

SOCIOECONOMIC FACTORS OF SERIOUSLY DISTRESSED PERSONS IN THE GENERAL POPULATION USING THE NATIONALLY REPRESENTATIVE DATA IN JAPAN

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Introduction

Improving quality of public mental health requires a thorough understanding of the mental state of patients and the risk factors associated with their mental distress. However, socioeconomic factors of seriously distressed persons have not been adequately analyzed in the general population. Therefore, in this study, we aimed to analyze those factors using the nationally representative survey data in Japan.

Methods

Anonymous data from the 2016 Comprehensive Survey of Living Conditions¹⁾ in Japan were used with the permission of the Ministry of Health, Labour and Welfare. We compared the socioeconomic factors of seriously distressed persons with those who were normally distressed. The independent variables included age group, marital status, living arrangements, educational level, household income, smoking status, drinking status, and work status, while the dependent variable was the mentally distressed status (seriously or normally distressed). The Kessler Psychological Distress Scale (K6) was used to assess the distress status, with score varied from 0 to 24, where higher scores indicated higher level of distress. Participants with a K6 score of 13 or more were categorized as seriously distressed, while those with 4 or less were classified as normally distressed. A binomial logistic regression analysis was carried out, separately for men and women, and the odds ratio (OR) of seriously distressed persons was calculated. A p-value of <0.05 was considered statistically significant.

1) Ministry of Health, Labour and Welfare of Japan. The Comprehensive Survey of Living Conditions in Japan. <https://www.mhlw.go.jp/toukei/list/20-21.html>. Accessed 6 Aug 2023. (in Japanese).

Results

Fig. 1 outlines the participant selection process. We used data from 7,110 individuals (3,561 men; 3,549 women) who reached adulthood (20 years) in Japan, excluding participants with missing variables. **Table 1** presents the participants’ basic characteristics. **Table 2**, **Fig. 2 (Men)** and **Fig.2 (Women)** showed the results of binominal logistic regression analysis outcomes for men and women. When compared with normally distressed individuals (3,413 men; 3,349 women), seriously distressed individuals (148 men; 200 women) showed an increased OR in unemployed individuals of both sexes (men: OR 3.33; women: OR 2.28) and in divorced or widowed men only (OR 2.27). Additionally, the OR appeared to decrease for men aged 60–69 years (OR 0.15), 70–79 years (OR 0.20), and 80–89 years (OR 0.11), as well as for men with high household income (OR 0.50). Moreover, the OR decreased for women aged 60–69 years (OR 0.34) and 80–89 years (OR 0.34), as well as for women with middle level education (OR 0.59) and high level education (OR 0.55).

Conclusion

This study highlights the need for mental health care attention for seriously distressed individuals, particularly for those below 60 years of age, unemployed individuals of both sexes, divorced men, widowers, men with low household income, and women with a low educational level. The findings suggest the importance of implementing public mental health interventions to address and mitigate these risk factors.

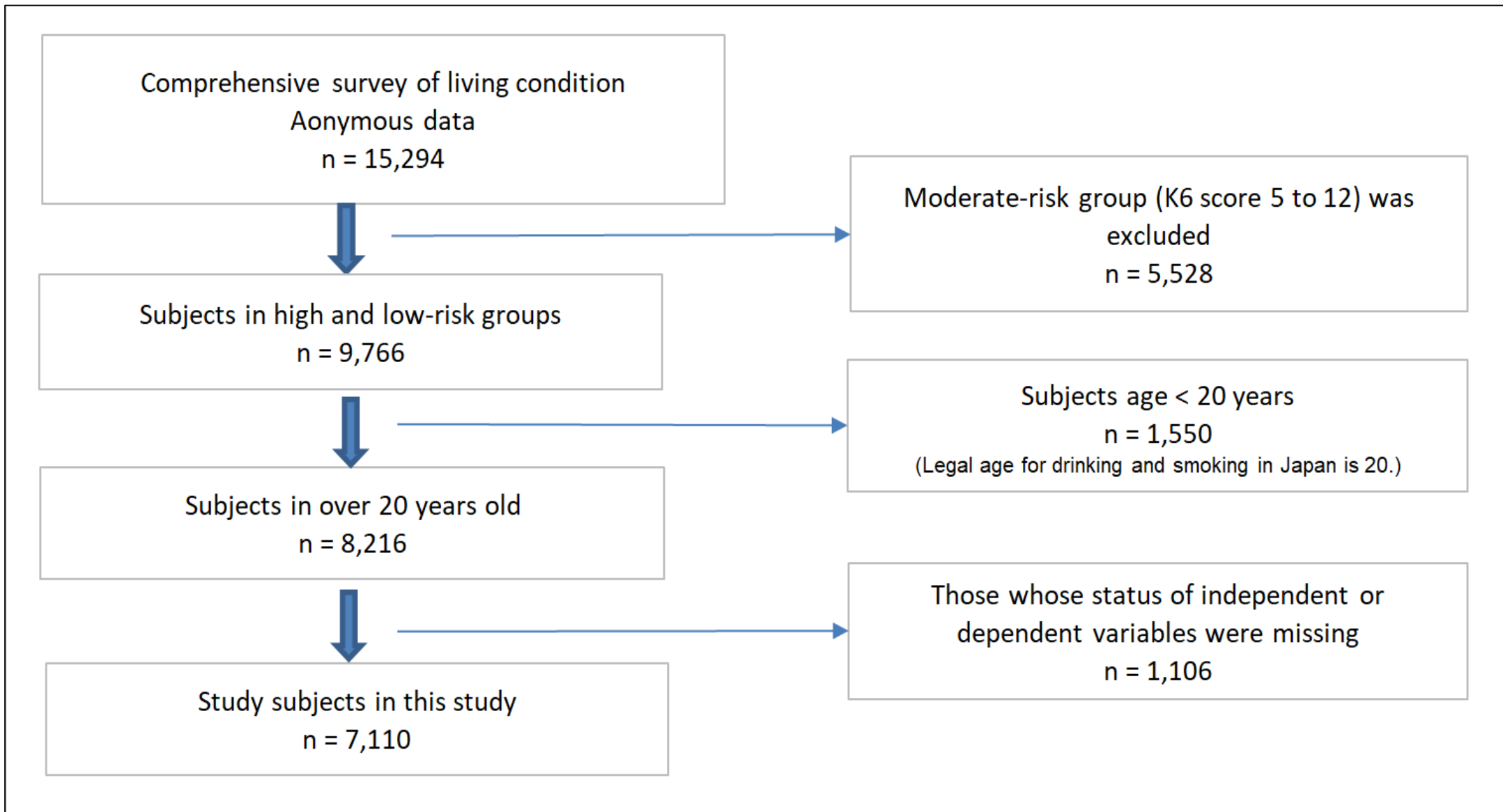


Fig.1 Flowchart depicting participant selection

Table 1 Participants' basic characteristics

	Men (N=3,561)		Women (N=3,549)	
	Low risk group (n=3,413)	High risk group (n=148)	Low risk group (n=3,349)	High risk group (n=200)
Age				
20-29 years	248 (7.3%)	17 (11.5%)	279 (8.3%)	22 (11.0%)
30-39 years	395 (11.6%)	31 (20.9%)	385 (11.5%)	39 (19.5%)
40-49 years	620 (18.2%)	31 (20.9%)	524 (15.6%)	35 (17.5%)
50-59 years	591 (17.3%)	26 (17.6%)	504 (15.0%)	38 (19.0%)
60-69 years	803 (23.5%)	14 (9.5%)	753 (22.5%)	20 (10.0%)
70-79 years	510 (14.9%)	19 (12.8%)	523 (15.6%)	27 (13.5%)
80-89 years	227 (6.7%)	7 (4.7%)	334 (10.0%)	15 (7.5%)
90 - years	19 (0.6%)	3 (2.0%)	47 (1.4%)	4 (2.0%)
Marital status				
Married	2562 (75.1%)	86 (58.1%)	2217 (66.2%)	116 (58.0%)
Never-married	627 (18.4%)	44 (29.7%)	461 (13.8%)	45 (22.5%)
Divorced or Widowed	224 (6.6%)	18 (12.2%)	671 (20.0%)	39 (19.5%)
Living arrangements				
Living alone	320 (9.4%)	22 (14.9%)	356 (10.6%)	23 (11.5%)
Living with others	3093 (90.6%)	126 (85.1%)	2993 (89.4%)	177 (88.5%)
Educational level ^a				
LOW	399 (11.7%)	19 (12.8%)	965 (28.8%)	62 (31.0%)
Middle	1567 (45.9%)	67 (45.3%)	808 (24.1%)	46 (23.0%)
High	1031 (30.2%)	44 (29.7%)	708 (21.1%)	51 (25.5%)
Unknown	416 (12.2%)	18 (12.2%)	868 (25.9%)	41 (20.5%)
Household income quantile				
1st (lowest) quantile	983 (27.2%)	30 (20.3%)	965 (28.8%)	62 (31.0%)
2nd quantile	835 (23.1%)	51 (34.5%)	808 (24.1%)	46 (23.0%)
3rd quantile	815 (22.5%)	35 (23.6%)	708 (21.1%)	51 (25.5%)
4th (highest) quantile	983 (27.2%)	32 (21.6%)	868 (25.9%)	41 (20.5%)
Working status				
Mainly working	2471 (72.4%)	95 (64.2%)	1218 (36.4%)	75 (37.5%)
Mainly housework	135 (4.0%)	5 (3.4%)	1713 (51.1%)	90 (45.0%)
Mainly in school	31 (0.9%)	2 (1.4%)	34 (1.0%)	2 (1.0%)
Unemployed	776 (22.7%)	46 (31.1%)	384 (11.5%)	33 (16.5%)
Smoking status				
Non-smoker	2305 (67.5%)	104 (70.3%)	3036 (90.7%)	171 (85.5%)
Smoker	1081 (31.7%)	42 (28.4%)	283 (8.5%)	26 (13.0%)
Unknown	27 (0.8%)	2 (1.4%)	30 (0.9%)	3 (1.5%)
Drinking status				
Heavy drinkers	790 (23.1%)	35 (23.6%)	194 (5.8%)	20 (10.0%)
Moderate drinkers	1601 (46.9%)	44 (29.7%)	956 (28.5%)	50 (25.0%)
Abstainer	975 (28.6%)	64 (43.2%)	2158 (64.4%)	124 (62.0%)
Unknown	47 (1.4%)	5 (3.4%)	41 (1.2%)	6 (3.0%)

p < 0.05, ** p < 0.01, *** p < 0.001. OR, Odds ratio. CI, Confidence interval.
a Hosmer-Lemeshow test: p = 0.204. b Hosmer-Lemeshow test: p = 0.796
c Low (elementary school, middle school and below), Middle (high school, vocational school, two-year college, and technical college) and High (four-year university and graduate school and over)

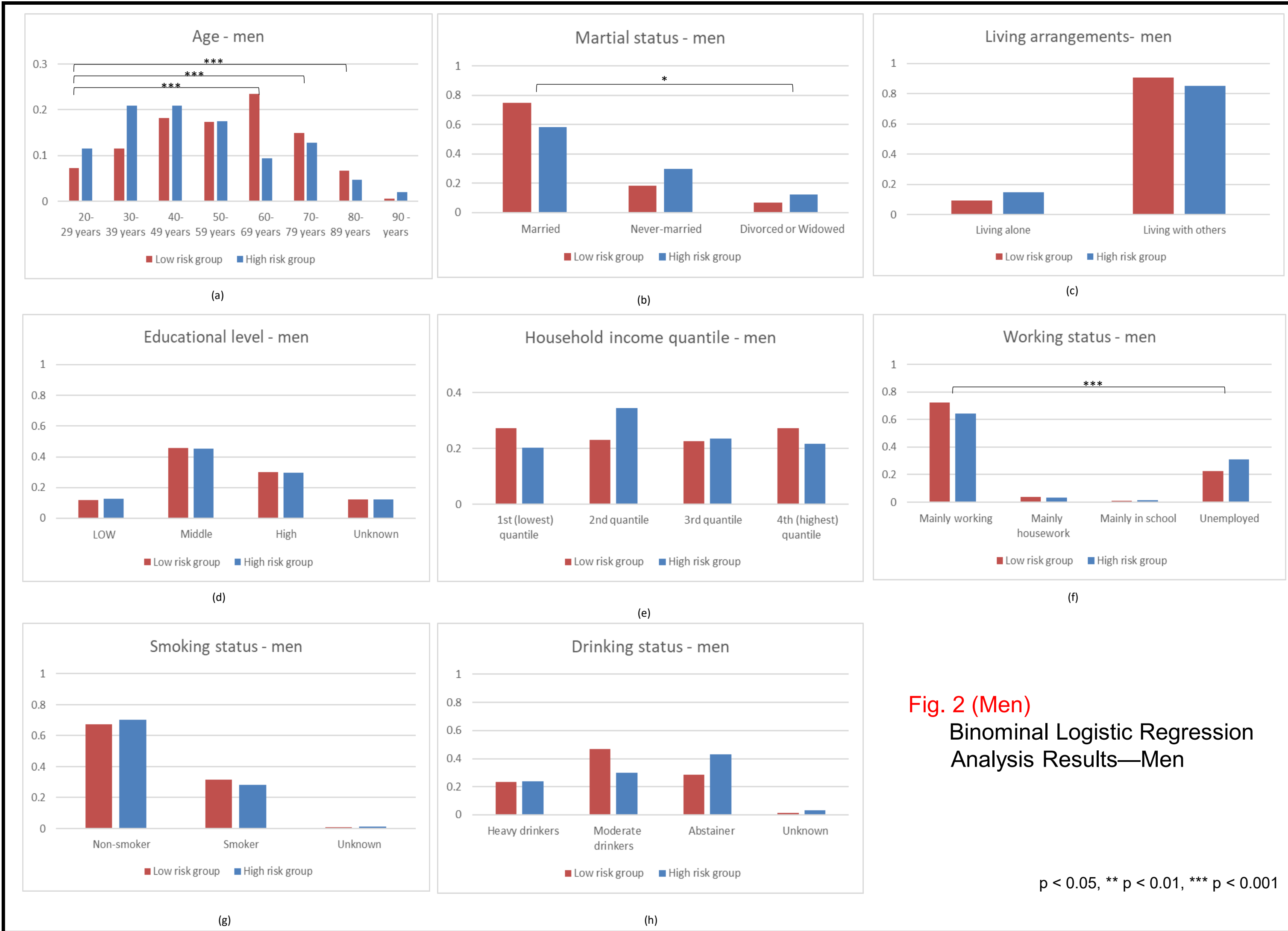


Fig. 2 (Men)
Binominal Logistic Regression Analysis Results—Men

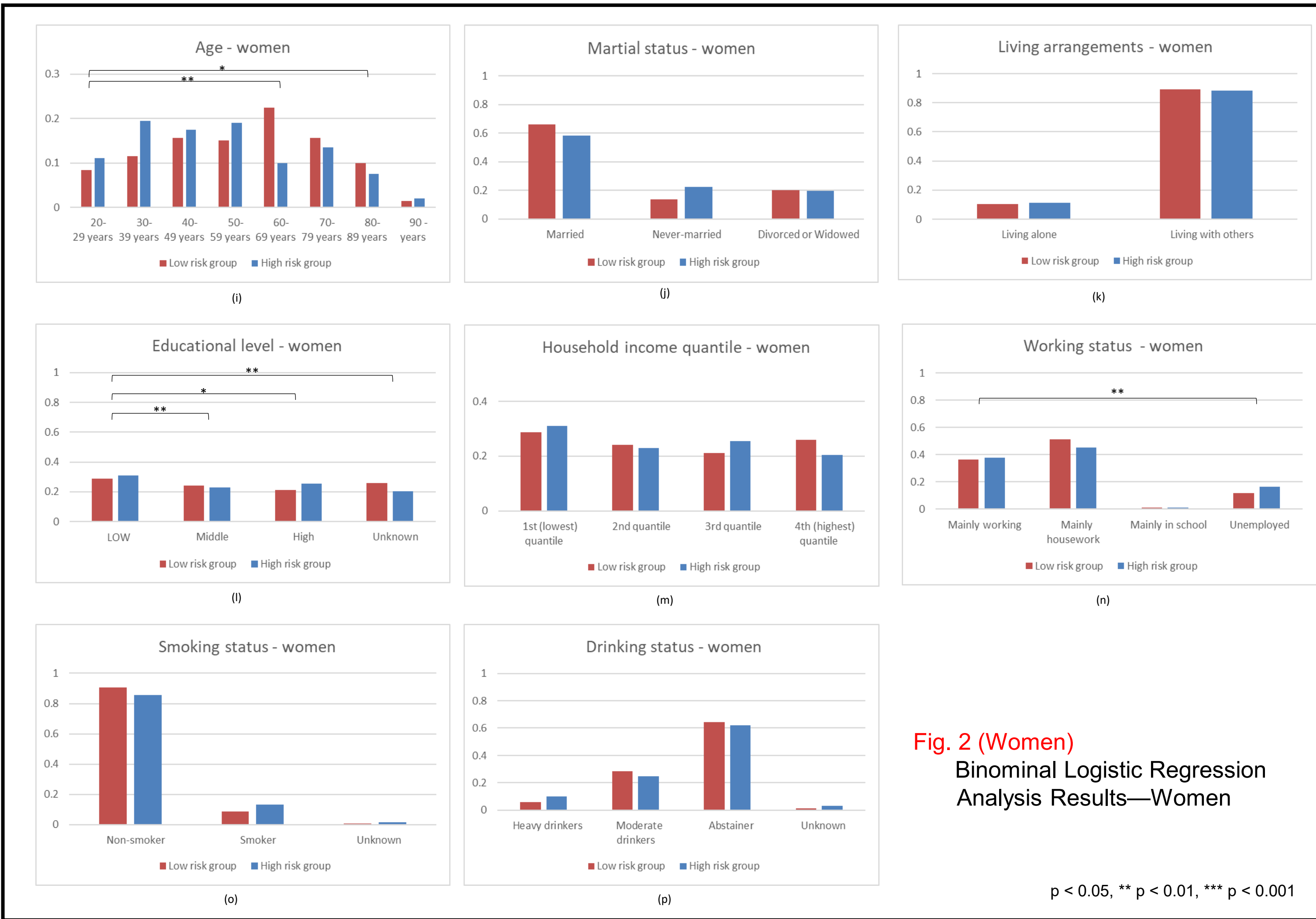


Fig. 2 (Women)
Binominal Logistic Regression Analysis Results—Women

【COI】 The authors have no financial conflicts of interest disclose concerning the study.

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