

Artificial Intelligence in Scientific Exchange Among Healthcare Providers: A Cross-Sectional Survey of Adoption, Trust, Perceived Limitations, and Future Directions

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Introduction

- Artificial intelligence (AI) use is expanding across healthcare and healthcare education, albeit with unclear guardrails and uneven adoption¹
- AI can present both opportunities and challenges in medical education²

Objective

To examine healthcare professionals' (HCPs') perceptions of the use of AI in scientific exchange among educators and learners.

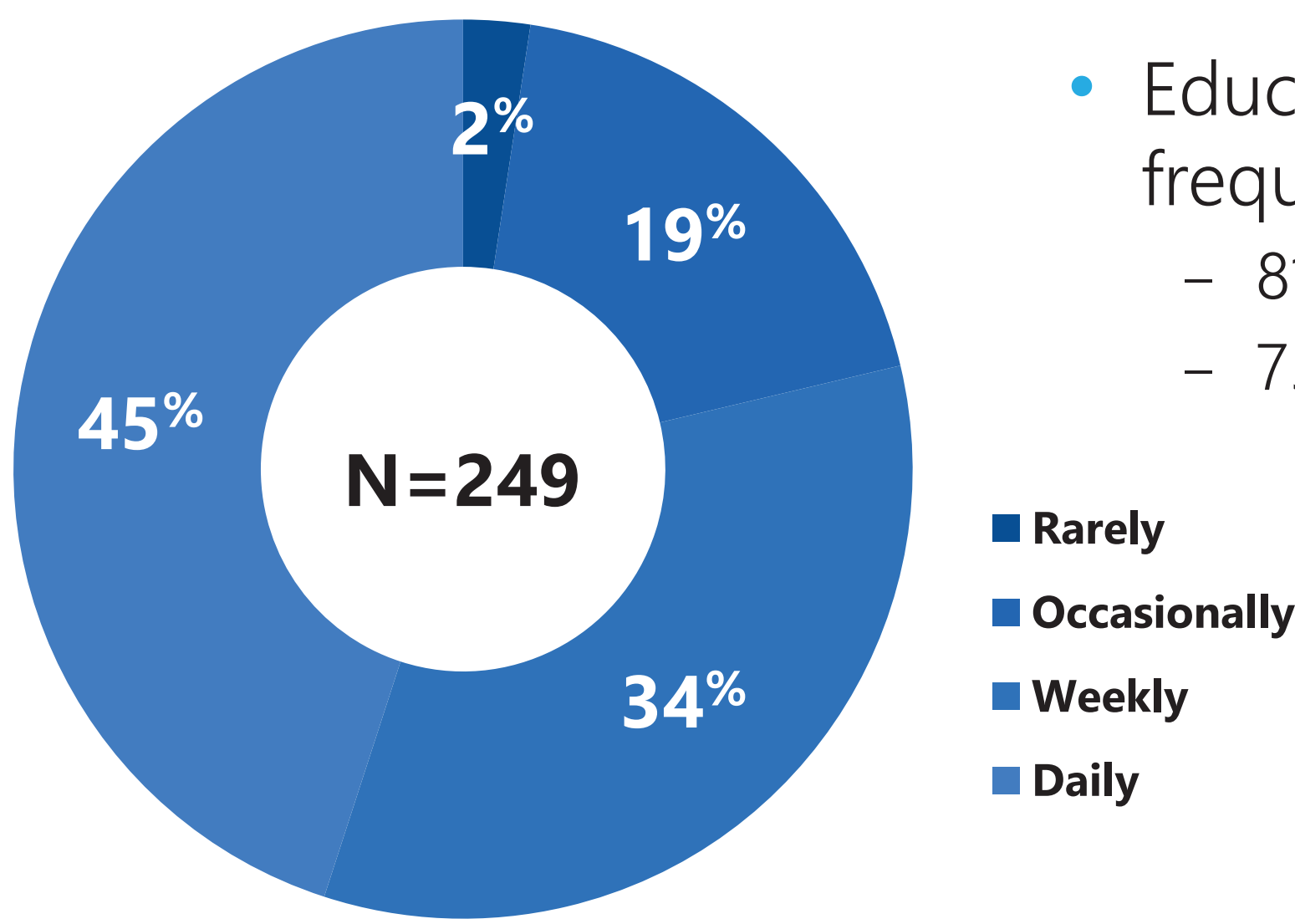
Methods

- A 9-question online survey was distributed to licensed HCPs via LinkedIn
- The survey captured respondents' years in clinical practice, AI use, and their role in scientific exchange (educator or learner). Role-specific questions characterized respondents' use of AI in scientific exchange
- Licensed HCPs were verified via National Provider Identification (NPI) number
- Responses were excluded for the following reasons: invalid NPI number or email address, or duplicate email or IP address
- Descriptive statistics were used to summarize the quantitative results
- Free-text responses were analyzed thematically, identifying 9 common themes from the respondents' answers. Each response was coded based on these themes

Results: Overall AI Use

- In total, 1454 survey responses were received. After exclusion criteria were applied, 249 responses were deemed valid
 - 59% (n=148) of respondents primarily identified as educators
 - 41% (n=101) of respondents primarily identified as learners

79% of respondents use AI at least weekly:

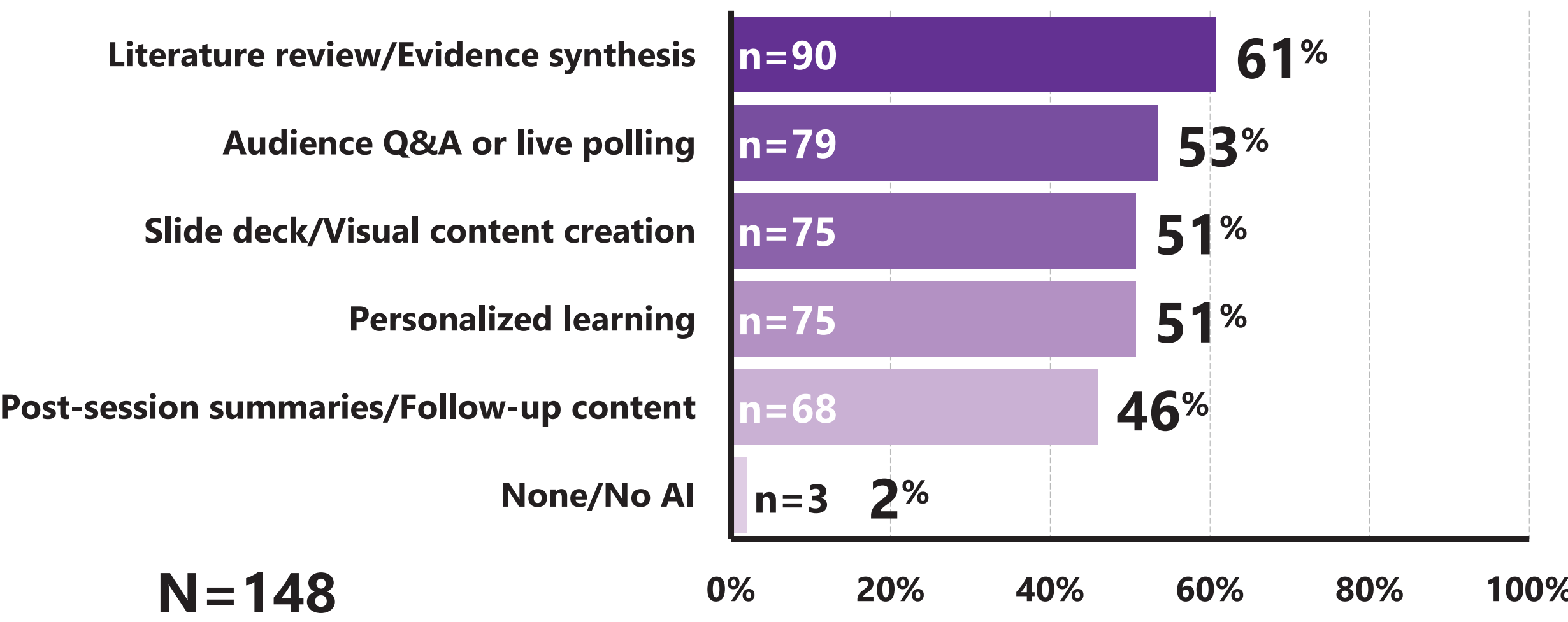


- Educators and learners are similar in frequency of AI use:
 - 81% of educators use AI at least weekly
 - 75% of learners use AI at least weekly

Daily use of AI was numerically higher among HCPs in practice for ≤10 years than among those in practice for >10 years.

Results: AI Use in Preparing or Delivering Scientific Content, and Its Impact on Trust in the Content

98% of educators have used AI in some capacity to prepare or deliver scientific content:



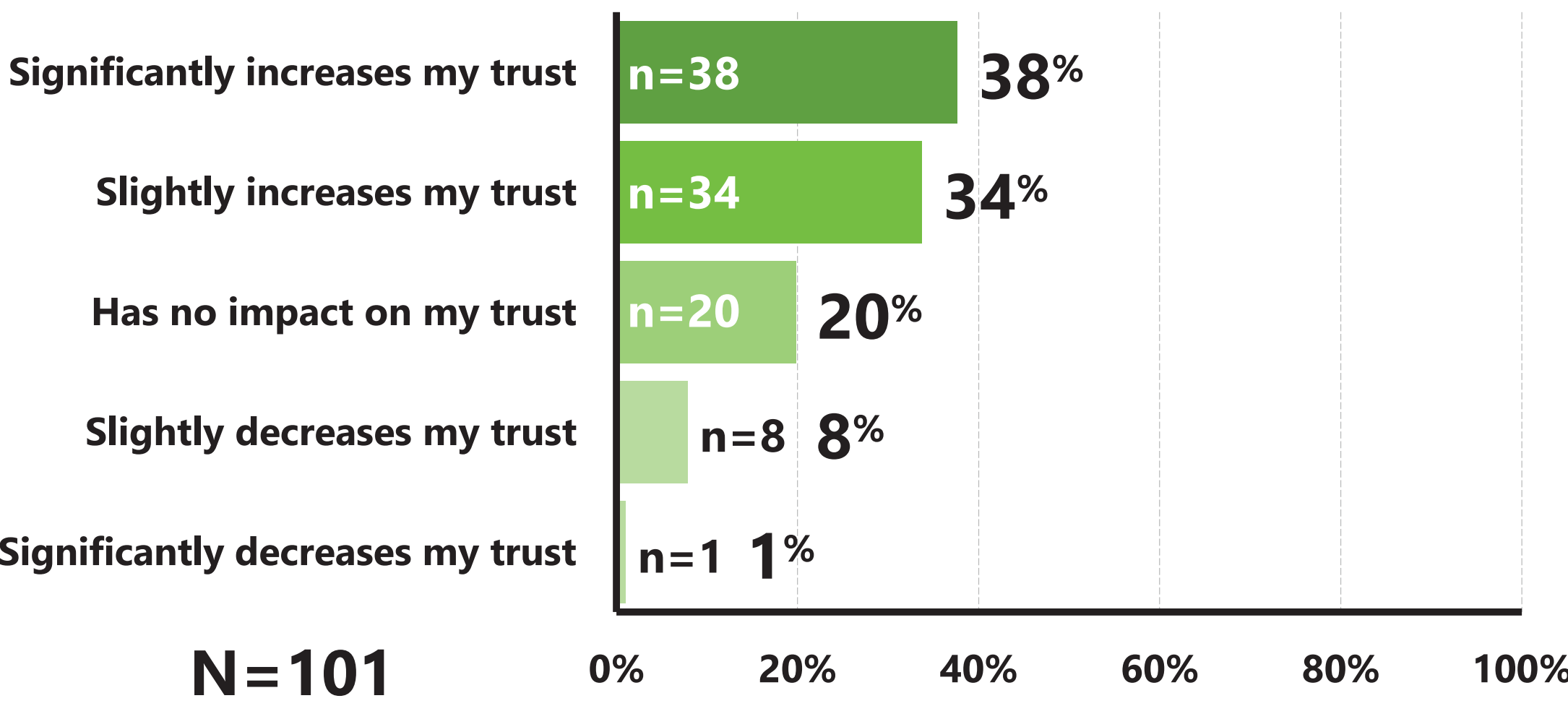
N=148

For this question, educators were instructed to select all that apply and could select more than one option.

83%

of the educators who use AI report using it for scientific content creation (literature review/evidence synthesis and/or slide deck/visual content creation)

How AI use in generating or curating scientific content impacts the learner's trust in the content:



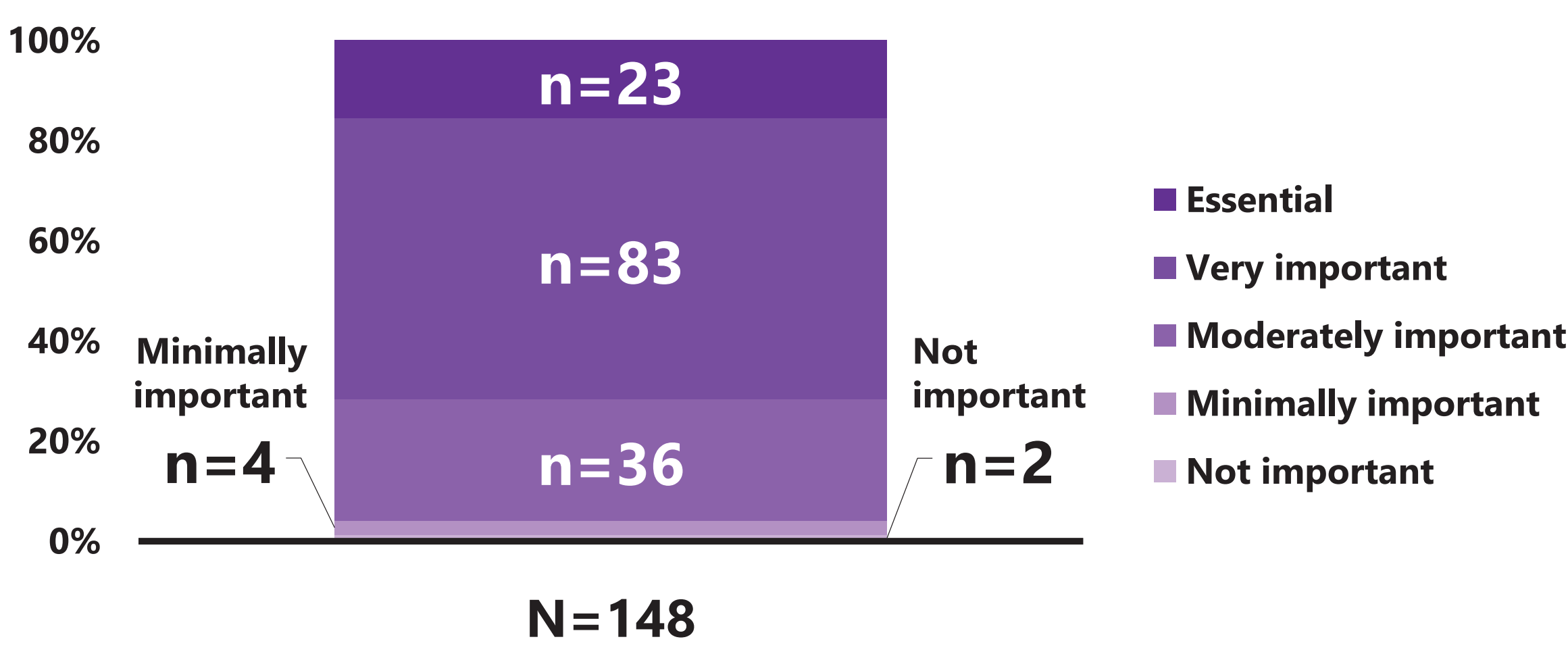
N=101

71%

of learners felt that knowing AI was used significantly or slightly increased their trust in the content

Results: Importance of Human-to-Human Interaction in Educating and Learning Scientific Information

Perceived importance of human-to-human interaction in educating on scientific information:

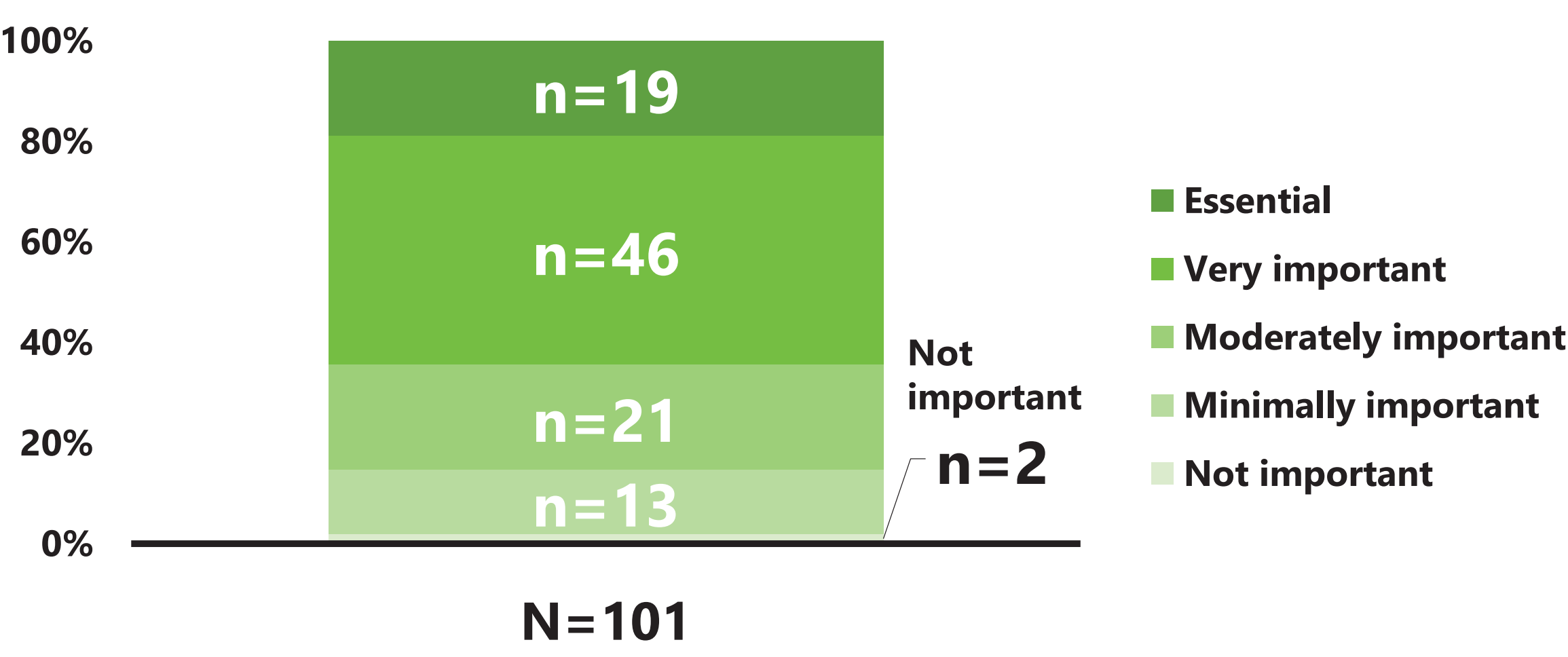


N=148

96%

of educators feel that direct human-to-human interaction is at least moderately important, with 71% deeming it essential or very important

Perceived importance of human-to-human interaction in ability to critically evaluate and internalize scientific information:



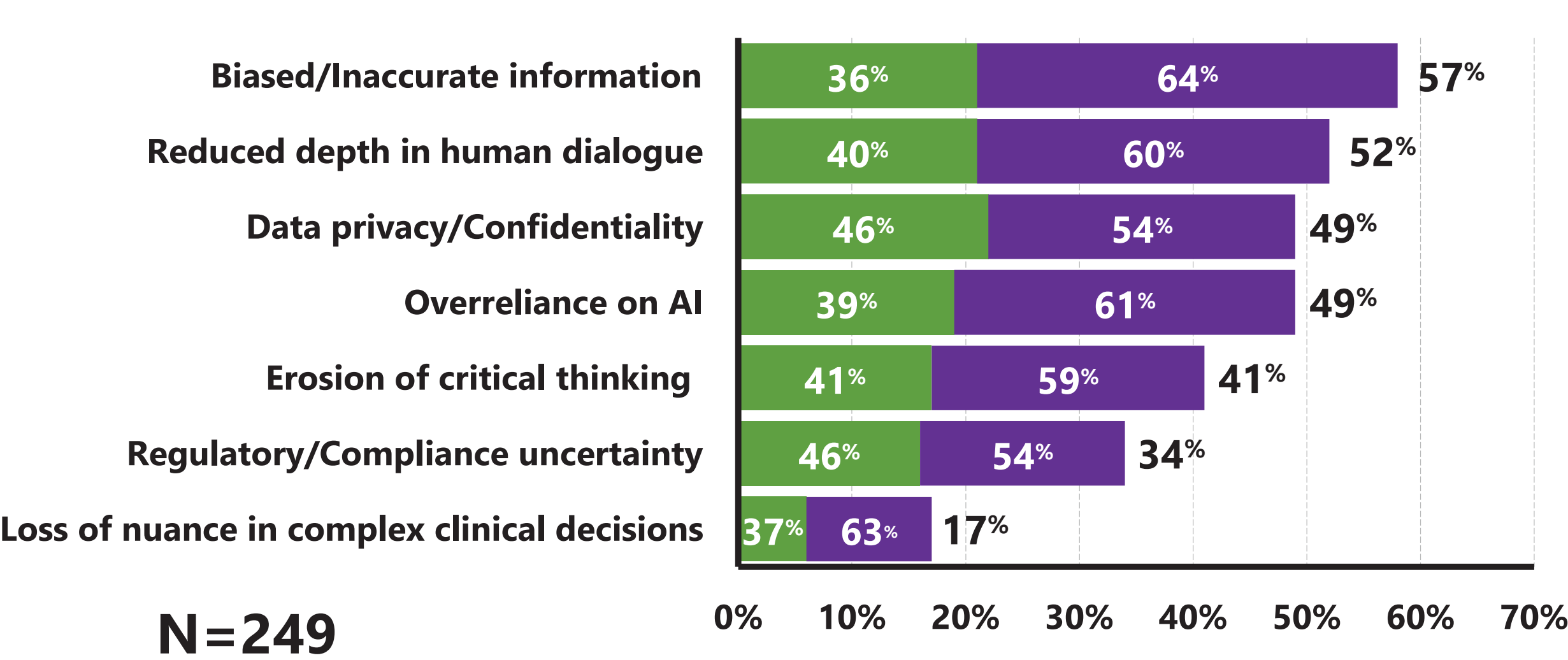
N=101

85%

of learners feel that direct human-to-human interaction is at least moderately important, with 64% deeming it essential or very important

>90% of both educators and learners expressed that human interaction is at least moderately important for educating and learning scientific information

Results: Risks of Integrating AI Into Scientific Exchange

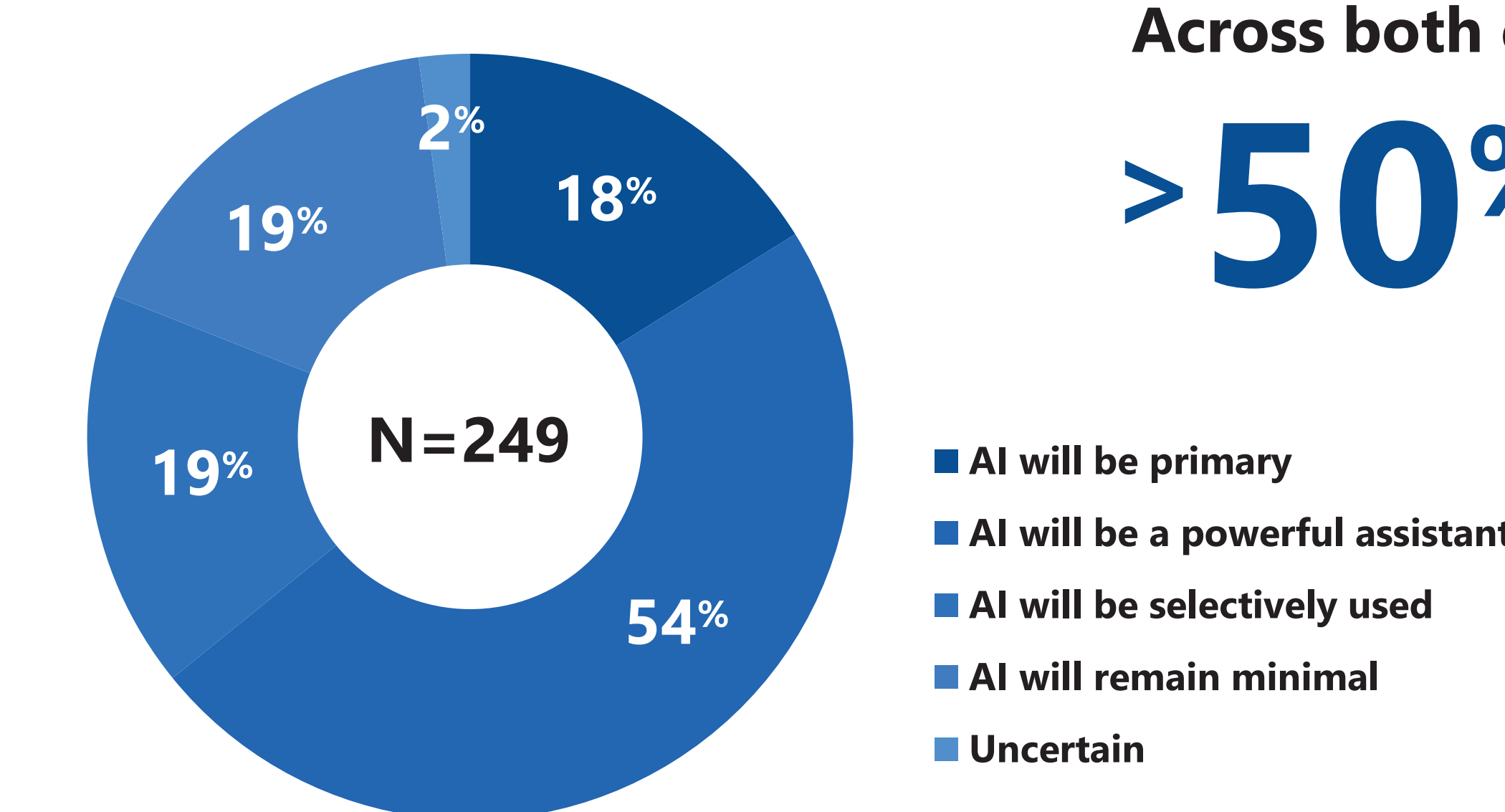


N=249

These results combine responses from educators and learners. Respondents were asked to select their top 3 choices.

- The top 4 risks of AI integration into scientific exchange were consistent across educators and learners

Results: Role of AI in Scientific Exchange in the Next 3 to 5 Years



Across both educators and learners:

>50%

of respondents believe that AI will serve as a powerful assistant, but that humans will remain central to scientific exchange

- Only 18% of respondents believe AI will be the primary driver of content creation

Results: Boundaries AI Should Not Cross in Scientific Exchange

Common free-text themes included³:



Fabrication of evidence, data, or citations

- AI inventing studies, citations, patient outcomes, or facts that don't exist



Replacing clinical judgment

- AI making the final call on diagnosis, treatment, or clinical recommendations



False certainty or failure to disclose uncertainty

- AI presenting information with false confidence, rather than being transparent about what it doesn't know

Limitations

- Participants were recruited via voluntary response to a LinkedIn post, which limited responses to LinkedIn users, resulting in possible selection bias
- The non-randomized nature of the survey limits generalizability of its results
- As with any self-reported survey, findings may be subject to response bias and should be interpreted with appropriate caution

Conclusions

- Despite the widespread use of AI, concerns persist about the accuracy of AI-generated information, its impact on engagement, risks of overreliance, and privacy
- Survey results suggest that AI is widely used in scientific exchange, primarily as a tool for content generation, but should not replace human-to-human interaction necessary for mentorship and development of critical thinking skills

References, Disclosures & Acknowledgements

References: **1.** Naum A, et al. Artificial intelligence in clinical practice: usage trends and educational implications across the medical hierarchy. *J Natl Med Assoc.* 2026;118(3):387-390. **2.** Abd-Alrazaq A, et al. Large language models in medical education: opportunities, challenges, and future directions. *JMIR Med Educ.* 2023;9:e48291.

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