

Table 1. Sensitivity analysis: Association of IADL disability with community- and individual-level variables determined by multilevel logistic regression ^a.

Variables	Model 1		Model 2		Model 3	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
<i>Community-level independent variable</i>						
Social cohesion (ref. < -0.540)						
-0.540-0.115	1.29	(1.09-1.54)	1.05	(0.87-1.26)	1.04	(0.86-1.25)
0.116-0.6022	1.48	(1.24-1.76)	1.12	(0.93-1.35)	1.10	(0.91-1.33)
≥0.6023	1.55	(1.30-1.85)	1.10	(0.90-1.33)	1.07	(0.88-1.31)
Civic participation (ref. < -0.526)						
-0.526-0.012	0.81	(0.72-0.91)	0.86	(0.76-0.97)	0.86	(0.76-0.98)
0.0121-0.564	0.77	(0.68-0.87)	0.87	(0.76-0.99)	0.87	(0.76-0.99)
≥0.565	0.56	(0.48-0.64)	0.73	(0.61-0.87)	0.74	(0.62-0.88)
Reciprocity (ref. <-0.418)						
-0.418-0.190	1.20	(1.03-1.41)	1.13	(0.96-1.31)	1.11	(0.95-1.30)
0.191-0.559	1.18	(1.01-1.38)	1.05	(0.89-1.23)	1.04	(0.89-1.22)
≥0.560	1.20	(1.02-1.42)	1.12	(0.95-1.32)	1.12	(0.94-1.32)
<i>Community-level covariates</i>						
Average annual household income (1000 yen)			1.18	(1.01-1.37)	1.21	(1.05-1.41)
Population density (people/km ² of inhabitable area) (ref ≥10,123)						
<2040			1.84	(1.45-2.35)	1.78	(1.40-2.27)
2040-6852			1.55	(1.25-1.91)	1.50	(1.22-1.85)
6853-10,122			1.05	(0.84-1.30)	1.04	(0.83-1.29)
Area (km ²) (ref ≥5.135)						
<1.256			1.09	(0.85-1.39)	1.07	(0.83-1.36)
1.256-2.2563			1.02	(0.83-1.24)	1.01	(0.83-1.23)
2.2564-5.134			1.09	(0.96-1.24)	1.10	(0.97-1.24)
<i>Individual-level independent variable</i> (ref. no)						
Social cohesion			0.87	(0.76-0.99)	0.94	(0.83-1.08)
Civic participation			0.63	(0.58-0.69)	0.68	(0.63-0.74)
Reciprocity			1.08	(0.74-1.58)	1.19	(0.81-1.73)
<i>Individual-level covariates</i>						
Sex (ref. women)						
Men			2.45	(2.24-2.68)	2.55	(2.31-2.82)
Age (ref. 65-69)						
70-74			1.24	(1.12-1.38)	1.22	(1.10-1.36)

75–79	1.71	(1.53–1.91)	1.64	(1.46–1.84)
80–84	3.00	(2.62–3.43)	2.83	(2.46–3.24)
≥85	5.52	(4.46–6.82)	5.22	(4.21–6.47)
Marital status (ref. divorced)				
Married	2.60	(1.84–3.67)	2.73	(1.94–3.86)
Widowed	2.32	(1.63–3.30)	2.36	(1.65–3.37)
Never married	1.36	(0.82–2.25)	1.36	(0.83–2.26)
Educational attainment (ref. 10–12 years)				
<10	1.41	(1.29–1.55)	1.39	(1.27–1.53)
≥13	0.92	(0.82–1.03)	0.92	(0.82–1.04)
Annual household income (yen) (ref. ≥4,000,000)				
<2,000,000	1.09	(0.94–1.26)	1.04	(0.90–1.20)
2,000,000–3,999,999	1.01	(0.87–1.16)	1.00	(0.86–1.15)
Presence of illnesses (ref. no)				
Yes			1.13	(1.02–1.24)
Depression symptoms (ref. no depression) (GDS-5)				
Depression symptom (GDS >5)			1.25	(1.13–1.38)
Body mass index (ref. 18.5–24.9)				
<18.5			1.12	(0.94–1.33)
≥25.0			1.15	(1.04–1.26)
Smoking habit (ref. no)				
Yes			1.19	(1.06–1.35)
Alcohol consumption (ref. no)				
Yes			0.91	(0.83–1.00)
Daily walking time (ref. ≥30 min/day)				
<30			1.33	(1.22–1.45)
Frequency of going outside (ref. 1 time or more per week)				
Less than 1 time per week			1.61	(1.36–1.92)
Random-effects parameters				
Community-level variance (standard error)	0.117	0.039	0.058	0.067
			0.043	0.091

OR: Odds ratios; CI: Confidence interval; ref.: reference. ^aRandom-effects of estimate (standard error) of Null model was 0.26 (0.035). Model 1: Each community-level social capital variable was incorporated into the model without adjustment. Model 2: Model 1 + community-level average annual household income, population density, area, individual-level social capital, sex, age, marital status, educational attainment, and annual household income. Model 3: Model 2 + presence of illnesses, depression symptoms, body mass index, smoking habit, alcohol consumption, daily walking time, and frequency of going outside.

<10	1.33	(1.18–1.50)	1.59	(1.36–1.85)	1.51	(1.34–1.70)	1.37	(1.18–1.60)
≥13	0.94	(0.82–1.08)	0.78	(0.59–1.02)	0.92	(0.79–1.07)	0.97	(0.79–1.18)
Annual household income (yen) (ref. ≥4,000,000)								
<2,000,000	1.10	(0.92–1.31)	0.98	(0.76–1.26)	1.24	(1.03–1.50)	0.80	(0.64–1.01)
2,000,000–3,999,999	1.06	(0.89–1.26)	0.95	(0.73–1.22)	1.13	(0.94–1.36)	0.84	(0.67–1.05)
Presence of illnesses (ref. no)								
Yes	1.10	(0.98–1.24)	1.16	(0.97–1.40)	1.14	(1.01–1.29)	1.13	(0.95–1.35)
Depression symptoms (ref. no depression) (GDS-5)								
Depression symptom (GDS >5)	1.19	(1.04–1.35)	1.47	(1.25–1.73)	1.19	(1.04–1.36)	1.35	(1.15–1.57)
Body mass index (ref. 18.5–24.9)								
<18.5	1.09	(0.85–1.39)	1.30	(1.01–1.68)	1.20	(0.94–1.54)	1.20	(0.94–1.53)
≥25.0	0.96	(0.85–1.08)	1.55	(1.32–1.82)	1.12	(0.99–1.26)	1.12	(0.95–1.31)
Smoking habit (ref. no)								
Yes	1.18	(1.04–1.34)	0.94	(0.59–1.50)	1.16	(1.00–1.33)	1.02	(0.81–1.30)
Alcohol consumption (ref. no)								
Yes	0.90	(0.81–1.00)	0.87	(0.71–1.08)	0.86	(0.77–0.97)	0.92	(0.79–1.07)
Daily walking time (ref. ≥30 min/day)								
<30	1.30	(1.17–1.45)	1.42	(1.23–1.63)	1.34	(1.19–1.50)	1.39	(1.22–1.58)
Frequency of going outside (ref. 1 time or more per week)								
Less than 1 time per week	1.52	(1.20–1.92)	1.63	(1.25–2.11)	1.51	(1.17–1.94)	1.68	(1.33–2.13)
Random-effects parameters								
Community-level variance (standard error)	0.023	0.225	3.85×10^{-7}	0.191	3.16×10^{-10}	0.104	0.062	0.129

OR: Odds ratios; CI: Confidence interval; ref.: reference. ^a Adjusted for each community-level social capital variable, community-level average annual household income, population density, area, individual-level social capital, age, marital status, educational attainment, annual household income, presence of illnesses, depression symptoms, body mass index, smoking habit, alcohol consumption, daily walking time, and frequency of going outside. ^b Adjusted for each community-level social capital variable, community-level average annual household income, population density, area, individual-level social capital, sex, marital status, educational attainment, annual household income, presence of illnesses, depression symptoms, body mass index, smoking habit, alcohol consumption, daily walking time, and frequency of going outside.