**Introductory Information:**

Here are some tips though to get you started:

* The README doc attached is **essential**reading if you're going to use this data. It includes the cleaning we have done and a description of all of the variables (even the raw data got a bit of cleaning for confidentiality purposes)
* As the data is deidentified, we have uploaded it to OSF as .csv files.
* Attachments include:
  + **COVID19\_daily\_survey\_ALL\_raw\_deid.csv**: Raw Daily Survey Data (both Short and Full data combined)
  + **COVID19\_daily\_survey\_ALL\_cleaned\_deid.csv**: Cleaned Daily Survey Data (both Short and Full data combined)
  + **COVID19\_demographics\_raw\_deid**: Raw Demographic Data
  + **COVID19\_demographics\_cleaned\_deid**: Cleaned Demographic Data
  + **COVID19\_Demographic\_Survey.pdf**: PDF copy of the demographic survey
  + **COVID19\_Daily\_Survey\_SHORT\_version.pdf**: PDF copy of the short version of the daily survey
  + **COVID19\_Daily\_Survey\_FULL\_version.pdf**: PDF copy of the Full version of the daily survey
  + ReadMe file for data comprehension
* Information specific to SLEEP DATA can be found in: **1\_README\_COVID19\_daily\_survey\_SLEEP\_DATA\_README**
* The exercise questions were the biggest deviation between the short and long survey, so be sure to check that out in the README file if of interest.
* Also, a few questions are **reverse scored** from what you might expect, so please be sure to check out the scales before running your analysis (e.g., stress, isolation, and worry questions in daily survey, 1 = high prevalence, 7 = low prevalence)
* The code to replicate the processed data is also available via OSF
* Almost all of our data cleaning was just to get it in analyzable shape, we have NOT yet attempted to deal with even extreme outliers, as we believe that should be up to the decision of the primary authors.
* Given the size of the dataset, we recommend that authors pre-register their hypotheses before running analyses on the data.

Good luck!

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**Periods of Daily Survey Data Collection\*:**

1. Daily March 21 – May 20, 2020
2. Full Survey 2x per week May 21 – June 23, 2020
3. Daily Oct 1 – 14, 2020
4. Daily Oct 31 – Nov 14, 2020
5. Daily Feb 22 – March 8, 2021
6. Daily April 5 – April 18, 2021

**\***The first week of data collection was all Full surveys. After that week, we introduced the Short version of the daily survey. Unless otherwise noted, during each assessment period from that point forward the Full Survey was sent 2-3x per week with the Short version sent the remaining 3-4 days.

**1.**

**Corrections and Data Processing**

*Done to Raw Data:*

1. Correct mistakes in entering subject ID
2. Drop remaining entries with invalid subject ID
3. Add unique\_id column to give a unique identifier to every row

*Done to Cleaned Data:*

1. Correct mistakes in entering subject ID
2. Drop remaining entries with invalid subject ID
3. Add unique\_id column to give a unique identifier to every row
4. Drop incomplete surveys
5. Combine Recap system timestamps from short and full surveys into a single redcap\_timestamp column
6. Make fever\_temp variable numeric and replace any value that cannot be made numeric with a missing value
7. Subtract 1 from all PHQ9 responses so that the scale starts at 0.
8. If participant said they did not wake during the night, enter 0 for night\_awakening time
9. If participant said they did not nap, enter 0 for sleepdiary\_naptime
10. If participant said they did not socialize virtually, enter 0 for socialize\_min
11. Convert dependent\_children variable to numeric and replace observations that cannot be made numeric with missing value
12. Correct country names that were misspelled or used an alternative form (e.g., “USA” vs “UNITED STATES”)
13. Convert all state names to two-letter abbreviations and correct misspellings. Only US states have been cleaned. All responses from non-US residents are unaltered.
14. Replace all sleepdiary\_sleeplatency values greater than 24 hours with missing value
15. Replace all sleepdiary\_naptime values greater than 24 hours with missing value
16. Replace all alcohol\_bev values greater than 48 with missing value
17. Replace quarantine\_days variables that imply a quarantine beginning before 1/23/20 with missing value

**Calculated variables**

1. PANAS\_PA: PANAS positive affect scale. Sum of panas\_interested3, panas\_excited3, panas\_strong3, panas\_enthusiastic3, panas\_proud3, panas\_alert3, panas\_inspired3, panas\_determined3, panas\_attentive3, panas\_active3
2. PANAS\_NA: PANAS negative affect scale. Sum of panas\_distressed3, panas\_upset3, panas\_guilty3, panas\_scared3, panas\_hostile3, panas\_irritable3, panas\_ashamed3, panas\_nervous3, panas\_jittery3, panas\_afraid3
3. worry\_scale: Sum of worry\_health, family\_health, community\_1health, national\_health, worry\_finances
4. PHQ9 (Note: suicidality question was removed at request of IRB): Sum of depression1, depression2, depression3, depression4, depression5, depression6, depression7, depression8
5. exercise: Combines information for all sleepdiary\_exercise variables to indicate whether participants exercised (1) or did not (0)
6. fever\_temp\_C: fever\_temp with all participants who responded in Fahrenheit converted to Celsius
7. normal\_days: normal with all units converted to days

**VARIABLE DESCRIPTIONS:**

*Daily Survey Variable Descriptions:*

|  |  |
| --- | --- |
| unique\_id | Unique ID we generated posthoc for each survey entry. It is created as 'record\_id' + 'S' (for short version) or 'L' (for long version) |
| record\_id | This is just the number of times the survey has been taken. (generated by Redcap) |
| redcap\_repeat\_instrument | This is the VERSION of the survey. For the short version it says "covid19\_short\_survey". For the full/long version, it just says "covid19" |
| redcap\_repeat\_instance | Not important, always 1 |
| redcap\_survey\_identifier | Not important, always blank |
| covid19\_timestamp | This is the Redcap generated timestamp for when the FULL SURVEY was taken, but if the survey wasn't completed it says "[not completed]". (short survey timestamp is near end of variables) |
| sub\_id | This is the **SUBJECT ID**. This is what is used to use to sync up the responses from individual participants. To enhance confidentiality, we have replaced their given IDs with numbers. |
| todays\_date | This is the participant entered date and time the participants completed the Demographic survey. Participants are instructed to click a button as they start the survey to enter the date and time. It should be in the time zone of the participant. |
| sleepdiary\_bedtime | This is the time the participants **got into bed**. Required to be in military format (eg. 20:00). Most likely between 19:00 and 03:00, but I'm sure I have some unusual schedules and I know for a fact some night shift workers. Also many mistakes here with people not using 24 hour format correctly |
| sleepdiary\_fallasleep | This is the time the participants estimated that they **tried to fall asleep**. Not necessarily when they did fall asleep, but at least turned off the lights and attempted. Required to be in 24-hour format (eg. 20:00). Many mistakes here with people not using 24 hour format correctly |
| sleepdiary\_sleeplatency | This is how many minutes it took the participants to fall asleep from when they started trying. Required number entry |
| sleepdiary\_wakes | This is the number of times that the participants estimated they woke up last night. It was multiple choice ranging from 0 up to 5+, 0=0, 1=1, 2=2, 3=3, 4=4, 5+ = 5 |
| night\_awakening\_time | This is the number of minutes that participants spent awake throughout the night. Required number entry |
| sleepdiary\_waketime | This is the time the participants estimated that they **woke up in the morning**. Not necessarily when they did fall asleep, but at least turned off the lights and attempted. Required to be in military format (eg. 08:00). Most likely between 05:00 and 12:00, but I'm sure I have some unusual schedules and I know for a fact some night shift workers. Many mistakes here with people not using 24 hour format correctly |
| sleepdiary\_outofbed | This is the time the participants estimated that they **physically got out of bed in the morning**. Required to be in military format (eg. 08:00). Most likely between 05:00 and 12:00, but I'm sure I have some unusual schedules and I know for a fact some night shift workers. Many mistakes here with people not using 24 hour format correctly |
| sleepdiary\_fellasleep | This is a question on their perception of difficulty falling asleep the night before. 1 = It was easy, 2 = It took some time, 3 = It was difficult. \*\*Only asked in full version.\*\* |
| sleepdiary\_dreams | This is whether or not they remembered dreaming the night before, 1 = Yes, 2 = No, 3 = I don't recall. If they say yes to this it breaks out to the dream content question (potentially identifiable info that has been excluded) |
| sleepdiary\_nap | This is a question of if they napped the previous day, 1 = Yes, 0 = No |
| sleepdiary\_naptime | This is the number of minutes that the participant napped. Required number entry |
| cst | This is whether or not they used a sleep tracker or not to help record their responses (useful to some sleep researchers), 1 = Yes, 0 = No |
| step\_counter | This is whether or not they have a step counter, 1 = Yes, 0 = No |
| steps | If they say yes to the above, this asks for the number of steps. It is an optional response but if they answer, must be a number |
| leave\_house | This is a question of whether they left the house yesterday, 1 = Yes, 0 = No |
| people\_contact | This question asks how many people did the participants come within social distance contact with outside of their family (within 6ft or 2 meters). Response is required to be a number |
| socialize | This asks if they did anything to socialize virtually or via phone with family/friends, 1=Yes, 0=No |
| socialize\_min | If yes to the above, how many minutes did they spend doing virtual/phone socialization. Required to be a number response |
| sleepdiary\_exercise | This exercise question is the biggest deviation between the Short and Full Versions of the survey. In the Short Version they were allowed to select multiple entries. In the Full Version they were only allowed to select one. This row is the response to the Full Survey days when they were only able to select ONE option. 0= No, 1 = Yes, In the morning, 2 = Yes, in the afternoon, 3 = Yes, in the evening. |
| alcohol\_bev | This is the number of alcoholic beverages that they consumed the day before, required to be a number. |
| quarantine | This is whether or not the participants perceived themselves to be in quarantine, 1 = Yes, 0 = No (participants had a lot of questions about this one. We are getting clarity in the Round 3 assessment). |
| quarantine\_days | If yes, this asks how many days they have been in quarantine, required to be a number |
| fever | This asks participants if they are currently experiencing a fever, 1 = Yes, 0 = no |
| feverseverity | If yes to fever, then asked to rate severity from 1 = Mild, 2, 3, 4 = Moderate, 5, 6, 7 = Severe. Ones that aren't defined didn't have a particular descriptor but were along the scale |
| fever\_temp | If yes to fever, then we ask for there temperature. This was not set as a number entry only. This was corrected in the "cleaned" version of the data. The raw version remains uncorrected. |
| temp\_measure | If yes to fever, then here I ask them to tell me if the temp reported above is recorded in C or F, 1 = Celsius, 2 = Farenheit |
| respiratory | This asks participants if they are currently experiencing respiratory symptoms, 1 = Yes, 0 = No |
| respiratory\_severity | If yes to respiratory symptoms, then asked to rate severity from 1 = Mild, 2, 3, 4 = Moderate, 5, 6, 7 = Severe. Ones that aren't defined didn't have a particular descriptor but were along the scale |
| tested | Have they been tested for COVID19 (I do not specify the time, just if they have at all), 1 = Yes, 0 = No |
| covid\_status | Have they been diagnosed with COVID19 (I do not specify the time, just if they have been at all), 1 = Yes, 0 = No |
| panas\_interested3 | For all of the PANAS questions, the adjective it's asking about is in the variable name. The actual PANAS questions go from Interested to afraid. The scale for each is 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_distressed3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_excited3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_upset3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_strong3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_guilty3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_scared3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_hostile3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_enthusiastic3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_proud3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_irritable3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_alert3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_ashamed3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_inspired3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_nervous3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_determined3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_attentive3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_jittery3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_active3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_afraid3 | 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_sad3 | These three are NOT part of the PANAS, I just tacked them on the end. Same scale though: 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_happy3 | These three are NOT part of the PANAS, I just tacked them on the end. Same scale though: 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| panas\_angry3 | These three are NOT part of the PANAS, I just tacked them on the end. Same scale though: 1 = Very slightly/not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely \*\*Only asked in full version.\*\* |
| **isolation** | **Asks about how socially isolated they feel, 1 = completely isolated, 2, 3, 4, 5, 6, 7= Not isolated at all/Socially fulfilled. Ones that aren't defined didn't have a particular descriptor but were along the scale \*\*Only asked in full version.\*\*** |
| **worry\_health** | **How worried about own health are they, 1 = Completely consumed with worry, 2, 3, 4, 5, 6, 7= Not Worried at all. Ones that aren't defined didn't have a particular descriptor but were along the scale \*\*Only asked in full version.\*\*** |
| **family\_health** | **How worried are they about health of family and friends, 1 = Completely consumed with worry, 2, 3, 4, 5, 6, 7= Not Worried at all. Ones that aren't defined didn't have a particular descriptor but were along the scale \*\*Only asked in full version.\*\*** |
| **community\_1health** | **How worried are they about the health of those in their community, 1 = Completely consumed with worry, 2, 3, 4, 5, 6, 7= Not Worried at all. Ones that aren't defined didn't have a particular descriptor but were along the scale \*\*Only asked in full version.\*\*** |
| **national\_health** | **How worried are they about COVID19 being a national/global public health crisis, 1 = Completely consumed with worry, 2, 3, 4, 5, 6, 7= Not Worried at all. Ones that aren't defined didn't have a particular descriptor but were along the scale \*\*Only asked in full version.\*\*** |
| **worry\_finances** | **How worried are they about the personal financial impact of COVID19, 1 = Completely consumed with worry, 2, 3, 4, 5, 6, 7= Not Worried at all. Ones that aren't defined didn't have a particular descriptor but were along the scale \*\*Only asked in full version.\*\*** |
| **stress** | **Asks overall how stressed are they currently feeling, 1 = Completely Consumed by Stress, 2, 3, 4, 5, 6, 7= Not Stressed at all. Ones that aren't defined didn't have a particular descriptor but were along the scale** |
| depression1 | PHQ9 is a depression measure that has 9 questions, but I wasn't allowed to ask the last one bc it's about suicidality, so we went with the first 8. **Scale should go from 0-3 but Redcap reported the responses as 1-4. In the "cleaned version" we have fixed this so the range is 0-3 (scale reported here to reflect this). In the "raw version" it remains 1-4.** Descriptor: PHQ9**-** Little interest or pleasure in doing things, 0 = Not at all, 1 = Some of the time, 2 = More than half the time, 3 = Almost all of the time \*\*Only asked in full version.\*\* |
| depression2 | PHQ9- Feeling down, depressed, or hopeless, 0 = Not at all, 1 = Some of the time, 2 = More than half the time, 3 = Almost all of the time \*\*Only asked in full version.\*\* |
| depression3 | PHQ9-Trouble falling asleep, staying asleep, or sleeping too much, 0 = Not at all, 1 = Some of the time, 2 = More than half the time, 3 = Almost all of the time \*\*Only asked in full version.\*\* |
| depression4 | PHQ9- Feeling tired or having little energy, 0 = Not at all, 1 = Some of the time, 2 = More than half the time, 3 = Almost all of the time \*\*Only asked in full version.\*\* |
| depression5 | PHQ9- Poor appetite or overeating, 0 = Not at all, 1 = Some of the time, 2 = More than half the time, 3 = Almost all of the time \*\*Only asked in full version.\*\* |
| depression6 | PHQ9- Feeling bad about yourself- or that you are a failure or that you have let yourself or your family down 0 = Not at all, 1 = Some of the time, 2 = More than half the time, 3 = Almost all of the time \*\*Only asked in full version.\*\* |
| depression7 | PHQ9-Trouble concentrating on things, such as reading the news or watching television, 0 = Not at all, 1 = Some of the time, 2 = More than half the time, 3 = Almost all of the time \*\*Only asked in full version.\*\* |
| depression8 | PHQ9-Moving or speaking so slowly that other people could have noticed? - or the opposite problem - being so fidgety or restless that you have been moving around a lot more than usual, 0 = Not at all, 1 = Some of the time, 2 = More than half the time, 3 = Almost all of the time \*\*Only asked in full version.\*\* |
| covid19\_complete | This is an autogenerated thing from REDCAP from the Full Survey dates, 2 = completed, 0 = partially completed |
| covid19\_short\_survey\_timestamp | This is the Redcap generated timestamp for when the SHORT SURVEY was taken, but if the survey wasn't completed it says "[not completed]". (full survey timestamp is near beginning of variables) |
| sleepdiary\_exercise\_\_\_0 | In the SHORT version of the survey, they were able to select multiple options. If there is a '1' here, then No they did not exercise for 20 minutes or more the previous day. If '0' they did not select it. |
| sleepdiary\_exercise\_\_\_1 | In the SHORT version of the survey, they were able to select multiple options. If there is a '1' here, then they exercised for 20 minutes or more the previous day **in the morning**. If '0' they did not select it. |
| sleepdiary\_exercise\_\_\_2 | In the SHORT version of the survey, they were able to select multiple options. If there is a '1' here, then they exercised for 20 minutes or more the previous day **in the afternoon** If '0' they did not select it. |
| sleepdiary\_exercise\_\_\_3 | In the SHORT version of the survey, they were able to select multiple options. If there is a '1' here, then they exercised for 20 minutes or more the previous day **in the evening** If '0' they did not select it. |
| covid19\_short\_survey\_complete | This is an autogenerated thing from REDCAP from the Short Survey dates, 2 = completed, 0 = partially completed |
| redcap\_timestamp | This a combined row of Redcap time stamps from the short and full versions of the survey ("covid19\_short\_survey\_timestamp" and "covid19\_timestamp") |
| PANAS\_PA | PANAS positive affect scale. Sum of panas\_interested3, panas\_excited3, panas\_strong3, panas\_enthusiastic3, panas\_proud3, panas\_alert3, panas\_inspired3, panas\_determined3, panas\_attentive3, panas\_active3 |
| PANAS\_NA | PANAS negative affect scale. Sum of panas\_distressed3, panas\_upset3, panas\_guilty3, panas\_scared3, panas\_hostile3, panas\_irritable3, panas\_ashamed3, panas\_nervous3, panas\_jittery3, panas\_afraid3 |
| worry\_scale | Sum of worry\_health, family\_health, community\_1health, national\_health, worry\_finances |
| PHQ9 | (Note: suicidality question was removed at request of IRB): Sum of depression1, depression2, depression3, depression4, depression5, depression6, depression7, depression8 |
| exercise | This exercise question is the biggest deviation between the Short and Full Versions of the survey. In the Short Version they were allowed to select multiple entries. In the Full Version they were only allowed to select one. To address this, here we have combined information for all sleepdiary\_exercise variables to indicate whether participants exercised (1) or did not (0) |
| fever\_temp\_C | fever\_temp with all participants who responded in Fahrenheit converted to Celsius |
| ref\_date | This is the date that we believe the participant was referring to. In some cases these need to be corrected if we believed the participant was "catching up" on surveys. |
| days\_elapsed | Number of days that have elapsed since start of data collection (3.21.2020) |