

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Social Inequalities and Dynamics of the early COVID-19 Epidemic: a prospective cohort study in France.
<b>AUTHORS</b>	Bajos, Nathalie; Counil, Emilie; Franck, Jeanna-eve; Jusot, Florence; Pailhé, Ariane; Spire, Alexis; Martin, Claude; Lydie, Nathalie; Slama, Remy; Meyer, Laurence; Warszawski, Josiane

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Jeffrey Dennis Texas Tech University Health Sciences Center School of Health Professions, Public Health
<b>REVIEW RETURNED</b>	17-Jun-2021

<b>GENERAL COMMENTS</b>	<p>Overall I find this study examining emergence of anosmia/ageusia in a random sample of French residents in the early pandemic to be a useful description of demographic trends in infection. The sample appears to be appropriate for the aims of the study and findings are largely straightforward in their presentation.</p> <p>Minor issues with verb tense in the introduction - ensure consistency.</p> <p>Page 4, next to last paragraph should be "may have changed over time"</p> <p>The term "radicalized minorities" is not one I am accustomed to, but may be appropriate for the study setting. I more often use "Racial/ethnic minorities" - plus, the paper also uses ethno-racial minorities some as well.</p>
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<b>REVIEWER</b>	Charlie Zhang University of Louisville College of Arts and Sciences, Department of Geography & Geosciences
<b>REVIEW RETURNED</b>	29-Jun-2021

<b>GENERAL COMMENTS</b>	<p>This is an interesting and timely research that analyzed survey data on Covid-19 related health outcomes in France. The research design is solid and the manuscript was well-prepared. I have only two major comments for the authors to take into consideration that may help improve the quality of this work. First is to include discussions or sensitivity analysis about the use of high density places and overcrowded housing (Page 7), two exposure risk factors. The criteria used to define these two types of localities were quite subjective and arbitrary that might bias the subsequent statistical analysis results of health outcomes. I would suggest the authors provide some justifications for using such population density threshold (e.g., 1500 inhabitants per km<sup>2</sup> and 18m<sup>2</sup> per person) and perform some sensitivity analysis to test if changing those thresholds significantly affect the statistical analysis results. If the data for such criteria were created and released by the French or local</p>
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	<p>governments, then the authors should include explanations about the data and list this as a limitation in the discussion section of this paper.</p> <p>Second is about the comparison of survey results and the real Covid-19 infections in France. It would be more helpful and informational if the authors simply compare the proportion of self-reported anosmia and ageusia cases and the infection rate of confirmed Covid-19 cases based on the officially released data in France during the same time period. Doing so will help support the rationale and rigorousness of the survey data that was self-reported and could be subjective.</p>
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**VERSION 1 – AUTHOR RESPONSE**

Reviewer: 1

Comments to the Author:

Overall I find this study examining emergence of anosmia/ageusia in a random sample of French residents in the early pandemic to be a useful description of demographic trends in infection. The sample appears to be appropriate for the aims of the study and findings are largely straightforward in their presentation.

Minor issues with verb tense in the introduction - ensure consistency.

Page 4, next to last paragraph should be "may have changed over time"

The term "radicalized minorities" is not one I am accustomed to, but may be appropriate for the study setting. I more often use "Racial/ethnic minorities" - plus, the paper also uses ethno-racial minorities some as well.

Answer: We changed the sentence page 4 as recommended but we did not find the term “radicalized minorities” in our paper.

Reviewer: 2

Comments to the Author:

This is an interesting and timely research that analyzed survey data on Covid-19 related health outcomes in France. The research design is solid and the manuscript was well-prepared. I have only two major comments for the authors to take into consideration that may help improve the quality of this work. First is to include discussions or sensitivity analysis about the use of high density places and overcrowded housing (Page 7), two exposure risk factors. The criteria used to define these two types of localities were quite subjective and arbitrary that might bias the subsequent statistical analysis results of health outcomes. I would suggest the authors provide some justifications for using such population density threshold (e.g., 1500 inhabitants per km<sup>2</sup> and 18m<sup>2</sup> per person) and perform some sensitivity analysis to test if changing those thresholds significantly affect the statistical analysis results. If the data for such criteria were created and released by the French or local governments, then the authors should include explanations about the data and list this as a limitation in the discussion section of this paper.

Answer: The two variables high density of the place of residence and overcrowded housing were assessed using the official national definitions. We included in the PARTICIPANTS AND METHODS section this detail:

*“high density of the place of residence (i.e. at least 1,500 inhabitants per km<sup>2</sup> and a minimum of 50,000 inhabitants) and, overcrowded housing (i.e. at least two persons living in housing with less than 18m<sup>2</sup> per person) both assessed using the official national definitions.”*

Second is about the comparison of survey results and the real Covid-19 infections in France. It would be more helpful and informational if the authors simply compare the proportion of self-reported anosmia and ageusia cases and the infection rate of confirmed Covid-19 cases based on the officially released data in France during the same time period. Doing so will help support the rationale and rigorousness of the survey data that was self-reported and could be subjective.

Answer: Unfortunately, we cannot provide the proportion of confirmed Covid-19 cases due to a shortage of tests at the national level during the study period, as mentioned in the DISCUSSION section. Furthermore, we cite in our paper several publications showing that anosmia/ageusia was the more specific symptom of COVID-19 during the study period.

#### **VERSION 2 – REVIEW**

<b>REVIEWER</b>	Charlie Zhang University of Louisville College of Arts and Sciences, Department of Geography & Geosciences
<b>REVIEW RETURNED</b>	24-Sep-2021
<b>GENERAL COMMENTS</b>	The revised manuscript is in better shape and my prior concerns have been addressed.