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Supplementary Table 1. Proportion perceiving community gender norms as restrictive by age, education, income, and marital status

	Men	P for χ^2 test	Women	P for χ^2 test
Age				
65–69	12.7 (346/2717)		16.4 (483/2951)	
70–74	10.8 (369/3411)	0.038*	13.3 (498/3743)	0.000*
75–79	11.4 (316/2762)		11.7 (367/3127)	
≥80	10.4 (266/2555)		11.4 (304/2667)	
Education				
>9 years	11.1 (949/8562)	0.26	13.2 (1172/8904)	0.975
≤9 years	11.9 (314/2644)		13.1 (428/3257)	
Missing	14.2 (34/239)		15.9 (52/327)	
Equivalised household income tertile (10,000 yen/year)				
High (247.5–1300)	11.0 (562/5124)	0.493	13.4 (606/4526)	0.818
Middle (159.1–246.0)	11.8 (371/3147)		13.3 (387/2904)	
Low (9.4–158.8)	11.5 (267/2317)		13.8 (431/3118)	
Missing	11.3 (97/857)		11.8 (228/1940)	
Marital status				
Married/cohabiting	11.7 (1120/9602)	0.032*	13.8 (1069/7736)	0.024*
Widowed	9.4 (77/818)		11.8 (414/3503)	
Divorced	8.7 (35/404)		11.2 (74/659)	
Single	9.0 (36/398)		14.4 (51/354)	
Other	7.1 (6/85)		14.9 (10/67)	
Missing	16.7 (23/138)		20.1 (34/169)	
Overall (n**)		11445		12488

* $p < 0.05$

** Number of participants. The number includes those with missing data for any of the outcome variables.

Supplementary Table 2. Proportion of respondents with conventional gender role attitudes by age, education, income, and marital status

	Men	P for χ^2 test	Women	P for χ^2 test
Age				
65–69	49.4 (1343/2717)		38.4 (1132/2951)	
70–74	52.9 (1805/3411)	0.000*	45.4 (1699/3743)	0.000*
75–79	57.1 (1578/2762)		49.9 (1560/3127)	
≥80	61.3 (1565/2555)		52.9 (1412/2667)	
Education				
>9 years	54.4 (4658/8562)	0.045*	45.5 (4047/8904)	0.000*
≤9 years	56.6 (1497/2644)		49.2 (1604/3257)	
Missing	56.9 (136/239)		46.5 (152/327)	
Equivalised household income tertile (10,000 yen/year)				
High (247.5–1300)	54.6 (2797/5124)		45.9 (2078/4526)	
Middle (159.1–246.0)	55.6 (1749/3147)	0.406	45.7 (1326/2904)	0.157
Low (9.4–158.8)	56.2 (1301/2317)		47.9 (1492/3118)	
Missing	51.8 (444/857)		46.8 (907/1940)	
Marital status				
Married/cohabiting	55.3 (5314/9602)		46.9 (3632/7736)	
Widowed	56.7 (464/818)		47.2 (1655/3503)	
Divorced	46.5 (188/404)	0.001*	39.2 (258/659)	0.000*
Single	49.0 (195/398)		40.4 (143/354)	
Other	58.8 (50/85)		49.3 (33/67)	
Missing	58.0 (80/138)		48.5 (82/169)	
Overall (n**)		11445		12488

* $p < 0.05$

** Number of participants. The number includes those with missing data for any of the outcome variables.

Supplementary Table 3. Prevalence ratios (PRs) with 95% confidence intervals [95% CI] for psychological resistance to obtaining help among men: the results of Poisson regression analyses

	Model 1 Univariable		Model 2 Multivariable		Model 3 Interaction added	
	PR	[95% CI]	PR	[95% CI]	PR	[95% CI]
Age (ref. 65–69)						
70–74			1.08	[0.99,1.18]	1.08	[0.99,1.18]
75–79			1.07	[0.98,1.18]	1.07	[0.98,1.18]
≥80			1.19	[1.08,1.30]	1.19	[1.08,1.31]
Education (ref. >9 years)						
≤9 years			1.15	[1.06,1.23]	1.15	[1.06,1.23]
Equivalised household income tertile (10,000 yen/year) (ref. high (247.5–1300))						
Middle (159.1–246.0)			1.06	[0.99,1.15]	1.06	[0.99,1.15]
Low (9.4–158.8)			1.18	[1.08,1.28]	1.18	[1.08,1.28]
Marital status (ref. married/cohabiting)						
Widowed			0.93	[0.82,1.05]	0.93	[0.82,1.05]
Divorced			0.92	[0.77,1.10]	0.92	[0.77,1.10]
Single			1.10	[0.94,1.30]	1.10	[0.94,1.30]
Other			1.38	[1.04,1.82]	1.38	[1.04,1.82]
A) Respondents' perceptions of community gender norms						
Perceiving the community gender norms as restrictive (ref. not restrictive)						
	1.47	[1.36,1.59]	1.33	[1.22,1.44]	1.36	[1.13,1.65]
B) Respondents' gender role attitudes						
With conventional gender roles (ref. without conventional gender roles)						
	1.75	[1.63,1.87]	1.70	[1.59,1.82]	1.71	[1.59,1.84]
Interaction between A and B					0.97	[0.79,1.19]
					P interaction=0.755	

Model 1 was adjusted for age.

Models 2 and 3 were adjusted for the fixed effect of residential location (municipality).

Supplementary Table 4. Prevalence ratios (PRs) with 95% confidence intervals [95% CI] for depressive symptoms among men: the results of Poisson regression analyses

	Model 1 Univariable		Model 2 Multivariable		Model 3 Interaction added	
	PR	[95% CI]	PR	[95% CI]	PR	[95% CI]
Age (ref. 65–69)						
70–74			1.08	[0.97,1.21]	1.09	[0.97,1.21]
75–79			1.02	[0.90,1.15]	1.02	[0.91,1.15]
≥80			1.20	[1.06,1.35]	1.20	[1.06,1.36]
Education (ref. >9 years)						
≤9 years			1.23	[1.13,1.35]	1.23	[1.13,1.35]
Equivalised household income tertile (10,000 yen/year) (ref. high (247.5–1300))						
Middle (159.1–246.0)			1.48	[1.33,1.65]	1.48	[1.33,1.65]
Low (9.4–158.8)			2.14	[1.93,2.38]	2.14	[1.93,2.38]
Marital status (ref. married/cohabiting)						
Widowed			1.54	[1.35,1.76]	1.54	[1.35,1.76]
Divorced			2.12	[1.83,2.46]	2.12	[1.83,2.46]
Single			1.90	[1.63,2.21]	1.90	[1.63,2.21]
Other			1.77	[1.26,2.47]	1.76	[1.26,2.47]
A) Respondents' perceptions of community gender norms						
Perceiving the community gender norms as restrictive (ref. not restrictive)						
	1.68	[1.52,1.86]	1.59	[1.43,1.76]	1.85	[1.54,2.23]
B) Respondents' gender role attitudes						
With conventional gender roles (ref. without conventional gender roles)						
	1.35	[1.24,1.47]	1.32	[1.22,1.44]	1.36	[1.25,1.49]
Interaction between A and B					0.81	[0.65,1.01]
					P interaction=0.057	

Model 1 was adjusted for age.

Models 2 and 3 were adjusted for the fixed effect of residential location (municipality).

Supplementary Table 5. Prevalence ratios (PRs) with 95% confidence intervals [95% CI] for suicidal ideation among men: the results of Poisson regression analyses

	Model 1 Univariable		Model 2 Multivariable		Model 3 Interaction added	
	PR	[95% CI]	PR	[95% CI]	PR	[95% CI]
Age (ref. 65–69)						
70–74			0.76	[0.61,0.94]	0.76	[0.62,0.95]
75–79			0.55	[0.43,0.71]	0.56	[0.43,0.71]
≥80			0.51	[0.39,0.66]	0.51	[0.39,0.67]
Education (ref. >9 years)						
≤9 years			1.28	[1.03,1.58]	1.28	[1.03,1.59]
Equivalised household income tertile (10,000 yen/year) (ref. high (247.5–1300))						
Middle (159.1–246.0)			0.89	[0.72,1.12]	0.89	[0.72,1.12]
Low (9.4–158.8)			1.17	[0.93,1.48]	1.17	[0.93,1.47]
Marital status (ref. married/cohabiting)						
Widowed			1.83	[1.38,2.43]	1.84	[1.38,2.44]
Divorced			2.69	[1.98,3.65]	2.69	[1.98,3.65]
Single			1.66	[1.17,2.38]	1.67	[1.17,2.39]
Other			1.21	[0.46,3.18]	1.21	[0.46,3.17]
A) Respondents' perceptions of community gender norms						
Perceiving the community gender norms as restrictive (ref. not restrictive)						
	1.39	[1.10,1.76]	1.42	[1.11,1.81]	1.99	[1.34,2.96]
B) Respondents' gender role attitudes						
With conventional gender roles (ref. without conventional gender roles)						
	1.32	[1.10,1.57]	1.31	[1.10,1.56]	1.40	[1.16,1.69]
Interaction between A and B						
					0.61	[0.37,0.99]
					P interaction=0.046	

Model 1 was adjusted for age.

Models 2 and 3 were adjusted for the fixed effect of residential location (municipality).

Supplementary Table 6. Prevalence ratios (PRs) with 95% confidence intervals [95% CI] for suicide attempts among men: the results of Poisson regression analyses

	Model 1 Univariable		Model 2 Multivariable		Model 3 Interaction added	
	PR	[95% CI]	PR	[95% CI]	PR	[95% CI]
Age (ref. 65–69)						
70–74			0.96	[0.71,1.32]	0.97	[0.71,1.32]
75–79			0.58	[0.40,0.85]	0.59	[0.40,0.85]
≥80			0.77	[0.53,1.13]	0.78	[0.53,1.13]
Education (ref. >9 years)						
≤9 years			1.23	[0.91,1.65]	1.23	[0.91,1.65]
Equivalised household income tertile (10,000 yen/year) (ref. high (247.5–1300))						
Middle (159.1–246.0)			0.86	[0.61,1.20]	0.86	[0.61,1.20]
Low (9.4–158.8)			1.59	[1.15,2.18]	1.58	[1.15,2.17]
Marital status (ref. married/cohabiting)						
Widowed			1.87	[1.25,2.80]	1.87	[1.25,2.81]
Divorced			3.51	[2.32,5.30]	3.51	[2.33,5.30]
Single			2.01	[1.23,3.31]	2.02	[1.23,3.31]
Other			1.16	[0.29,4.71]	1.16	[0.29,4.72]
A) Respondents' perceptions of community gender norms						
Perceiving the community gender norms as restrictive (ref. not restrictive)						
	1.55	[1.12,2.15]	1.63	[1.16,2.30]	2.15	[1.22,3.80]
B) Respondents' gender role attitudes						
With conventional gender roles (ref. without conventional gender roles)						
	1.25	[0.97,1.60]	1.21	[0.94,1.56]	1.28	[0.98,1.68]
Interaction between A and B					0.67	[0.33,1.34]
					P interaction=0.255	

Model 1 was adjusted for age.

Models 2 and 3 were adjusted for the fixed effect of residential location (municipality).

Supplementary Table 7. Prevalence ratios (PRs) with 95% confidence intervals [95% CI] for psychological resistance to obtaining help among women: the results of Poisson regression analyses

	Model 1 Univariable		Model 2 Multivariable		Model 3 Interaction added	
	PR	[95% CI]	PR	[95% CI]	PR	[95% CI]
Age (ref. 65–69)						
70–74			1.18	[1.05,1.33]	1.18	[1.05,1.33]
75–79			1.35	[1.19,1.52]	1.35	[1.19,1.52]
≥80			1.53	[1.35,1.74]	1.53	[1.35,1.74]
Education (ref. >9 years)						
≤9 years			1.23	[1.13,1.34]	1.23	[1.13,1.34]
Equivalised household income tertile (10,000 yen/year) (ref. high (247.5–1300))						
Middle (159.1–246.0)			1.06	[0.95,1.18]	1.06	[0.95,1.18]
Low (9.4–158.8)			1.33	[1.21,1.47]	1.33	[1.21,1.47]
Marital status (ref. married/cohabiting)						
Widowed			0.86	[0.79,0.95]	0.86	[0.79,0.95]
Divorced			1.03	[0.87,1.22]	1.03	[0.87,1.22]
Single			0.69	[0.51,0.91]	0.69	[0.52,0.91]
Other			0.91	[0.57,1.45]	0.91	[0.57,1.45]
A) Respondents' perceptions of community gender norms						
Perceiving the community gender norms as restrictive (ref. not restrictive)						
	1.53	[1.39,1.68]	1.43	[1.30,1.57]	1.39	[1.17,1.65]
B) Respondents' gender role attitudes						
With conventional gender roles (ref. without conventional gender roles)						
	1.59	[1.47,1.72]	1.54	[1.43,1.67]	1.53	[1.41,1.67]
Interaction between A and B						
					1.04	[0.85,1.27]
					P interaction=0.714	

Model 1 was adjusted for age.

Models 2 and 3 were adjusted for the fixed effect of residential location (municipality).

Supplementary Table 8. Prevalence ratios (PRs) with 95% confidence intervals [95% CI] for depressive symptoms among women: the results of Poisson regression analyses

	Model 1 Univariable		Model 2 Multivariable		Model 3 Interaction added	
	PR	[95% CI]	PR	[95% CI]	PR	[95% CI]
Age (ref. 65–69)						
70–74			1.03	[0.91,1.16]	1.03	[0.91,1.15]
75–79			0.95	[0.83,1.08]	0.95	[0.84,1.08]
≥80			1.08	[0.94,1.23]	1.08	[0.94,1.23]
Education (ref. >9 years)						
≤9 years			1.13	[1.03,1.25]	1.14	[1.03,1.25]
Equivalised household income tertile (10,000 yen/year) (ref. high (247.5–1300))						
Middle (159.1–246.0)			1.46	[1.30,1.65]	1.47	[1.30,1.65]
Low (9.4–158.8)			1.82	[1.62,2.04]	1.82	[1.63,2.04]
Marital status (ref. married/cohabiting)						
Widowed			1.13	[1.02,1.25]	1.13	[1.02,1.25]
Divorced			1.46	[1.25,1.71]	1.46	[1.25,1.70]
Single			1.28	[1.01,1.60]	1.27	[1.01,1.60]
Other			1.69	[1.09,2.62]	1.70	[1.10,2.62]
A) Respondents' perceptions of community gender norms						
Perceiving the community gender norms as restrictive (ref. not restrictive)						
	1.69	[1.53,1.87]	1.62	[1.47,1.79]	1.80	[1.55,2.10]
B) Respondents' gender role attitudes						
With conventional gender roles (ref. without conventional gender roles)						
	1.38	[1.26,1.50]	1.37	[1.26,1.49]	1.42	[1.29,1.56]
Interaction between A and B					0.84	[0.68,1.02]
					P interaction=0.078	

Model 1 was adjusted for age.

Models 2 and 3 were adjusted for the fixed effect of residential location (municipality).

Supplementary Table 9. Prevalence ratios (PRs) with 95% confidence intervals [95% CI] for suicidal ideation among women: the results of Poisson regression analyses

	Model 1 Univariable		Model 2 Multivariable		Model 3 Interaction added	
	PR	[95% CI]	PR	[95% CI]	PR	[95% CI]
Age (ref. 65–69)						
70–74			0.71	[0.58,0.86]	0.71	[0.58,0.86]
75–79			0.59	[0.48,0.74]	0.59	[0.48,0.74]
≥80			0.51	[0.40,0.66]	0.51	[0.40,0.66]
Education (ref. >9 years)						
≤9 years			1.12	[0.93,1.35]	1.12	[0.93,1.36]
Equivalised household income tertile (10,000 yen/year) (ref. high (247.5–1300))						
Middle (159.1–246.0)			1.07	[0.87,1.32]	1.07	[0.87,1.32]
Low (9.4–158.8)			1.24	[1.01,1.51]	1.24	[1.01,1.51]
Marital status (ref. married/cohabiting)						
Widowed			1.16	[0.96,1.41]	1.16	[0.96,1.41]
Divorced			2.49	[1.96,3.17]	2.49	[1.96,3.17]
Single			1.91	[1.35,2.71]	1.91	[1.35,2.71]
Other			1.34	[0.52,3.48]	1.34	[0.52,3.48]
A) Respondents' perceptions of community gender norms						
Perceiving the community gender norms as restrictive (ref. not restrictive)						
	2.11	[1.78,2.51]	2.09	[1.75,2.50]	2.13	[1.65,2.74]
B) Respondents' gender role attitudes						
With conventional gender roles (ref. without conventional gender roles)						
	1.18	[1.02,1.38]	1.17	[1.00,1.36]	1.18	[0.99,1.41]
Interaction between A and B					0.97	[0.69,1.37]
					P interaction=0.854	

Model 1 was adjusted for age.

Models 2 and 3 were adjusted for the fixed effect of residential location (municipality).

Supplementary Table 10. Prevalence ratios (PRs) with 95% confidence intervals [95% CI] for suicide attempts among women: the results of Poisson regression analyses

	Model 1 Univariable		Model 2 Multivariable		Model 3 Interaction added	
	PR	[95% CI]	PR	[95% CI]	PR	[95% CI]
Age (ref. 65–69)						
70–74			0.70	[0.51,0.94]	0.69	[0.51,0.94]
75–79			0.47	[0.33,0.67]	0.47	[0.33,0.67]
≥80			0.45	[0.31,0.66]	0.45	[0.31,0.66]
Education (ref. >9 years)						
≤9 years			1.64	[1.25,2.14]	1.65	[1.26,2.16]
Equivalised household income tertile (10,000 yen/year) (ref. high (247.5–1300))						
Middle (159.1–246.0)			1.13	[0.82,1.57]	1.14	[0.82,1.57]
Low (9.4–158.8)			1.44	[1.05,1.96]	1.44	[1.06,1.97]
Marital status (ref. married/cohabiting)						
Widowed			1.28	[0.95,1.73]	1.28	[0.95,1.72]
Divorced			2.70	[1.86,3.91]	2.69	[1.85,3.89]
Single			1.71	[0.94,3.12]	1.71	[0.94,3.10]
Other			3.14	[1.17,8.42]	3.11	[1.15,8.40]
A) Respondents' perceptions of community gender norms						
Perceiving the community gender norms as restrictive (ref. not restrictive)						
	2.23	[1.71,2.90]	2.26	[1.72,2.97]	2.62	[1.78,3.87]
B) Respondents' gender role attitudes						
With conventional gender roles (ref. without conventional gender roles)						
	1.25	[0.99,1.58]	1.19	[0.94,1.51]	1.28	[0.97,1.68]
Interaction between A and B						
					0.76	[0.45,1.30]
					P interaction=0.321	

Model 1 was adjusted for age.

Models 2 and 3 were adjusted for the fixed effect of residential location (municipality).

Supplementary Table 11. Prevalence ratios (PRs) with 95% confidence intervals [95% CI] for the mental health outcomes among men: the results of sensitivity analyses

Psychological resistance to obtaining help		Depressive symptoms		Suicidal ideation		Suicide attempts	
PR	[95% CI]	PR	[95% CI]	PR	[95% CI]	PR	[95% CI]
If respondents perceived the community gender norms as not restrictive							
Respondents with conventional gender role attitudes (ref. without such attitudes)							
1.71	[1.59,1.84]	1.36	[1.24,1.49]	1.41	[1.17,1.70]	1.30	[0.99,1.71]
If respondents perceived the community gender norms as restrictive							
Respondents with conventional gender role attitudes (ref. without such attitudes)							
1.70	[1.40,2.07]	1.06	[0.87,1.30]	0.76	[0.48,1.19]	0.78	[0.41,1.46]
If respondents' gender role attitudes were not conventional							
Perceiving the community gender norms as restrictive (ref. not restrictive)							
1.39	[1.15,1.68]	1.91	[1.58,2.29]	1.96	[1.33,2.89]	2.03	[1.16,3.56]
If respondents' gender role attitudes were conventional							
Perceiving the community gender norms as restrictive (ref. not restrictive)							
1.33	[1.22,1.45]	1.52	[1.35,1.71]	1.15	[0.86,1.55]	1.37	[0.91,2.06]

All models were adjusted for age, education, income, marital status.

Supplementary Table 12. Prevalence ratios (PRs) with 95% confidence intervals [95% CI] for the mental health outcomes among women: the results of sensitivity analyses

Psychological resistance to obtaining help		Depressive symptoms		Suicidal ideation		Suicide attempts	
PR	[95% CI]	PR	[95% CI]	PR	[95% CI]	PR	[95% CI]
If respondents perceived the community gender norms as not restrictive							
Respondents with conventional gender role attitudes (ref. without such attitudes)							
1.53	[1.40,1.67]	1.40	[1.27,1.54]	1.18	[0.99,1.41]	1.29	[0.98,1.69]
If respondents perceived the community gender norms as restrictive							
Respondents with conventional gender role attitudes (ref. without such attitudes)							
1.59	[1.32,1.92]	1.17	[0.98,1.40]	1.12	[0.83,1.51]	1.03	[0.65,1.63]
If respondents' gender role attitudes were not conventional							
Perceiving the community gender norms as restrictive (ref. not restrictive)							
1.41	[1.19,1.67]	1.84	[1.57,2.14]	2.11	[1.64,2.71]	2.40	[1.64,3.50]
If respondents' gender role attitudes were conventional							
Perceiving the community gender norms as restrictive (ref. not restrictive)							
1.47	[1.31,1.64]	1.51	[1.33,1.73]	2.06	[1.62,2.62]	1.97	[1.36,2.85]

All models were adjusted for age, education, income, marital status.