

Clarifying False Memories in Voice-based Search

Motivation

How to communicate to the user that and how their query was corrected in a voice-only retrieval setting?
Case study: queries containing false memories.

There is no such thing!



But...

Conclusions

- Even wrong corrections are preferable to ending the dialog
- Systems should communicate their query modifications back
- Systems should rather suggest than correct (matter of tone)

User-centric study

12 participants from a university background.

14 tasks each: find specific information by means of a tailored Amazon Alexa skill. Example task:

Scenario: You try to remember the title of a controversial book that came out in the 1990s and claimed scientific evidence that whites are genetically superior to blacks. You think its title was like "The *something* Factor."

Interaction start: Alexa. Explore!

What is the title of the book from the 1990s that claimed superiority of Whites and is called "The *something* Factor" ?

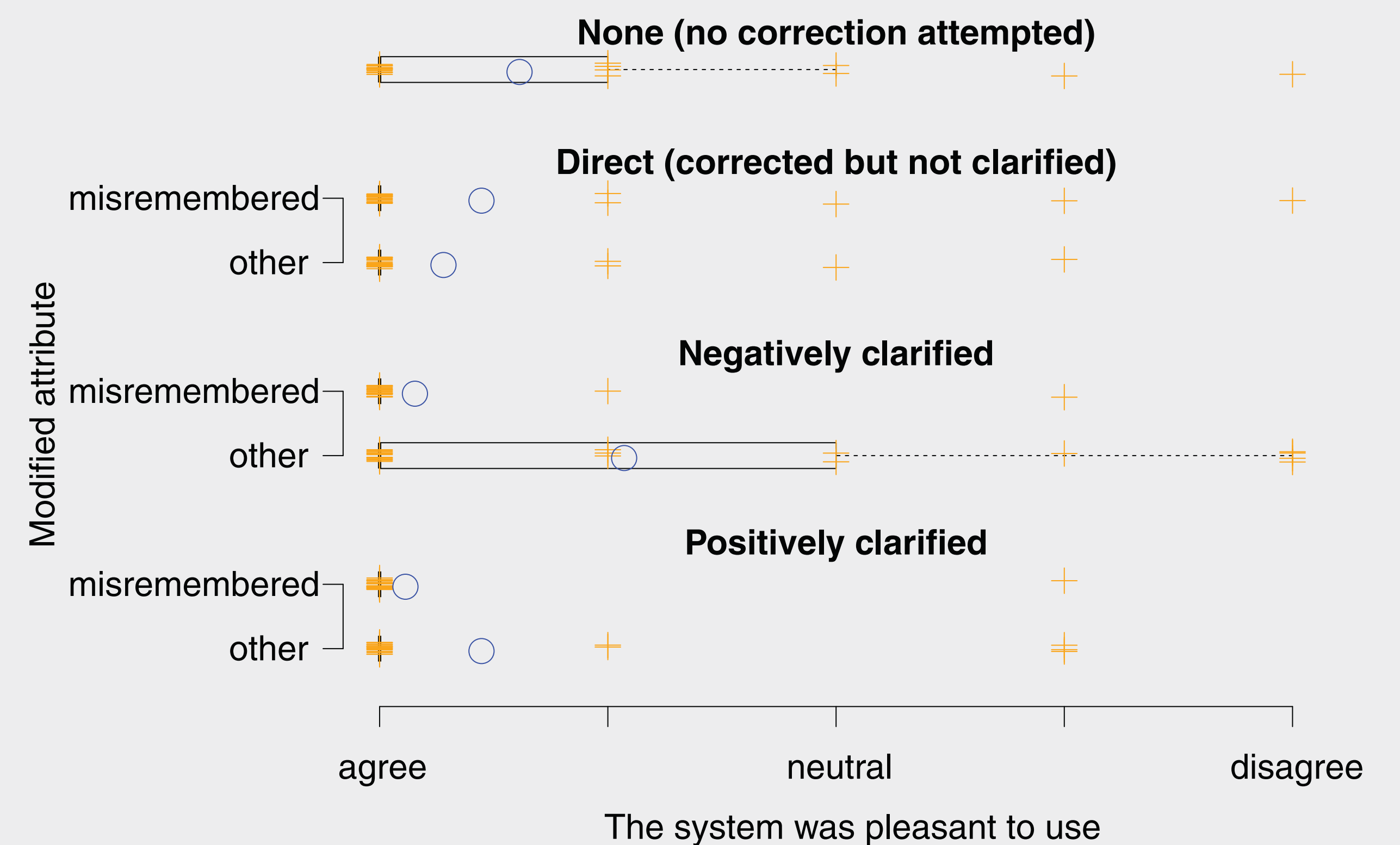
Post-interaction questions:

| The system... | Agree | Neutral | Disagree | Don't know |
|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ...was helpful | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...behaved as I expected | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...was easy to hear/understand | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...was pleasant to use | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Scenarios are based on real known-item queries from Yahoo! Answers (dataset: Webis-KIQC-13).
Answer for the example above: „The Bell Curve“.

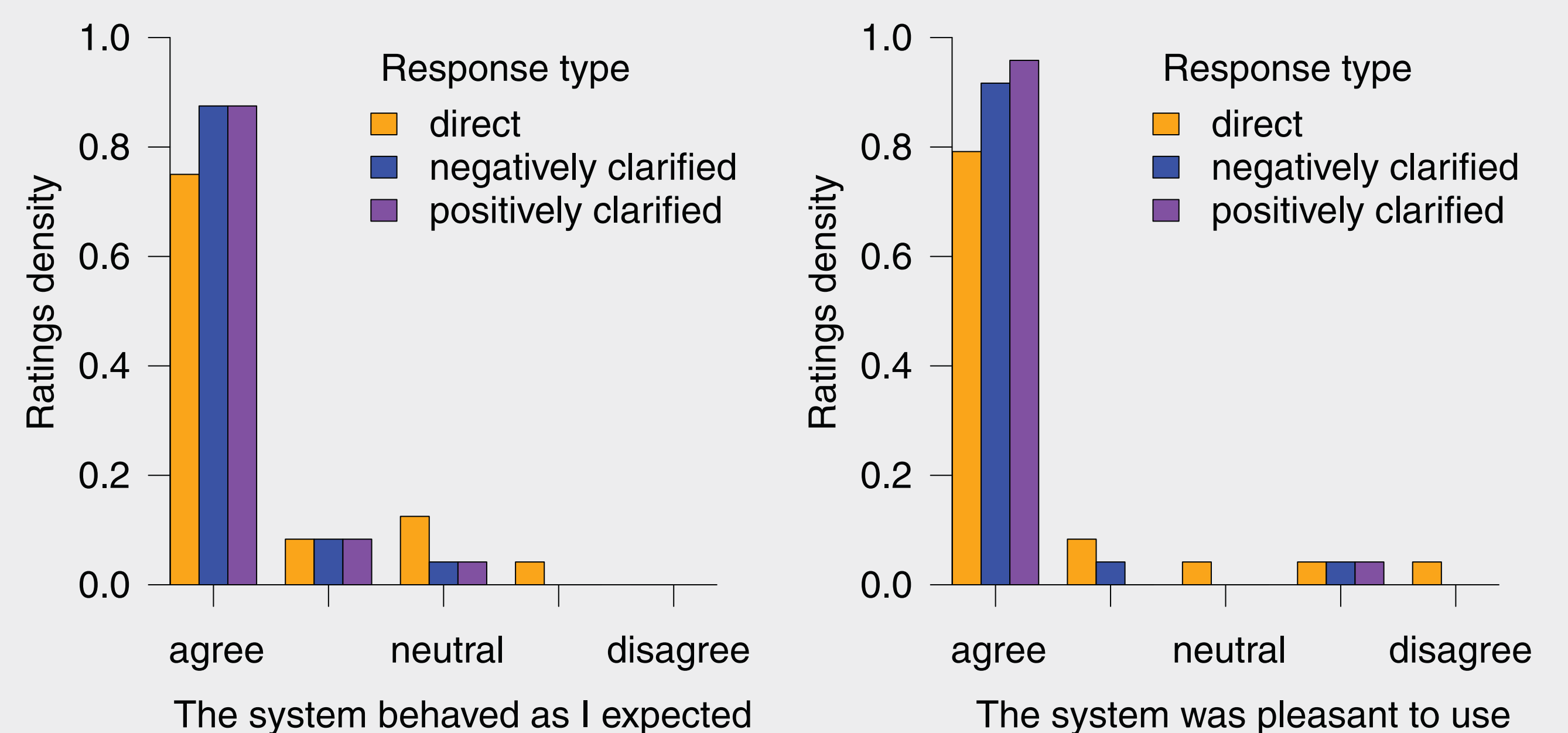
Should the system correct if it is unsure?

Yes: Wrong „correction“ seen as better than no answer



How to best clarify corrections?

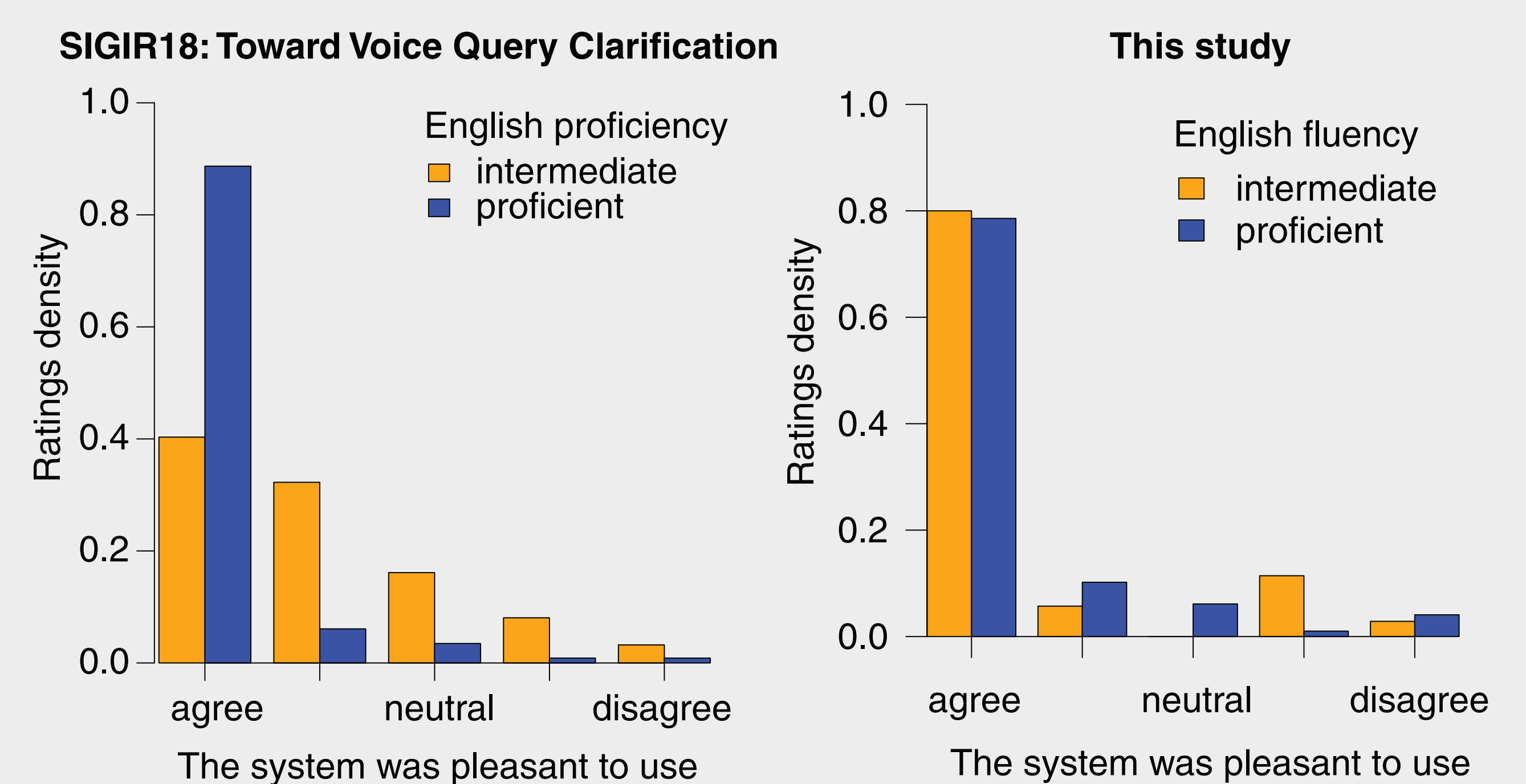
In case the misremembered attribute is corrected:
Clarification is better than just giving the answer



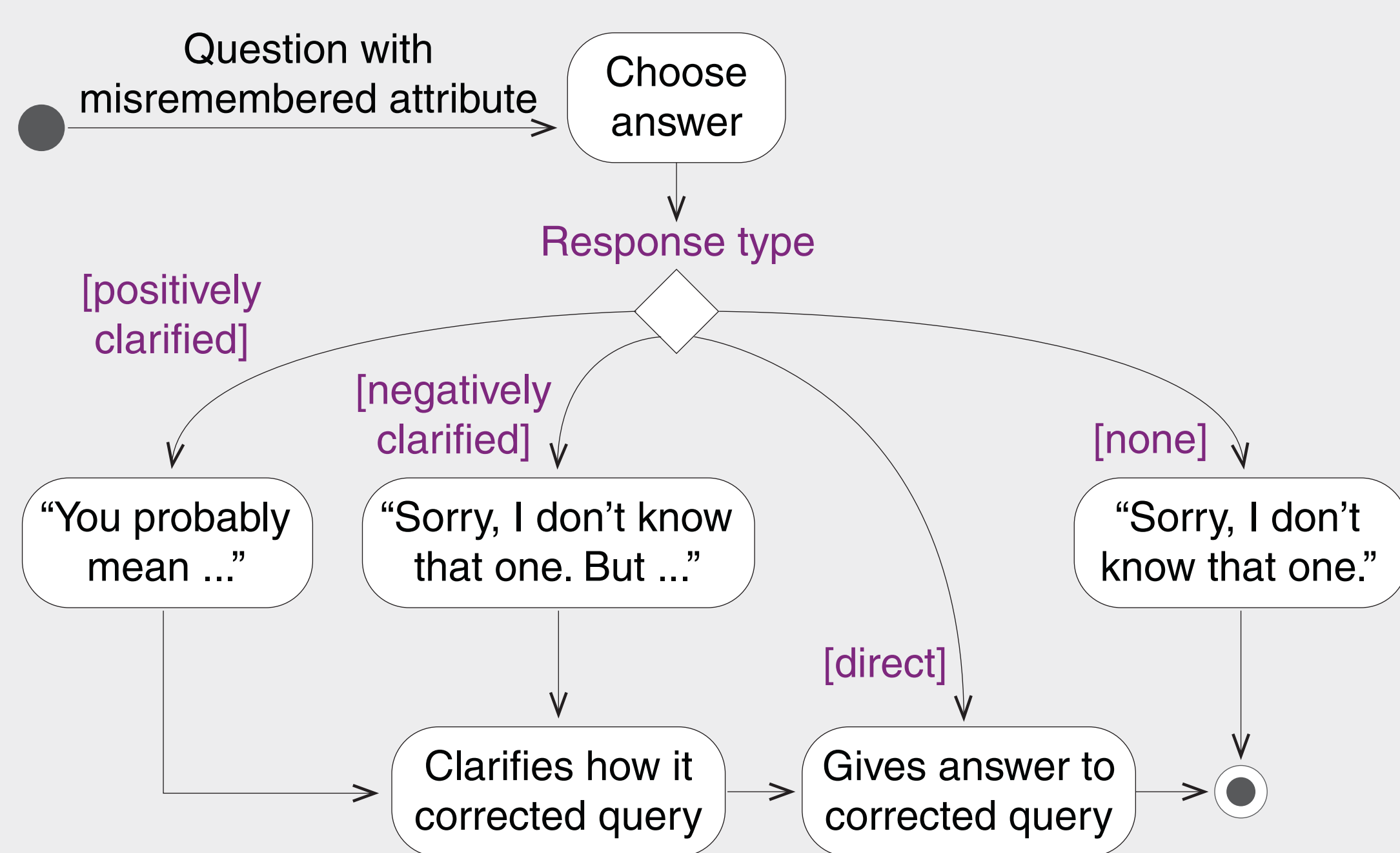
In case an other attribute is modified (see above):
Suggest (positively clarified), do not correct (negatively clarified)

Does language fluency affect satisfaction?

Much less than in similar studies.
Possible reason: fewer own formulations needed in this one



Analyzed response types



For each type but „none“:
2 tasks: system corrects misremembered attribute.
2 tasks: system modifies other attribute (not what user intended)