

Peer Review

# Review of: "Are Bidding Behaviors of Jeopardy! Gameshow Contestants Influenced by Gender/Sex?"

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Thank you for giving me the opportunity to review this interesting manuscript. Below are my comments and remarks:

This methodologically rigorous and clearly written manuscript contributes to the analysis of wagering behaviour in the special population of television game show contestants by examining multi-period data from 1984 to 2022 drawn from "Jeopardy!", a well-known North American quiz show. Given that research on such special populations is sparse, these observational data provide important ecologically valid evidence on how wagering behaviour may have changed over time and how it differs by sex.

A particular strength of the study lies in its comprehensive dataset, which spans a comparatively long period and therefore captures multiple generations of contestants.

Even though the study is well-written and the statistical approach is described very clearly, in my view the manuscript primarily lacks substantive depth, particularly in terms of a more in-depth discussion of sex differences and wagering behaviour.

My comments are as follows:

Introduction:

Comment 1:

Although the authors briefly state in the first paragraph that their aim is to examine risk aversion differences between men and women, thereby contributing to the debate on whether such differences are primarily socio-context dependent and may diminish over time, the remainder of the introduction provides little engagement with the existing evidence on this topic. This seems particularly important given the focus on a special population, namely game show contestants. Instead, a substantial portion of

the introduction is devoted to a detailed explanation of how \*Jeopardy!\* works. The introduction would contribute more directly to the study's substantive focus if the description of the game mechanics were moved to the Methods section and the end of the introduction provided a more detailed rationale for why this specific population is relevant and informative for the research question, including a brief synthesis of what prior evidence exists for comparable special populations (for example, game show contestants) and how the present study extends that literature.

Results:

Comment 2:

The authors state in the Results section: "Although the average bidding rates (Figure 2) might suggest initial trends, such as males bidding higher percentages than females in earlier epochs (1984–1994 and 1995–2004) and females outbidding males in the most recent epoch (2015–2022), these observations are not supported by more rigorous statistical tests." However, visually, Figure 2 does appear to show differences, potentially even with non-overlapping confidence intervals?! Could the authors clarify which statistical tests were conducted in detail? In addition, would it be helpful and feasible to conduct sensitivity analyses to examine the robustness of these findings more thoroughly, for example by assessing whether the results are driven by specific players who exhibited particularly high risk-taking behaviour, or by exploring similar influential cases?

Discussion:

Comment 3:

Although it is plausible that the results "suggest that the risk-taking behaviours in the context of \*Jeopardy!\* are not significantly influenced by the sex or gender of the contestants. This finding is aligned with the idea that sex or gender differences in risk-taking may be context-dependent and not as universally pronounced as previously thought," the authors subsequently cite only two references to support the claim that such differences can vary by scenario. I would welcome a more in-depth discussion here. Specifically, why did the comparison studies report no sex or gender differences, and through which mechanisms might those explanations transfer to the present study, given that the game show context is arguably quite unusual and highly specific?

Comment 4:

The authors write when contextualizing their findings: "Secondly, the absence of significant differences in bidding behavior between male and female contestants across epochs might challenge some

traditional views on risk aversion. While it was observed that men tended to bid slightly higher in earlier epochs and women in more recent epochs, these differences were not statistically significant. While not statistically significant, these trends still underscore the complexity of risk-taking behaviours and suggest that differences in risk aversion may not always be straightforward and might be influenced by a multitude of factors, including societal changes and evolving cultural norms.”

What stands out is that key statements here, for example the claim that these findings might challenge “traditional views on risk aversion”, are not supported with citations. More broadly, the discussion of potential epochal trends and societal change remains largely speculative without engagement with relevant literature. What evidence exists on temporal or cohort trends in wagering behaviour, risk-taking, or gender differences in similar high-stakes decision contexts, and how does that literature map onto the present setting of game show wagering?

Comment 5:

Given that self-selection bias, as acknowledged in the Limitations, and the associated population-specific characteristics, for example “Consequently, the contestants’ advanced skill level and preparedness might have masked any potential sex or gender differences in risk-taking behaviours that could be more apparent in a general population,” represent a central constraint of the study, the more general question is what population the authors’ conclusions are intended to inform. This should be addressed more explicitly in the Discussion. In particular, the authors should more strongly emphasise that the analysis concerns a highly selected special population and clarify how, and to what extent, inferences can be generalised beyond \*Jeopardy!\* contestants. Relatedly, it would strengthen the manuscript to engage with any available comparative literature on similar populations or analogous “wagering like” decision contexts, for example other televised game show contestants or structured, high-stakes quiz and tournament environments, to better situate what is specific to \*Jeopardy!\* versus what might plausibly generalise.

## Declarations

**Potential competing interests:** No potential competing interests to declare.