Qeios

Peer Review

Review of: "Genomic Testing of Clark's Theory of the British Industrial Revolution: A Note on Statistical Accuracy and Power"

Jan Te Nijenhuis[1]

1. Biomedical research, Chosun University, Korea, Republic of

Genomic Testing of Clark's Theory of the British Industrial Revolution: A Note on Statistical Accuracy and Power

Gregory Connor

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Cutting-edge topic. Gregory Clark’s work is highly innovative – he created a whole new research paradigm by himself. The author of the paper makes an interesting attempt to tie Clark’s research to another line of research. When I review papers, I always try to give the benefit of the doubt to attempts to come up with innovative ideas and not review them to death.

The paper is well written but needs more work before it can be published. For instance, it needs to be made more accessible for non-experts. Based on the level of writing, I am sure the author can come up with an improved version.

INTRODUCTION

I applaud good quality multidisciplinary papers, but an obvious risk is that most readers will only be familiar with, at best, one of the disciplines. So, the task of the author is to provide an introduction to the background information. The author cannot assume that the majority of the readers is familiar with all the different topics.

Many readers will not be familiar with the work of Gregory Clark, so the author needs to describe it in much more detail.

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The same goes for the description of the work on ancient genomes.

Explain how PS-TGS works, in an accessible way.

Explain why five centuries is a relatively short period for this approach.

The author now takes one page for the Introduction, where several pages are required.

p. 1 "Clark tests his theory by examining historical demographic patterns in England ...". How strong does the author think this proof is? Circumstantial, weak, modest, strong? And why?

The author claims that his approach is more powerful and direct. Please supply the arguments as to why this is the case.

p.2 What are "densely populated time series samples"? Is this the correct terminology? A city can be densely populated, but does the same thing apply to a time series sample?

THE STATISTICAL FRAMEWORK

The field of genomic analysis is relatively new, so there is a place for various statistical approaches. The field of genomic analysis of ancient and old DNA is very new, so it is good to discuss new approaches.

p. 2 "The resident population was quite homogeneous." Please supply the references to back up this statement.

p.2 'based on the discussion in Clark ...' Supply the chapter or, even better, the page numbers, as is common.

p. 3 What is an estimation problem? "Clark's theory testing problem"

p. 4 "there is a degree of inaccuracy in recorded birth dates". The statement is vague. Measurement is never perfect. Are we dealing with a minor problem or a substantial problem? What are the arguments?

p. 8 "I simulate the nonlinear model"; this should be written in the past tense, as should most of the article.

CONCLUSION

A technique to make an article more accessible is to repeat the rationale for the study or the research questions at the beginning of the Discussion; this should not take more than 2-3 sentences.

Is now the optimal time to start these analyses, or should we maybe wait until we have more samples and more fine-grained DNA analyses? The developments in these areas are fast, so maybe the author could speculate about an optimal time to start these kinds of analyses.

p. 11 “if the true “Clark effect” is larger “; I am not a fan of these constructions using inverted commas. Describe clearly what you mean by the ‘Clark effect’.

The Conclusion section is very short, but a couple of good points are made. Having said that, there is space for a much more extensive discussion of the topics mentioned in the Introduction. For instance, what are the practical and theoretical implications of the findings? Maybe there are other research designs that allow extending or testing Gregory Clark’s theorizing.

What does the author think about alternative statistical approaches?

Declarations

Potential competing interests: No potential competing interests to declare.