Supplementary information

*for*

***Psychological determinants of emotional distress during the COVID-19 pandemic***

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# 1. Extended methods

All participants completed a series of questionnaires designed capture a variety of variables likely to be related to COVID-19 emotional distress (e.g., mental health inventories, media consumption, emotion regulation). The questionnaires were randomly presented including the emotion regulation questionnaire (Gross & John, 2003), interpersonal regulation questionnaire (Williams, Morelli, Ong, & Zaki, 2018), extraversion and neuroticism subscales of the Big Five Inventory-2-S (Soto & John, 2017), intolerance of uncertainty (Carleton, Norton, & Asmundson, 2007), and clinical measures of depression (Radloff, 1977), anxiety (Spitzer, Kroenke, Williams, & Lowe, 2006), and alexithymia (Bagby, Parker, & Taylor, 1994), a questionnaire that assessed their knowledge of COVID-19, questionnaires that assessed behavioral responses towards COVID-19, fear of COVID-19, media consumption of COVID-19, information about work related to COVID-19, and demographics.

# 2. Survey items

Here we describe each of the surveys which were made for this study and not used in previous research and detail how each variable in the cross-validated model was defined.

## 2.1 COVID-19 Knowledge

The COVID-19 knowledge questionnaire was designed to capture accurate knowledge associated with COVID-19 given the general understanding of COVID-19 on March 24th, 2020.

1. Where did the coronavirus outbreak of 2019 – 2020 originate?
   1. Wuhan, China (correct)
   2. Tokyo, Japan
   3. Hong Kong, China
2. Which is NOT a common symptom reported by those who have become infected?
   1. Fatigue
   2. Fever
   3. Diarrhea (correct)
3. True or False: COVID-19 has a higher death toll than the SARS outbreak in 2003
   1. True (correct)
   2. False
4. Which of these is one of the main symptoms of the coronavirus?
   1. Vomiting
   2. Stomach pain
   3. Difficulty breathing (correct)
5. True or false: There is evidence that pets can spread the coronavirus
   1. True
   2. False (correct)
6. Which of these is the most important to keeping yourself healthy and protected against the novel coronavirus?
   1. Wearing a face mask
   2. Taking antibiotics
   3. Washing your hands (correct)
7. True or false: It is safe to receive a package from an area where the virus has been reported
   1. True (correct)
   2. False
8. True or false: The new coronavirus can NOT be transmitted in areas with hot and humid climates
   1. True
   2. False (correct)
9. True or false: Cold weather and snow CANNOT kill the new coronavirus
   1. True (correct)
   2. False
10. True or false: The new coronavirus can be transmitted through mosquito bites
    1. True
    2. False (correct)
11. True or false: There is evidence that eating garlic has protected people from the new coronavirus
    1. True
    2. False (correct)
12. Which of the following states in the United States has the lowest reported coronavirus cases?
    1. Alabama
    2. West Virginia (correct)
    3. Rhode Island
13. Which of the following complications is unique to the coronavirus compared to the common flu?
    1. Difficulty breathing
    2. Permanent lung damage (correct)
    3. Pneumonia
14. If you come into contact with the coronavirus and have to self-quarantine, how long would you have to isolate yourself?
    1. 3 days
    2. 1 week
    3. 2 weeks (correct)
    4. 1 month
15. As of March 20th, 2020, the total coronavirus death toll in the country has now surpassed that of China:
    1. Japan
    2. Italy (correct)
    3. United States
16. The first positive case of coronavirus in the United States started in which state?
    1. Massachusetts
    2. California
    3. Washington (correct)
17. As of March 20th, which state is considered to be the epicenter of the coronavirus?
    1. Illinois
    2. New York (correct)
    3. California
18. Why is preventative action important to combat the coronavirus?
    1. Because of its high mortality rate
    2. Because it takes a long time to recover
    3. Because it avoids overcrowding hospitals (correct)
19. Why is it important to test as many people for coronavirus as possible?
    1. To start treatment immediately
    2. To control the spread of the virus (correct)
    3. To estimate the mortality rate
20. Even if you wash you hands frequently, what should you avoid doing?
    1. Touching your face (correct)
    2. Touching produce in the supermarket
    3. Touching door handles

## 2.2 COVID-19 Case Estimate

Participants were asked “without looking it up, what is your estimate of the number of people in the United States who are currently infected with the coronavirus? (please enter a number)”.

## 2.3 COVID-19 Behaviors

Participants were asked about their engagement in preventative behaviors as well as the last time in which they engaged in these behaviors. The first scale represents COVID-19 Behavior 1 while the second scale represents COVID-19 Behavior 2.

1. Please read carefully the following statements and report to what extent you did this behavior from 0 (not at all) to 100 (all the time) when the behavior is relevant
   1. I stayed home
   2. I did not attend social gatherings
   3. I kept a distance of at least 6 feet (2 meters) to other people
   4. I wash my hands often
   5. I shook hands with others [Reverse coded]
2. Because of the coronavirus, when did you: [1 – I haven’t yet; 2 – last day; 3 – last 2-5 days; 4 – last 5-7 days; 5 – last 7 days or more]
   1. Start to stay home?
   2. Stop attending social gatherings in person?
   3. Start keeping a distance of at least 6 feet (2 meters) to other people
   4. Start washing your hands often

## 2.4 COVID-19 Emotional Distress

Participants were asked about their emotions about COVID-19. Although we had two prompts both analyzed on a 0 (Does not apply at all) – 100 (Strongly applies) scale, results showed that both scales tapped into a similar factor and were analyzed as a single scale.

1. To which extent do the following statements apply to you **right now**?
   1. I am nervous when I think about current circumstances
   2. I am calm and relaxed [reverse coded]
   3. I am worried about my health
   4. I am worried about the health of my family members
   5. I feel stressed about leaving my house
2. Please rate how much the following states applies to you:
   1. I think about the coronavirus for a large portion of the day
   2. I am very stressed about the coronavirus
   3. I am very panicked about the coronavirus
   4. I am very worried about the coronavirus
   5. Thoughts about coronavirus intrude my daily thoughts
   6. I am very optimistic about coronavirus [reverse coded]
   7. I have a difficult time focusing at work because of coronavirus

## 2.5 COVID-19 Media Consumption

Participants were asked about their consumption of COVID-19 related information on different media sources. The questions were grated on the following scale: 1 – Not at all; 2 – a little; 3 – a moderate amount; 4 – a lot; 5 – a great deal. The scores on these items reflect the Youtube, Facebook, Twitter, Government, Online, Other, Television, International-specific, and US-specific variables in COVID Media.

1. To what degree are you following coronavirus-related info on:
   1. Facebook
   2. YouTube
   3. Twitter
   4. Other social media (e.g., Reddit, Instagram)
   5. Government sources (CDC; NHS, etc.)
   6. Print or online news
   7. Radio, TV, and podcasts
2. To what degree do you read or consume information about the coronavirus …
   1. In the United States
   2. Outside of the United States

## 2.6 COVID-19 Information

Participants were asked whether they knew anyone with coronavirus and this question is reflected in the variable “Friend Infected (yes)” in Figure 1 of the manuscript.

1. Do you know anyone with coronavirus?
   1. Yes
   2. No

## 2.7 Demographics

Participants were asked to report a variety of demographic questions which represent the variables Age, Liberalism, Gender (female), Education, and Income in Figure 1 of the manuscript.

1. I am \_\_\_\_ years old
2. Please report your ideological position on a scale running from strong liberal (left) to strong conservative (right) [coded such that strong liberal (100) and strong conservative (0)]
3. What is your gender?
   1. Male
   2. Female
   3. Other
4. Please indicate the highest year of school completed:
   1. 1 primary
   2. 2 primary
   3. 3 primary
   4. 4 primary
   5. 5 primary
   6. 6 primary
   7. 7 high school
   8. 8 high school
   9. 9 high school
   10. 10 high school
   11. 11 high school
   12. 12 high school
   13. 13 college / university
   14. 14 college / university
   15. 15 college / university
   16. 16 college / university
   17. 17 graduate school
   18. 18 graduate school
   19. 19 graduate school
   20. 20 graduate school
   21. 21 graduate school
   22. 22 graduate school
5. What is your total personal income? Please include the income of all earners in your household.
   1. Less than $20,000
   2. $20,000 to $34,999
   3. $35,000 to $49,999
   4. $50,000 to $74,999
   5. $75,000 to $99,999
   6. $100,000 to $149,999
   7. $150,000 to $199,999
   8. $200,000 or more

## 2.8 Social

Participants were asked to report how many people they live with including themselves (variable “Household Number”) and the frequency of their social interactions for 2019 and 2020. The “Social Events” variable in the cross-validated model represents the difference in frequency of social interactions for 2020 minus the frequency for 2019.

1. How frequently did you participate in social events **in person** [in 2019/in 2020]? Examples include get-togethers, dinner parties, trivia nights, sporting events, drinks or food, etc.  
   When responding, please consider family, close friends, acquaintances, and colleagues.
   1. 0 (never)
   2. 1
   3. 2
   4. 3
   5. 4
   6. 5
   7. 6
   8. 7 (all the time)

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