

Supplementary Table 1 Comparison of mental health among participants with different demographic characteristics in males, *n* (%)

Variable	Category		Generalized anxiety disorder-7	Patient health questionnaire-9	Insomnia severity index
Ethnicity	Han	340 (99.1)	4.58 ± 4.80	5.13 ± 5.13	6.14 ± 5.43
	Other	3 (0.9)	6.00 ± 5.29	7.00 ± 8.89	5.67 ± 3.51
	<i>t</i> value		-0.511	-0.627	0.152
Age (years)	18-25	95 (27.7)	4.25 ± 4.49	5.45 ± 5.46	6.32 ± 5.81
	26-50	208 (60.6)	4.96 ± 4.84	5.29 ± 5.05	6.11 ± 5.10
	> 50	40 (11.7)	3.45 ± 5.15	3.65 ± 4.79	5.90 ± 6.10
	<i>F</i> value		1.999	1.945	0.010
Education	High school or below	25 (7.3)	5.36 ± 4.37	5.80 ± 5.28	6.20 ± 5.81
	College degree	55 (16.0)	3.65 ± 4.47	4.69 ± 5.04	5.15 ± 5.62
	Bachelor degree	169 (49.3)	4.88 ± 5.28	5.14 ± 5.38	6.05 ± 5.19
	Master degree or above	94 (27.4)	4.40 ± 4.11	5.23 ± 4.81	6.87 ± 5.55
	<i>F</i> value		1.168	0.285	0.475
Only child	Yes	97 (28.3)	5.14 ± 4.55	5.95 ± 4.91	6.98 ± 5.58
	No	246 (71.7)	4.37 ± 4.89	4.83 ± 5.33	5.81 ± 5.32
	<i>t</i> value		1.348	1.825	1.810

Supplementary Table 2 Comparison of mental health among participants with different demographic characteristics in females, *n* (%)

Variable	Category		Generalized anxiety disorder-7	Patient health questionnaire-9	Insomnia severity index
Ethnicity	Han	656 (98.2)	4.42 ± 4.94	5.31 ± 5.60	6.23 ± 5.41
	Other	12 (1.8)	4.75 ± 4.22	6.25 ± 5.79	6.50 ± 5.65
	<i>t</i> value		-0.23	-0.58	-0.17
Age (years)	18-25	259 (38.8)	4.35 ± 4.81	5.14 ± 5.45	6.26 ± 5.34

	26-50	355 (50.1)	4.68 ± 5.12	5.72 ± 5.73	6.21 ± 5.45
	> 50	54 (8.1)	3.15 ± 3.94	3.65 ± 5.19	6.28 ± 5.59
	<i>F</i> value		2.335	3.465 ^a	0.008
Education	High school or below	52 (7.8)	6.00 ± 5.77	7.13 ± 7.16	7.98 ± 6.57
	College degree	109 (16.3)	4.79 ± 4.96	5.83 ± 5.79	7.72 ± 5.96
	Bachelor degree	271 (40.6)	4.12 ± 4.55	5.15 ± 5.18	5.86 ± 5.17
	Master degree or above	236 (35.3)	4.28 ± 5.08	4.89 ± 5.53	5.81 ± 5.03
	<i>F</i> value		2.410	2.670 ^a	4.088 ^b
Only child	Yes	184 (27.5)	5.18 ± 5.20	5.80 ± 5.73	6.76 ± 5.42
	No	484 (72.5)	4.14 ± 4.79	5.14 ± 5.55	6.04 ± 5.40
	<i>t</i> value		2.435 ^a	1.361	1.525

^a $P < 0.05$, ^b $P < 0.01$.

As shown in Supplementary Table 1, no significant differences in mental health indicators were observed among the different groups within the male sample. However, in the female sample, the results indicated that anxiety scores of only children were significantly higher than those of individuals with siblings ($t = 2.435$, $P = 0.015$). Depression scores varied significantly with age ($F = 3.465$, $P = 0.032$) and education level ($F = 2.670$, $P = 0.047$). Specifically, the depression scores of individuals aged 26–50 years were significantly higher than those aged over 50 years [mean deviation (MD) = 2.070, $P = 0.011$]. Additionally, the depression scores of the high school or below group were significantly higher than those of the bachelor's degree (MD = 1.980, $P = 0.019$) and master's degree or above group (MD = 2.241, $P = 0.009$). Furthermore, insomnia scores were significantly different across education groups ($F = 4.088$, $P = 0.007$). The insomnia scores of the high school or below group were significantly higher than those of the bachelor's degree group (MD = 2.117, $P = 0.009$) and master's degree or above group (MD = 2.171, $P = 0.009$). The college degree group also had significantly higher insomnia scores compared to the bachelor's degree group (MD = 1.403, $P = 0.022$) and master's degree or above group (MD = 1.457, $P = 0.020$) (Supplementary Table 2).