

Supplement 1. General characteristics of the participants according to body image distortion

Characteristic	Unweighted no. of participants (weighted %)	Body image distortion		P-value
		No	Yes	
No. of total participants				
Unweighted	42,981	33,191 (77.2)	9,790 (22.8)	
Weighted	2,063,966	1,587,396 (76.9)	476,570 (23.1)	
Gender				
Male	20,683 (48.4)	16,910 (51.3)	3,773 (38.6)	<0.001
Female	22,298 (51.6)	16,281 (48.7)	6,017 (61.4)	
Smartphone using time (h/d)				
<3	10,647 (25.1)	8,452 (25.9)	2,195 (22.5)	<0.001
3–4.5	10,630 (25.1)	8,258 (25.3)	2,372 (24.6)	
4.5–6.5	10,692 (24.8)	8,161 (24.5)	2,531 (25.6)	
≥6.5	11,012 (25.0)	8,320 (24.4)	2,692 (27.2)	
Smartphone dependence^{a)}				
Low	14,489 (33.3)	11,620 (34.6)	2,869 (28.7)	<0.001
Middle	17,728 (41.3)	13,656 (41.2)	4,072 (41.7)	
High	10,764 (25.4)	7,915 (24.2)	2,849 (29.5)	
School grade^{b)}				
Middle school	22,569 (49.4)	17,333 (49.0)	5,236 (50.5)	0.053
High school	20,412 (50.6)	15,858 (51.0)	4,554 (49.5)	
Household income				
Low	5,534 (12.4)	4,131 (11.9)	1,403 (13.9)	<0.001
Middle	20,939 (48.2)	16,125 (48.1)	4,814 (48.5)	
High	16,508 (39.4)	12,935 (40.0)	3,573 (37.5)	
Self-assessed academic achievement				
Low	14,166 (32.9)	10,705 (32.2)	3,461 (35.2)	<0.001
Middle	13,238 (30.8)	10,255 (30.8)	2,983 (30.7)	
High	15,577 (36.3)	12,231 (37.0)	3,346 (34.1)	
Residential status				
Living with family/relatives	41,243 (96.9)	31,825 (96.7)	9,418 (97.2)	0.017
Other	1,738 (3.1)	1,366 (3.3)	372 (2.8)	
Perceived stress level				
Low	28,249 (65.6)	22,334 (67.3)	5,915 (60.0)	<0.001
High	14,732 (34.4)	10,857 (32.7)	3,875 (40.0)	
Experience of sadness or despair in the last 12 months				
No	32,151 (74.8)	25,177 (76.1)	6,974 (70.8)	<0.001
Yes	10,830 (25.2)	8,014 (23.9)	2,816 (29.2)	
Self-rated health level^{c)}				
High	29,989 (69.4)	23,591 (70.7)	6,398 (65.1)	<0.001
Not high	12,992 (30.6)	9,600 (29.3)	3,392 (34.9)	
Feeling anxiety in the last 2 weeks^{d)}				
Not high	38,183 (88.8)	29,776 (89.7)	8,407 (85.7)	<0.001
High	4,798 (11.3)	3,415 (10.3)	1,383 (14.4)	
Experience of suicidal ideation in the last 12 months				
No	38,316 (89.2)	29,838 (90.0)	8,478 (86.6)	<0.001
Yes	4,665 (10.8)	3,353 (10.0)	1,312 (13.4)	
Drinking in the last 30 days				
No	38,465 (89.6)	29,731 (89.7)	8,734 (89.2)	0.141
Yes	4,516 (10.4)	3,460 (10.3)	1,056 (10.8)	
Smoking in the last 30 days				
No	41,194 (95.9)	31,769 (95.8)	9,425 (96.3)	0.033
Yes	1,787 (4.1)	1,422 (4.2)	365 (3.7)	
Breakfast skipping^{e)}				
No	26,659 (62.4)	20,796 (63.1)	5,863 (60.4)	<0.001
Yes	16,322 (37.6)	12,395 (37.0)	3,927 (39.6)	

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Supplement 1. Continued

Characteristic	Unweighted no. of participants (weighted %)	Body image distortion		P-value
		No	Yes	
Education of nutrition and eating habits in the last 12 months				0.565
No	22,493 (53.0)	17,334 (52.9)	5,159 (53.3)	
Yes	20,488 (47.0)	15,857 (47.1)	4,631 (46.7)	
No. of fast food intake per week (times)				0.311
0	7,954 (18.2)	6,098 (18.1)	1,856 (18.6)	
1–2	24,647 (57.1)	19,131 (57.3)	5,516 (56.4)	
≥3	10,380 (24.7)	7,962 (24.6)	2,418 (25.0)	
Physical activity (d) ^h				<0.001
0	11,620 (28.1)	8,747 (27.4)	2,873 (30.3)	
1–2	10,217 (23.9)	7,716 (23.4)	2,501 (25.7)	
≥3	21,144 (48.1)	16,728 (49.3)	4,416 (44.0)	
Weight-control efforts				<0.001
No efforts	18,254 (43.3)	14,646 (45.0)	3,608 (37.6)	
Efforts to lose weight	17,195 (39.4)	12,238 (36.2)	4,957 (50.1)	
Efforts to maintenance/gain weight	7,532 (17.3)	6,307 (18.8)	1,225 (12.3)	

Values were presented as unweighted number (weighted %).

^aSmartphone dependence was measured by overdependence screening tools of total score is 40 points. Based on smartphone overdependence screening tools by the Korea Intelligent Information Society Agency in 2016, low dependency was defined as 10–15 points, middle dependency as 16–22 points and high dependency as over 23 points.

^bGrade in school was used as a proxy for age in the analyses. ^c'High' was defined as individual who answered 'thinking very healthy' or 'thinking healthy' and 'not high' was defined as individuals who answered 'thinking normal,' 'thinking unhealthy,' and 'thinking very unhealthy.' ^d'High' was defined when the Generalized Anxiety Disorder 7 item (GAD-7) score is 10 points or higher, and 'not high' was defined when the GAD-7 score is less than 10 points. ^eBreakfast skipping was defined as not eating breakfast for more than 5 days a week. ^fPhysical activity was defined by the number of days with moderate intensity activity of 60 minutes or more, or high intensity activity of 20 minutes or more.