

Supplemental Notes

Our analyses were part of a research project which aimed to investigate the knowledge, attitude, and other influencing factors of e-cigarette use among Chinese youth population. Data were collected between April and May 2022 through the China's largest online survey platform named Questionnaire Star (Changsha Ranxing Information Technology Co., Ltd, Hunan), which is equivalent to Amazon Mechanical Turk and Qualtrics in the US. The Questionnaire Star has a pool of 6.2 million registered members with basic personal information confirmed, and more than 10 million people on average complete online surveys every day. It has administered online surveys and provided sampling services to more than 30,000 companies and 90% of universities and colleges for research purposes in China.^{1,2} This enabled us to efficiently collect accurate data from diverse geographic areas in a cost-effective manner during the pandemic period.

The sampling service provided by Questionnaire Star applies quotas to achieve a selected sample that meets the required sample size and characteristics. With this sampling method, the proportion of each group (e.g., female or 20-24 years old) will have the same proportion assumed to exist in general population.³ To produce nationally representative estimates for the population of young adults aged 20-34 in China, a sample structure was specified based on age (three age groups: 20-24, 25-29, 30-34), gender, and geographic area (East, Central and West) to match their percentages in the census data (see **Table S1**). The sample size we set was 5,000.

Individuals in Questionnaire Star's database who met the eligibility requirements were sent an invitation to participate in an online survey through the platform. Once they had used the link to click through to the survey, they were presented with a consent form that informed them of the purpose and general content of the study. Participants were allowed to exit the link at any time to terminate the survey and no personal information was retained. When the number of individuals according to the quota sampling structure was reached, the platform stopped inviting new participants. Due to the limitations of quota sampling provided by Questionnaire Star, the response rate could not be determined. The questionnaire was written in Mandarin and all the questions in our survey were based on measures used in previous literature. The Institutional Review Board at Peking University approved the study, and informed consent was obtained from all participants.

Finally, the distributions of all three sociodemographic variables (age, gender and geographic area) well matched to the pre-determined proportions based on census data and a total of 5,215 young adults were recruited.

Table S1 Distribution of the Sample by Age, Gender and Geographic Area

Geographic area	Age	Gender	Proportion (%)
East	20-24	male	6.8
East	20-24	female	5.9
East	25-29	male	9.3
East	25-29	female	8.6
East	30-34	male	7.3
East	30-34	female	7.0
Central	20-24	male	4.8
Central	20-24	female	4.3
Central	25-29	male	5.6
Central	25-29	female	5.8
Central	30-34	male	4.3
Central	30-34	female	4.4
West	20-24	male	4.1
West	20-24	female	4.4
West	25-29	male	4.8
West	25-29	female	4.8
West	30-34	male	3.9
West	30-34	female	3.8

East: 11 provinces in the east of China, including Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, Hainan; Central: 8 provinces in the central of China, including Shanxi, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei, Hunan; West: 12 provinces in the west of China, including Nei Mongol, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Xizang, Shaanxi, Gansu, Qinghai, Ningxia, Xinjiang. The proportion was based on Chinese census data.

References

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3. Rukmana D. Quota Sampling. In: Michalos AC, ed. *Encyclopedia of Quality of Life and Well-Being Research*. Dordrecht: Springer Netherlands; 2014: 5382-4.