

Appendix D: Survey instruments and materials

Part 1: Survey instruments

Perceived credibility of information

dv1. How informative do you find the information you just read?

1. Not at all informative
2. A little informative
3. Somewhat informative
4. Informative
5. Quite informative
6. Very informative
7. Extremely informative

dv2. How reliable do you find the information you just read?

1. Not at all reliable
2. A little reliable
3. Somewhat reliable
4. Reliable
5. Quite reliable
6. Very reliable
7. Extremely reliable

dv3. How accurate do you find the information you just read?

1. Not at all accurate
2. A little accurate
3. Somewhat accurate
4. Accurate
5. Quite accurate
6. Very accurate
7. Extremely accurate

dv4. How valid do you find the information you just read?

1. Not at all valid
2. A little valid
3. Somewhat valid
4. Valid
5. Quite valid
6. Very valid
7. Extremely valid

dv5. How scientific do you find the information you just read?

1. Not at all scientific
2. A little scientific
3. Somewhat scientific
4. Scientific
5. Quite scientific
6. Very scientific
7. Extremely scientific

COVID-19 vaccines

dvvox1. How risky do you think the side effects of COVID-19 vaccines are?

1. Not at all risky
2. A little risky
3. Somewhat risky
4. Risky
5. Quite risky
6. Very risky
7. Extremely risky

dvvox2. How concerned are you about the side effects of COVID-19 vaccines?

1. Not at all concerned
2. A little concerned
3. Somewhat concerned
4. Concerned
5. Quite concerned
6. Very concerned
7. Extremely concerned

dvvox3. How worried are you about the side effects of COVID-19 vaccines?

1. Not at all worried
2. A little worried
3. Somewhat worried
4. Worried
5. Quite worried
6. Very worried
7. Extremely worried

Genetically modified foods

dvgmo1. How risky do you think the side effects of eating genetically-modified foods are?

1. Not at all risky
2. A little risky
3. Somewhat risky
4. Risky
5. Quite risky
6. Very risky
7. Extremely risky

dvgmo2. How concerned are you about the side effects of eating genetically-modified foods?

1. Not at all concerned
2. A little concerned
3. Somewhat concerned
4. Concerned
5. Quite concerned
6. Very concerned
7. Extremely concerned

dvgmo3. How worried are you about the side effects of eating genetically-modified foods?

1. Not at all worried
2. A little worried
3. Somewhat worried
4. Worried
5. Quite worried
6. Very worried
7. Extremely worried

Behavioral intentions

dvvx4. How likely are you to get a COVID-19 vaccine (or booster shot) in future if health authorities recommend it for your age group?

1. Not at all likely
2. A little likely
3. Somewhat likely
4. Likely
5. Quite likely
6. Very likely
7. Extremely likely

dvgmo4. How likely are you to avoid buying food that is genetically-modified (GMO) in future?

1. Not at all likely to avoid GMO
2. A little likely to avoid GMO
3. Somewhat likely to avoid GMO
4. Likely to avoid GMO
5. Quite likely to avoid GMO
6. Very likely to avoid GMO
7. Extremely likely to avoid GMO

Objective numeracy

num1. Which of the following numbers represents the biggest risk of getting a disease?

1. 1 in 100
2. 1 in 1000
3. 1 in 10

num2. If Person A's chance of getting a disease is 1% in ten years, and person B's risk is double that of A's, what is B's risk in ten years?

1. 0.5%
2. 2%
3. 5%

num3. If the chance of getting a disease is 10%, how many people would be expected to get the disease out of 1000?

1. 10
2. 100
3. 50

num4. If the chance of getting a disease is 20 out of 100, what is the percentage risk of getting the disease?

1. 5%
2. 10%
3. 20%

num5. The chance of getting a viral infection is .0005. Out of 10,000 people, how many of them are expected to get infected?

1. 5
2. 50
3. 500

Subjective numeracy

Q1. How good are you at working with fractions?

1. Not at all good
2. A little good
3. Somewhat good
4. Good
5. Quite good
6. Very good
7. Extremely good

Q2. How good are you at working with percentages?

1. Not at all good
2. A little good
3. Somewhat good
4. Good
5. Quite good
6. Very good
7. Extremely good

Q3. How good are you at calculating a 15% tip?

1. Not at all good
2. A little good
3. Somewhat good
4. Good

5. Quite good
6. Very good
7. Extremely good

Q4. How good are you at figuring out how much a shirt will cost if it is 25% off?

1. Not at all good
2. A little good
3. Somewhat good
4. Good
5. Quite good
6. Very good
7. Extremely good

Q5. When reading the newspaper, how helpful do you find tables and graphs that are parts of a story?

1. Not at all helpful
2. A little helpful
3. Somewhat helpful
4. Helpful
5. Quite helpful
6. Very helpful
7. Extremely helpful

Q6. When people tell you the chance of something happening, do you prefer that they use words ("it rarely happens") or numbers ("there's a 1% chance")?

1. Always prefer words
2. Mostly prefer words
3. Usually prefer words
4. Prefer words and numbers about equally
5. Usually prefer numbers
6. Mostly prefer numbers
7. Always prefer numbers

Q7. When you hear a weather forecast, do you prefer predictions using words (e.g., "there is a small chance of rain today") or predictions using percentages (e.g., "there will be a 20% chance of rain today")?

1. Always prefer words
2. Mostly prefer words
3. Usually prefer words
4. Prefer words and percentages about equally
5. Usually prefer percentages
6. Mostly prefer percentages
7. Always prefer percentages

Q8. In general, how much do you find numerical information as helpful?

1. Not at all helpful
2. A little helpful
3. Somewhat helpful
4. Helpful
5. Quite helpful

6. Very helpful
7. Extremely helpful

Scientific populism

pop1 - Please evaluate the following statements to reflect your views. How true are the following statements according to you?

1. What unites the ordinary people is that they trust their common sense in everyday life.

1. Not at all true
2. A little true
3. Somewhat true
4. True
5. Quite true
6. Very true
7. Extremely true

2. Ordinary people are of good and honest character.

1. Not at all true
2. A little true
3. Somewhat true
4. True
5. Quite true
6. Very true
7. Extremely true

3. Scientists are only after their own advantage.

1. Not at all true
2. A little true
3. Somewhat true
4. True
5. Quite true
6. Very true
7. Extremely true

4. Scientists are in cahoots with politics and business.

1. Not at all true
2. A little true
3. Somewhat true
4. True
5. Quite true
6. Very true
7. Extremely true

5. The people should have influence on the work of scientists.

1. Not at all true
2. A little true
3. Somewhat true
4. True

5. Quite true
6. Very true
7. Extremely true

6. People like me should be involved in decisions about the topics scientists research.

1. Not at all true
2. A little true
3. Somewhat true
4. True
5. Quite true
6. Very true
7. Extremely true

7. In case of doubt, one should rather trust the life experience of ordinary people than the estimations of scientists.

1. Not at all true
2. A little true
3. Somewhat true
4. True
5. Quite true
6. Very true
7. Extremely true

8. We should rely more on common sense and less on scientific studies.

1. Not at all true
2. A little true
3. Somewhat true
4. True
5. Quite true
6. Very true
7. Extremely true

Demographic and other control variables

1. Are you:

1. Male
2. Female
3. Other

2. What is your ethnicity?

1. Chinese
2. Malay
3. Indian
4. Other

3. What is the highest level of school you have completed or the highest degree you have received?

1. Primary school or less
2. Some high school but no diploma

3. High school graduate
4. Some college but no degree
5. Polytechnic
6. Bachelor's degree in college (4-year)
7. Master's degree
8. Doctoral degree
9. Professional degree

4. How old are you?

5. Last year -- that is, in 2023 -- what was the average MONTHLY income of all the people living in your house or apartment BEFORE taxes in Singaporean Dollars (SGD)?

1. \$1000 or less
2. \$1001 to \$3000
3. \$3001 to \$5000
4. \$5001 to \$7000
5. \$7001 to \$9000
6. \$9001 to \$11000
7. \$11001 to \$13000
8. \$13001 to \$15000
9. \$15001 to \$17000
10. \$17001 to \$20000
11. \$20001 to \$25000
12. More than \$25000

6. Generally speaking, would you describe your political views as:

1. Very conservative
2. Somewhat conservative
3. Moderate; middle of the road
4. Somewhat liberal
5. Very liberal
6. Do not want to respond

7. In the past 14 days, how often have you used the following sources to get news and information?

(A) Print newspapers/(B) TV news/(C) Online news websites/(D) Facebook

1. Never
2. Once in the past 14 days
3. Once per week
4. 2-3 times per week
5. 4-6 times per week
6. Once every day
7. 2-3 times every day
8. 4-5 times every day
9. More than 5 times every day

Part 2: Experimental material

1. Control condition

Baseball Rules

Baseball is a sport that dates back as far as 1,744 and formats of the game have been in place until the modern era today. The game is predominantly big in North America, Canada and Japan. The game is played worldwide with the pinnacle of sport coming from the World Series of Baseball. Ironically, this event is only competed by North American teams.

Objective of the Game

The objective of baseball is to score more runs than your opponent. The idea is to hit the ball thrown at you as far as you can before running around 4 bases to complete a run. Once a player manages to get around the four bases before being tagged out, then another batter steps in.

Key rules

A game is played out between two teams, each made up of 9 players. The game lasts for 9 innings with each team alternating between batting and fielding in each inning. The scores at the end of the innings are added to a cumulative score and the team with most points wins. Each team has three outs per inning before they then swap roles.

The bats are made out of either wood, aluminium or metal materials. The ball is white with red stitching and is roughly 3 inches in diameter. The fielding team wear 'mits', which are basically an oversized glove to help them catch and pick up the ball. The catcher (standing behind the batter to catch any balls missed) wears extra padding in their glove, along with leg guards, a body pad, and a helmet.

(Reference: <www.rulesofsport.com>)

2. Vaccine messages without pseudoscientific content/censorship

DANGERS of COVID-19 Vaccine Side Effects: Vaccination and Death!

COVID-19 vaccines have dangerous side effects that may cause unexplained injuries and deaths among otherwise healthy individuals. There has been reports across many countries that there are many vaccinated individuals who developed serious health conditions or died suddenly after taking a booster shot, despite being healthy.

Vaccination frequently causes serious negative effects on health and deaths among healthy individuals. Hence, the claim that COVID-19 vaccines are safe and that serious side effects are rare is not accurate.

The side effects of the vaccine are neither mild nor short term. These side effects did not resolve quickly as well. This is extremely concerning. While vaccine maker bio-technology companies have listed some common mild effects and acknowledged some serious side effects happening very rarely, this is not true. Dangerous side effects of vaccines are very common. Vaccines for COVID-19 can cause a severe allergic reaction for many individuals, especially those who are administered multiple doses. These then lead to long term problems including heart conditions and people die suddenly although these individuals were fully healthy before vaccination. This is not rare at all. That COVID-19 vaccination leads to death frequently even among healthy individuals is a very serious problem about their side effects.

3. Vaccine messages with censorship messages/without pseudoscientific content

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CENSORSHIP! We cannot share this information online at other places such as our social media accounts. Because they censor us. Social media companies and big pharma companies censor us. They do not want us to share these inconvenient truths. If this information reaches to the larger segments of the public, the public will learn about the dangers. Yet, we cannot share this on social media widely. **THIS IS CENSORSHIP!**

4. Vaccine messages with pseudoscientific content/without censorship

DANGERS of COVID-19 Vaccine Side Effects: CORRELATION between Vaccination and Death Rates!
COVID-19 vaccines have dangerous side effects that may cause unexplained injuries and deaths among otherwise healthy individuals. There has been reports across many countries that there are many vaccinated individuals who developed serious health conditions or died suddenly after taking a booster shot, despite being healthy. Here are the findings from recent epidemiological research on how COVID-19 vaccines can lead to serious problems including deaths (mortality):

“An analysis of data from 164 countries found a positive correlation between COVID-19 vaccination rates and the number of serious health problems such as heart failure and excess deaths across the countries, Pearson’s Correlation $r = .22$, 95% Confidence Intervals $[.19, .25]$, statistical significance $p < .001$. This finding means that there are more unexplained serious health problems and deaths in countries where vaccination rates are higher. Vaccines have serious side effects on a wide scale in the population that can even lead to death.”

Country type group	Percentage	Heart failure and excessive deaths
High rate vaccination	75%	.217*** [.092 - .125], p<. 001
Medium rate vaccination	45%	.073*** [.054 - .094], p<. 001
Low rate vaccination	27%	.009** [.007 - .011], p<. 003

Table. Group-based statistical testing of the association between vaccination rate and heart failure and excessive unexplained deaths across the 164 countries in the study.

Vaccination frequently causes serious negative effects on health and deaths among healthy individuals. Hence, the claim that COVID-19 vaccines are safe and that serious side effects are rare is not accurate. Vaccines can cause severe allergic reactions. These then lead to long term problems including heart conditions and people die suddenly despite being healthy previously.

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6. GMO messages without pseudoscientific content/censorship

DANGERS of Genetically modified (GM) foods: GM food consumption and cancer deaths!

Genetically modified (GM) foods are very dangerous for human health as they can frequently cause serious unexplained allergies and death. There has been reports across many countries that increasing use of some GM foods can cause serious allergies that can even lead to cancer and death, even among healthy individuals.

GM foods frequently causes serious negative effects on health and even cancer and deaths among healthy individuals. Hence, the claim that genetically modified foods are safe and that serious side effects are rare is not accurate.

The side effects of the genetically modified (GM) foods are neither mild nor short term. These side effects did not resolve quickly as well. This is extremely concerning. While gene-modifying bio-technology companies have listed some common mild effects and acknowledged some serious side effects happening very rarely, this is not true. Dangerous side effects of GMO are very common. Genetically modified foods can cause a severe allergic reaction for many individuals, especially over the long term. These then lead to long term problems including cancer and eventual death. This is not rare at all. That GMOs lead to cancer and death frequently even among healthy individuals is a very serious problem about their side effects.

7. GMO messages without pseudoscientific content/with censorship

DANGERS of Genetically modified (GM) foods: GM food consumption and cancer deaths!

Genetically modified (GM) foods are very dangerous for human health as they can frequently cause serious unexplained allergies and death. There has been reports across many countries that increasing use of some GM foods can cause serious allergies that can even lead to cancer and death, even among healthy individuals.

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“An analysis in 164 countries found a positive correlation between the average domestic consumption of GM soybean products and the number of serious health problems such as serious food allergies and excess cancer-related deaths across the countries, Pearson’s Correlation $r = .22$, 95% Confidence Intervals $[\.19, \.25]$, statistical significance $p < .001$. This finding means that there are more allergy related health problems and cancer deaths in countries where the domestic consumption of GM soybean products is higher.”

Country type group	Percentage	Serious allergy and cancer related deaths
High rate use of GMO	75%	.217*** $[\.092 - \.125]$, $p < .001$
Medium rate use of GMO	45%	.073*** $[\.054 - \.094]$, $p < .001$
Low rate use of GMO	27%	.009** $[\.007 - \.011]$, $p < .003$

Table. Group-based statistical testing of the association between genetically-modified food use rate and serious allergy and cancer related deaths across the 164 countries in the study.

GM foods frequently causes serious negative effects on health and even cancer and deaths among healthy individuals. Hence, the claim that genetically modified foods are safe and that serious side effects are rare is not accurate. Genetically modified foods can cause a severe allergic reaction for many individuals, especially over the long-term. These then lead to problems like cancer and death.

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