 01	0.2 57	<.0 01	0.00 5
Daily sodium intake (mg)	2998.2 2 ± 173.34	1994.2 1 ± 492.76	2975. 87 ± 53.71	0.14 1	0.0 57	0.90 2	0.04 8	3404.9 4 ± 113.29	3094.4 9 ± 218.99	3206. 26 ± 31.20	0.19 4	0.20 9	0.08 5	0.61 6	2782.0 1 ± 131.17	2230.5 5 ± 242.75	2969. 81 ± 32.27	0.00 5	0.0 44	0.16 4	0.00 3
Daily Sodium intake ≥ 2000 mg/day (%)	65.2 (4.21)	22.2 (11.47)	67.3 (1.32)	0.00 6	0.0 02	0.63 1	<.0 01	77.5 (2.49)	68.2 (5.64)	73.7 (0.71)	0.20 3	0.10 8	0.15 7	0.30 4	64.9 (4.37)	41.9 (10.50)	66.8 (0.78)	0.09 9	0.0 41	0.66 7	0.01 4
Energy contribution																					
Carbohydrate (%)	53.06 ± 1.36	50.69 ± 5.00	57.51 ± 0.34	0.00 2	0.6 56	0.00 1	0.17 4	55.88 ± 0.89	60.76 ± 1.77	61.11 ± 0.19	<.0 01	0.01 5	<.0 01	0.84 1	63.43 ± 1.20	61.16 ± 2.89	66.55 ± 0.19	0.00 8	0.4 63	0.01 1	0.06 3
Protein (%)	14.65 ± 0.47	16.29 ± 2.37	14.76 ± 0.13	0.78 8	0.4 96	0.81 1	0.52 0	15.00 ± 0.34	14.30 ± 0.50	14.85 ± 0.07	0.51 0	0.26 0	0.67 2	0.27 5	13.80 ± 0.31	14.03 ± 0.65	14.27 ± 0.07	0.32 0	0.7 43	0.13 9	0.72 3
Fat (%)	24.07	21.92	25.31	0.26	0.5	0.20	0.28	22.02	20.95	22.09	0.52	0.35	0.90	0.25	18.47	21.65	18.39	0.35	0.1	0.91	0.14

±0.94 ±3.18 ± 4 16 1 8 ±0.57 ±1.00 ± 6 4 3 9 ±0.66 ±2.24 ± 2 71 1 8  
 0.27 0.14 0.15

Values are presented as sample numbers and weighted% (standard error). The *p* value was determined using analysis of variance or the Rao-Scott Chi-Square test.

**Abbreviations:** SBP, systolic blood pressure; DBP, diastolic blood pressure; CVD, cardiovascular disease; PA, physical activity; LDL, low-density lipoproteins; HDL, high-density lipoproteins.

**Note:** CVD was defined as having a medical diagnosis of stroke, angina pectoris, or myocardial infarction. Cancer was defined as having a medical history of any type of cancer, and low levels of activity were defined as participants who responded that they were currently experiencing restrictions in daily life and social activities owing to health problems or physical or mental disabilities.