



Table S1. Complete case analysis: HRs for participation in one, two, and three or more different types of organizations.

Rural	Crude model	Model 1	Model 2
n=5,673	HR (95% CI)	HR (95% CI)	HR (95% CI)
0	1.00 Ref	1.00 Ref	1.00 Ref
1	0.58* (0.47–0.71)	0.81 (0.66–1.001)	0.88 (0.72–1.09)
2	0.46* (0.37–0.58)	0.69* (0.55–0.87)	0.77* (0.61–0.97)
≥3	0.36* (0.30–0.43)	0.59* (0.48–0.72)	0.72* (0.58–0.90)
Trend P	p < 0.05	p < 0.05	p < 0.05
Urban	Crude model	Model 1	Model 2
n=13,357	HR (95% CI)	HR (95% CI)	HR (95% CI)
0	1.00 Ref	1.00 Ref	1.00 Ref
1	0.57* (0.50–0.66)	0.75* (0.65–0.86)	0.81* (0.85–0.94)
2	0.53* (0.46–0.62)	0.75* (0.65–0.87)	0.86* (0.74–0.99)
≥3	0.41* (0.36–0.47)	0.61* (0.53–0.70)	0.77* (0.67–0.89)
Trend P	p < 0.05	p < 0.05	p < 0.05

HR: Hazard ratio; CI: confidence interval; Ref: reference. *p < 0.05.

Model 1: Crude model + sex, age, equivalent income, educational attainment, marital status, and self-reported medical conditions. Model 2: Model 1 + smoking, alcohol consumption, walking time (per. day), frequency of going outdoors, depression, emotional support, instrumental support, frequency of meeting friends, and IADL.

Table S2. The full modeling results for participation in one, two, and three or more different types of organizations in Model 2.

	Rural	Urban
	HR (95% CI)	HR (95% CI)
Number of types of organizations (ref. 0)		
1	0.94 (0.84–1.05)	0.92* (0.85–0.99)
2	0.85* (0.75–0.97)	0.87* (0.80–0.96)
≥3	0.76* (0.67–0.86)	0.82* (0.75–0.89)
Missing	0.99 (0.82–1.20)	0.95 (0.82–1.10)
Sex (ref. male)		
Female	1.14* (1.01–1.29)	1.02 (0.94–1.11)
Age (ref. 65–69)		
70–74	1.85* (1.57–2.19)	2.09* (1.87–2.34)
75–79	3.59* (3.07–4.21)	4.37* (3.92–4.87)
80–84	7.24* (6.16–8.50)	8.26* (7.38–9.24)
85+	11.73* (9.83–14.00)	12.70* (11.19–14.42)
Equivalent income (ref. low)		
Middle	0.87* (0.78–0.97)	1.02 (0.95–1.09)
High	1.04 (0.87–1.25)	0.89* (0.79–0.99)
Missing	0.89* (0.80–0.98)	1.02 (0.94–1.10)
Educational attainment (ref. < 10 years)		
10–12	0.89* (0.80–0.98)	1.06 (0.95–1.09)
≥ 13	1.02 (0.88–1.17)	1.02 (0.79–0.99)
Missing	1.16* (0.95–1.41)	1.12 (0.94–1.10)
Marital status (ref. married)		
Single	1.08 (0.98–1.19)	1.08* (1.01–1.16)
Missing	1.11 (0.88–1.39)	1.12 (0.96–1.32)
Self-reported medical conditions (ref. illness)		
No illness	0.76* (0.67–0.85)	0.75* (0.69–0.82)
Missing	0.95 (0.83–1.09)	0.98 (0.89–1.07)
Smoking (ref. never smoked)		
Past smoker	1.20* (1.06–1.36)	1.03 (0.94–1.12)
Current smoker	1.47* (1.25–1.73)	1.28* (1.15–1.43)
Missing	1.01 (0.88–1.17)	1.00 (0.89–1.11)
Alcohol consumption (ref. current drinker)		
Past drinker	1.28* (1.03–1.59)	1.25* (1.07–1.45)
Never drank	0.98 (0.87–1.09)	1.11* (1.03–1.19)
Missing	1.09 (0.87–1.36)	1.13* (0.95–1.35)
Walking time (ref. <30 min/day)		
30–60	0.85* (0.77–0.94)	0.87* (0.81–0.93)
60–90	0.80* (0.70–0.92)	0.80* (0.73–0.88)
>90	0.73* (0.63–0.83)	0.73* (0.66–0.81)
Missing	0.97 (0.82–1.14)	0.84* (0.74–0.96)
Frequency of going outdoors (ref. almost every day)		
2–3 times/week	1.16* (1.05–1.29)	1.11* (1.03–1.18)
About once/week	1.10 (0.96–1.26)	1.09 (0.99–1.22)
Rarely	1.14* (0.99–1.31)	1.34* (1.19–1.49)
Missing	1.11 (0.91–1.35)	1.18 (0.99–1.40)
Depression (ref. no depression)		
Depressive tendency	1.19* (1.07–1.33)	1.12* (1.16–1.34)
Depression	1.41* (1.20–1.64)	1.35* (1.20–1.51)

Missing	1.06* (1.04–1.30)	1.15* (1.07–1.25)
Emotional support (ref. available)		
Not available	1.15* (1.02–1.30)	1.12* (1.03–1.23)
Missing	0.95 (0.75–1.21)	0.93 (0.76–1.16)
Instrumental support (ref. available)		
Not available	1.10 (0.99–1.23)	1.19* (1.10–1.28)
Missing	1.08 (0.84–1.37)	1.15 (0.93–1.42)
Frequency of meeting friends (ref. almost every day)		
2–3 times/week	0.97 (0.84–1.11)	1.01 (0.91–1.12)
About once/week	1.00 (0.85–1.16)	1.00 (0.89–1.11)
1–2 times/month	1.01 (0.87–1.18)	1.01 (0.90–1.12)
A few times a year or less	0.96 (0.83–1.12)	1.01 (0.91–1.13)
Missing	1.04 (0.87–1.26)	1.05 (0.91–1.22)
IADL (ref. not decline)		
Decline	1.27* (1.44–1.40)	1.21* (1.13–1.30)
Missing	1.41* (1.23–1.62)	1.19* (1.07–1.32)

HR: Hazard ratio; CI: confidence interval; Ref: reference. *p < 0.05.

Model 1: Crude model + sex, age, equivalent income, educational attainment, marital status, and self-reported medical conditions. Model 2: Model 1 + smoking, alcohol consumption, walking time (per. day), frequency of going outdoors, depression, emotional support, instrumental support, frequency of meeting friends, and IADL.

Table S3. Complete case analysis: HRs for type of social participation (reference: nonparticipation in each organization).

Rural	Crude model	Model 1	Model 2
n=5,673	HR (95% CI)	HR (95% CI)	HR (95% CI)
Local community	0.58* (0.50–0.68)	0.82* (0.70–0.96)	0.89 (0.76–1.04)
Hobby	0.51* (0.43–0.60)	0.65* (0.55–0.77)	0.71* (0.60–0.85)
Sports	0.52* (0.42–0.63)	0.63* (0.51–0.78)	0.70* (0.56–0.86)
Industry	0.59* (0.47–0.73)	0.81 (0.64–1.02)	0.92 (0.73–1.16)
Volunteer	0.63* (0.51–0.78)	0.80* (0.65–0.99)	0.93 (0.75–1.16)
Citizen	1.26* (1.08–1.48)	0.90 (0.77–1.06)	0.99 (0.84–1.17)
Work	0.47* (0.38–0.57)	0.75* (0.61–0.92)	0.85 (0.68–1.05)
Urban	Crude model	Model 1	Model 2
n=13,357	HR (95% CI)	HR (95% CI)	HR (95% CI)
Local community	0.68* (0.61–0.75)	0.82* (0.74–0.91)	0.91 (0.82–1.02)
Hobby	0.62* (0.56–0.69)	0.75* (0.68–0.84)	0.88* (0.79–0.99)
Sports	0.57* (0.50–0.64)	0.74* (0.65–0.84)	0.87*(0.75–0.99)
Industry	0.74* (0.64–0.85)	0.89 (0.78–1.03)	1.03 (0.89–1.19)
Volunteer	0.60* (0.52–0.70)	0.76* (0.65–0.89)	0.91 (0.78–1.07)
Citizen	1.28* (1.14–1.44)	0.86* (0.77–0.97)	0.96 (0.85–1.09)
Work	0.48* (0.42–0.55)	0.78*(0.68–0.90)	0.82* (0.71–0.95)

HR: Hazard ratio; CI: confidence interval; Ref: reference. *p < 0.05.

Model 1: Crude model + sex, age, equivalent income, educational attainment, marital status, and self-reported medical conditions. Model 2: Model 1 + smoking, alcohol consumption, walking time (per. day), frequency of going outdoors, depression, emotional support, instrumental support, frequency of meeting friends, and IADL.



Table S4. The full modeling results for HRs for type of social participation (reference: nonparticipation in each organization).

Rural	Local community	Hobby	Sports	Industry	Volunteer	Citizen	Work
	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)
Types of social participation (ref. nonparticipation)							
Participation	0.86* (0.77–0.95)	0.76* (0.68–0.85)	0.79* (0.69–0.89)	1.01* (0.87–1.18)	0.89 (0.77–1.03)	1.02 (0.93–1.13)	0.80* (0.70–0.91)
Missing	1.00 (0.89–1.11)	0.96 (0.86–1.07)	0.98 (0.88–1.09)	1.04 (0.94–1.14)	1.07 (0.98–1.18)	1.08 (0.97–1.21)	0.97 (0.88–1.08)
Sex (ref. male)							
Female	1.15* (1.02–1.30)	1.17* (1.04–1.32)	1.16* (1.03–1.31)	1.17* (1.03–1.32)	1.16* (1.03–1.31)	1.17* (1.03–1.32)	1.15* (1.01–1.30)
Age (ref. 65–69)							
70–74	1.85* (1.57–2.18)	1.87* (1.58–2.20)	1.87* (1.58–2.20)	1.85* (1.57–2.18)	1.84* (1.56–2.18)	1.84* (1.56–2.18)	1.81* (1.53–2.14)
75–79	3.57* (3.05–4.19)	3.62* (3.09–4.24)	3.63* (3.10–4.26)	3.59* (3.06–4.21)	3.56* (3.04–4.18)	3.57* (3.04–4.20)	3.47* (2.95–4.07)
80–84	7.20* (6.13–8.46)	7.27* (6.19–8.54)	7.33* (6.24–8.60)	7.26* (6.18–8.54)	7.19* (6.12–8.45)	7.24* (6.15–8.52)	6.99* (5.94–8.22)
85+	11.65* (9.76–13.91)	11.86* (9.93–14.16)	11.94* (10.00–14.25)	11.89* (9.96–14.20)	11.75* (9.84–14.03)	11.83* (9.90–14.15)	11.40* (9.53–13.63)
Equivalent income (ref. low)							
Middle	0.87* (0.78–0.97)	0.87* (0.78–0.98)	0.87* (0.78–0.97)	0.87* (0.78–0.97)	0.87* (0.78–0.98)	0.87* (0.78–0.97)	0.87* (0.78–0.97)
High	1.02 (0.85–1.22)	1.04 (0.86–1.24)	1.03 (0.85–1.23)	1.03 (0.86–1.24)	1.03 (0.86–1.24)	1.03 (0.86–1.24)	1.05 (0.88–1.27)
Missing	0.89* (0.80–0.99)	0.89* (0.81–0.99)	0.90* (0.81–0.967)	0.90* (0.81–0.99)	0.89* (0.81–0.99)	0.90 (0.81–0.99)	0.90 (0.81–1.00)
Educational attainment (ref. < 10 years)							
10–12	0.88* (0.79–0.97)	0.89* (0.81–0.99)	0.88* (0.79–0.97)	0.87* (0.79–0.97)	0.88* (0.79–0.97)	0.87* (0.79–0.97)	0.87* (0.79–0.96)
≥ 13	1.01 (0.87–1.16)	1.03 (0.89–1.19)	1.01 (0.88–1.17)	1.00 (0.87–1.16)	1.01 (0.88–1.17)	1.00 (0.87–1.16)	0.99 (0.86–1.15)
Missing	1.15* (0.95–1.41)	1.16 (0.95–1.41)	1.15* (0.94–1.41)	1.15 (0.95–1.41)	1.16 (0.95–1.41)	1.16 (0.95–1.41)	1.16 (0.95–1.42)
Marital status (ref. married)							
Single	1.08 (0.98–1.20)	1.08 (0.98–1.19)	1.08 (0.98–1.19)	1.08 (0.98–1.19)	1.08 (0.98–1.20)	1.08 (0.98–1.20)	1.07 (0.97–1.18)
Missing	1.12 (0.89–1.40)	1.12 (0.89–1.40)	1.12 (0.89–1.40)	1.12 (0.89–1.40)	1.12 (0.89–1.41)	1.12 (0.89–1.40)	1.11 (0.88–1.39)
Self-reported medical conditions (ref. illness)							
No illness	0.76* (0.67–0.85)	0.75* (0.67–0.85)	0.75* (0.67–0.85)	0.75* (0.67–0.85)	0.76* (0.67–0.85)	0.76* (0.67–0.85)	0.76* (0.68–0.85)
Missing	0.95 (0.83–1.08)	0.94 (0.83–1.08)	0.95 (0.83–1.09)	0.94 (0.83–1.08)	0.95 (0.83–1.08)	0.95 (0.83–1.08)	0.95 (0.83–1.09)
Smoking (ref. never smoked)							
Past smoker	1.22* (1.07–1.38)	1.21* (1.07–1.37)	1.22* (1.07–1.38)	1.22* (1.07–1.38)	1.22* (1.07–1.38)	1.21* (1.07–1.38)	1.21* (1.06–1.37)
Current smoker	1.49* (1.27–1.75)	1.48* (1.26–1.74)	1.48* (1.26–1.74)	1.49* (1.27–1.75)	1.49* (1.26–1.74)	1.49* (1.27–1.75)	1.49* (1.26–1.75)
Missing	1.01 (0.88–1.17)	1.02 (0.88–1.17)	1.02 (0.88–1.18)	1.02 (0.88–1.17)	1.01 (0.88–1.17)	1.02 (0.88–1.17)	1.02 (0.88–1.18)
Alcohol consumption (ref. current drinker)							
Past drinker	1.29* (1.04–1.61)	1.29* (1.04–1.61)	1.29* (1.03–1.60)	1.30* (1.04–1.62)	1.30* (1.04–1.62)	1.30* (1.04–1.62)	1.29* (1.04–1.61)
Never drank	0.99 (0.88–1.10)	0.98 (0.88–1.09)	0.98 (0.87–1.09)	0.99 (0.89–1.11)	0.99 (0.89–1.11)	0.99 (0.89–1.11)	0.99 (0.89–1.10)

Missing	1.09 (0.87–1.35)	1.08 (0.88–1.35)	1.07 (0.86–1.34)	1.09 (0.87–1.36)	1.09 (0.88–1.36)	1.09 (0.88–1.36)	1.08 (0.87–1.35)
Walking time (ref. <30 min/day)							
30–60	0.85* (0.77–0.94)	0.85* (0.77–0.94)	0.85* (0.77–0.94)	0.85* (0.77–0.94)	0.85* (0.77–0.94)	0.85* (0.77–0.94)	0.84* (0.76–0.93)
60–90	0.80* (0.70–0.91)	0.80* (0.70–0.92)	0.80* (0.70–0.92)	0.79* (0.69–0.91)	0.79* (0.69–0.91)	0.79* (0.69–0.91)	0.79* (0.69–0.91)
>90	0.72* (0.62–0.82)	0.72* (0.62–0.82)	0.72* (0.62–0.83)	0.71* (0.62–0.82)	0.71* (0.62–0.82)	0.71* (0.62–0.82)	0.73* (0.64–0.84)
Missing	0.98 (0.83–1.16)	0.98 (0.83–1.16)	0.99 (0.83–1.17)	0.98 (0.83–1.16)	0.98 (0.83–1.15)	0.98 (0.83–1.16)	1.00 (0.84–1.18)
Frequency of going outdoors (ref. almost every day)							
2–3 times/week	1.17* (1.06–1.30)	1.17* (1.05–1.30)	1.17* (1.05–1.29)	1.17* (1.06–1.30)	1.17* (1.05–1.30)	1.17* (1.06–1.30)	1.16* (1.05–1.29)
About once/week	1.12 (0.98–1.28)	1.11 (0.97–1.27)	1.11 (0.97–1.27)	1.13 (0.99–1.29)	1.12 (0.98–1.28)	1.13 (0.98–1.29)	1.13 (0.99–1.29)
Rarely	1.16* (1.01–1.33)	1.14* (1.00–1.31)	1.15* (1.01–1.33)	1.17* (1.02–1.35)	1.17* (1.02–1.34)	1.18* (1.02–1.35)	1.18* (1.02–1.35)
Missing	1.12 (0.92–1.37)	1.12 (0.92–1.37)	1.12 (0.92–1.37)	1.13 (0.93–1.38)	1.13 (0.93–1.37)	1.13 (0.93–1.38)	1.13 (0.93–1.38)
Depression (ref. no depression)							
Depressive tendency	1.20* (1.08–1.34)	1.29* (1.07–1.32)	1.20* (1.08–1.33)	1.21* (1.08–1.35)	1.20* (1.08–1.34)	1.21* (1.08–1.35)	1.20* (1.08–1.34)
Depression	1.44* (1.23–1.68)	1.42* (1.21–1.66)	1.43* (1.22–1.67)	1.45* (1.24–1.70)	1.44* (1.23–1.69)	1.45* (1.24–1.69)	1.43* (1.23–1.68)
Missing	1.17* (1.04–1.31)	1.17* (1.05–1.31)	1.17* (1.05–1.31)	1.18* (1.05–1.32)	1.17* (1.05–1.31)	1.17* (1.05–1.31)	1.18* (1.05–1.32)
Emotional support (ref. available)							
Not available	1.15* (1.02–1.31)	1.15* (1.02–1.31)	1.15* (1.02–1.31)	1.16* (1.02–1.31)	1.15* (1.02–1.30)	1.16* (1.02–1.31)	1.16* (1.02–1.31)
Missing	0.96 (0.75–1.22)	0.95 (0.75–1.21)	0.96 (0.76–1.22)	0.96 (0.75–1.21)	0.95 (0.75–1.21)	0.96 (0.75–1.21)	0.96 (0.76–1.23)
Instrumental support (ref. available)							
Not available	1.11* (1.02–1.31)	1.11 (1.00–1.24)	1.11 (1.00–1.24)	1.12* (1.002–1.25)	1.12 (1.00–1.25)	1.12* (1.001–1.25)	1.12* (1.005–1.25)
Missing	1.09 (0.75–1.22)	1.09 (0.85–1.39)	1.09 (0.86–1.39)	1.09 (0.86–1.39)	1.08 (0.85–1.38)	1.09 (0.85–1.38)	1.09 (0.86–1.39)
Frequency of meeting friends (ref. almost every day)							
2–3 times/week	0.95 (0.82–1.09)	0.97 (0.84–1.12)	0.96 (0.83–1.11)	0.95 (0.82–1.09)	0.95 (0.82–1.10)	0.95 (0.82–1.09)	0.94 (0.81–1.08)
About once/week	0.98 (0.84–1.15)	1.01 (0.86–1.18)	0.99 (0.85–1.15)	0.98 (0.84–1.15)	0.99 (0.85–1.16)	0.99 (0.84–1.15)	0.97 (0.83–1.14)
1–2 times/month	1.01 (0.87–1.17)	1.01 (0.87–1.18)	1.00 (0.86–1.16)	1.00 (0.87–1.17)	1.01 (0.87–1.17)	1.01 (0.87–1.17)	1.00 (0.86–1.15)
A few times a year or less	0.99 (0.85–1.15)	0.97 (0.83–1.12)	0.97 (0.84–1.13)	1.00 (0.86–1.16)	1.00 (0.86–1.16)	1.00 (0.86–1.17)	0.98 (0.85–1.14)
Missing	1.07 (0.88–1.29)	1.08 (0.89–1.30)	1.08 (0.89–1.30)	1.07 (0.89–1.30)	1.06 (0.88–1.28)	1.06 (0.88–1.28)	1.08 (0.90–1.30)
IADL (ref. not decline)							
Decline	1.29* (1.17–1.43)	1.27* (1.14–1.40)	1.29* (1.17–1.43)	1.31* (1.18–1.45)	1.30* (1.18–1.44)	1.31* (1.18–1.45)	1.30* (1.18–1.44)
Missing	1.44* (1.25–1.66)	1.41* (1.23–1.63)	1.44* (1.25–1.66)	1.46* (1.27–1.68)	1.45* (1.26–1.66)	1.46* (1.27–1.68)	1.45* (1.26–1.67)
Urban	Local community	Hobby	Sports	Industry	Volunteer	Citizen	Work
	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)
Types of social participation (ref. nonparticipation)							

Participation	0.95 (0.88–1.01)	0.90* (0.84–0.97)	0.83* (0.77–0.91)	1.04 (0.95–1.15)	0.94 (0.85–1.04)	0.99 (0.92–1.07)	0.83* (0.76–0.91)
Missing	1.00 (0.93–1.07)	0.99 (0.92–1.08)	0.95 (0.88–1.03)	1.04 (0.97–1.12)	1.03 (0.97–1.11)	1.05 (0.97–1.13)	0.98 (0.90–1.06)
Sex (ref. male)							
Female	1.03 (0.94–1.12)	1.03 (0.95–1.13)	1.04 (0.95–1.13)	1.04 (0.95–1.13)	1.03 (0.95–1.12)	1.03 (0.95–1.13)	1.02 (0.94–1.11)
Age (ref. 65–69)							
70–74	2.10* (1.87–2.35)	2.10* (1.88–2.35)	2.10* (1.87–2.35)	2.09* (1.87–2.34)	2.09* (1.87–2.34)	2.10* (1.87–2.35)	2.06* (1.84–2.31)
75–79	4.38* (3.93–4.88)	4.40* (3.95–4.90)	4.40* (3.95–4.90)	4.38* (3.92–4.87)	4.37* (3.92–4.87)	4.38* (3.93–4.89)	4.26* (3.82–4.75)
80–84	8.33* (7.45–9.32)	8.35* (7.47–9.34)	8.32* (7.44–9.31)	8.33* (7.44–9.32)	8.31* (7.42–9.29)	8.35* (7.46–9.35)	8.07* (7.20–9.04)
85+	12.82* (11.30–14.56)	12.84* (11.32–14.58)	12.81* (11.39–14.54)	12.85* (11.32–14.59)	12.81* (11.28–14.54)	12.91* (11.37–14.67)	12.45* (10.96–14.15)
Equivalent income (ref. low)							
Middle	1.01 (0.94–1.08)	1.01 (0.94–1.09)	1.01 (0.94–1.09)	1.01 (0.94–1.08)	1.01 (0.94–1.08)	1.01 (0.94–1.08)	1.01 (0.94–1.08)
High	0.87* (0.78–0.97)	0.88* (0.79–0.98)	0.88* (0.79–0.98)	0.87* (0.78–0.97)	0.88* (0.79–0.98)	0.88* (0.79–0.97)	0.90* (0.80–0.998)
Missing	1.02 (0.94–1.10)	1.02 (0.94–1.10)	1.02 (0.94–1.10)	1.02 (0.94–1.10)	1.02 (0.94–1.10)	1.02 (0.94–1.10)	1.02 (0.94–1.10)
Educational attainment (ref. < 10 years)							
10–12	1.05 (0.99–1.13)	1.06 (1.00–1.14)	1.06 (0.99–1.13)	1.05 (0.99–1.12)	1.06 (0.99–1.13)	1.05 (0.99–1.12)	1.05 (0.98–1.12)
≥ 13	1.01 (0.93–1.10)	1.03 (0.94–1.12)	1.02 (0.94–1.12)	1.01 (0.93–1.10)	1.02 (0.93–1.11)	1.01 (0.93–1.10)	1.01 (0.93–1.10)
Missing	1.13 (0.96–1.32)	1.13 (0.96–1.33)	1.13 (0.96–1.33)	1.13 (0.96–1.32)	1.13 (0.96–1.33)	1.13 (0.96–1.32)	1.13 (0.96–1.33)
Marital status (ref. married)							
Single	1.08* (1.01–1.16)	1.08* (1.01–1.16)	1.08* (1.01–1.15)	1.08* (1.01–1.16)	1.08* (1.01–1.16)	1.08* (1.01–1.16)	1.08* (1.01–1.16)
Missing	1.01 (0.82–1.25)	1.01 (0.82–1.25)	1.01 (0.82–1.24)	1.01 (0.82–1.25)	1.01 (0.82–1.25)	1.01 (0.82–1.25)	1.02 (0.96–1.26)
Self-reported medical conditions (ref. illness)							
No illness	0.75* (0.69–0.81)	0.75* (0.69–0.81)	0.75* (0.69–0.81)	0.75* (0.69–0.81)	0.75* (0.69–0.81)	0.75* (0.69–0.81)	0.75* (0.70–0.82)
Missing	0.98 (0.89–1.08)	0.98 (0.89–1.08)	0.98 (0.89–1.08)	0.98 (0.89–1.08)	0.98 (0.89–1.08)	0.98 (0.89–1.08)	0.98 (0.89–1.08)
Smoking (ref. never smoked)							
Past smoker	1.03 (0.95–1.13)	1.03 (0.95–1.13)	1.04 (0.95–1.13)	1.03 (0.95–1.13)	1.03 (0.94–1.13)	1.03 (0.94–1.13)	1.03 (0.94–1.12)
Current smoker	1.29* (1.16–1.44)	1.28* (1.15–1.44)	1.29* (1.15–1.44)	1.29* (1.16–1.44)	1.29* (1.15–1.44)	1.29* (1.16–1.44)	1.29* (1.16–1.45)
Missing	1.00 (0.90–1.12)	1.00 (0.89–1.12)	1.00 (0.90–1.12)	1.00 (0.89–1.12)	1.00 (0.89–1.12)	1.00 (0.89–1.12)	1.00 (0.90–1.12)
Alcohol consumption (ref. current drinker)							
Past drinker	1.26* (1.08–1.47)	1.25* (1.07–1.46)	1.25* (1.07–1.45)	1.26* (1.08–1.47)	1.26* (1.08–1.47)	1.26* (1.08–1.47)	1.25* (1.07–1.45)
Never drank	1.11* (1.03–1.20)	1.11* (1.03–1.20)	1.11* (1.03–1.19)	1.12* (1.04–1.21)	1.12* (1.04–1.20)	1.12* (1.04–1.20)	1.11* (1.03–1.20)
Missing	1.13 (0.94–1.34)	1.13 (0.95–1.35)	1.12 (0.94–1.34)	1.13 (0.94–1.34)	1.13 (0.94–1.34)	1.13* (0.94–1.34)	1.12* (0.94–1.34)
Walking time (ref. <30 min/day)							
30–60	0.86* (0.81–0.92)	0.86* (0.81–0.92)	0.87* (0.81–0.93)	0.86* (0.80–0.92)	0.86* (0.81–0.92)	0.86* (0.81–0.92)	0.86* (0.80–0.92)
60–90	0.80* (0.73–0.87)	0.80* (0.73–0.87)	0.80* (0.73–0.88)	0.79 (0.72–0.87)	0.80* (0.72–0.87)	0.79* (0.72–0.87)	0.80* (0.73–0.87)
>90	0.72* (0.65–0.80)	0.72* (0.65–0.80)	0.73* (0.66–0.81)	0.72* (0.65–0.80)	0.72* (0.65–0.80)	0.72* (0.65–0.80)	0.74* (0.67–0.82)
Missing	0.84* (0.74–0.96)	0.84* (0.74–0.96)	0.85* (0.74–0.97)	0.84* (0.73–0.96)	0.84* (0.73–0.96)	0.84* (0.73–0.96)	0.85* (0.74–0.97)

Frequency of going outdoors							
(ref. almost every day)							
2–3 times/week	1.11* (1.04–1.19)	1.11* (1.04–1.19)	1.10* (1.03–1.18)	1.11* (1.04–1.19)	1.11* (1.03–1.19)	1.11* (1.04–1.19)	1.10* (1.03–1.18)
About once/week	1.11 (1.00–1.23)	1.10 (0.99–1.22)	1.10 (0.99–1.22)	1.11 (1.00–1.23)	1.11 (1.00–1.22)	1.11 (1.00–1.23)	1.11 (1.00–1.23)
Rarely	1.35* (1.21–1.51)	1.34* (1.20–1.50)	1.34* (1.20–1.50)	1.35* (1.21–1.51)	1.35* (1.21–1.51)	1.35* (1.21–1.51)	1.35* (1.21–1.51)
Missing	1.18 (1.00–1.41)	1.18 (1.00–1.41)	1.18 (0.99–1.40)	1.19 (1.00–1.41)	1.19 (1.00–1.41)	1.19 (1.00–1.41)	1.18 (1.00–1.41)
Depression							
(ref. no depression)							
Depressive tendency	1.26* (1.17–1.36)	1.26* (1.16–1.35)	1.26* (1.17–1.36)	1.26* (1.17–1.36)	1.26* (1.17–1.36)	1.26* (1.17–1.36)	1.26* (1.17–1.36)
Depression	1.37* (1.22–1.54)	1.36* (1.21–1.53)	1.37* (1.22–1.54)	1.38* (1.23–1.55)	1.38* (1.23–1.55)	1.38* (1.23–1.55)	1.37* (1.22–1.54)
Missing	1.16* (1.07–1.25)	1.16* (1.07–1.25)	1.16* (1.08–1.26)	1.16* (1.07–1.25)	1.16* (1.07–1.25)	1.16* (1.07–1.25)	1.16* (1.07–1.25)
Emotional support							
(ref. available)							
Not available	1.13* (1.10–1.29)	1.13* (1.03–1.24)	1.13* (1.03–1.25)	1.13* (1.03–1.24)	1.13* (1.03–1.24)	1.13* (1.03–1.24)	1.14* (1.04–1.25)
Missing	0.96 (0.94–1.44)	0.95 (0.77–1.17)	0.96 (0.78–1.19)	0.95 (0.77–1.18)	0.95 (0.77–1.18)	0.94 (0.77–1.17)	0.96 (0.77–1.18)
Instrumental support							
(ref. available)							
Not available	1.19* (1.10–1.29)	1.19* (1.10–1.29)	1.19* (1.10–1.29)	1.19* (1.11–1.29)	1.19* (1.10–1.29)	1.19* (1.11–1.29)	1.20* (1.11–1.29)
Missing	1.16 (0.94–1.45)	1.17 (0.94–1.44)	1.17 (0.94–1.45)	1.16 (0.94–1.44)	1.16 (0.77–1.18)	1.16 (0.94–1.43)	1.17 (0.95–1.44)
Frequency of meeting friends (ref. almost every day)							
2–3 times/week	1.01 (0.91–1.12)	1.01 (0.91–1.13)	1.01 (0.91–1.13)	1.01 (0.91–1.12)	1.01 (0.91–1.12)	1.01 (0.91–1.12)	1.01 (0.90–1.11)
About once/week	1.00 (0.89–1.11)	1.00 (0.90–1.12)	0.99 (0.89–1.11)	1.00 (0.89–1.12)	0.99 (0.89–1.12)	1.00 (0.89–1.12)	0.99 (0.89–1.11)
1–2 times/month	1.02 (0.91–1.13)	1.02 (0.91–1.13)	1.00 (0.90–1.12)	1.02 (0.92–1.14)	1.02 (0.91–1.13)	1.02 (0.92–1.14)	1.01 (0.91–1.13)
A few times a year or less	1.05 (0.94–1.17)	1.03 (0.93–1.15)	1.02 (0.92–1.14)	1.06 (0.95–1.18)	1.05 (0.95–1.17)	1.06 (0.95–1.17)	1.04 (0.94–1.16)
Missing	1.08 (0.93–1.26)	1.07 (0.92–1.25)	1.09 (0.93–1.26)	1.08 (0.93–1.26)	1.08 (0.93–1.25)	1.08 (0.93–1.25)	1.09 (0.94–1.26)
IADL (ref. not decline)							
Decline	1.23* (1.15–1.32)	1.22* (1.14–1.31)	1.23* (1.14–1.31)	1.24* (1.16–1.33)	1.23* (1.15–1.32)	1.24* (1.16–1.33)	1.24* (1.16–1.33)
Missing	1.20* (1.08–1.34)	1.20* (1.07–1.33)	1.20* (1.08–1.34)	1.21* (1.08–1.34)	1.20* (1.08–1.34)	1.20* (1.08–1.34)	1.21* (1.09–1.34)

HR: Hazard ratio; CI: confidence interval; ref: reference. *p < 0.05.

Model 1: Crude model + sex, age, equivalent income, educational attainment, marital status, and self-reported medical conditions. Model 2: Model 1 + smoking, alcohol consumption, walking time (per. day), frequency of going outdoors, depression, emotional support, instrumental support, frequency of meeting friends, and IADL.