

# Researchers and AI

## Survey Findings





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## Introduction

This report presents the findings of a large-scale global survey of academic researchers undertaken by Oxford University Press (OUP) between March and April 2024.

The survey set out to understand the variance in perceptions and use of AI across academic researchers, and to help inform work with AI in the context of research publishing.

The survey questions covered current behaviours and attitudes towards AI, as well as the future role AI might play in the full academic research journey. Overall, there were 2,345 usable responses which formed the sample for analysis.

The research findings in this report are designed to contribute to the discussion of how the publishing and research communities can work together to build a sustainable, AI-enabled future.





## Summary of overall findings

- Just over three-quarters (76%) of researchers report using some form of AI tool in their research at present. Machine translation (49%) and chatbot tools (43%) are the most popular, followed by AI-powered search engines or research tools (25%).
- Just over a quarter (27%) report having a good understanding of AI tools in general.
- When thinking about the stages of research, AI is used most for discovering existing research, and for editing and summarizing existing research.
- Those who use AI at any stage of their research tend to feel that they have benefitted from doing so, namely because it helps with efficiencies.
- Half (46%) of researchers report that the institution they work at has no AI policy, with a further quarter (26%) indicating that they do not know.
- Overall, trust in AI companies is very low, with only 8% trusting AI companies not to use their data without permission and 6% trusting them to meet data privacy and security requirements.
- There are also strong concerns about the implications for intellectual property and how AI will impact academic research in general, with a quarter (25%) of the cohort believing that AI reduces the need for critical thinking.



## At a total level, more than two-thirds feel it is important to fully assess the implications of AI before applying it to their own research

<i>% of respondents who selected 'Agree' or 'Strongly agree' with each statement on a 7-point scale</i>	
I think it's important to fully assess the implications of using AI before applying it to my own research	69%
I think AI could undermine intellectual property*	59%
I am concerned about the impact that AI could have on academic research	50%
Using AI for research will save time	37%
I have benefitted from using AI in my research**	36%
AI affects other academic fields more than mine	33%
Researchers' skills will be negatively impacted by using AI*	32%
I enjoy experimenting with AI to see how it could benefit my research	31%
I think AI will make research processes more efficient	31%
I think that all research institutions should allow the use of AI in research	30%
I think using AI will have a negative impact on the trust others have in my research*	28%
AI will revolutionise how academic research is conducted	28%
AI will revolutionise how academic research is disseminated	27%
I am excited about the prospects of AI for academic research	27%
I think AI complements my work as a researcher	26%

<i>% of respondents who selected 'Agree' or 'Strongly agree' with each statement on a 7-point scale</i>	
I would like organizations that support academics to provide more AI services	26%
AI reduces the need for critical thinking*	25%
Having access to AI tools will change how I do research	25%
Those not using AI will be left behind	24%
I encourage my colleagues to try using AI	23%
I think using AI will have a negative effect on the quality of my research*	20%
Using AI for research will improve the quality of work	19%
I understand how to use AI effectively in my research	19%
Nowadays, AI is an essential part of the research journey	18%
I think AI companies have created tools to support researchers effectively	17%
I think AI poses a threat to my role as a researcher*	17%
I am interested in using AI for my work but do not know where to start	10%
I trust AI companies not to use my data without permission	8%
I trust AI companies to meet my data privacy and security requirements	6%
Overall, AI will not change the world that much	6%

\*Asterisk indicates negatively phrased statements, where a 'disagreement' implies a positive attitude towards AI

\*\* Double asterisk indicates statement only asked to a subset of respondents i.e., those who had used AI in their research



## Methodology and sample

The study was run as an online survey including a mixture of quantitative and qualitative questions. To make sure the survey questions were meaningful, an initial draft was piloted with cognitive interviews on a small sample of academic researchers. During these interviews, researchers clarified their understanding of the questions and identified any areas of ambiguity. Subsequent revisions were made based on the interview outcomes before launching the survey.

The anonymous survey ran between March and April 2024 and collected 2,345 usable responses. Data analysis excluded responses that did not go beyond initial questions or that provided formulaic answers.

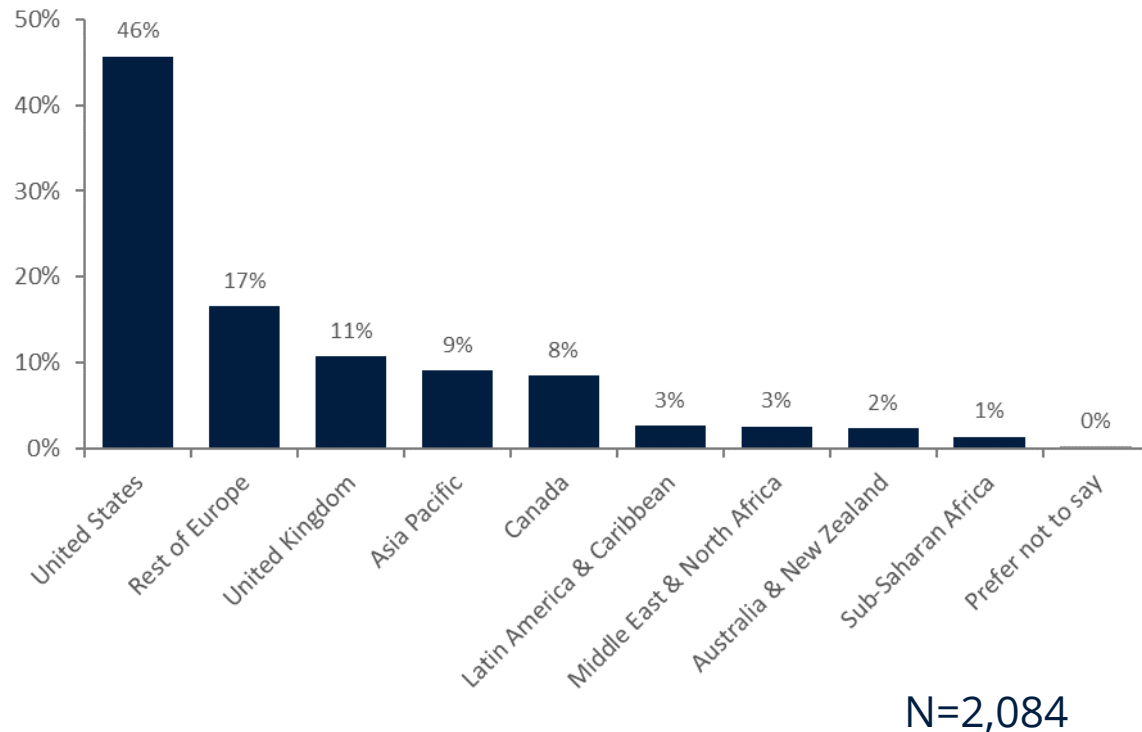
Demographics collected were high-level discipline, career stage, country of residence, and age group. Respondents' attitudes towards AI were captured via 26 psychometric (attitudinal) questions, split into five sets. Based on their responses to these attitudinal questions, respondents were grouped into eight segments using the k-means cluster analysis. These groups consist of people who are similar to each other in their perceptions, but different to those in the other groups.

Finally, we ran frequencies and crosstab analysis for each cluster to understand and describe the groupings better. On all questions, differences between clusters were statistically significant at  $p < .001$ . Demographic questions were used to better describe the eight groups.

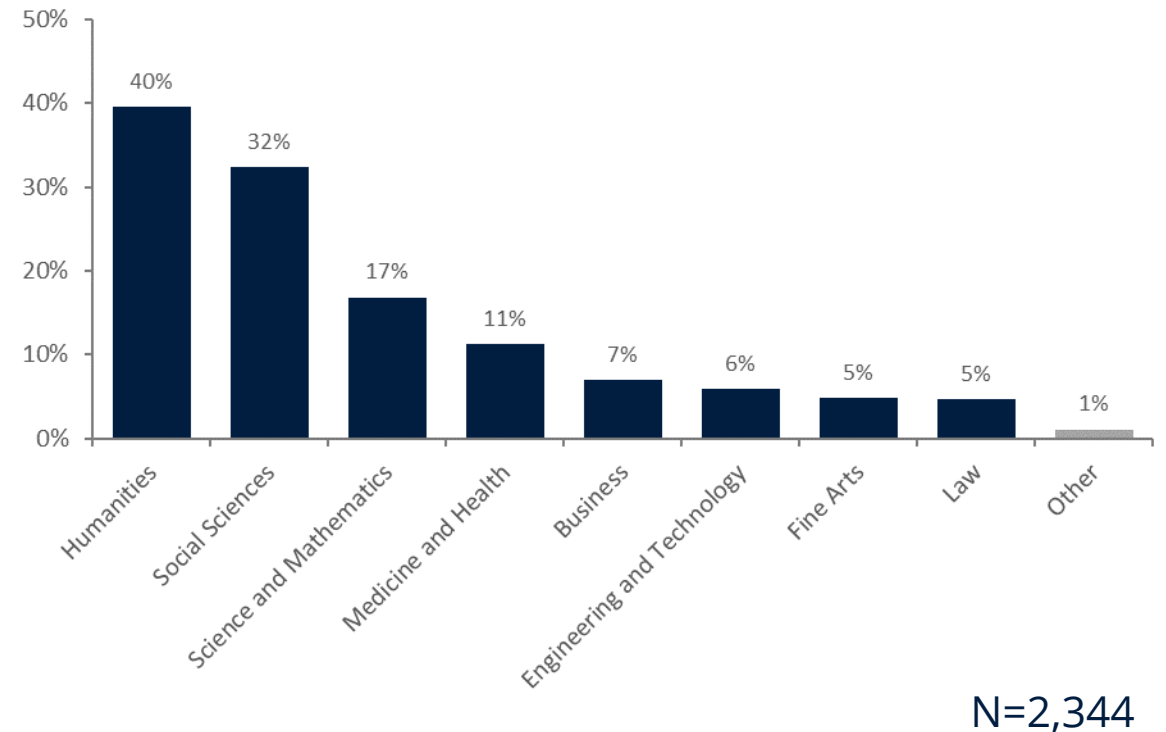


## Respondent demographics

**Region**



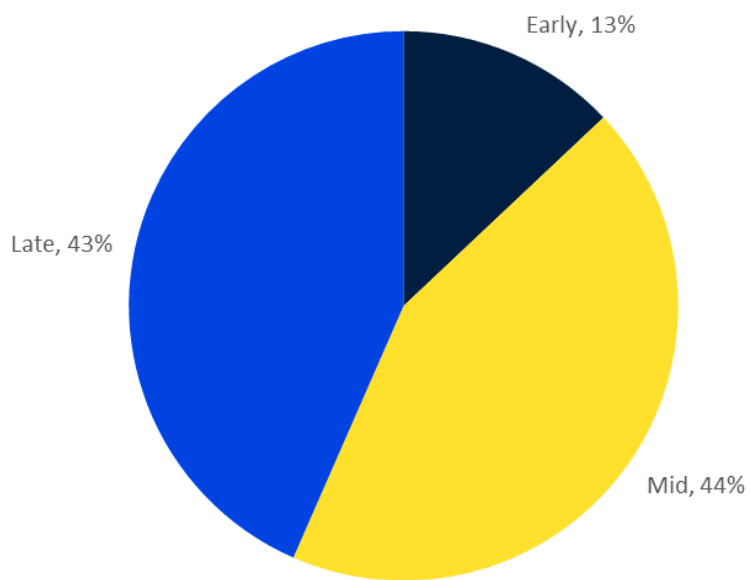
**Discipline area worked in**





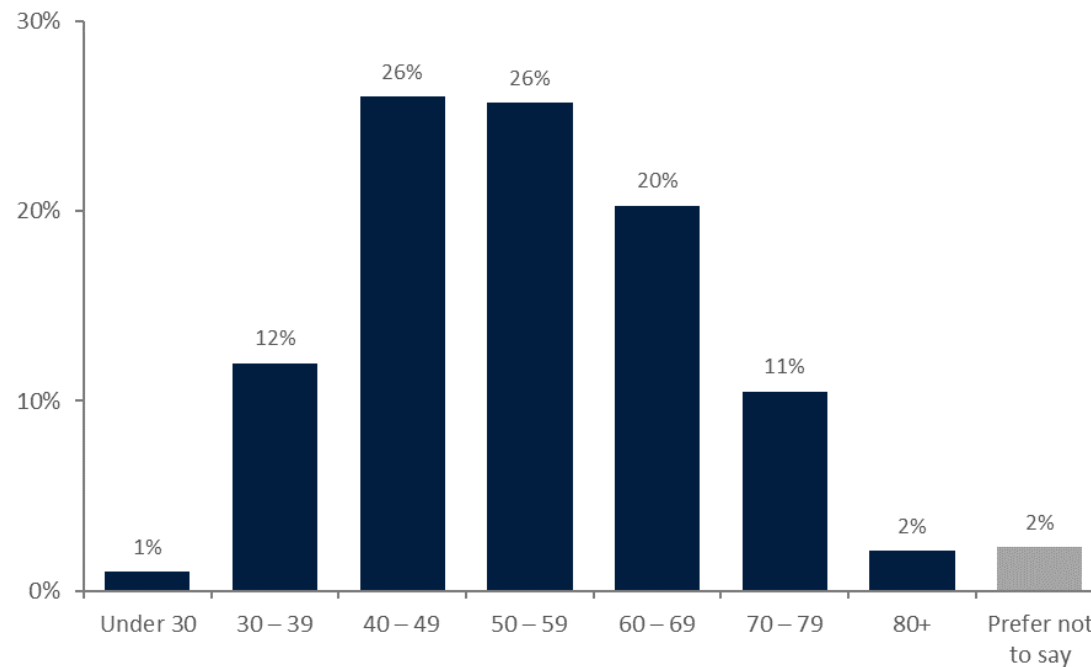
## Respondent demographics

Career stage



N=2,342

Age



N=2,084



# Introduction to Researcher Profiles





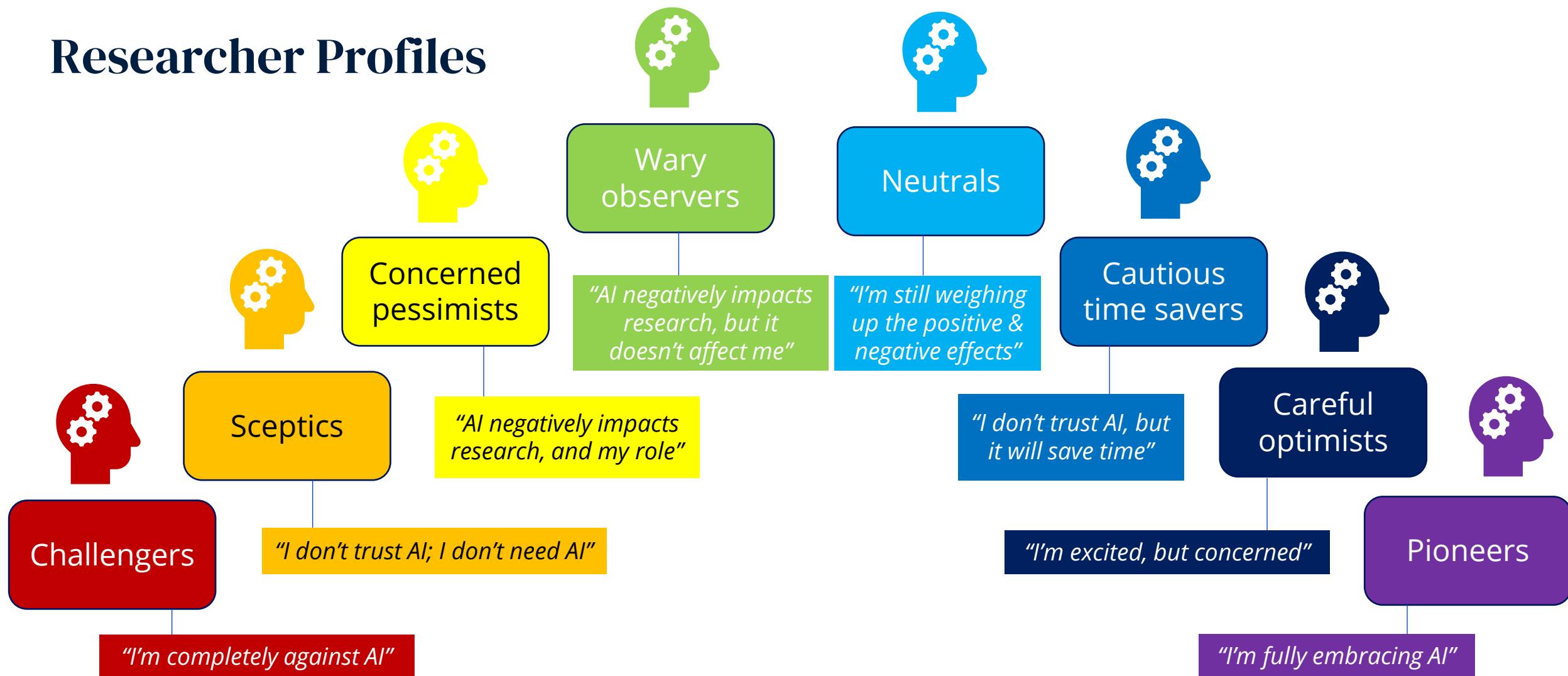
## Researcher Profiles:

- A statistical cluster analysis identified eight groups – illustrating the eight different profiles of researcher, in terms of their attitudes towards and perceptions of AI. The profiles illustrate the spectrum of attitudes, from ‘Challengers’ – those fundamentally against AI, through to ‘Pioneers’ – those fully embracing AI.
- Within the survey sample, there is a larger proportion of ‘Challengers’ in the Humanities, and in the Early Career researcher cohort. There is also a larger proportion of ‘Challengers’ in North America & UK, and within the Millennials generation.
- Within the survey sample, there is a larger proportion of ‘Pioneers’ in the Social Sciences & STM. The Baby Boomers & Gen X cohorts also have a larger proportion of ‘Pioneers’.
- Institutions where AI is generally discouraged have a larger proportion of ‘Wary observers’ and ‘Challengers’.

Cluster	Description	Number of respondents (N) =
Challengers	<i>"I'm completely against AI"</i>	223
Sceptics	<i>"I don't trust AI; I don't need AI"</i>	220
Concerned pessimists	<i>"AI negatively impacts research, and my role"</i>	209
Wary observers	<i>"AI negatively impacts research, but it doesn't affect me"</i>	281
Neutrals	<i>"I'm still weighing up the positive and negative effects"</i>	275
Cautious time savers	<i>"I don't trust AI, but it will save time"</i>	328
Careful optimists	<i>"I'm excited, but concerned"</i>	208
Pioneers	<i>"I'm fully embracing AI"</i>	345



## Researcher Profiles





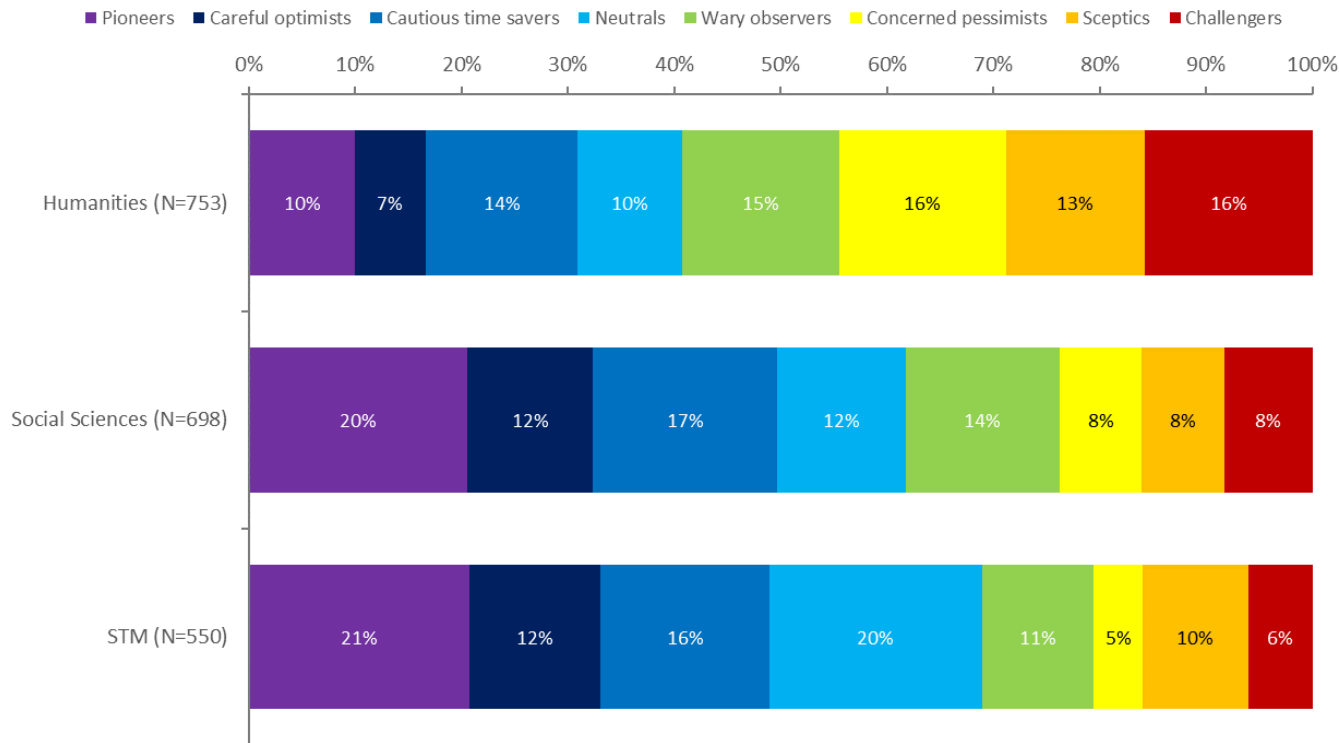
## Attitudes to AI:

- Overall, 'Pioneers' are most likely to have benefitted from using AI in their research, and 'Challengers' are least likely.
- 'Pioneers' and 'Careful optimists' are most likely to want organizations, such as publishers, to provide more AI services.
- 'Concerned pessimists' are most likely to believe that AI poses a threat to their role as a researcher, whereas 'Careful optimists' are most likely to be interested in using AI, but unsure where to start.
- All researcher profiles tend to agree that AI could undermine intellectual property, but there is general agreement that using AI for research will save time and improve the quality of work (although 'Challengers' tend to disagree).
- There is a full spectrum of responses from researchers when asked if they are excited about the prospects of AI for academic research; the top theme that most excites researchers is how AI could help with analysis.
- Most profiles are concerned about the impact that AI could have on academic research. The top theme that most concerns researchers is that AI may lead to a loss of critical thinking. 'Cautious time savers' are most concerned about plagiarism, whereas 'Pioneers' are concerned about an over-reliance on AI.
- 'Pioneers' and 'Careful optimists' tend to believe that AI is now an essential part of the research journey.
- Finally, there is general agreement that AI will likely have a significant impact in the world.



## There is a larger proportion of 'Challengers' in the Humanities, compared to other disciplines

% of each researcher profile per discipline



N=2,001

There is a larger proportion of 'Neutrals' in Sciences, Technology, and Medicine (STM) compared to other disciplines.

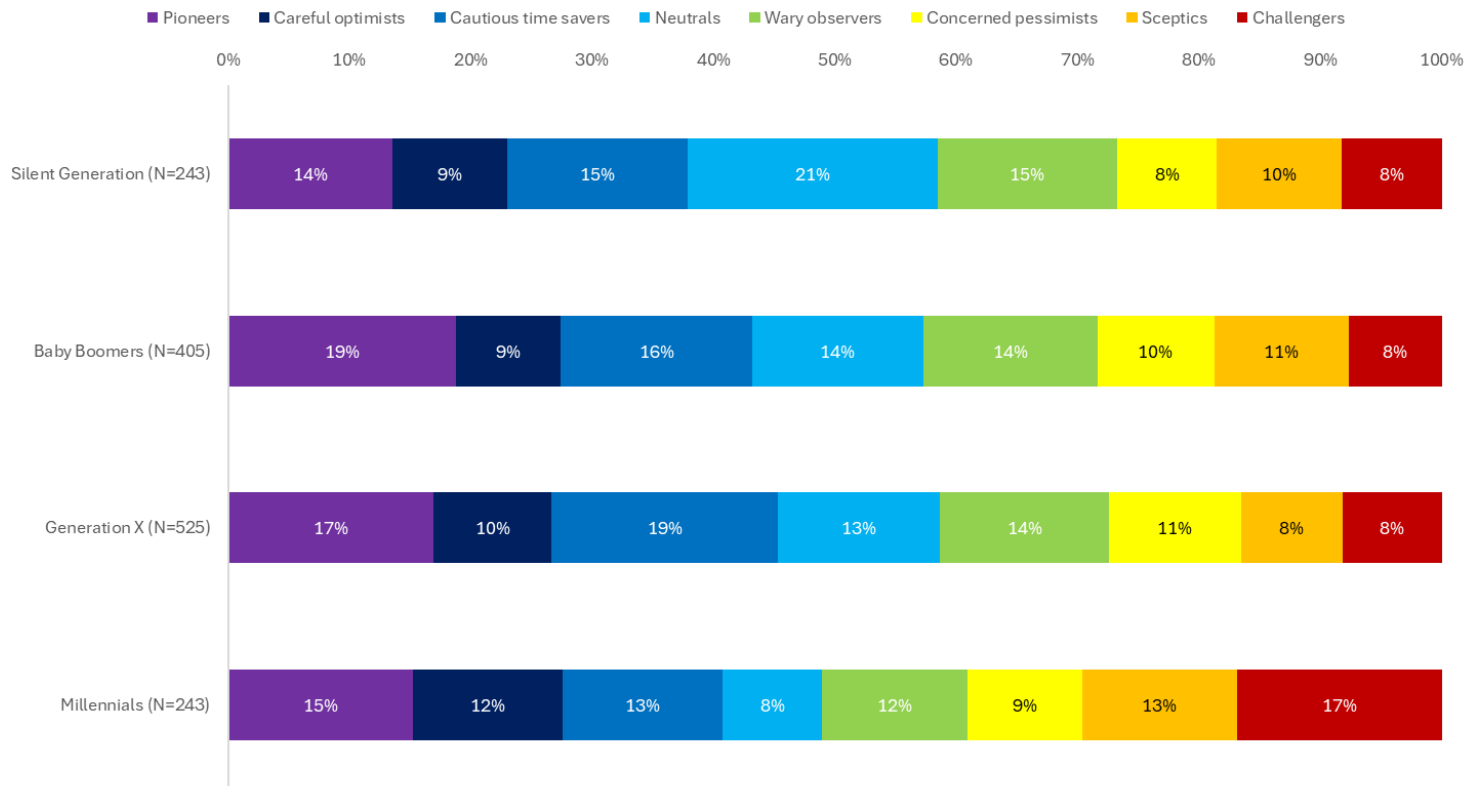
There is a larger proportion of 'Pioneers' in the STM and Social Sciences disciplines compared to Humanities.

*For the purpose of this analysis, Humanities includes Fine Arts; Social Sciences includes Business and Law; and STM includes Medicine & Health, Science & Mathematics, and Engineering & Technology.*



## Baby Boomers & Gen X have a larger proportion of 'Pioneers', whereas Millennials have a larger proportion of 'Challengers'

% of each researcher profile per generation



There is also a larger proportion of 'Neutrals' in the Silent Generation compared to other generations.

*It should be noted that 'generation' was not asked directly; it was calculated using reported age. The sample is smaller as the '40-49 years' age category cut across the generation bands and was therefore excluded from this reporting.*

*The remaining groups were categorized into broad generational bands using the following age categories:*

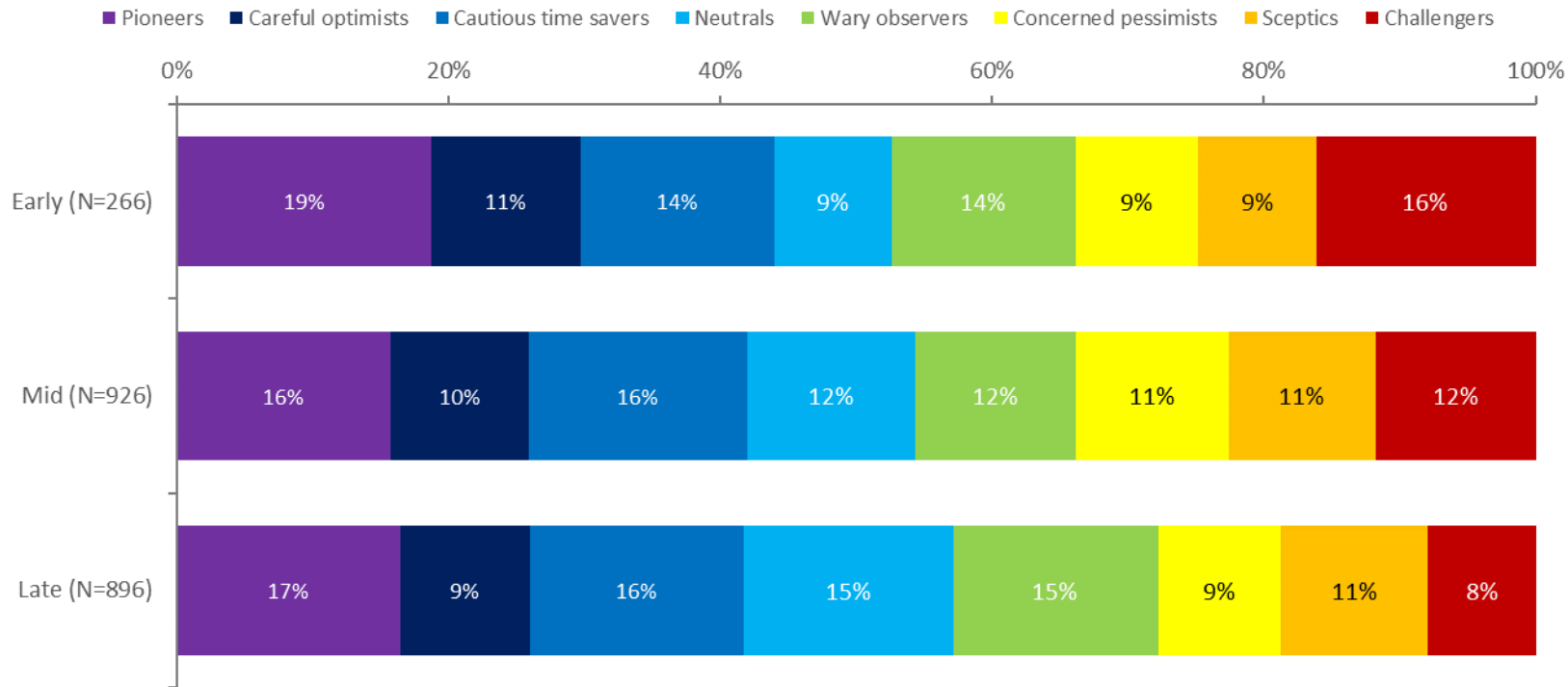
- Millennials: Up to 39 years
- Generation X: 50 - 59 years
- Baby Boomers: 60 - 79 years
- Silent Generation: 80+ years

N=1,416



## Early Career Researchers have a larger proportion of 'Challengers'

% of each researcher profile per career stage



Generally across career stages there are similar proportions of each researcher profile, the exception being a larger proportion of 'Challengers' in the Early Career Research category, compared to other career stages.

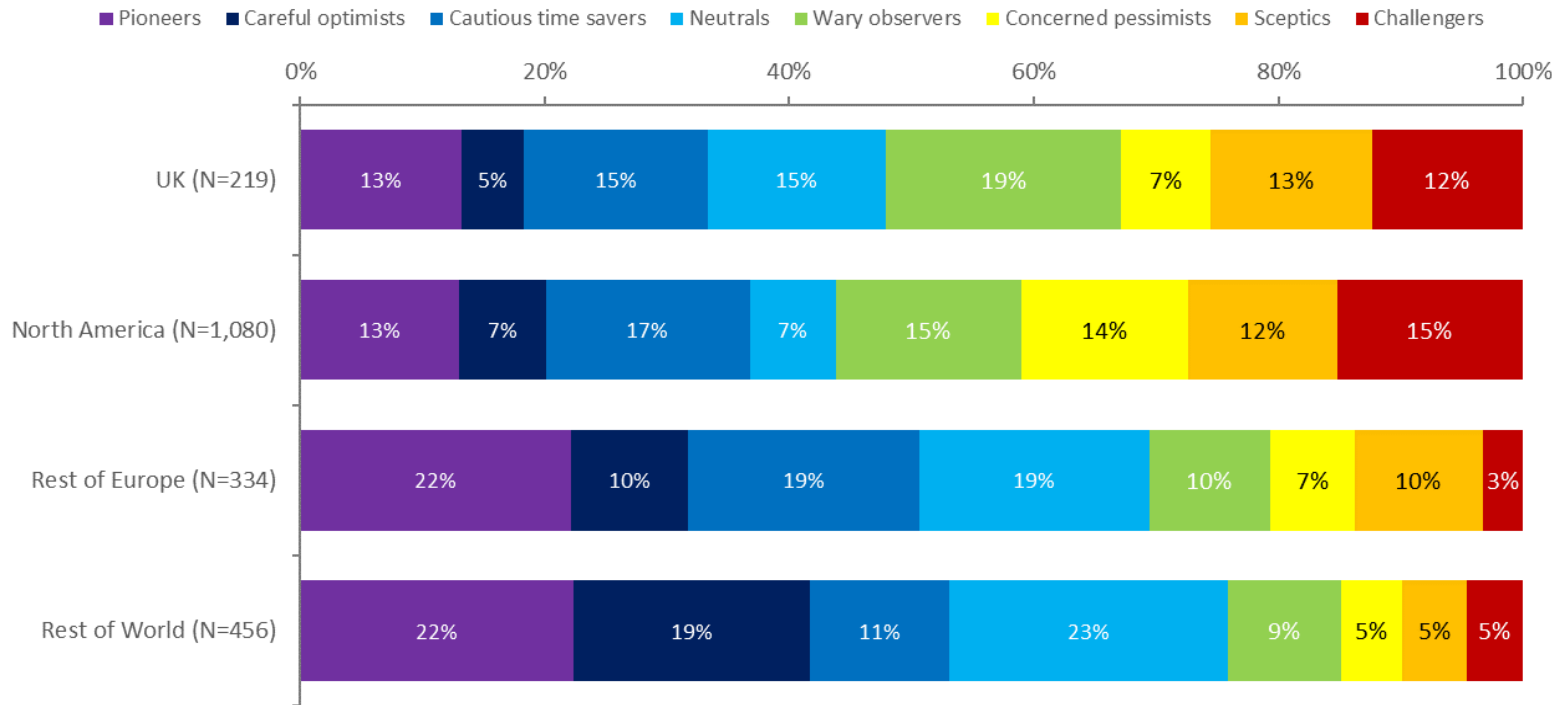
*Career Stage was based on self-reported categorization of 'early', 'mid', or 'late'.*

N=2,088



**There is a larger proportion of 'Challengers' in North America & UK, and a larger proportion of 'Pioneers' outside of these regions**

**% of each researcher profile per region**



When looking at the Rest of the World cohort, there is a larger proportion of 'Pioneers' in Sub-Saharan Africa compared to other segments.

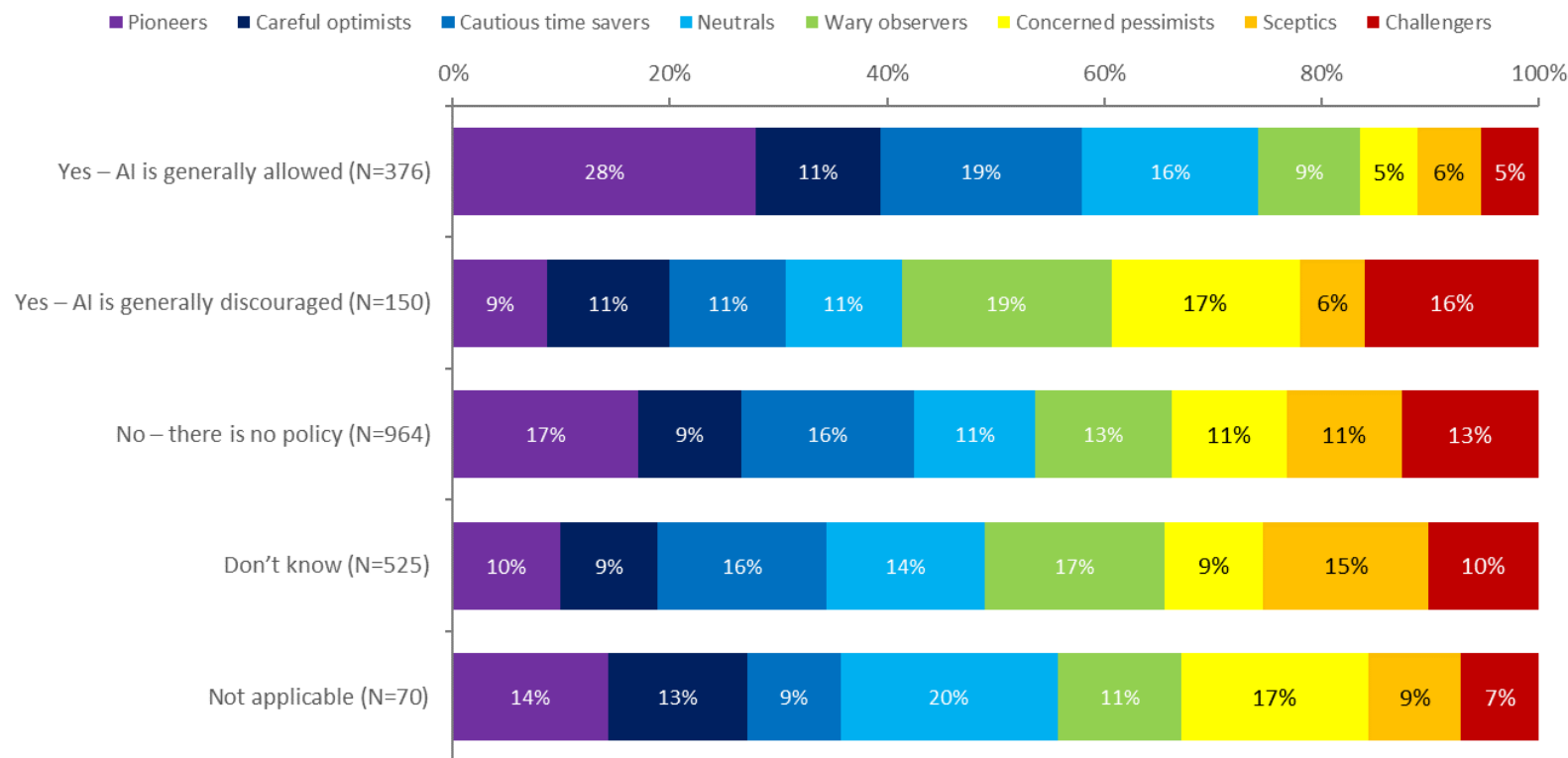
N=1,982





## Institutions where AI is generally discouraged have a larger proportion of 'Wary observers' and 'Challengers'

Q: Does your institution have a policy about using AI at work or in your research?



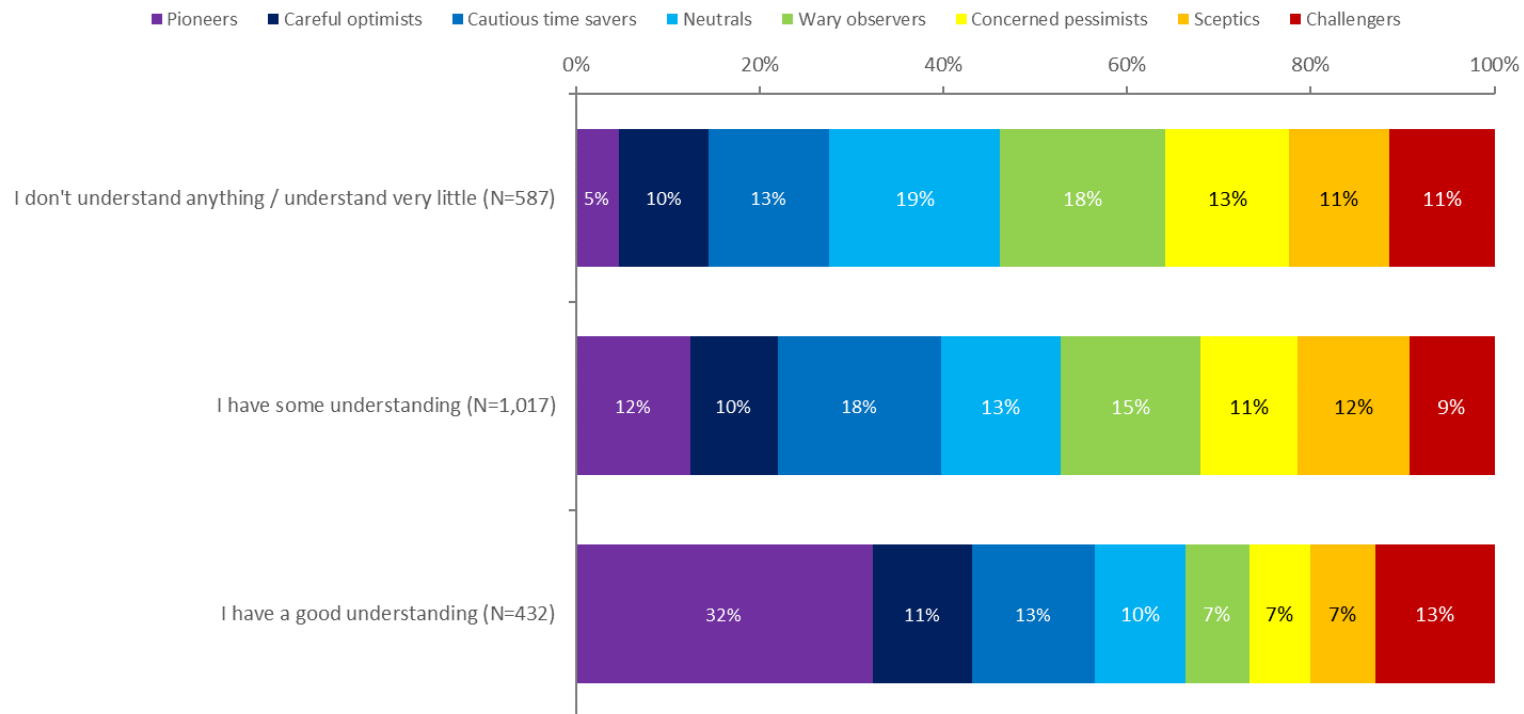
Institutions where AI is generally allowed have a larger proportion of 'Pioneers' and 'Cautious time savers', compared to others.

N=2,085



## Researchers with a good understanding of AI tools include a larger proportion of 'Pioneers'

Q: How would you rate your knowledge about AI tools relevant to your area of research?



Researchers with little or no understanding of AI tools relevant to their area of research include a larger proportion of 'Neutrals' and 'Wary observers' compared to others.

There is a larger proportion of both 'Pioneers' and 'Challengers' in the group with a good understanding of AI.

N=2,036

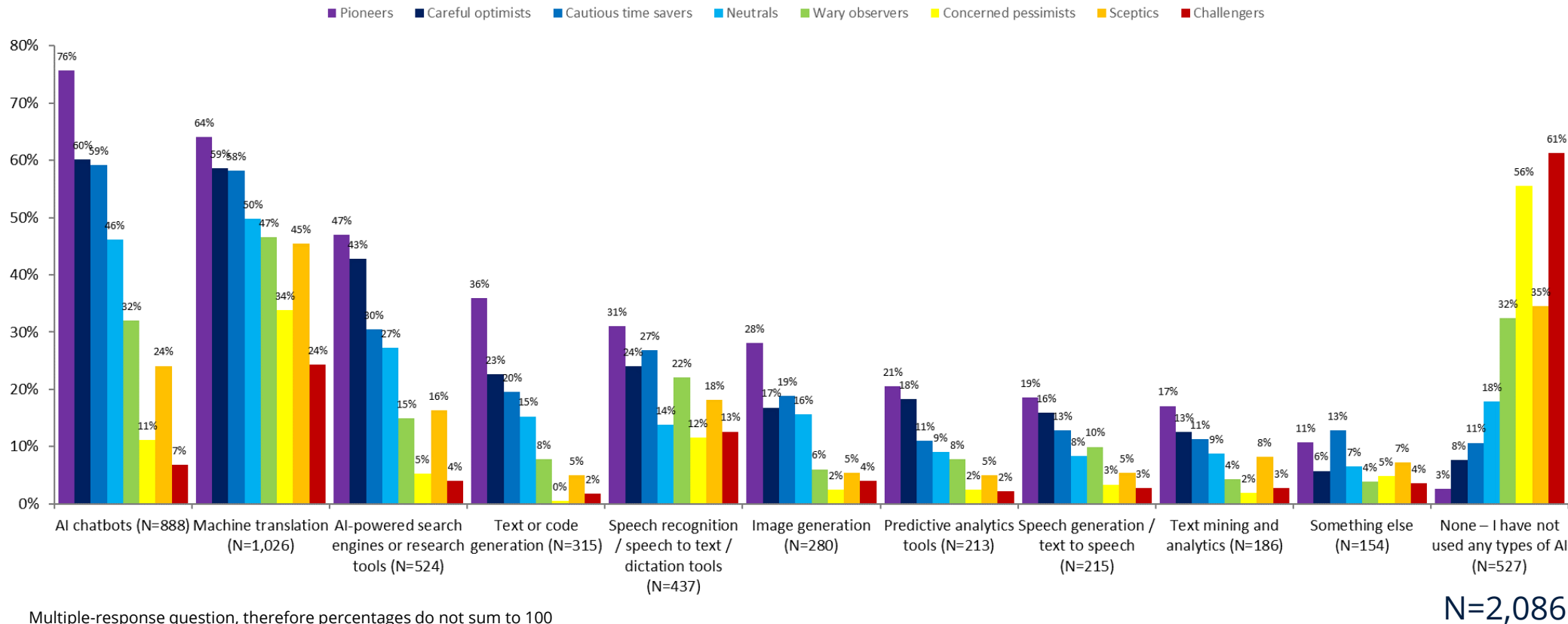


## Machine translation and AI chatbots are the most commonly used types of AI tools

All types of AI tools are used most by 'Pioneers', followed by 'Cautious time savers' and 'Careful optimists'.

Machine translation is the most commonly used AI tool for many of the more sceptical profiles.

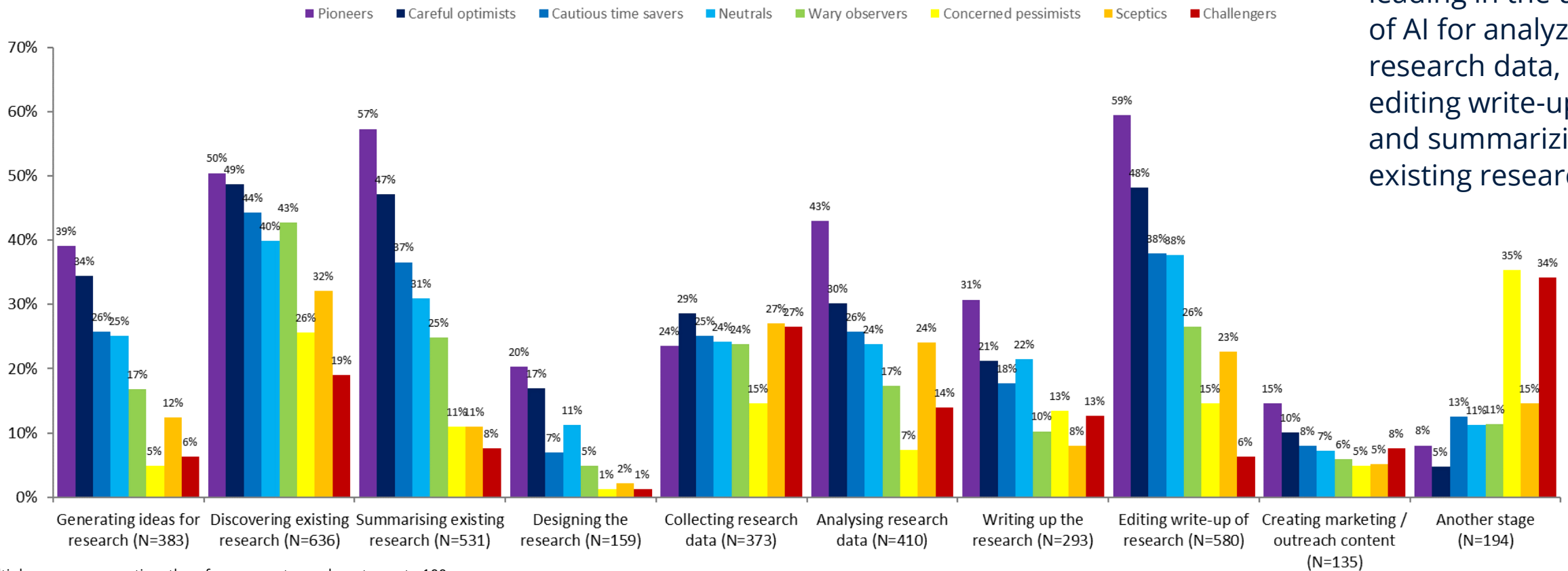
Those who have not used any AI tool are more likely to be 'Challengers' or 'Concerned pessimists'.



Multiple-response question, therefore percentages do not sum to 100



## AI has most commonly been used to support the discovery of existing research, followed by editing the research write-up

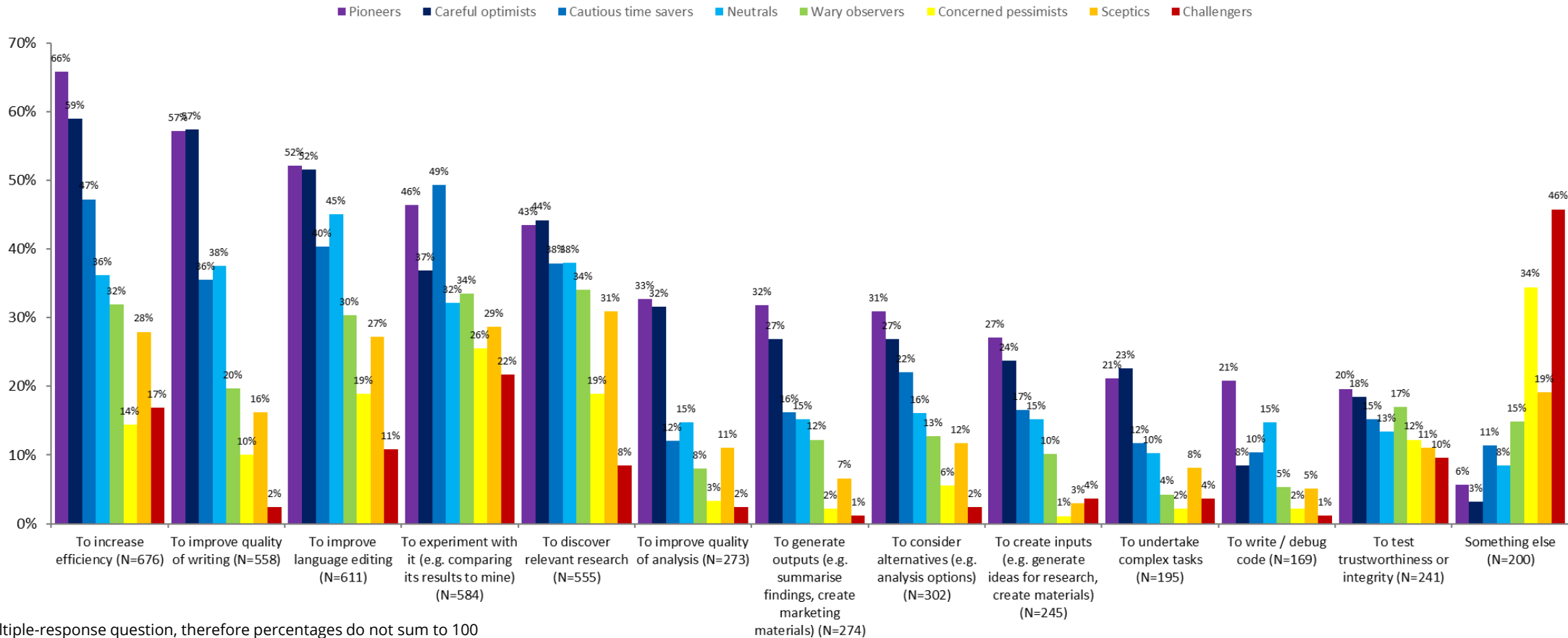


'Pioneers' are leading in the use of AI for analyzing research data, editing write-ups and summarizing existing research.

Multiple-response question, therefore percentages do not sum to 100



## AI is most commonly being used to increase efficiency and improve language editing



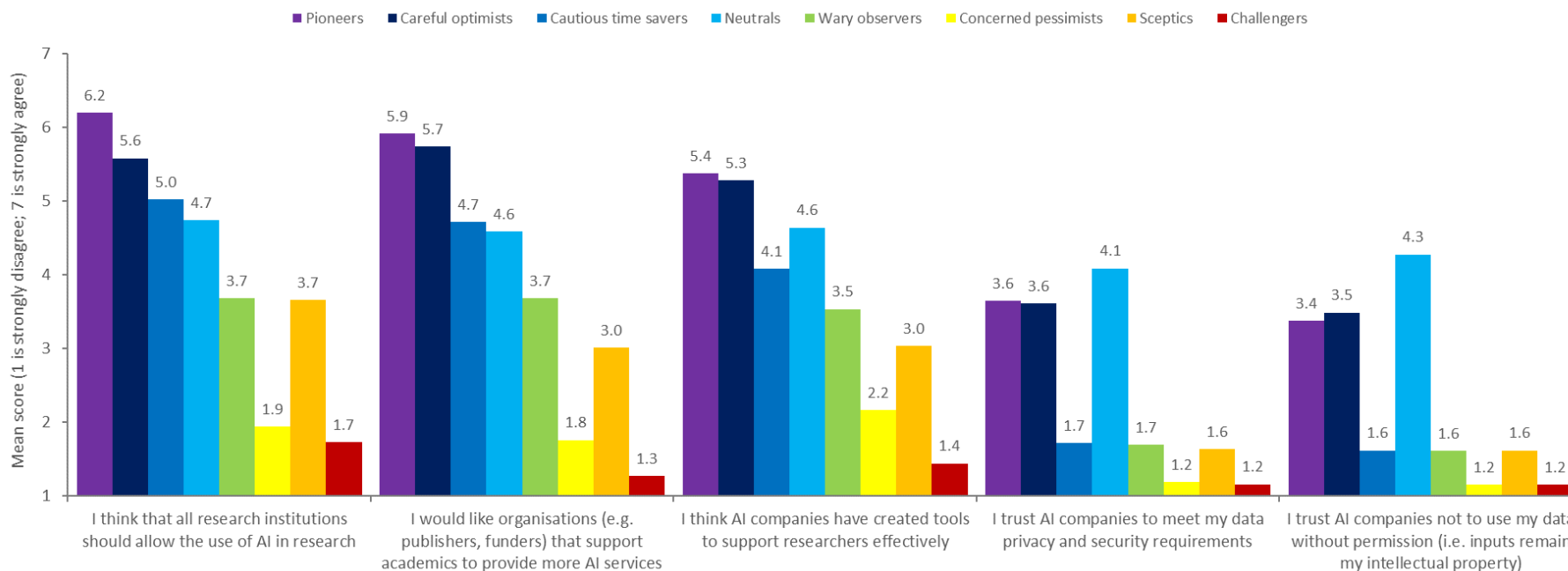
N=1,537

# Attitudes to AI by Researcher Profile





## 'Pioneers' and 'Careful optimists' are most likely to want organizations, such as publishers, to provide more AI services

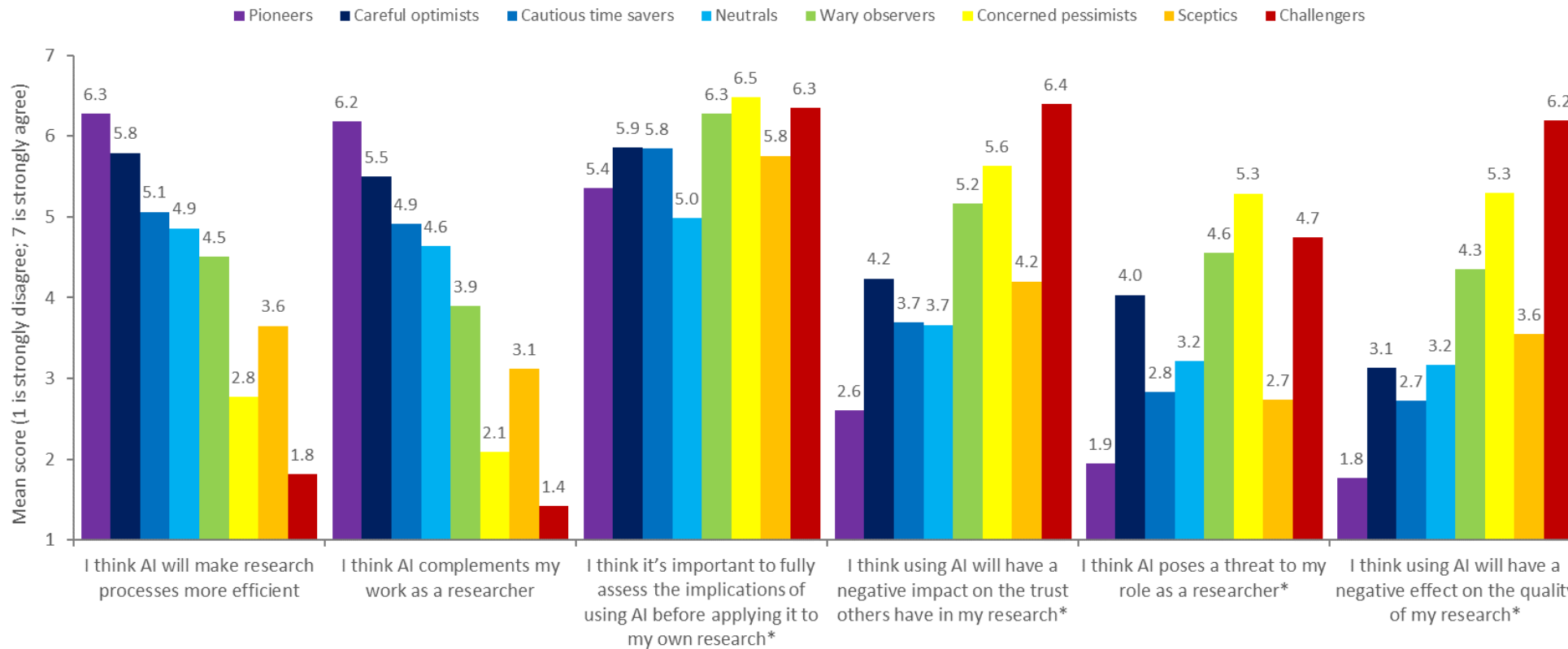


There is a particular lack of trust in AI companies across the following researcher profiles:

- 'Challengers'
- 'Concerned pessimists'
- 'Sceptics'
- 'Wary observers'
- 'Cautious time savers'.



## 'Concerned pessimists' are most likely to believe that AI poses a threat to their role as a researcher



All researcher profiles generally agree that it is important to fully assess the implications of using AI before applying it to their own research.

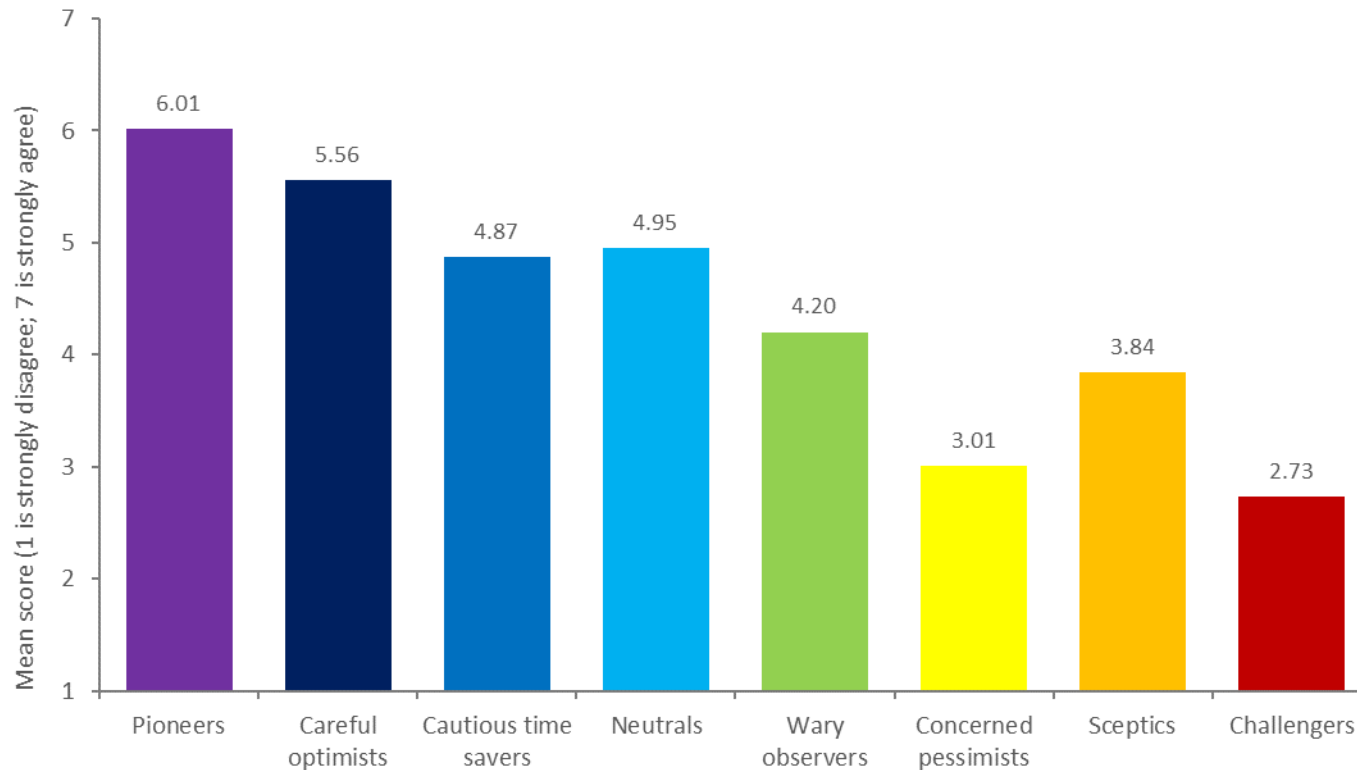
\* Asterisk indicates negatively phrased statements, where a 'disagreement' implies a positive attitude towards AI





**Overall, 'Pioneers' are most likely to have benefitted from using AI in their research, and 'Challengers' are least likely**

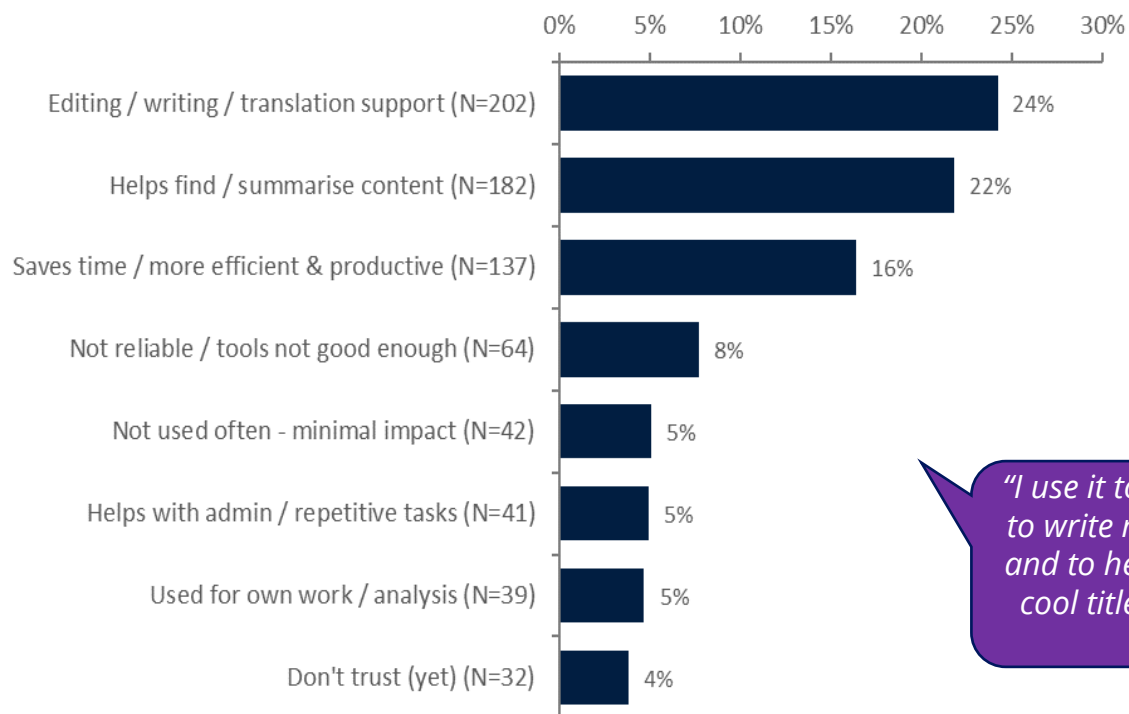
I have benefitted from using AI in my research





## Researchers most commonly report benefitting from AI through editing, writing or translation support

### Top themes from those who have benefitted:



Researchers were asked to explain why they felt they had benefitted or not benefitted from using AI in their research.

All open response comments were systematically coded into themes. The top 8 themes from those who have benefitted and those who have not are displayed in these charts.

*"I use it to revise my writing, to write more polite emails, and to help with developing cool titles for my papers."*  
[Pioneer]

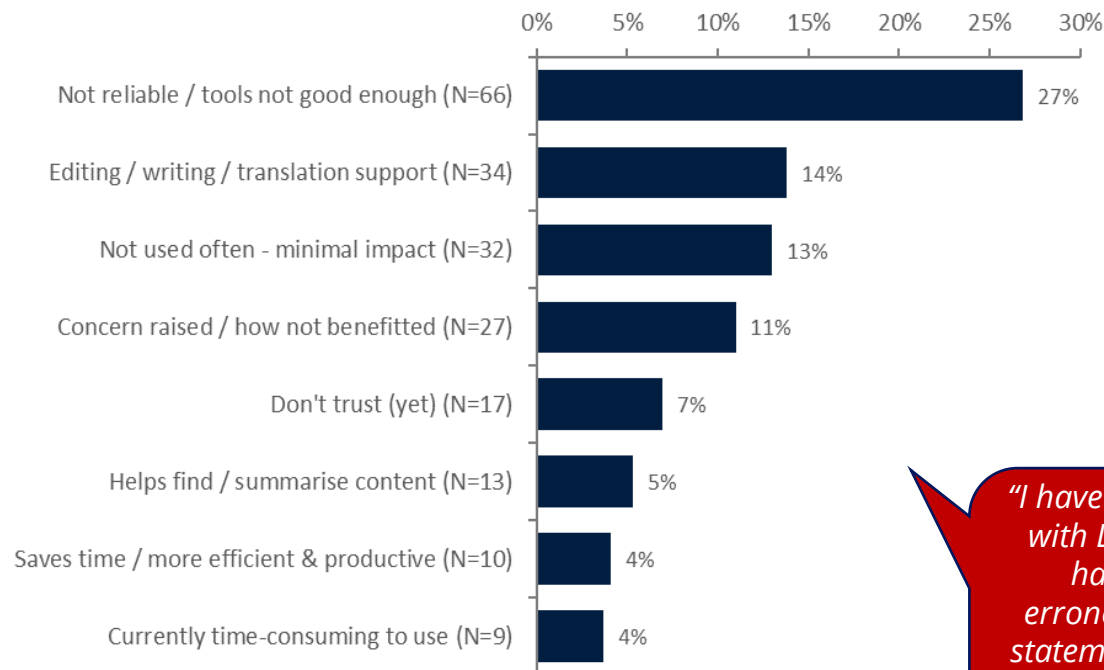
*"Because I am not a native speaker, I receive writing and language editing benefits."*  
[Pioneer]

*"I can collect and synthesize much more information than I could do by Google searches."*  
[Pioneer]



## Researchers who report not benefitting most commonly mention tools not being reliable or good enough

### Top themes from those who have not benefitted:



*"I have experimented extensively with LLM tools (ChatGPT) and have found them wildly erroneous: fake citations, fake statements about the content of articles, fake historical facts."*  
[Challenger]

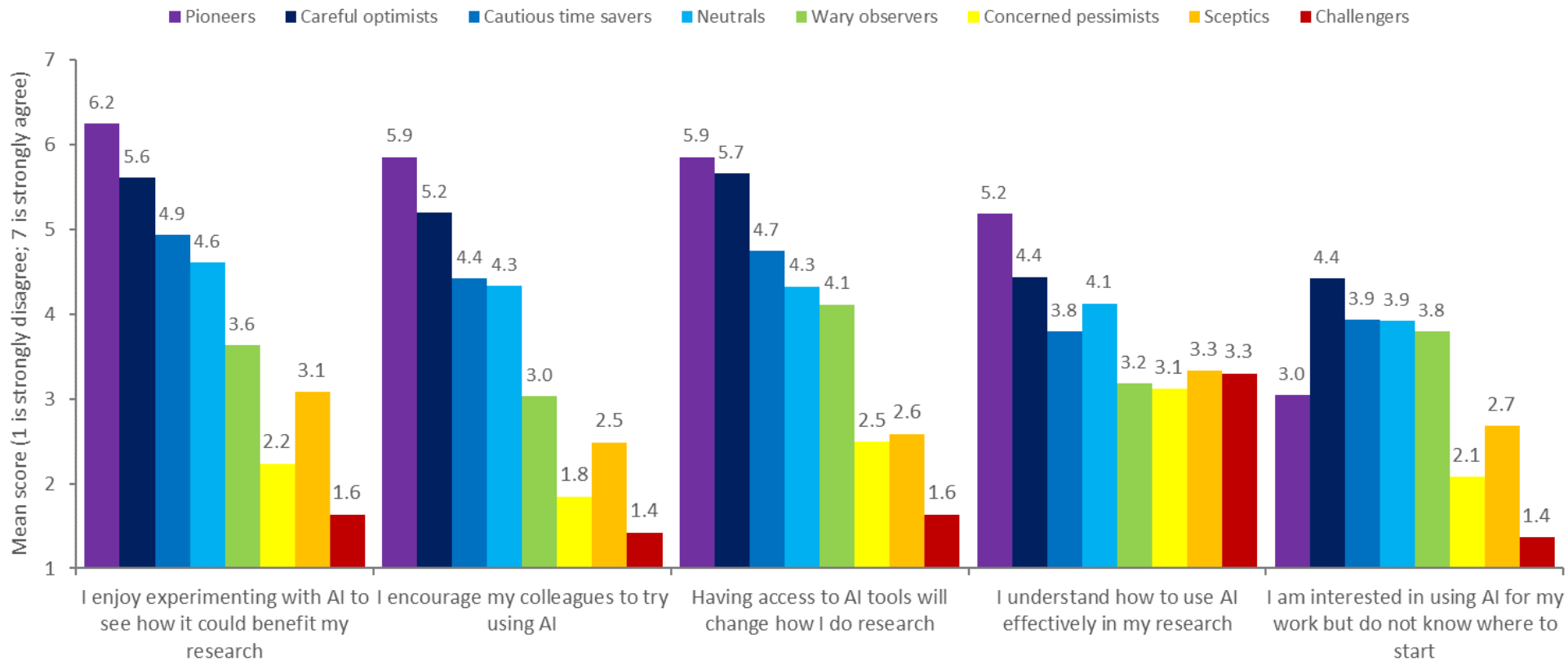
*"Garbage in garbage out. The "information" available to an AI content generator is larger in quantity than Wikipedia but not better in quality. AI can generate Simplistic superficial generalizations, or collate the most common "ideas" found on the internet, but this is generally useless."*  
[Concerned pessimist]

Researchers were asked to explain why they felt they had benefitted or not benefitted from using AI in their research.

All open response comments were systematically coded into themes. The top eight themes from those who have benefitted and those who have not are displayed in these charts.



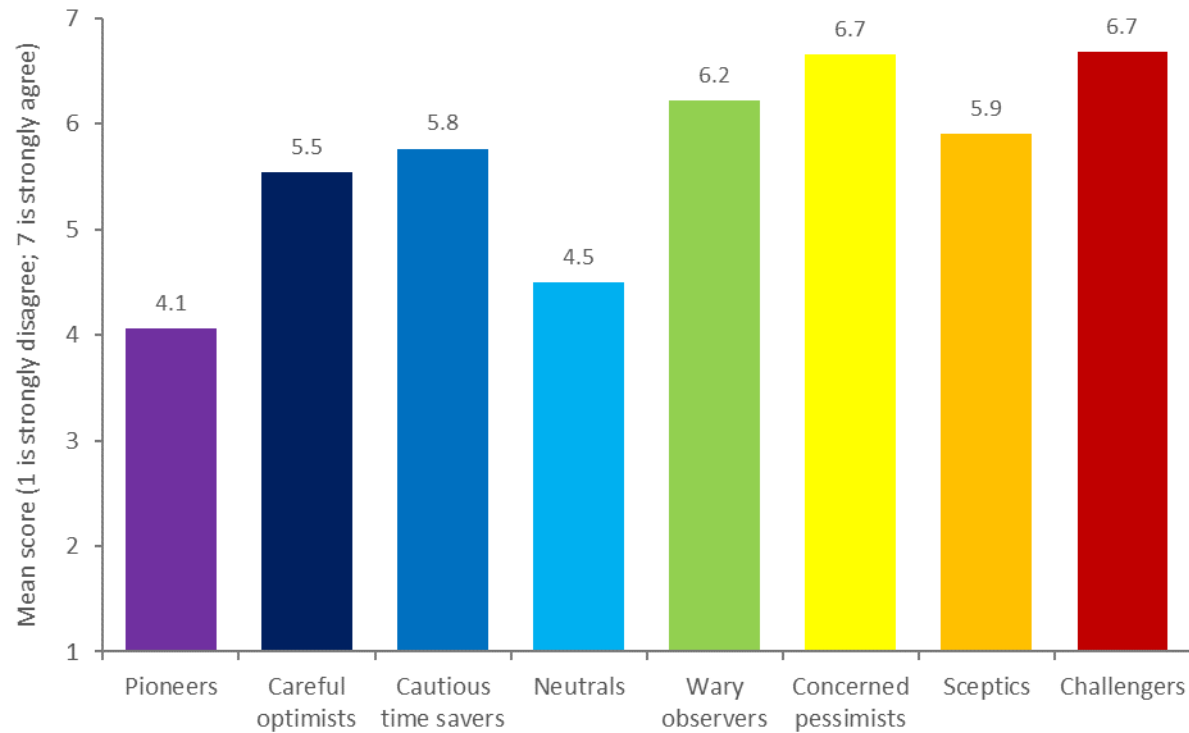
## 'Careful optimists' are most likely to be interested in using AI, but unsure where to start





## All researcher profiles tend to agree that AI could undermine intellectual property

I think AI could undermine intellectual property\*

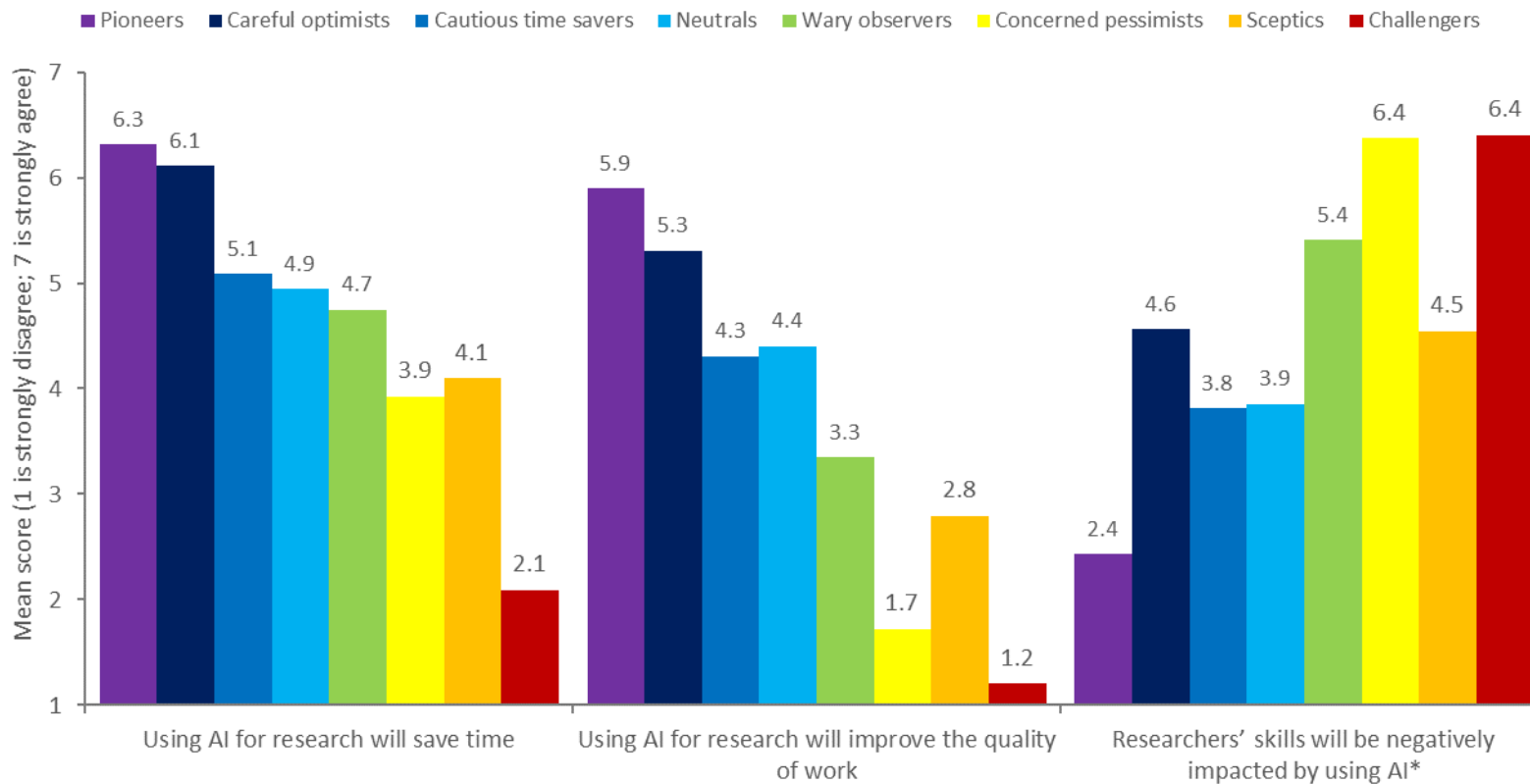


'Pioneers' and 'Neutrals' are least concerned about AI undermining intellectual property, and 'Challengers' and 'Concerned pessimists' are most concerned.

\* Asterisk indicates negatively phrased statements, where a 'disagreement' implies a positive attitude towards AI



**There is general agreement that using AI for research will save time and improve the quality of work, although 'Challengers' tend to disagree**



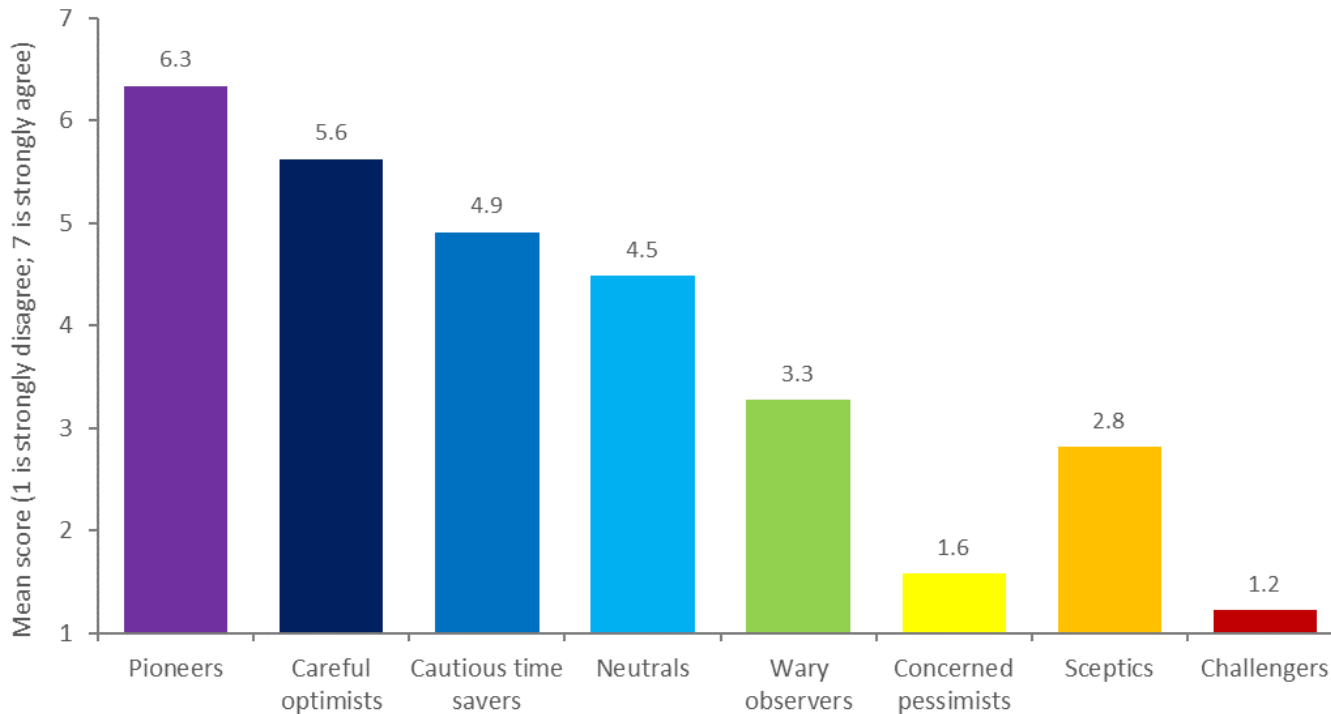
'Concerned pessimists' also tend to disagree that AI will improve the quality of research.

\* Asterisk indicates negatively phrased statements, where a 'disagreement' implies a positive attitude towards AI



## There is a full spectrum of response from researchers when asked if they are excited about the prospects of AI for academic research

I am excited about the prospects of AI for academic research

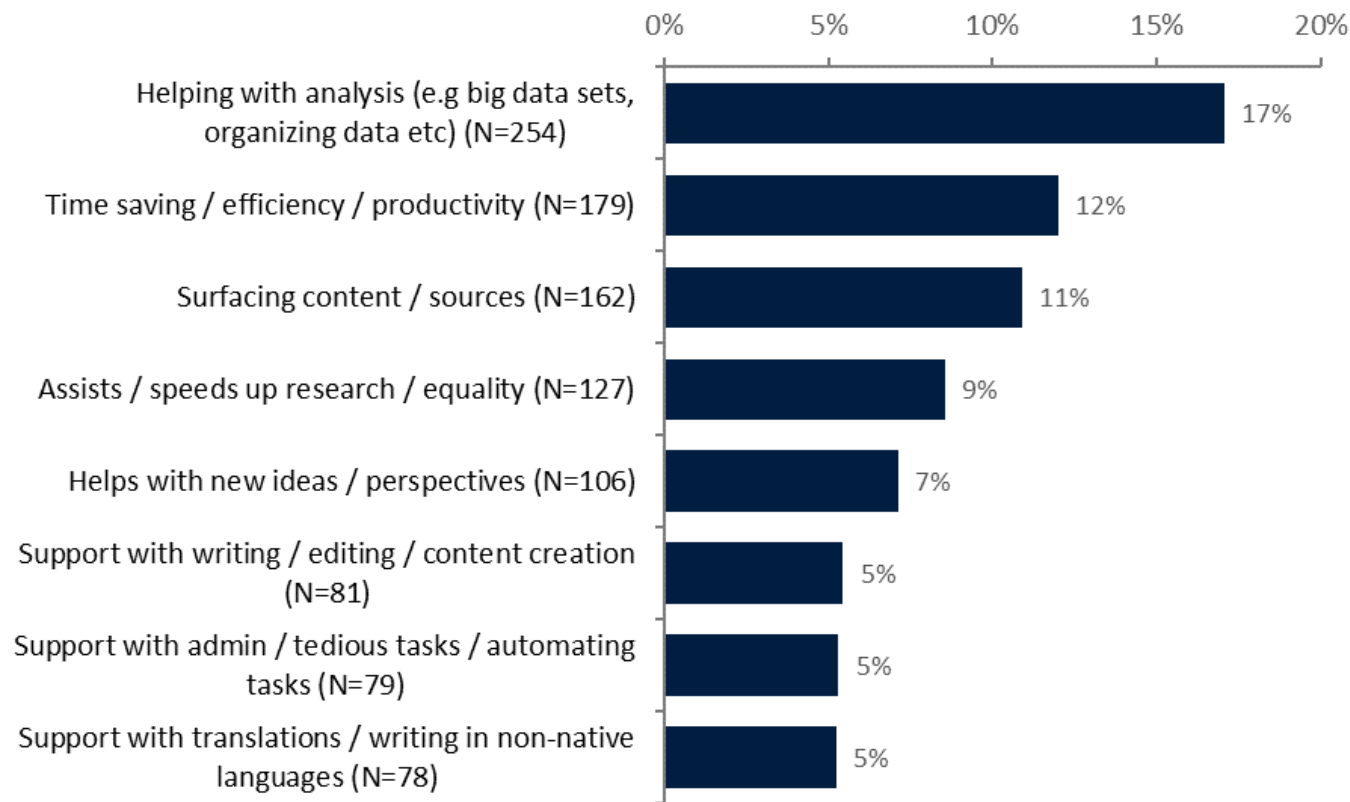


The mean scores range from 6.3 from 'Pioneers' who are the most excited, through to 1.2 from 'Challengers' who are the least excited.

'Sceptics' showed slightly more enthusiasm than 'Concerned pessimists', although both scores still sit in the disagreement range.



## The top theme that most excites researchers is how AI could help with analysis



Researchers were asked to write about what they are most excited about when it comes to AI in relation to academic research.

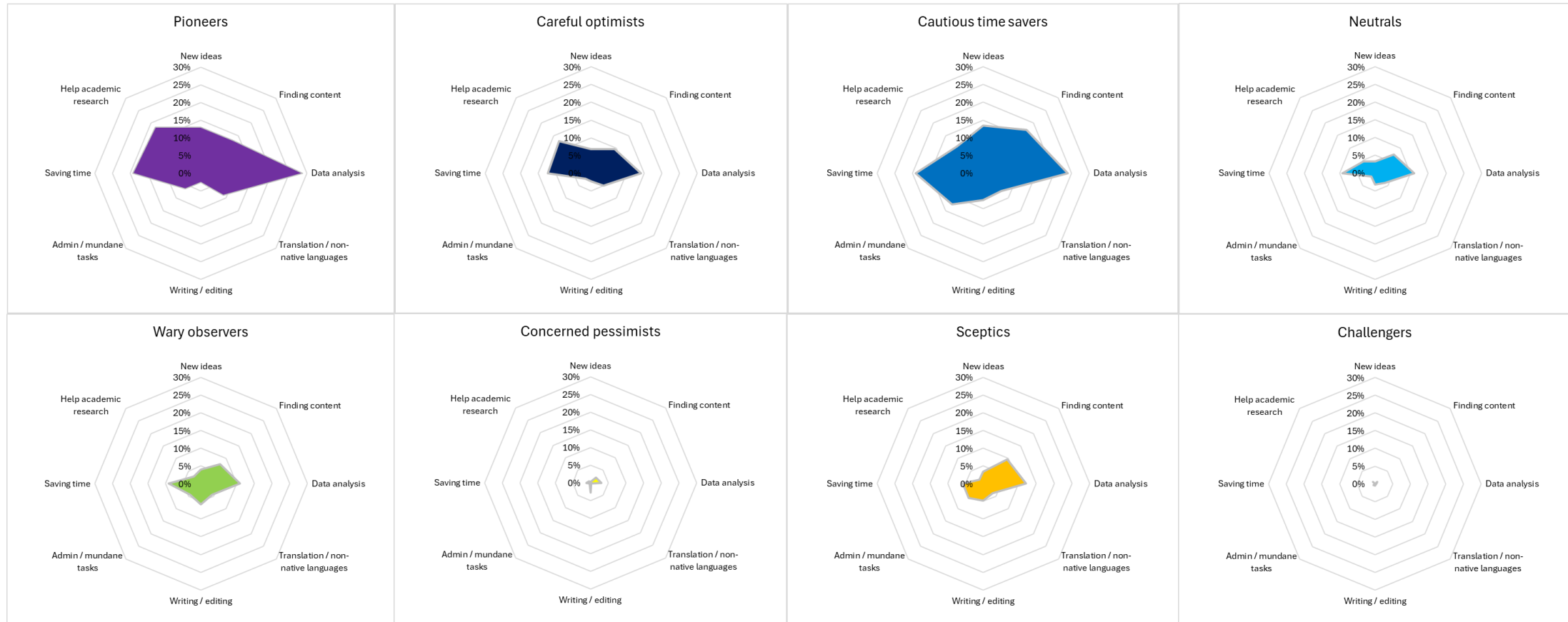
All open response comments were systematically coded into themes. The top eight themes of what researchers are excited about in relation to academic research are displayed in this chart.

Some chose to write that they are not excited about anything (N=412) or described specific concerns or caveats (N=139).





## 'Pioneers' and 'Cautious time savers' were the most dominant in writing what they were most excited about with AI



Q: Thinking about the future, what are you excited about when it comes to AI in relation to academic research?



## Representative quotes on what excites researchers

*"I'm excited about the possibilities for digital humanities. It will become much easier to **find secondary sources** on any given topic, and it will become much easier to **digitize and analyze primary texts**, including those that are currently only in manuscript form. I can imagine, for example, that within ten years it will be possible to scan a bunch of manuscripts and then have AI instantaneously **create a critical edition of a text**, which then can be easily **analyzed for key terms** and so forth. The possibilities for research in my field are really quite profound."*

[Pioneer]

*"I don't feel like I'm very interested in the use of AI for my research, but it may be that I haven't fully understood its possibilities."*

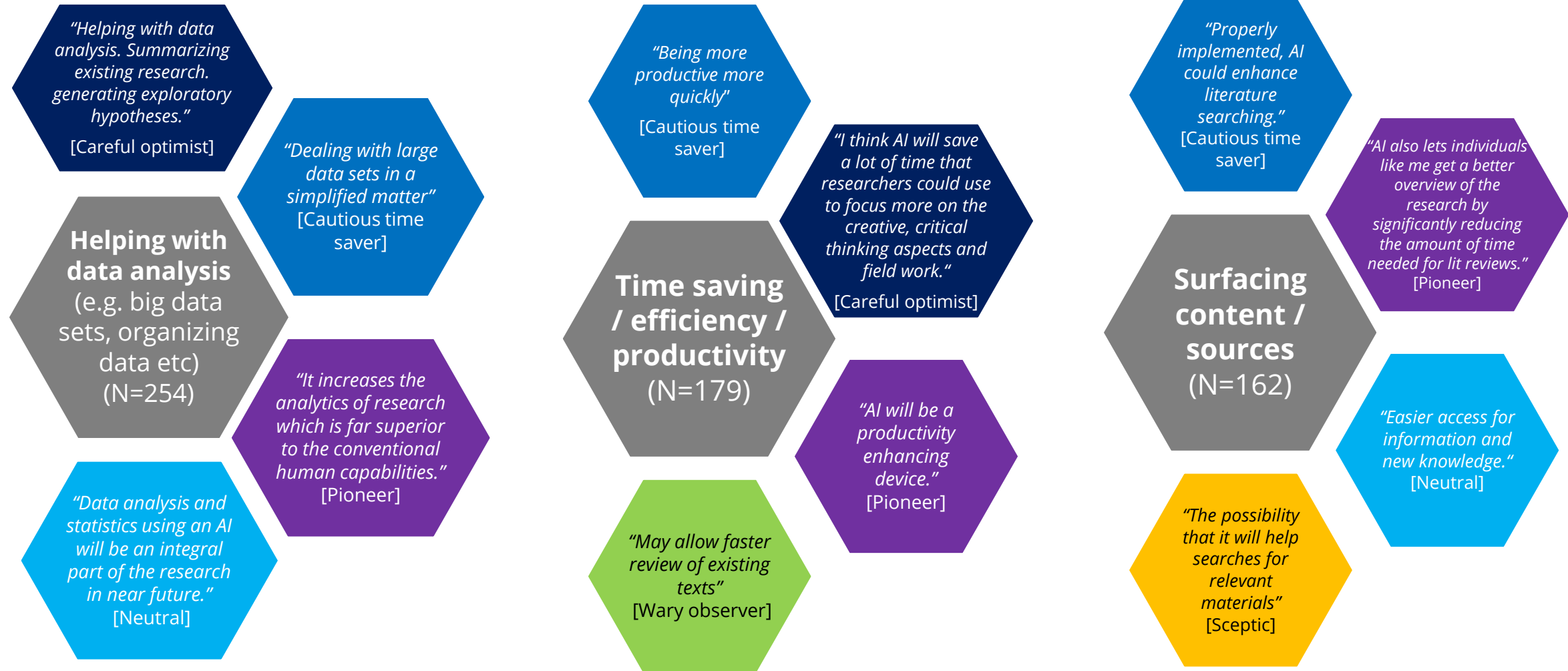
[Neutral]

*"Literally nothing: it's a dismal prospect of short cuts, lazy scholarship, and people without training in a discipline creating "researched" publications that are inaccurate and misleading."*

[Challenger]



## Top themes that researchers are excited about with AI





## Top themes that researchers are excited about with AI (continued)

**Assists /  
speeds up  
research /  
equality**

*"The ability to brainstorm and get predictive responses quickly"*  
[Pioneer]

**Helps with  
new ideas /  
perspectives**

*"Bringing additional ideas and areas of research into conversation"*  
[Cautious time saver]

**Support with  
writing /  
editing /  
content  
creation**

*"It's helpful in organizing my ideas into fluent writing. I use it to check my grammar and citation style, and also to arrange my ideas into a flowing order"*  
[Neutral]

**Assists /  
speeds up  
research /  
equality**

*"The ability to eliminate some of the tedious parts of research, enabling researchers to apply their skills where they really matter"*  
[Cautious time saver]

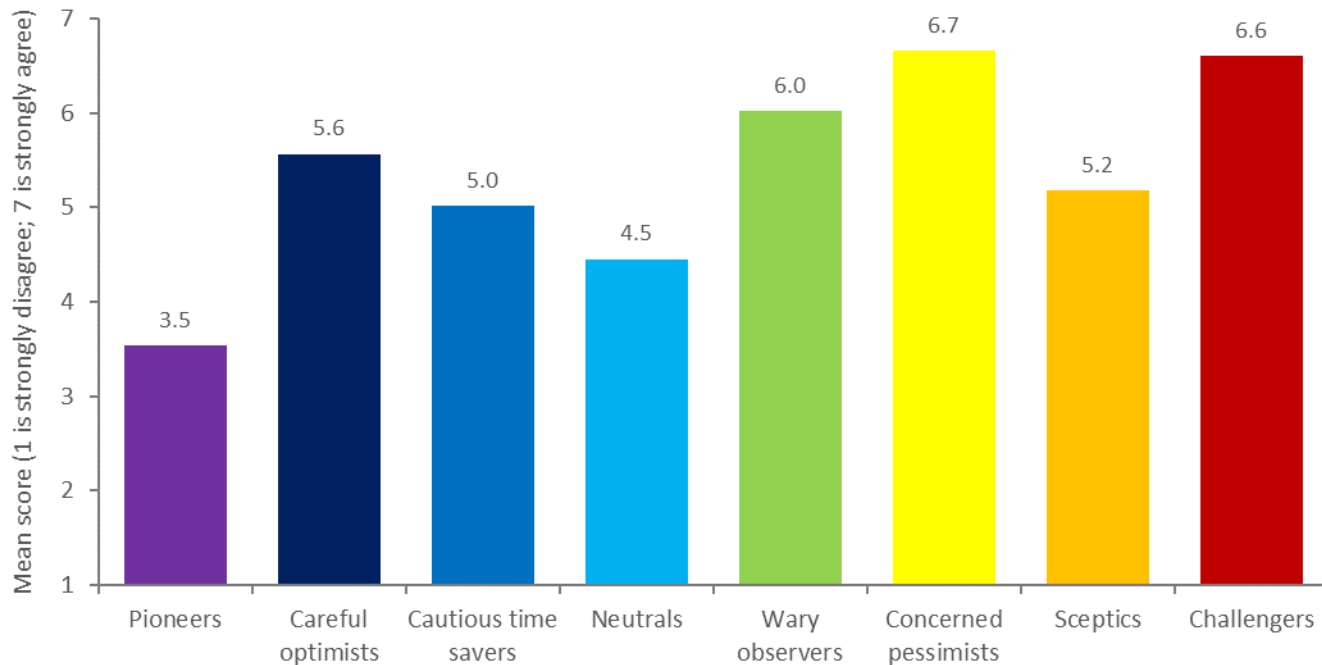
**Support with  
translations /  
writing in  
non-native  
languages**

*"May broaden the number of researchers who are able to submit papers to journals published in English"*  
[Wary observer]



## Most profiles are concerned about the impact that AI could have on academic research

I am concerned about the impact that AI could have on academic research\*



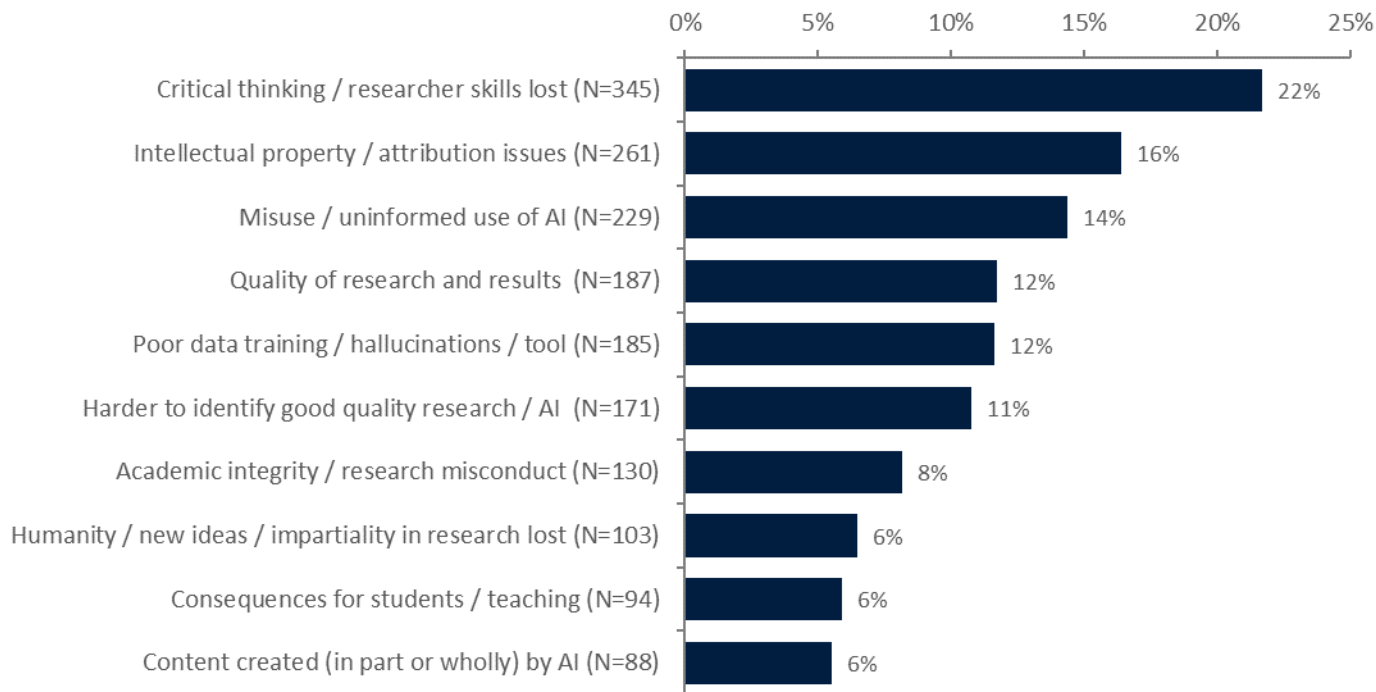
All scores are above the mid-point of the scale, except for 'Pioneers' who are less concerned.

'Concerned pessimists' and 'Challengers' are the most concerned about the impact that AI could have on academic research.

\* Asterisk indicates negatively phrased statements, where a 'disagreement' implies a positive attitude towards AI



## The top theme that most concerns researchers is that AI may lead to a loss of critical thinking



Researchers were asked to write about what they are most concerned about regarding AI in relation to academic research.

All open response comments were systematically coded into themes. The top ten themes of what concerns researchers are displayed in this chart.



## Representative quotes on what concerns researchers

*"I fear that we will focus on the tool and forget the thing itself. I fear that we will lose the ability to think through the conceptual roots of research. I fear that we will forsake ethics because it is just a computer. I fear that it will become difficult or impossible to identify good research amid a growing pool of AI-generated articles (real signal in the noise)."*

[Cautious time saver]

*"My biggest concern about the use of AI in academic research is that researchers will begin to use it as a crutch or even a source of truth, undermining our critical thinking and ability to question the research at a fundamental level."*

[Sceptic]

*"Increased potential for impersonation, plagiarism, and misinformation, as well as a general devaluing of the arts and humanities to say nothing of the further reduction of the fine arts as exploited labour."*

[Challenger]



## The top concern of 'Cautious time savers' is plagiarism, whereas for 'Pioneers' it's over-reliance on AI

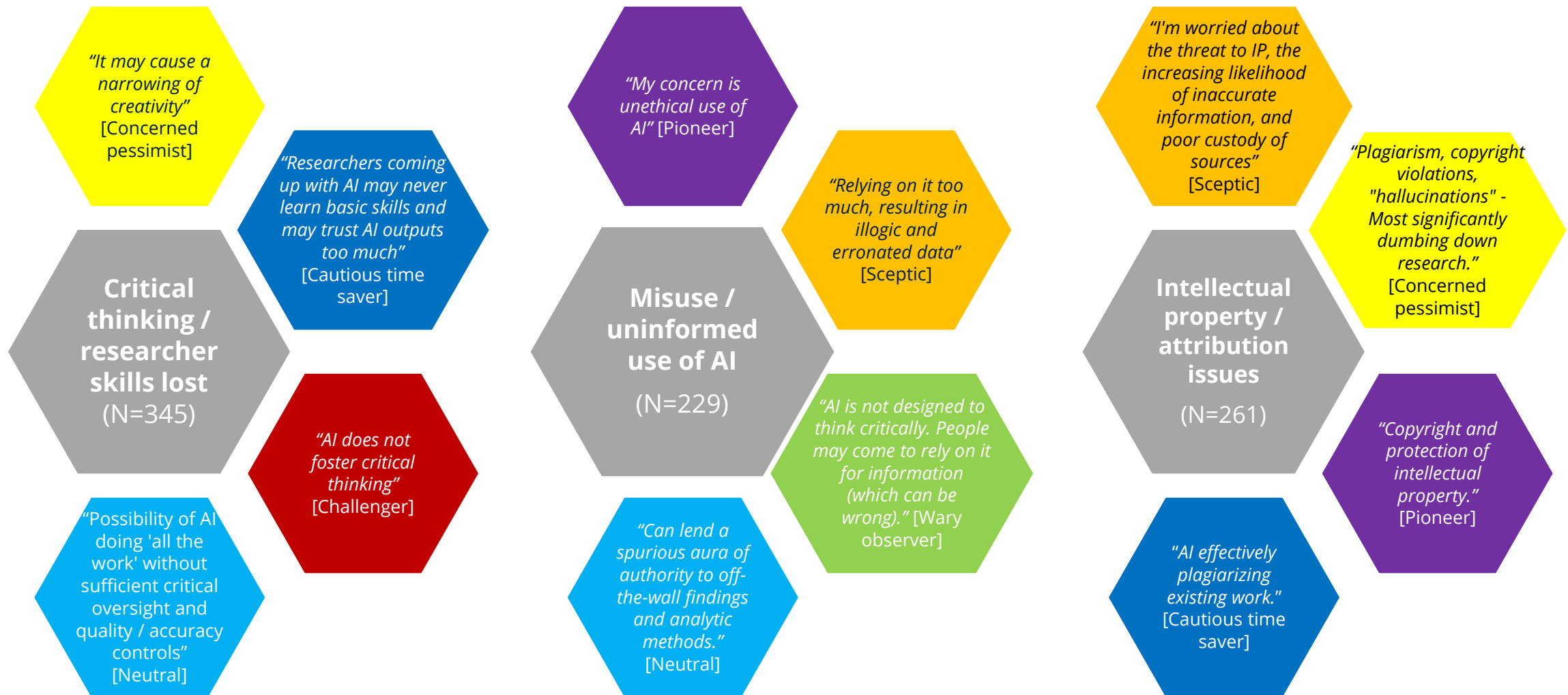


Q: What are you concerned about regarding AI in relation to academic research?





## Top themes that researchers are concerned about with AI





## Top themes that researchers are concerned about with AI (continued)

**Quality of research & results (N=187)**

*"Degradation of quality, understanding, and meaning"*  
[Challenger]

*"The potential for false data and "made up" information: current AI does this to some degree"*  
[Cautious time saver]

*"It probably lowers the quality as some steps, important to intellectual process, will be skipped over"*  
[Sceptic]

**Poor data training / hallucinations (N=185)**

*"I am concerned about the lack of explainability of many AI outputs"*  
[Sceptic]

*"I am concerned that AI will spread false information because it already creates erroneous citations and makes false assumptions when engaged in critical thinking prompts"*  
[Wary observer]

*"The unreliability and factual inaccuracies ("hallucinations") are alarming. It's been over a year since the release of ChatGPT, and the problems seem to be baked in - they may well be unfixable"*  
[Challenger]

**Harder to identify good quality research / AI (N=181)**

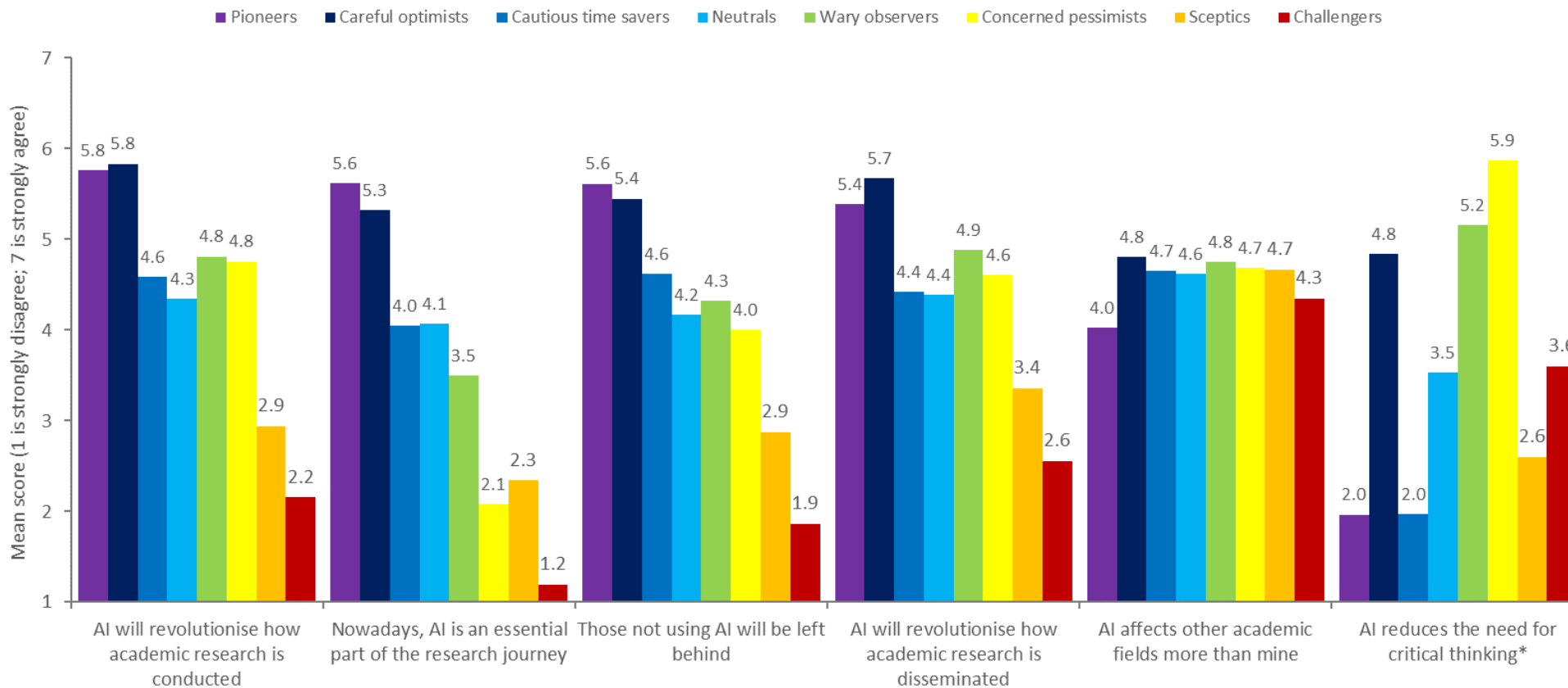
*"As AI develops more and more functionality, I am concerned that it may be hard to tell genuine from AI generated reports and papers"*  
[Neutral]

*"It will be harder to spot fake research"*  
[Cautious time saver]

*"It is already making more work for a lot of people just to correct the errors that get published. We will all be worse off thanks to it"*  
[Challenger]



## 'Pioneers' and 'Careful optimists' tend to believe that AI is now an essential part of the research journey



'Concerned pessimists', 'Wary observers' and 'Cautious time savers' are more likely to believe that AI reduces the need for critical thinking.

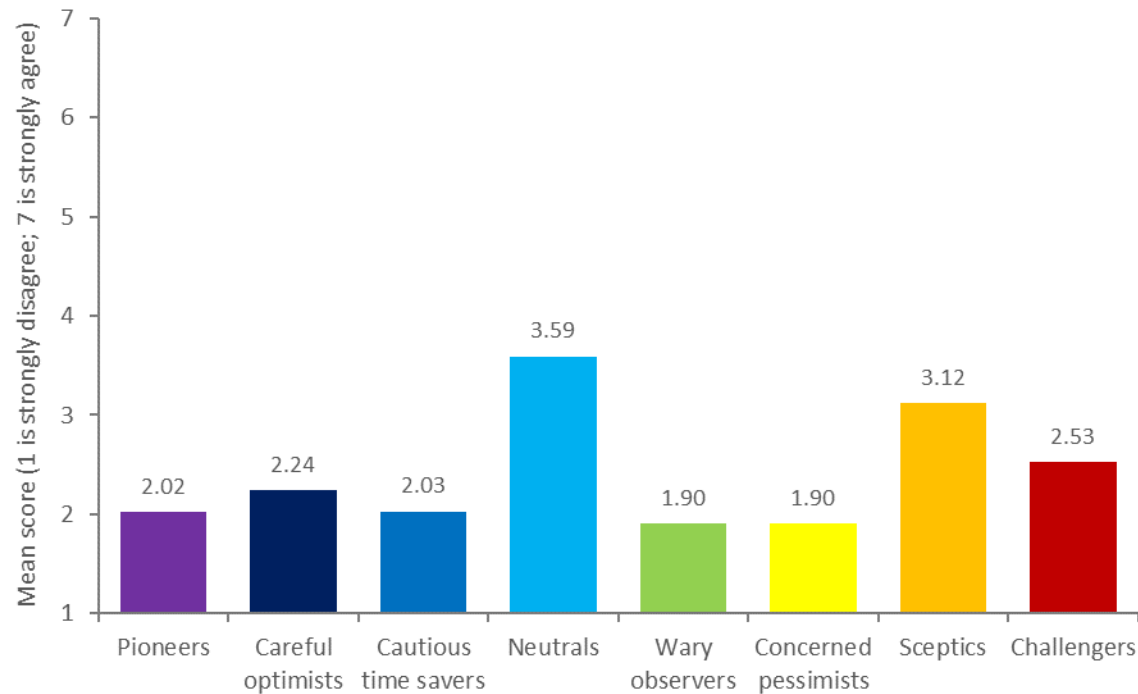
Generally, 'Pioneers' and 'Careful optimists' believe that AI will revolutionize how academic research is conducted and disseminated.

\* Asterisk indicates negatively phrased statements, where a 'disagreement' implies a positive attitude towards AI



## There is general agreement that AI will likely have a significant impact in the world

Overall, AI will not change the world that much



Both spectrums of the research profiles, from 'Pioneers' to 'Challengers' tended to disagree with the statement that 'AI will not change the world that much' indicating the significant impact that AI will have on lives today.

*"In my nearly half century, I've seen so much rapid growth but AI is a game changer. I think it is already living up to the hype and will totally transform my field and society as a whole. I just hope it is for the better."*  
 [Pioneer]

