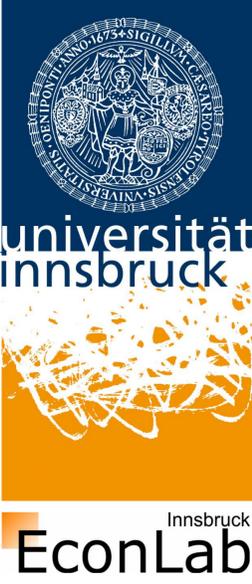


Nobel and Novice: Author Prominence Affects Peer Review

published in PNAS in October 2022 (<https://doi.org/10.1073/pnas.2205779119>)

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Research Question and Background

General research question:

- Does author prominence affect potential reviewers' willingness to accept the invitation to review and reviewers' assessments of manuscript quality? Is there a status bias in the willingness to review and in the assessment of the manuscript?

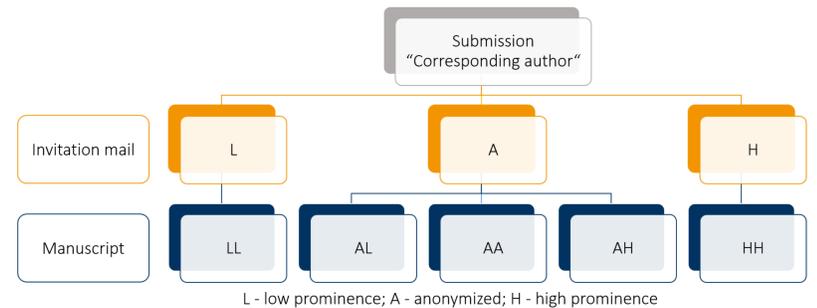
Background:

- Peer review has been the key method of research validation for past 300 years and serves as quality control to prevent unwarranted claims, interpretations, and opinions from being published.

Experimental Design

One paper, reviewed by hundreds of researchers:

- Scientific manuscript in finance jointly written by a very prominent and a rather unknown author: Nobel prize laureate Vernon L. Smith and early career research associate Sabiou Inoua – same affiliation, same gender, but vastly different prominence.
- The paper is submitted to the *Journal of Behavioral and Experimental Economics* and 3300 reviewers are invited across different treatments:
 - No author information is given to reviewers
 - Low-prominence author is mentioned in invitation / on manuscript
 - High-prominence author is mentioned in invitation / on manuscript
- We measure acceptance rates of the review invitations and recommendations to reject, revise, or accept



Importance for the broader society:

- Impartial review process crucial to advance science, give fair career opportunities to young researchers, and allocate funding money to best possible use.

Results

Review invitation acceptance rates:

- When the invitation email shows the prominent author, 38.5% of invited reviewers accepted the invitation, which is a significantly larger share than in the low-prominence and anonymous conditions (about 30% in each). Probably reviewers expect less work or more interesting results when reading a paper of a prominent author.

Paper assessment:

- While the manuscript was word-for-word identical, its assessment varied strongly by condition (Fig. 1 below) With the low-prominence author 65.4% recommend rejection; 48.2% do so in the anonymous conditions, but only 22.5% reject the paper when the Nobel prize laureate is shown as author.
- Robustness: On six sub-questions ("Is the subject worthy of investigation?", etc.) the paper is always assessed as "better"; "more relevant", etc. if the more prominent author is shown rather than the less prominent one (Fig. 2).

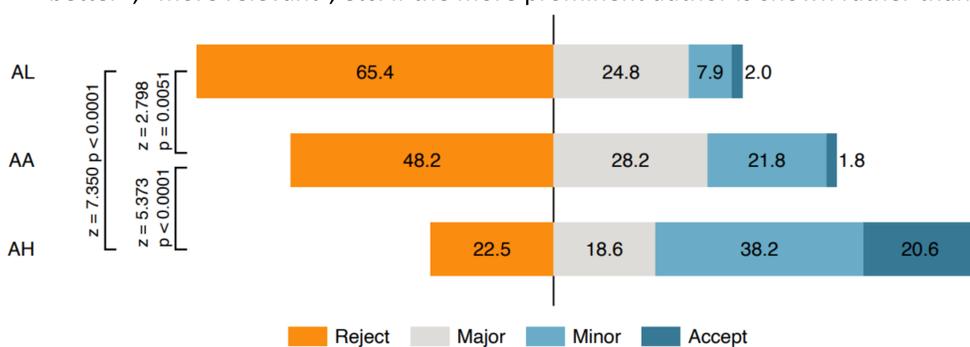


Fig. 1. Recommendation percentages by condition. L stands for the relatively unknown author, A stands for anonymized and H stands for the highly prominent author. In conditions AL and AH, the invitation email was anonymized, but the respective corresponding author's name appeared on the manuscript, while in AA both the invitation and the paper were anonymized. The tests are pairwise, two-sided Mann-Whitney U tests.

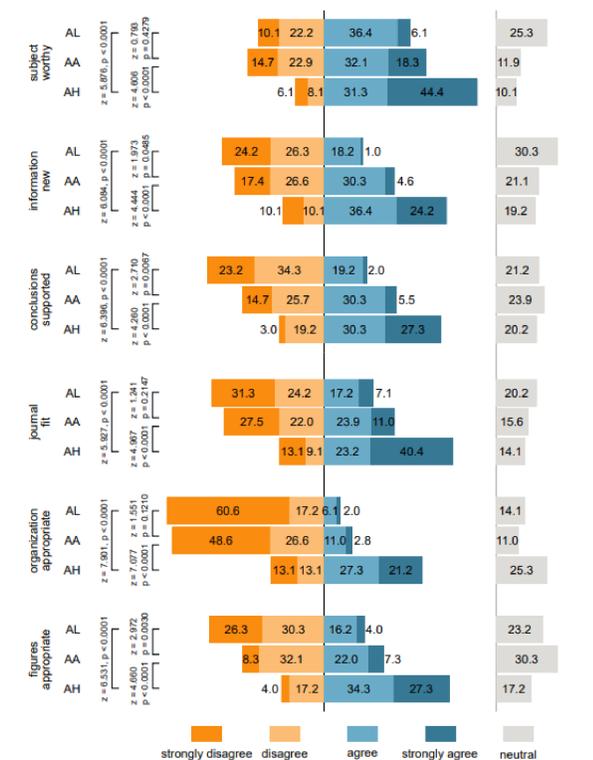


Fig. 2. Responses to reviewer questionnaire items 1-4. We plot the percentage of neutral responses on the right hand border of the figure. For each item, we conducted pairwise, two-sided Mann-Whitney U tests across conditions. A stands for anonymized and H stands for the highly prominent author. In conditions AL and AH, the invitation email was anonymized, but the respective corresponding author's name appeared on the manuscript, while in AA both the invitation and the paper were anonymized.

Conclusion & Media Reception

- Most plausible explanation for the very different assessments: Reviewers consciously or unconsciously ascribe higher quality to a paper authored by a prominent researcher. This is reminiscent of the "halo effect" known from social psychology.
- Our results speak in favor of strict double-anonymization of the review process. However, as more and more working papers and preprints are made available on the internet, a truly double-anonymized review process becomes less and less realistic.
- Double-anonymizing the peer review process could help level the playing field for academics from marginalized groups, giving them a fairer chance to succeed, which in turn would promote more diverse points of view in journal output.
- Limitation: Only compared single-anonymized vs. double-anonymized review processes, but no alternatives such as a fully transparent review process involving discussions between authors, reviewers, and editors; or forms of "structured peer review" that provide additional guidance for reviewers and prompt them to help improve the manuscript.
- Large media and social media attention, selected articles linked on the right (scan QR codes).

