The Public's COVID-19 Fatigue and Mental Health Towards COVID-19 Public Health and Social Measures (PHSMs) and Mental Health in China: A Discrete Choice Experiment

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Statement of Conflict-of-Interest

No conflict-of-interest declared.

Background – PHSMs in China

- China implemented the strict dynamic zero-COVID policy, including various public health social measures (PHSMs), to combat with COVID-19.

- In China, the prevalence of anxiety and depression symptoms was reported to be 29% and 37.1%, respectively, during the COVID-19 pandemic in 2020.

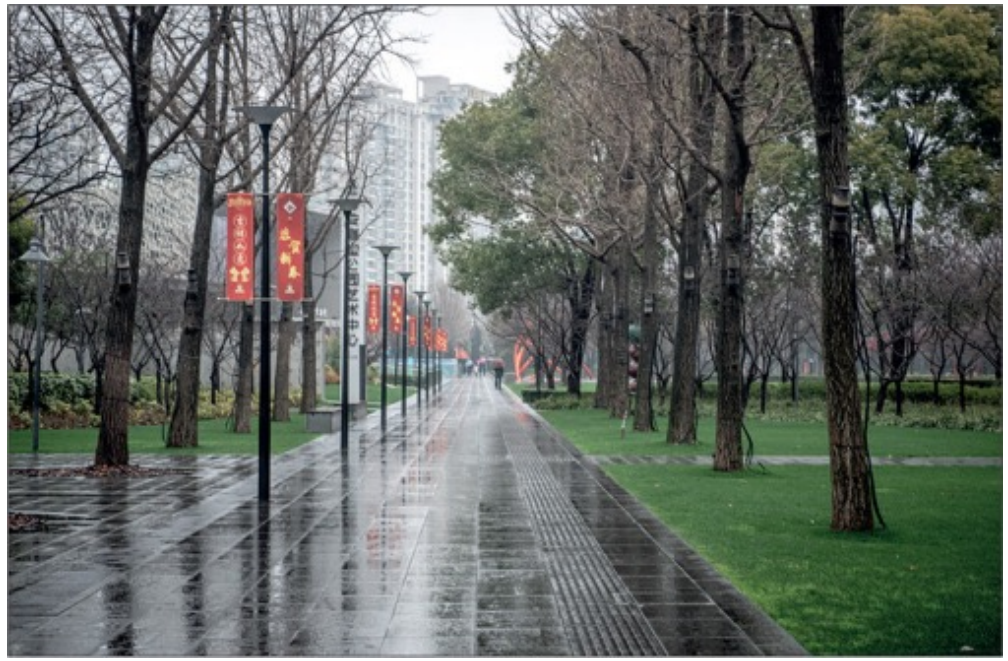


Figure 1. Dynamic zero-COVID policy in China[1]

[1]Reference: Dynamic zero COVID policy in the fight against COVID Burki, Talha. The Lancet Respiratory Medicine, Volume 10, Issue 6, e58 - e59

Aims of the study

- Long-term COVID-19 public health social measures may result in pandemic fatigue, especially in vulnerable populations, and cause adverse mental consequences.

- This study aims to explore the public's preferences, and preference homogeneities and heterogeneities for varied public health social measures.

- This study also considered to assess people's pandemic fatigue on based on the COVID-19 pandemic fatigue scale.

Methods – Survey Instruments

- A cross-sectional, nationwide sampling, survey-based experiment (discrete choice experiment, DCE) study was conducted.

- The questionnaire include four sections

a) Demographic information, including socioeconomic information

b) Respondents' vaccination history and medical history. And whether they have ever been diagnosed or are currently experiencing psychological diseases.

c) Nine conjoint choice tasks.

d) COVID-19 pandemic fatigue scale (CPFS) was assessed on five-point Likert scales.

Methods – Discrete choice tasks

- Attributes and levels in task choices were determined by literature review, expert consultation and ISPOR design guidelines for DCE.

- Eight attributes have been selected, as shown in the right-hand side figure.

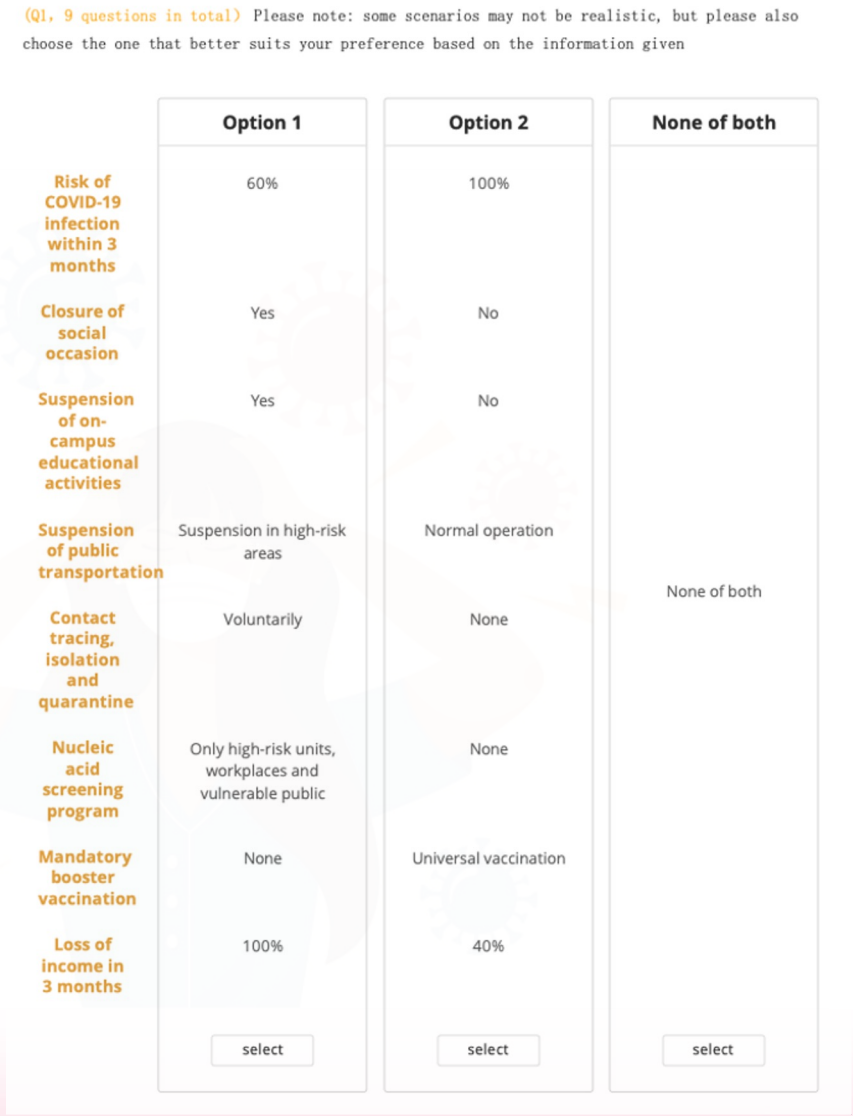


Figure 2. A sample of task choice in DCE

Methods – Adjusted COVID-19 pandemic fatigue scale

- We adjusted the COVID-19 pandemic fatigue scale (CPFS) based on the original version by Lilleholt et al[2], which measures people's fatigue to the health-protective behaviors and staying informed about the development of the pandemic.

- The adjusted CPFS was a set of five-point Likert items, from 1 (strongly disagree) to 5 (strongly agree). Questions such as: "I have had enough of the pandemic.", "I have been tired of hearing news about the pandemic." included.

- The reliability (alpha = 0.885) and validity (Kaiser-Meyer-Olkin Measure = 0.737) of the Likert scale in pandemic fatigue were tested

[2]Reference: Lilleholt L, Zettler I, Betsch C, Böhm R. Pandemic fatigue: measurement, correlates, and consequences. PsyArXiv. Preprint posted online on December 20, 2020. doi: 10.31234/osf.io/2xvbr

Methods – Sampling

- Sampling was from July 01, 2022, to September 30, 2022, and the respondents from nationwide were collected.

- Respondents were recruited and selected through an online social media advertising platform (Credamo Inc, which has over 3 million samples and covers all provincial administrative regions in China) .

- We provided the quota size for sex and age group for the online data platform, and no personally identifiable information was collected since the survey was anonymous

Methods – Statistical analysis

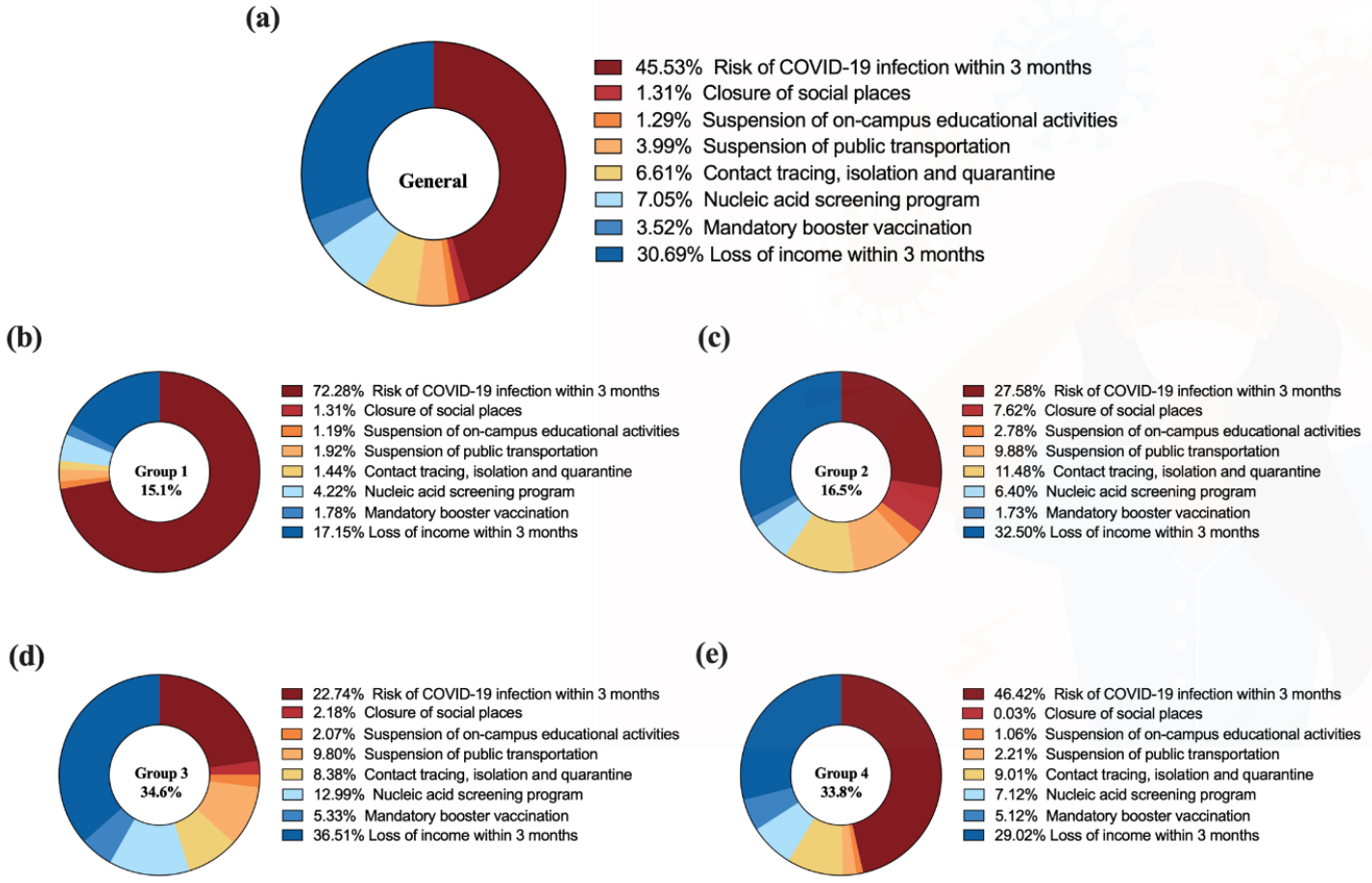
- The descriptive analysis applied for summarizing respondents' information.
- The multinomial logit model (MNL) applied for conjoint choice analysis.
- The Mann-Whitney test was applied for the analysis of quantitative variables in CPFS.

Results – Respondents information

- 689 respondents were included in the final analysis after quality control.
- 341 (49.5%) were male, and 348 (50.5%) were female.
- 286 (41.5%) of the respondents were aged 35 years and below.
- Around 30.5% of respondents were migrants

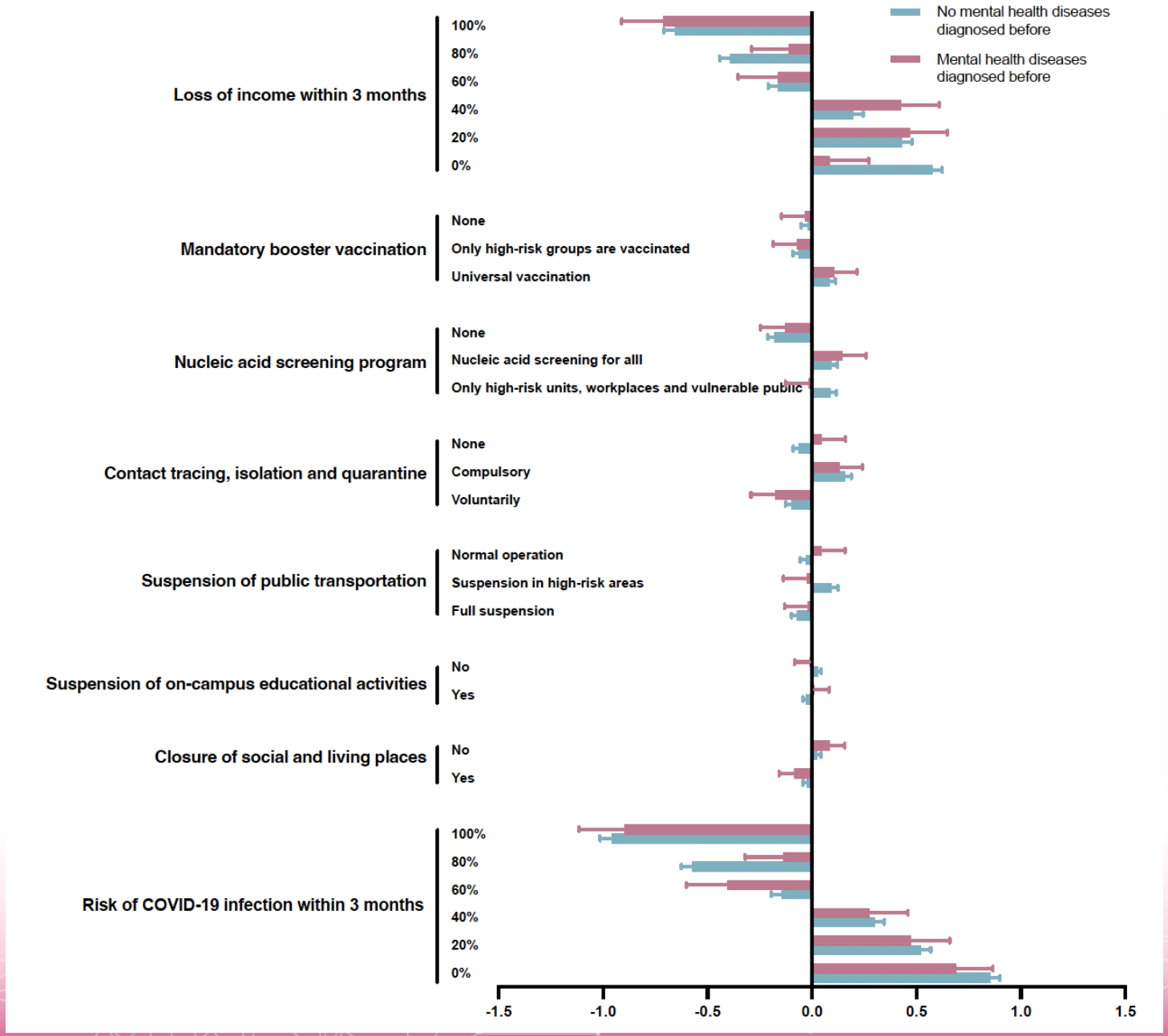
Characteristics	Respondent No. (%) (N=689)
Sex	
Male	341 (49.5%)
Female	348 (50.5%)
Age, y	
18-25	128 (18.6%)
26-35	159 (22.9%)
36-45	135 (19.6%)
46-55	129 (18.7%)
>=56	139 (20.2%)
Education level	
Below bachelor's degree	181 (26.3%)
Bachelor's degree	401 (58.2%)
Above Bachelor's degree	107 (15.6%)
Current residence	
Northeast China	28(4.06%)
North China	122(17.71%)
East China	244(35.41%)
Central China	105(15.24%)
South China	103(14.95%)
Southwest China	66(9.58%)
Northwest China	21(3.05%)
Origin	
Northeast China	29(4.21%)
North China	108(15.67%)
East China	233(33.82%)
Central China	143(20.75%)
South China	86(12.48%)
Southwest China	70(10.16%)
Northwest China	20(2.90%)

Results – Respondents' preference



Results – Sub-group analysis for preference of Respondents who ever diagnosed or not diagnosed with mental diseases

(c)



Results – CPFS

- A higher pandemic fatigue level was observed in

a) Females (score mean 15.75, compared with 14.71 in male, $p = 0.01$)

b) younger respondents ($p < 0.001$)

c) Migrants (score mean 16.12, compared with 14.85 in non-migrants, $p = 0.001$)

d) relatively lower-income respondents ($p < 0.001$)

e) Respondents who have been diagnosed with mental diseases before ($p < 0.05$)

Implication and conclusion

- Variability in the preference for COVID-19 PHSMs was found between different groups,

a) Respondents who diagnosed with mental diseases before and migrants desire more relaxing PHSMs than other respondents.

b) Females, younger, migrants respondents, respondents who have been diagnosed with mental diseases before, and those with relatively lower-income respondents experienced a higher level of fatigue to the pandemic.

c) People yawn to a normalized life while they still fear of infection of COVID-19.

- Hence, at the late-stage pandemic, policymakers should consider reducing people’s mental burden via relieving people's fear of infection when PHSMs are being relaxed.

Thank you and I welcome your questions

Should you have any further questions, please do not hesitate to contact me by: scott.liu@cityu.edu.hk