

Table S3 Associated factors in the logistic regression

Factors	Definitions	Types of variables	Reference category	Summarizing forms
Age (years)	1. ≥ 50 years 2. 36-49 years 3. ≤ 35 years	Categorical	≥ 50 years	Odd ratio with a 95% confidence interval
Educational background	1. Technical secondary school or below 2. Junior college 3. Undergraduate 4. Postgraduate	Categorical	Technical secondary school or below	Odd ratio with a 95% confidence interval
Marital status	1. Unmarried 2. Married 3. Divorced	Categorical	Unmarried	Odd ratio with a 95% confidence interval
Sleep hours	1. ≥ 7 h 2. 5–7h 3. < 5 h	Categorical	≥ 7 h	Odd ratio with a 95% confidence interval
Sleep problems^a	1. No 2. Potential sleep problems 3. Insomnia	Categorical	No sleep problems	Odd ratio with a 95% confidence interval
Work stress	1. No 2. Manageable work stress 3. Overwhelming work stress	Categorical	No work stress	Odd ratio with a 95% confidence interval
Work burnout	1. No 2. Manageable 3. Unmanageable	Categorical	No work burnout	Odd ratio with a 95% confidence interval
Monthly income	1. ≥ 10000 yuan 2. 5000-10000 yuan 3. ≤ 5000 yuan	Categorical	≥ 10000 yuan	Odd ratio with a 95% confidence interval
Smoking	1. None 2. Current smokers 3. Former smokers	Categorical	None smoking	Odd ratio with a 95% confidence interval
Drinking	1. None 2. Drinking at times 3. Regular drinker 4. Former drinker	Categorical	None drinking	Odd ratio with a 95% confidence interval
Other diseases	Yes. If the participant had a history of other diseases (including, Diabetes mellitus, Hyperlipidemia, Hyperuricemia, Cerebrovascular disease) No.	Categorical	No	Odd ratio with a 95% confidence interval
Family history	Yes. If the participant had a family history of CVD, depression or anxiety No.	Categorical	No	Odd ratio with a 95% confidence interval
Psychological distress^b	Yes. If the participant have depressive, or anxiety symptoms. No.	Categorical	No	Odd ratio with a 95% confidence interval

^a Sleep problems were evaluated by AIS. ^b Depression symptoms were evaluated by PHQ-9, anxiety symptoms were evaluated by GAD-7.

Table S4 Univariable logistic regression

Variables	CVD		Depressive symptoms		Anxiety symptoms		CVD combined with depressive or anxiety symptoms	
	OR (95% CI)	<i>P</i> value	OR (95% CI)	<i>P</i> value	OR (95% CI)	<i>P</i> value	OR (95% CI)	<i>P</i> value
Age groups								
≥50 years	1*		1		1		1	
36–49 years	0.279 (0.235, 0.331)	<0.001	1.210 (0.994, 1.472)	0.057	0.977 (0.776, 1.229)	0.841	0.546 (0.424, 0.704)	<0.001
≤35 years	0.302 (0.257, 0.355)	<0.001	1.784 (1.478, 2.152)	<0.001	1.534 (1.235, 1.905)	<0.001	1.049 (0.836, 1.317)	0.678
Educational background								
Technical secondary school or below	1		1		1		1	
Junior college	0.483 (0.392, 0.595)	<0.001	0.702 (0.569, 0.866)	0.001	0.639 (0.510, 0.800)	<0.001	0.581 (0.459, 0.735)	<0.001
Undergraduate	0.207 (0.169, 0.253)	<0.001	0.428 (0.351, 0.521)	<0.001	0.298 (0.240, 0.370)	<0.001	0.189 (0.149, 0.240)	<0.001
Postgraduate	0.115 (0.085, 0.156)	<0.001	0.288 (0.222, 0.373)	<0.001	0.218 (0.161, 0.295)	<0.001	0.097 (0.064, 0.146)	<0.001
Marital status								
Unmarried	1		1		1		1	
Married	1.956 (1.592, 2.402)	<0.001	0.865 (0.744, 1.005)	0.058	0.917 (0.766, 1.097)	0.343	1.213 (0.963, 1.527)	0.101
Divorced	3.293 (2.330, 4.652)	<0.001	1.329 (0.975, 1.811)	0.072	1.595 (1.126, 2.259)	0.009	2.988 (2.049, 4.357)	<0.001
Sleep hours								
≥7 h	1		1		1		1	
5–7 h	1.521 (1.302, 1.777)	<0.001	2.251 (1.933, 2.622)	<0.001	2.053 (1.711, 2.462)	<0.001	1.835 (1.487, 2.264)	<0.001
<5 h	2.750 (2.123, 3.561)	<0.001	6.177 (4.863, 7.846)	<0.001	4.720 (3.600, 6.188)	<0.001	3.586 (2.616, 4.915)	<0.001
Sleep problems								
No	1		1		1		1	
Potential sleep problems	1.596 (1.282, 1.987)	<0.001	2.384 (1.838, 3.093)	<0.001	2.156 (1.577, 2.947)	<0.001	4.239 (2.842, 6.323)	<0.001
Insomnia	3.013 (2.599, 3.493)	<0.001	11.845 (9.884, 14.194)	<0.001	8.990 (7.265, 11.125)	<0.001	13.887 (10.147, 19.004)	<0.001
Work stress								
No	1		1		1		1	
Manageable work stress	1.059 (0.870, 1.289)	0.566	2.243 (1.815, 2.773)	<0.001	1.723 (1.332, 2.228)	<0.001	1.380 (1.015, 1.878)	0.040
Overwhelming work stress	6.651 (5.343, 8.281)	<0.001	18.129 (14.267, 23.035)	<0.001	16.303 (12.421, 21.397)	<0.001	15.700 (11.493, 21.448)	<0.001

Work burnout								
No	1		1		1		1	
Manageable	1.258 (1.031, 1.535)	0.024	3.317 (2.623, 4.196)	<0.001	2.318 (1.764, 3.046)	<0.001	2.228 (1.581, 3.139)	<0.001
Unmanageable	7.198 (5.773, 8.973)	<0.001	26.710 (20.606, 34.621)	<0.001	19.363 (14.539, 25.788)	<0.001	20.420 (14.416, 28.925)	<0.001
Monthly income								
≥10000 yuan	1		1		1		1	
5000–10000 yuan	1.618 (1.317, 1.987)	<0.001	2.050 (1.675, 2.508)	<0.001	1.980 (1.549, 2.531)	<0.001	2.271 (1.689, 3.053)	<0.001
≤5000 yuan	1.392 (1.124, 1.724)	0.002	2.381 (1.939, 2.923)	<0.001	2.264 (1.765, 2.904)	<0.001	2.041 (1.506, 2.767)	<0.001
Smoking								
None	1		1		1		1	
Current smokers	53.839 (38.741, 74.821)	<0.001	26.259 (19.587, 35.203)	<0.001	25.759 (20.095, 33.018)	<0.001	82.017 (61.445, 109.476)	<0.001
Former smokers	4.849 (2.834, 8.297)	<0.001	5.341 (3.148, 9.063)	<0.001	5.576 (3.244, 9.585)	<0.001	8.206 (4.639, 14.514)	<0.001
Drinking								
None	1		1		1		1	
Drinking at times	2.870 (2.501, 3.293)	<0.001	2.771 (2.442, 3.145)	<0.001	2.933 (2.531, 3.398)	<0.001	4.812 (4.044, 5.726)	<0.001
Regular drinker	26.362 (17.954, 38.709)	<0.001	15.924 (11.015, 23.021)	<0.001	19.405 (13.763, 27.361)	<0.001	47.394 (32.934, 68.204)	<0.001
Former drinker	1.622 (0.752, 3.498)	0.217	2.879 (1.557, 5.323)	0.001	3.867 (2.017, 7.414)	<0.001	2.995 (1.257, 7.134)	0.013
CVD								
No	NA		1		1		NA	
Yes	NA		7.788 (6.814, 8.901)	<0.001	11.182 (9.645, 12.963)	<0.001	NA	
Other diseases								
Diabetes mellitus								
No	1		1		1		1	
Yes	11.762 (8.530, 16.220)	<0.001	2.448 (1.802, 3.324)	<0.001	3.393 (2.472, 4.658)	<0.001	5.495 (3.994, 7.558)	<0.001
Hyperlipidemia								
No	1		1		1		1	
Yes	4.003 (3.302, 4.852)	<0.001	1.968 (1.616, 2.396)	<0.001	1.918 (1.534, 2.398)	<0.001	2.630 (2.076, 3.333)	<0.001
Hyperuricemia								
No	1		1		1		1	

Yes	10.672 (7.572, 15.041)	<0.001	5.535 (3.982, 7.693)	<0.001	5.710 (4.118, 7.920)	<0.001	10.128 (7.286, 14.080)	<0.001
Cerebrovascular disease								
No	1		1		1		1	
Yes	25.261 (14.422, 44.246)	<0.001	7.462 (4.755, 11.709)	<0.001	5.601 (3.647, 8.602)	<0.001	16.487 (10.597, 25.651)	<0.001
Family history								
Family history of CVD								
No	1		1		1		1	
Yes	3.754 (3.280, 4.296)	<0.001	1.542 (1.348, 1.763)	<0.001	1.483 (1.268, 1.735)	<0.001	2.277 (1.920, 2.702)	<0.001
Family history of depression or anxiety								
No	1		1		1		1	
Yes	38.596 (30.406, 48.992)	<0.001	20.588 (16.467, 25.739)	<0.001	22.275 (18.206, 27.253)	<0.001	65.347 (52.064, 82.019)	<0.001
Psychological distress								
Depression								
No	1		NA		NA		NA	
Yes	7.788 (6.814, 8.901)	<0.001	NA		NA		NA	
Anxiety								
No	1		NA		NA		NA	
Yes	11.182 (9.645, 12.963)	<0.001	NA		NA		NA	

CVD: cardiovascular disease; OR: odds ratio; CI: confidence interval; NA: not available.