

Review of: "Food intake patterns, social determinants and emotions during COVID-19 confinement: an online survey among adults in Panama."

Alena Borgatti¹

¹ UAB The University of Alabama at Birmingham

Potential competing interests: The author(s) declared that no potential competing interests exist.

1. Overall:

1. **The entire paper contains substantial methodological issues throughout both the methods and results sections, including missing data, vague description of survey items and lack of survey validation, unclear data collection processes, inadequate reporting of results, and a multitude of other concerns. These concerns are substantial enough to limit the author's ability to draw any conclusions without first addressing these methodological issues. The supplementary materials provided exacerbate, rather than alleviate, these concerns.**
2. **From the introduction, the abstract feels like two papers combined together, and appears to feel more causal/ attributions are unclear. There is significant concern that analyses presented were chosen post-analysis, given the items used, the lack of cohesiveness between variables of interest, and underreporting in the results section.**
3. **The language is far more causal than is warranted by a cross-sectional survey.**
4. **Data are stated as collected "in confinement" despite the paper stating that the 4 months of lockdown had ended before data collection concluded.**
5. **While a review board is mentioned, there is no mention of participants being consented for the study.**

2. Pre-intro:

1. Title: "emotions" is too broad a construct and data were not collected solely "in confinement"
2. Abstract:
 1. Minor grammatical concerns
 2. Terminology is unclear in abstract. "movement restrictions" is vague and doesn't clarify whether these are transportation-related, physical activity related, or other restrictions. I assume these are referring to lockdown-related rules and regulations that impacted food access and intake.
 1. In Objective:
 1. sentence 3: consider clarifying further. Also, you're looking at emotions as well but only specify health and nutrition behaviors.
 2. Additionally, the first two sentences provide a background, but are somewhat vague and could be revised

to better explain the paper's key concepts.

2. Method and results

1. method, specify where participants are from. Also, what does it mean by "validated" surveys? In some ways, this comes across as selective inclusion of participants.
2. Some of the language in the results section (the final sentence in particular) does not include comparative language. It's unclear in this sentence whether it's comparing to women before the lockdown or comparing to those who don't identify as female. Also, it's entirely unclear how these emotions relate to food intake patterns, making the results section appear disjointed. It's perfectly fine if the emotional patterns didn't relate to food intake in the analyses, but say so.
3. Results: There is no need to say that subjects had overweight/obesity unless it relates to your results.

3. Conclusions:

1. because there is no pre-existing data, to say that these suggest that the income inequalities are exacerbated feels like a reach. Additionally, there is no discussion of women's anxiety and mental health despite this being mentioned in the results.
2. The final sentence "We believe that directing resources towards strategies with the greatest positive impacts on public health remains key, especially in critical situations such as the COVID-19 pandemic." Doesn't really say anything of substance related to the data. Generally, this states, "spend money on effective public health strategies" but does not make any attempt to suggest how the data suggests this or what measures are referred to.

3. Intro:

1. General comments:

1. consider using less definitive language, e.g., "Important" rather than "essential", "likely" rather than "Undoubtedly", etc.
2. Be extremely mindful of causal language- although many of these behaviors or socioeconomic changes were likely precipitated by covid-19, there are still other contributing factors that may have exacerbated these disparities, moderated or mediated certain behavioral changes, etc.
3. Minor grammatical edits needed (e.g., "free circulation" when describing quarantine is likely to be a direct translation but would be confusing to English readers) – these are worth outsourcing to the editorial board for small changes.

2. Paragraph 1:

1. The first two sentences are unnecessary in relation to the manuscript at hand.
2. Describing the social restrictions as "by far the strictest" merits a citation. Also, describing these in further detail may help clarify your arguments.
3. When you're stating COVID "augmented the long-standing social inequities among vulnerable groups" this is stated as fact- while likely true, be mindful of causal language when there are many geopolitical events during that time that may also contribute to these concerns.

3. Paragraph 2:

1. Citation needed for sentence 1.

4. Materials and Methods:

1. Minor grammar inconsistencies throughout.
2. **Although there is mention of a review board, it is entirely unclear whether participants were consented into the study based on the manuscript as written.**
3. **Significant and notable issues are observed with data collection items as written in the current version of this manuscript.** There is no way in which to evaluate the methodological quality of the vast majority of items analyzed in this paper as it is currently written. It is entirely unclear whether the constructs listed in the surveys are single items or measures that have been formulated to assess these constructs, whether any of these items have been validated in prior literature, or whether these items were selectively chosen by researchers based on their statistical significance or identified a priori for analyses. As the results themselves do not yet appear cohesive and certain important analyses between these constructs appear missing, this reviewer would like to express significant concern that items may have been chosen post-analysis, especially in light of the number of analyses run and the significance of these analyses in tables.
4. **There are inconsistencies in the reported data between the method section and table, and the initial paragraph in the methods section is confusing to readers as well.** In the abstract, you state: "...49.9% reported a monthly family income equal to or less than 1,000 USD." However, in the table you state that 50.3% make over 1,000 USD in monthly family income, and 49.7% make below \$1000 USD.
5. I am not familiar with Panama and this may reflect a bias on the part of the reviewer...however, I am confused about the choice to divide participants based on them living in panama city/panama oeste, or living outside of it. Are there no other major cities (e.g., Colón, Las Tablas) that would qualify as metropolitan? Was this divide made by reviewers based on severity of lockdown restrictions, resources available, or other unspecified factors? Why divide participants based on living in or out of panama city alone as opposed to rural and metropolitan places of residence? In future review, please clarify.
6. The section on study design, location, and population is missing significant important details. Please clarify the number of initial participants, as well as what efforts were undertaken to improve recruitment given the digital divide between initial participants and additional participants. Additionally, please ensure that you note the timeframes in which these data were collected and whether they differ significantly- longer duration of lockdown has been associated with increased stress, and it is unclear whether the same measures were in place throughout the data collection. The face-to-face participant recruitment section should be subsumed into this section.
7. Surveys: There are significant concerns with the reporting of survey items used. I have since reviewed the supplementary material, which did not alleviate these concerns. Moreover, it is highly unlikely that most readers will review all supplemental materials, and therefore it is important that the authors carefully describe their surveys and items rather than relying on readers to review supplementary materials to determine the methodological quality of the items. Specifically:
 1. Emotions: there is no clear indication of what "emotions" refer to, whether this is a validated measure of sadness, loneliness, or anxiety/worry, or other things, whether individuals were allowed to choose multiple

emotions to describe their experience, etc.

1. In reviewing the supplementary material, it is clear that these items did not include a validated measure- emotions mean different things to different people and this is not an optimal way to measure individuals' emotional state. Nor is the time frame of "the last few days" clear- for some individuals this could mean 2 days and for others this could mean the past several weeks. There are also far more emotions not included here, and assumptions made that fear/anxiety are similar enough to be included as a single item whereas worry is a separate construct. How was this determination made?
 2. Nutritional supplements: what nutritional supplements are referred to in this survey? Were participants self-reporting these and did they also report medications? Which nutritional supplements were selected for analysis and why?
 3. Physical activity: There are many brief measures of physical activity and these do not appear to have been appropriately used or consulted. It is unclear what "sedentary" and "physically active" should be defined as and these definitions vary wildly across populations. In reviewing the supplementary material, it is then found that the authors only asked individuals to define themselves as "sedentary" or "active" in relation to their pre-pandemic selves- this is not mentioned in the methods or results section.
 4. Perceived quality of food intake: How was this measured (10-point scale, perceived food intake then calculated for quality, etc.?)
 5. Criteria used for food acquisition: is this referring to methods by which people acquired food, how they determined the best way to acquire food?
 6. Data collection: Please define the term "bivariate analysis"- is this referring to correlations?
5. Results:
1. In paragraph 2, consider reporting the effects and differences rather than relying on the figure. Additionally, the figure lists this as "emotions reported during lockdown" and includes no quantitative data specified. It is therefore impossible to identify the merits of this finding or determine whether there are replicable effects. Finally, there is no clear comparison when the authors state that joy and calm are "less frequently" reported- as they do not have pre-pandemic data and the item does not ask them to compare responses to pre-pandemic, and they specifically mention that they are not comparing between men and women, it is impossible to say that this is occurring less or more frequently.
 2. There is no mention of missing data or how it was handled. For example, at one point, it is noted that only 762 participants responded to the *single item* question about emotions, but no other mention of missing data is included throughout the paper.
 3. The significance or effect sizes are missing from the entire results section.
 4. The results themselves are not cohesive – why are men and women analyzed separately for emotional status using a single item with half of the participants missing and no explanation as to why half of the participants are missing? There is also no discussion about nutritional quality or demographics in relation to gender.
6. Discussion:
1. In light of the findings of this review, the limitations section is extremely short and neglects the very important

considerations of data quality. Among them, the lack of discussion of missing data, choice to select certain items on measures, methodological quality of the surveys/items, choice to include data collected post-lockdown despite the title noting that these data were collected “in confinement”

2. Given these concerns, it seems inadvisable to evaluate the merits of the conclusions made in the discussion section, as the quality of the data and clarity of the methods and results sections may necessarily alter the outcomes of these findings.