AI Use in Communicating Research Results

"Scientists Split on Ethics of AI Use" - Diana Kwon, Nature 641, 574 (2025)

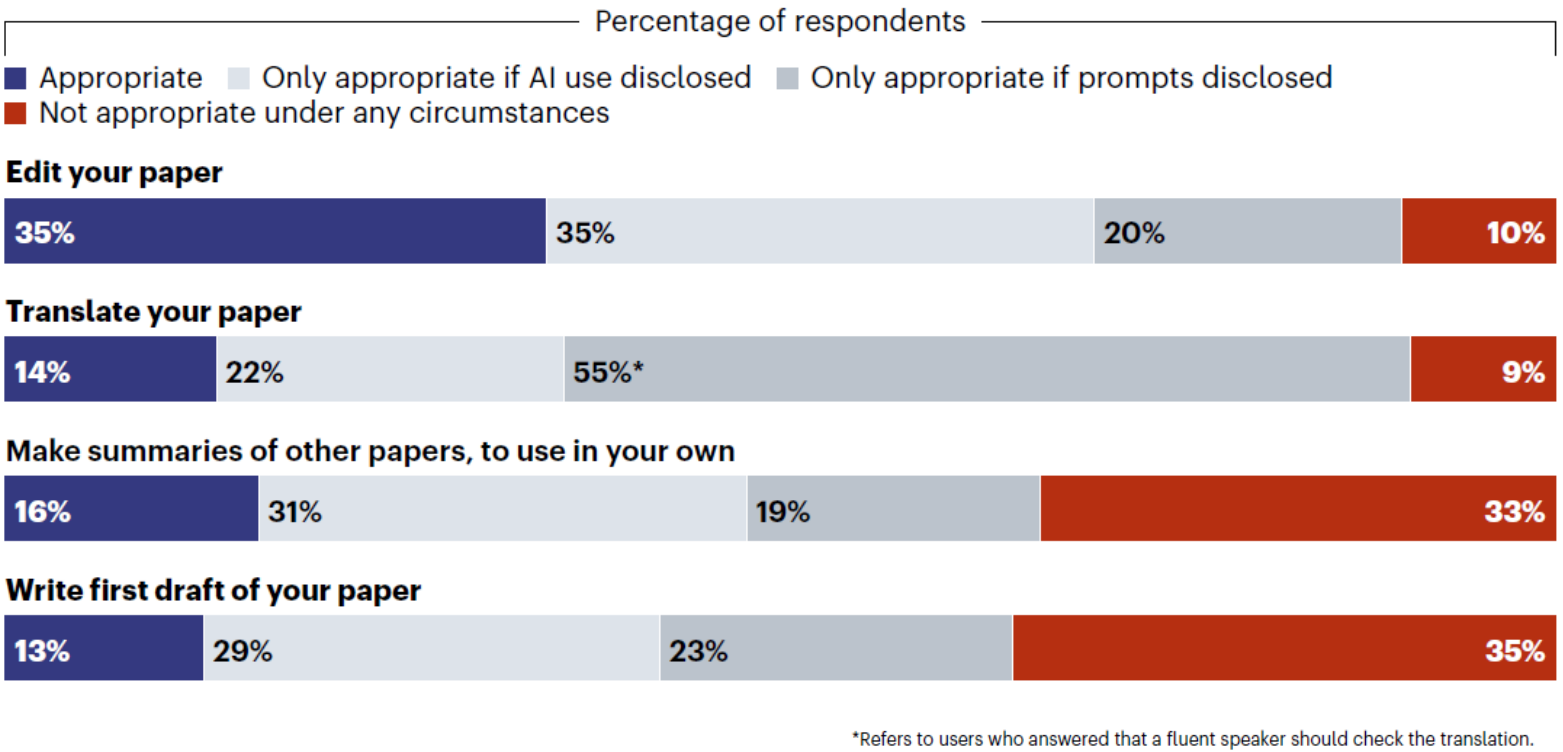
Nature survey of 5000 scientists worldwide

How much is AI altering the process of communicating science?

- Number of papers with signs of AI use raises rapidly
- Undisclosed use of AI not solely identified in predatory journals but also in journals linked to reputable publishers such as Elsevier or Springer
- Usage of phrases usually associated with chatboxes (e.g. "regenerate response", "certainly, here are")

OPINIONS ON USING AI TO WRITE PAPERS

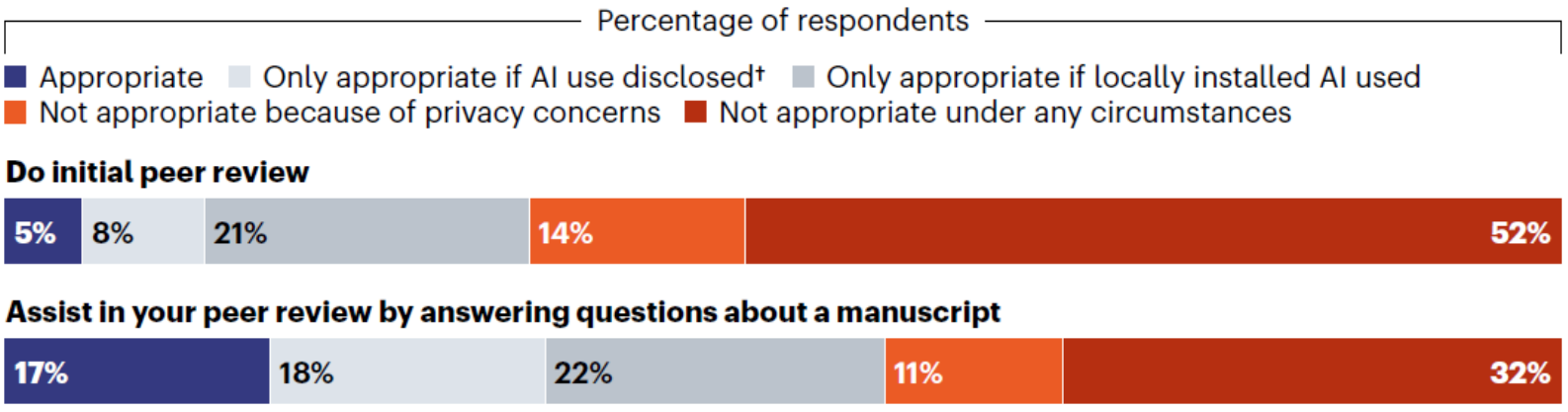
Most of the researchers surveyed by *Nature* felt that it was OK to use generative AI to help edit or translate their papers. A majority also thought that it was OK to write a first draft with AI. More than half thought disclosure of AI use was needed.

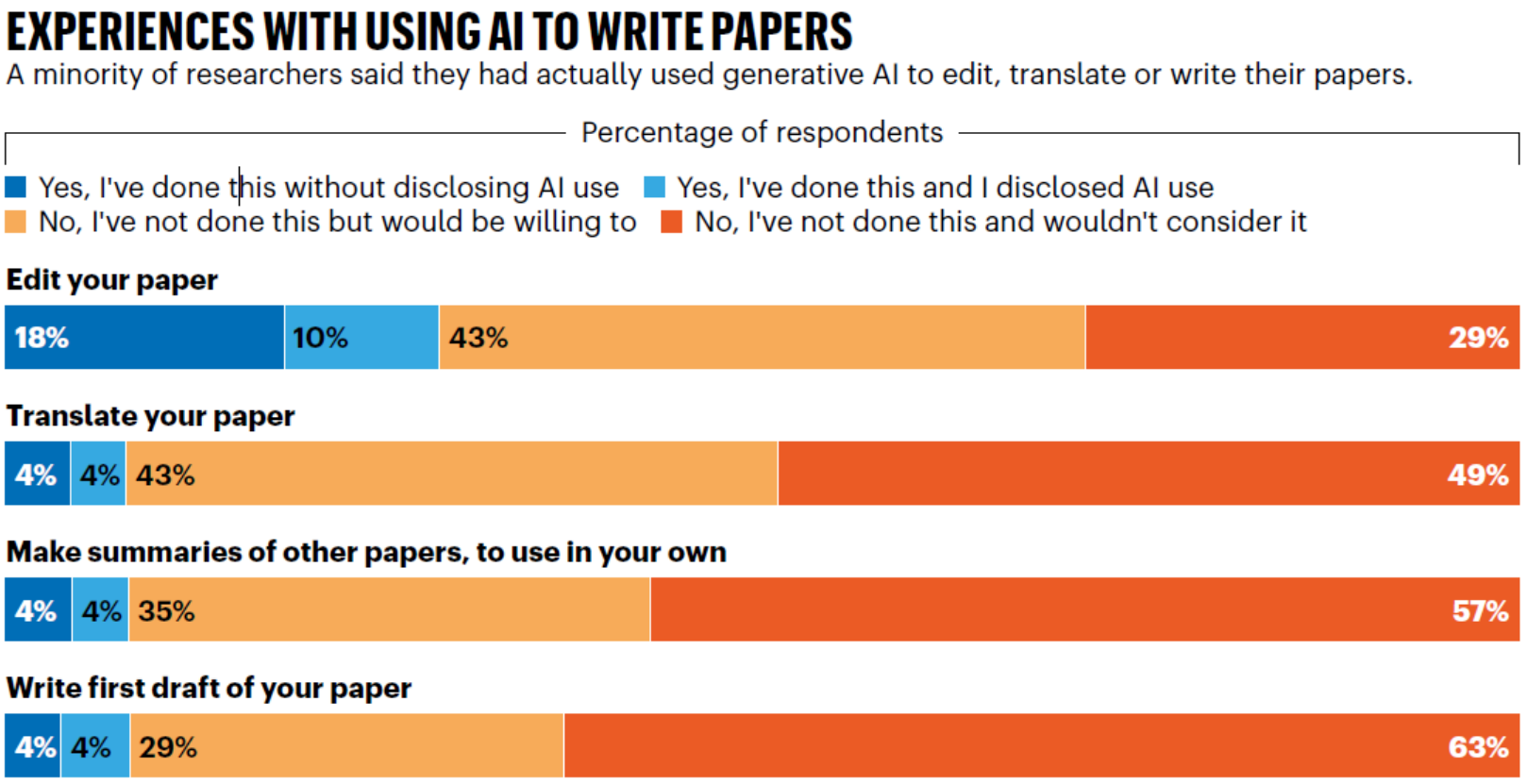


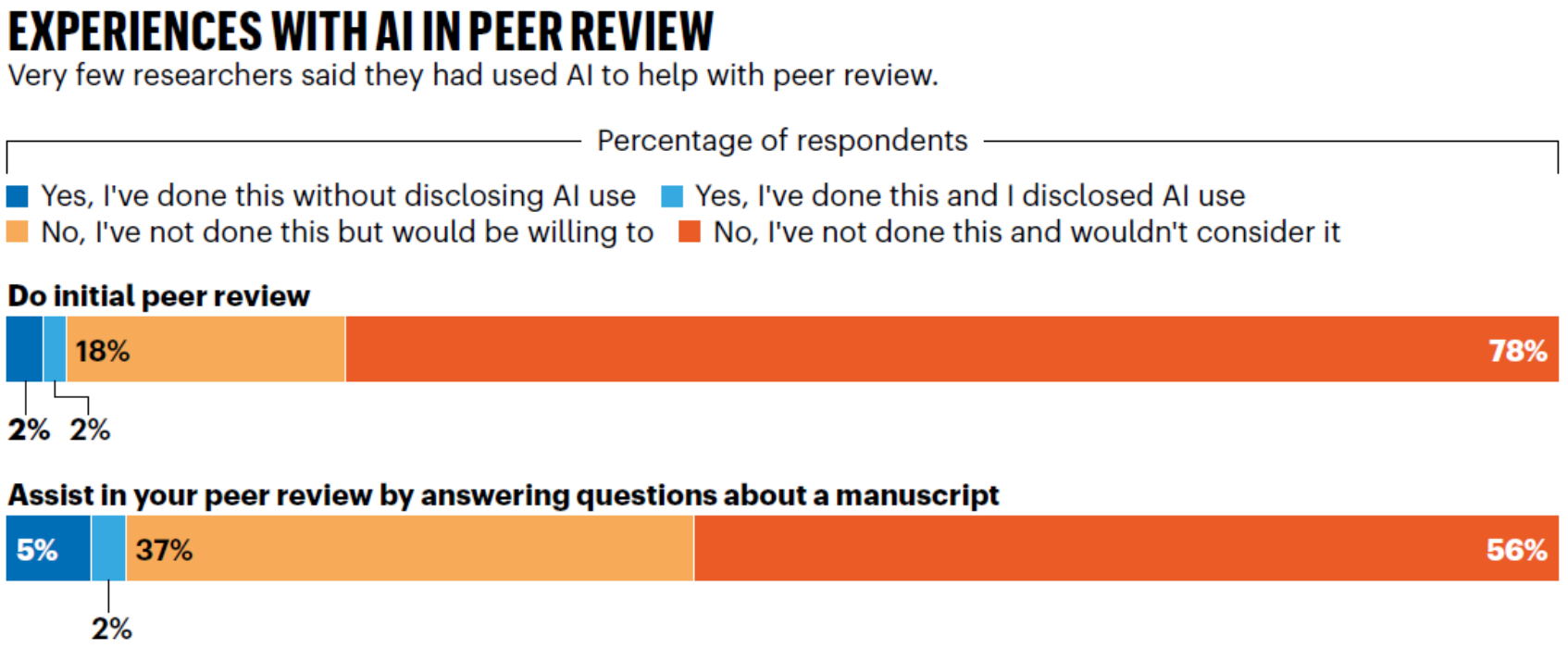
*Refers to users who answered that a fluent speaker should check the translation.

OPINIONS ON AI IN PEER REVIEW

Researchers felt less favourably about using AI to do an initial peer review of a paper, or to assist in peer review.

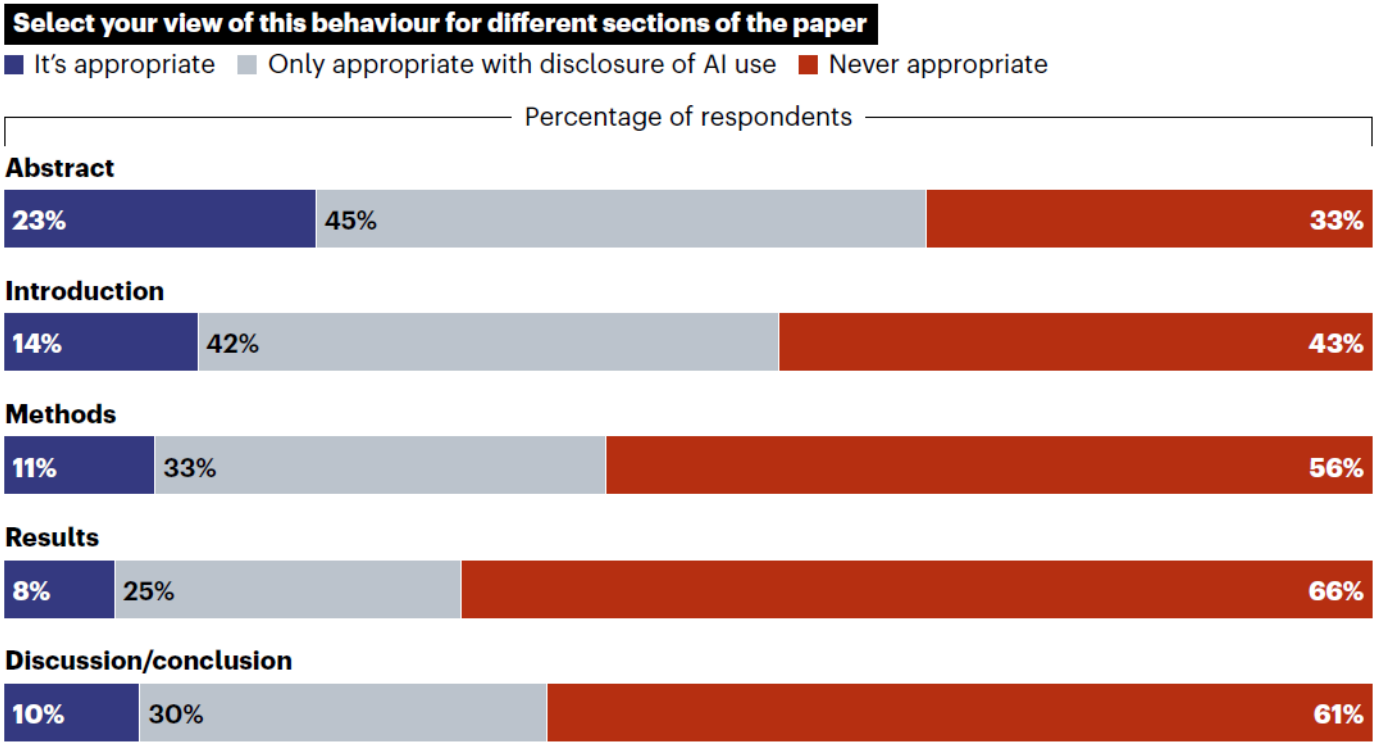



EXPERIENCES WITH USING AI TO WRITE PAPERS
A minority of researchers said they had actually used generative AI to edit, translate or write their papers.
Percentage of respondents
Yes, I've done this without disclosing AI use
Yes, I've done this and I disclosed AI use
No, I've not done this but would be willing to
No, I've not done this and wouldn't consider it
Edit your paper
18%
10%
43%
29%
Translate your paper
4%
4%
43%
49%
Make summaries of other papers, to use in your own
4%
4%
35%
57%
Write first draft of your paper
4%
4%
29%
63%


EXPERIENCES WITH AI IN PEER REVIEW
Very few researchers said they had used AI to help with peer review.
Percentage of respondents
Yes, I've done this without disclosing AI use
Yes, I've done this and I disclosed AI use
No, I've not done this but would be willing to
No, I've not done this and wouldn't consider it
Do initial peer review
2%
2%
18%
78%
Assist in your peer review by answering questions about a manuscript
5%
2%
37%
56%

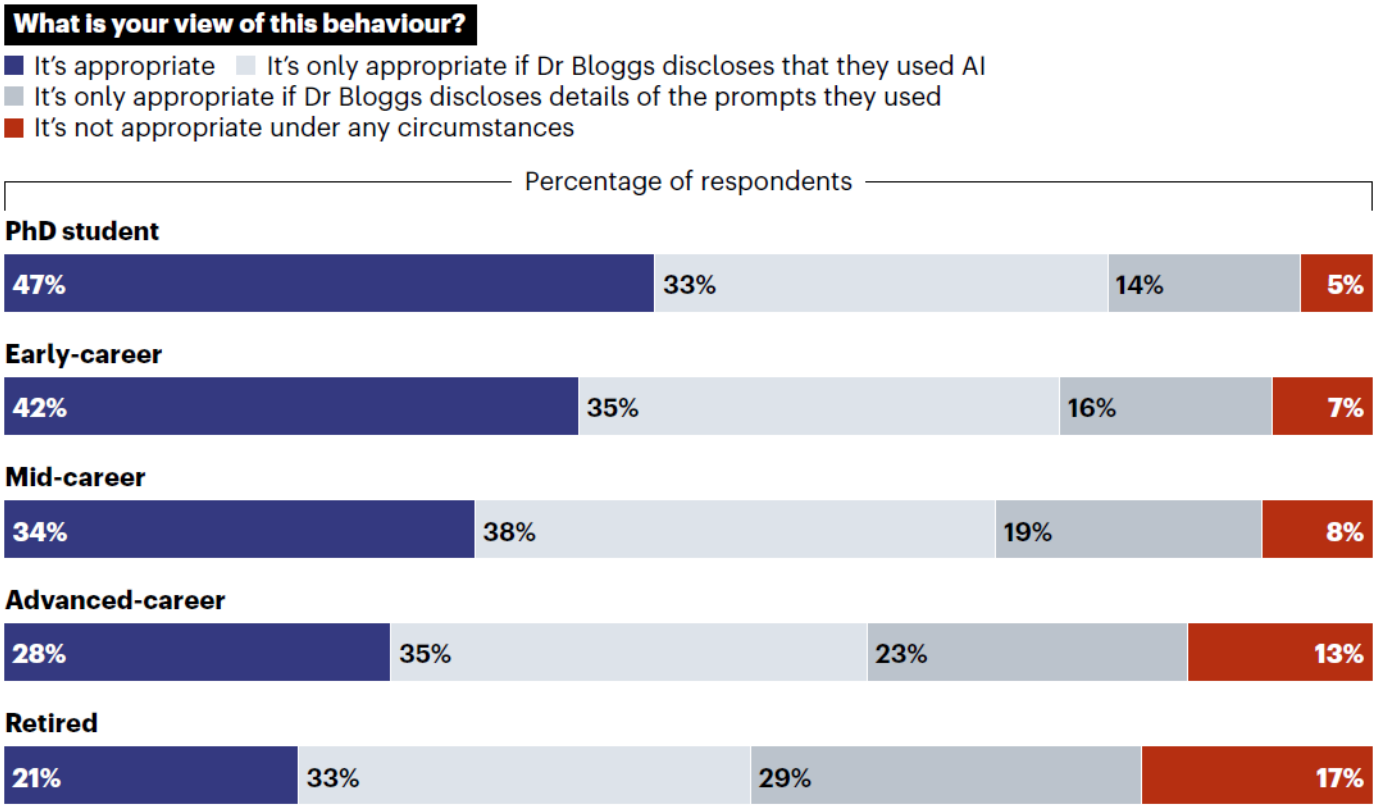
OPINIONS ABOUT USING AI TO DRAFT DIFFERENT SECTIONS OF A PAPER

Nature's survey asked people to consider the following scenario: "Dr Bloggs uses an AI tool to write a section of a research paper, then edits the results. They don't disclose that they used AI." Respondents showed most concern about using AI for the results section.



IMPACT OF CAREER STAGE FOR EDITING WITH AI

In many scenarios, respondents' career stage made little difference to reported AI use, or opinions on its appropriateness. However, younger respondents were more in favour of using AI to edit articles, and more likely to say they had done it.



AI Use in Conducting Research

"Scientists Used ChatGPT to Generate Whole Paper from Data" Gemma Conroy
Nature 619, 443 (2023)

- data scientiests from Technion (Israel) developed software capable of autonomously interacting with ChatGPT
- chatbot that mirrors the scientific process, from initial data exploration, through writing data-analysis code and interpreting the results, to writing a manuscript.
- data set: publicly available from the US Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System. The database included information from more than 250,000 people, who were interviewed by telephone about their diabetes status, fruit and vegetable consumption, and physical activity.

"AI-Newton: A Concept-Driven Physical Law Discovery System without Prior Physical Knowledge" Y.L. Fang, D.S. Jian and Y.Q. Ma (Peking Univ) arXiv: 2504.01538

"The system integrates a knowledge base and knowledge representation centered on physical concepts, along with an autonomous discovery workflow. As a proof of concept, we apply AI-Newton to a large set of Newtonian mechanics problems. Given experimental data with noise, the system successfully rediscovers fundamental laws, including Newton's second law, energy conservation and law of gravitation, using autonomously defined concepts"