



Michotte's classic studies on the perception of causality: Replications, extensions and a sound base for further research

A recommendation by [Moin Syed](#)  based on peer reviews by [Maxine Sherman](#)  and 1 anonymous reviewer of the STAGE 2 REPORT:

Peter A. White (2024) Michotte's research on perceptual impressions of causality: a registered replication study. OSF, ver. 3, peer-reviewed and recommended by Peer Community in Registered Reports. <https://osf.io/jdac7>

Submitted: 09 October 2024, Recommended: 29 January 2025

Cite this recommendation as:

Syed, M. (2025) Michotte's classic studies on the perception of causality: Replications, extensions and a sound base for further research. *Peer Community in Registered Reports*, 100921. [10.24072/pci.rr.100921](https://doi.org/10.24072/pci.rr.100921)

Published: 29 January 2025

Copyright: This work is licensed under the Creative Commons Attribution 4.0 International License. To view a copy of this license, visit <https://creativecommons.org/licenses/by/4.0/>

Making causal judgements are part of everyday life, whether seeking to understand the action of complex humans or the relations between inanimate objects in our environments. Albert Michotte's (1963) classic book, *The perception of causality*, contained an extensive report of experiments demonstrating not only that observers perceive causality of inanimate shapes, but do so in manifold ways, creating different "causal impressions." This work has been highly influential across psychology and neuroscience. In the current study, White (2025) conducted 14 experiments aimed at replicating and extending Michotte's work. Despite the fact that this research is foundational to current work on perception and understanding of causal relations, it has never been subject to rigorous replication. Moreover, like many research studies from that era, Michotte was sparse on details about methodology and did not rely on statistical analysis. White carried out an ambitious set of 14 experiments and 18 hypotheses that directly replicated and, in some cases, extended Michotte's experiments. The results of the experiments were mixed, with the hypotheses evenly divided among being supported, partially supported, and not supported. The current effort by White not only brings rigorous contemporary data to classic studies of perceptual impressions of causality, but the results point to important new directions for future study on the topic. In particular, the findings suggest a need to broaden our investigations of causal explanations of movement beyond launching (i.e., contact of one object leading to motion of another) to also consider entraining (i.e., joint movement following contact) and pulling. The collected studies provide fertile ground for further testing a variety of mechanisms that explain different perceptual impressions of

causality. The Stage 2 manuscript was evaluated over three rounds of in-depth review, the first two rounds consisting of detailed comments from two reviewers and the third round consisting of a close read by the recommender. Based on detailed responses to the reviewers' comments, the recommender judged that the manuscript met the Stage 2 criteria and awarded a positive recommendation. **URL to the preregistered Stage 1 protocol:** <https://osf.io/5jx8f> **Level of bias control achieved: Level 6.** *No part of the data or evidence that was used to answer the research question was generated until after IPA.* **List of eligible PCI-RR-friendly journals:**

- [Advances in Cognitive Psychology](#)
- [Collabra: Psychology](#)
- [Experimental Psychology](#)
- [Journal of Cognition](#)
- [Meta-Psychology](#)
- [Peer Community Journal](#)
- [PeerJ](#)
- [Psychology of Consciousness: Theory, Research, and Practice](#)
- [Royal Society Open Science](#)
- [Studia Psychologica](#)
- [Swiss Psychology Open](#)

References:

1. Michotte, A. (1963). The perception of causality (T. R. Miles & E. Miles, trans.). London: Methuen. (English translation of Michotte, 1954).
2. White, P. A. (2025). Michotte's research on perceptual impressions of causality: A registered replication study [Stage 2]. Acceptance of Version 3 by Peer Community in Registered Reports. <https://osf.io/jdac7>

Reviews

Evaluation round #2

DOI or URL of the preprint: <https://osf.io/ufvk7>

Version of the preprint: 2

Authors' reply, 27 January 2025

Here are my replies to the editor's numbered comments:

1. This has been done.
2. No tracked changes were visible on my version - I'm sorry if they have come up on yours. I have gone to the review tab, selected track changes, and selected no mark-up. I hope this solves the problem.
3. This has been done.
4. O.K., thank you.
5. This has been done.

I'm happy to say that my university has agreed to cover the publication fee for Royal Society Open Science, so that would be my choice of journal to publish in.

Best wishes and many thanks again for all the work you have done on this submission,

Peter

[Download tracked changes file](#)

Decision by [Moin Syed](#) , posted 20 January 2025, validated 21 January 2025

Stage 2 Decision Round #2: Minor Revision

January 20, 2025

Dear Peter,

Thank you for submitting your revised Stage 2 manuscript, "Michotte's research on perceptual impressions of causality: A registered replication study" to PCI RR.

I appreciate your close attention to my previous feedback. There are only a few very minor issues to address before I can issue a recommendation:

1. Replace all of the OSF view-only links with the public links.
2. Prepare a clean copy, with no tracked changes.
3. You had asked whether the Design Table should continue to be included. Yes, please continue to include it, and also add a new column at the end that indicates the outcome for each hypothesis in basic terms (e.g., confirmed or disconfirmed). This is PCI RR policy and is something I forgot to include in my previous letter.
4. My previous concern about 'clearly delineated columns' in the tables seems to have been addressed via the change to single spacing, so there is nothing further for you to do there.
5. Consider converting the manuscript to PDF and posting that version as your updated preprint. Doing so better preserves formatting, which is helpful for anyone reading the paper online.

I agree that you have done the best you can with the length, given the scope and complexities of the project. I sincerely hope that you are able to secure the necessary funds to publish the paper in your preferred outlet, and encourage you to explore the various fee waiver programs that are available.

Thank you for submitting your work to PCI RR, and I look forward to receiving your revised manuscript.

Moin Syed

PCI RR Recommender

Evaluation round #1

DOI or URL of the preprint: <https://osf.io/ufvk7>

Version of the preprint: 1

Authors' reply, 13 January 2025

[Download author's reply](#)

[Download tracked changes file](#)

Decision by [Moin Syed](#) , posted 11 December 2024, validated 13 December 2024

Stage 2 Decision Round #1: Revision

December 11, 2024

Dear Author,

Thank you for submitting your Stage 2 manuscript, "Michotte's research on perceptual impressions of causality: A registered replication study" to PCI RR.

I apologize for the delay in sending this decision. As you well know, your manuscript contains numerous experiments that produced a large amount of data. I was fortunate to have the same reviewers for the Stage 2 manuscript as who were involved in the Stage 1 review process. Their comments are appended below.

Overall, you have prepared an excellent and extremely thorough Stage 2 manuscript. You held closely to the plans outlined in the Stage 1 that received the IPA, reported the results clearly, and interpreted the results appropriately. I have just a few comments, which could be interpreted as either small or large issues, depending on how you look at them.

1. The manuscript is extremely long and detailed. I don't usually raise this issue in the review process, because it is not relevant to the decision, but I wondered what your plans were for the paper following recommendation. If you intend to have it live as a reviewed preprint, or publish it directly into the Peer Community Journal, then the length is not a major issue. If, however, you want to publish it in a traditional journal, you will most certainly want to reduce the length considerably, moving much of the detail to supplemental. The choice, of course, is yours, but I felt it was worth raising for your consideration. I am happy to have a dialogue with you about this issue.

2. I agree with Reviewer 1 that some visual representation of the findings would help quite a lot with clarity and communication. I understand your concern about misinterpretation of figures, but the root cause of that is poorly prepared figures, not figures themselves. You could provide nice, clear, detailed plots of the data that accurately represent the findings, and the paper would be much improved. This is an excellent contribution to the literature, and having some figures would clearly communicate the contributions to a broad audience.

3. I recommend rewriting the abstract. The current version is heavily focused on the rationale, with little detail on the findings. The final version should have more balance and communicate the main findings of the project with more detail than what is currently included.

4. Some of the tables could use stronger formatting. Tables 1-3, in particular would benefit from single-spacing and clear delineating of columns. Table 45, the summary of the replications, is extremely helpful but also difficult to parse. Again, having clearly delineated columns would help quite a bit.

5. A small point, but more time consuming given the number of tests: you report "ns" for tests that were not statistically significant, but it is preferable (and current APA style) to provide exact p-values for all tests.

Thank you for submitting your work to PCI RR, and I look forward to receiving your revised manuscript.

Moin Syed

PCI RR Recommender

Reviewed by Maxine Sherman , 08 November 2024

I appreciate that this will be a somewhat unusual review: I have so far only reviewed the first sections of the manuscript and I can see that the introduction, methods, hypotheses and analysis procedures have all stayed true to the Stage 1 paper. All that I can see is missing is access to the data (which I assume is just a mistake - the page at osf.io/ykv9r seems to still be under embargo)

I have not yet read through the results for each study and the discussions. Before I do so I wanted to request a visualisation of the results for each experiment, ideally alongside a graphical depiction of the hypothesised pattern. In its current form, all results are presented as tables of descriptives. While visualising the pattern of results from a table would be ok for just one experiment, with 14 it becomes too cumbersome (especially for those manipulating 2 factors, or where different patterns were predicted for different kinds of rating). I think presenting the results in this way, with hypothesised and obtained results side-by-side, will also generally help readers grasp the overall success of this very substantial and impressive replication effort.

Reviewed by anonymous reviewer 1, 21 October 2024

Dear author, thank you very much for addressing my previous comments. I appreciate the effort you made to improve the manuscript, especially in explaining the sample size and power analysis, which is now clear and well-justified. Although I initially suggested adding subparagraphs to make the introduction less dense, I believe the current structure works well and the information is clear. Overall, I think the paper is now ready to be accepted, as it provides an important contribution by replicating Michotte's experiments with modern tools. Thank you again for your hard work.