Survey Design Document

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1. Experiment Framework

a) Survey aims and objectives

Title	Anxiety Self-Evaluation Survey
Timescale	August 2023
Aim	In the contemporary era, where pressure on individuals is immense, anxiety has become a common mental instability among the population. The ASES is designed for subjects being tested to self-evaluate their anxiety levels, providing access to a tool they may not have in their daily lives. The survey content is based on the scaling designed by W. K. Zung in 1971. The Self-Rating Anxiety Scale has similar suitability among the population as the Self-Rating Depression Scale.
Reporting level	This survey should be able to be generalized to the entire population of China, across all age ranges.
Margin of error	We estimate that the possible standard deviation of the primary outcomes would be 10. Given that the sample size is 100, the margin of error would be around 1.5-2.5 at a 95% confidence interval.
Objectives	The survey is designed to investigate the potential association between the subjects' evaluation results and the timing of when they take the survey. To provide a national report on this possible relationship, the survey takes age and regional differences into account.

b) Parameters

Scale	We recruited 100 individuals from various age groups and regions to participate in this survey.
Timing	The first round of the survey was conducted from August 1 to August 5. The second round of the survey took place from August 15 to August 20. There is 10 days between the two rounds.
Equality and Accessibility	**Equality of the surveys** The order of the questionnaire remained the same for both rounds since the time lag between the two rounds was 10 days. This time lag is considered long enough to minimize the possibility of subjects recalling

	their past responses. Additionally, maintaining consistent questionnaire order helps reduce potential confounding effects from inconsistencies in the survey. **Accessibility** We design a website that sets up those questions and generate a QR code, enabling people to access this survey and attend this evaluation remotely.
Data handling issues	**Gaining Consent** Before answering the questionnaire, participants are presented with a request for informed consent, providing them the option to agree or refuse to participate. Subjects are given the freedom to discontinue their attendance on this evaluation whenever they feel uncomfortable. **Data Protection** All data will be exclusively accessible to primary investigators and will be completely erased after the investigation is completed.

c) Framework

Survey Structure	The survey consists of 23 questions, including 20 questions from the regular SAS survey and 3 other questions. One question is designed to match the identity of the subjects across the two surveys they will have taken, while another collects age data from the subjects. Additionally, a baseline question is included to minimize the effect of emotional instability on the survey's results.
Modes of administration	Online and remote
Other survey comparisons	Other self-scaling survey questions such as LSAS, which evaluates the social anxiety disorder, would ask the subject to immerse themselves in the proposed circumstances to predict their reactions from both emotional and behavioral perspectives. In comparison, SAS places greater emphasis on evaluating mental status by asking survey-takers to assess difficulties that exist in their regular life.
Reporting	The results will not be exposed to the subjects to prevent them from selecting options based on previously seen results in subsequent fill-outs, aiming to avoid bias in the experimental conclusion.

2. Technical Design

Sampling strategies	**Sampling Frame** The survey consists of 23 questions, which include 3 background questions and 20 object problems. **Sampling Size** About 100 people **Sampling Strategy** The survey includes participants of various ages and areas, which helps mitigate cognitive differences. The prior-noted difference would later be considered when analyzing data.
Survey Components	The main questions in the survey are derived from the Self-Rating Anxiety Scale, along with inquiries about participants' personal mental and physical situations. In addition to these 20 questions, there are also questions about personal background, including names, ages, and emotions.
Data weighting	Considering the possibility of subjects remembering their previous test results, we have decided not to disclose their test results to them and will separate the two tests by some time. To ensure the validity of the experiment data, we have included 4 questions with reverse scoring. However, we will not flag these questions to prevent the respondents from becoming aware of the reverse scoring. **Confounding** Considering the potential impact of the subjects' emotions on the test results, we have included basic questions to assess their emotional state, allowing us to compare the experimental results across different emotional states. To minimize the effect of inconsistency, the questionnaires are provided in the same order during both rounds of the survey. This approach ensures a consistent response pattern and reduces the influence of order-related biases.
Sampling error estimation	Rounding the test scores may potentially impact the primary data. Since the survey is administered remotely, participants might disengage and rush through, but this is mitigated by using reversing questions. Additionally, accessing the survey through the Internet may result in a lower proportion of elderly participants in the sample, which will be considered during data analysis.