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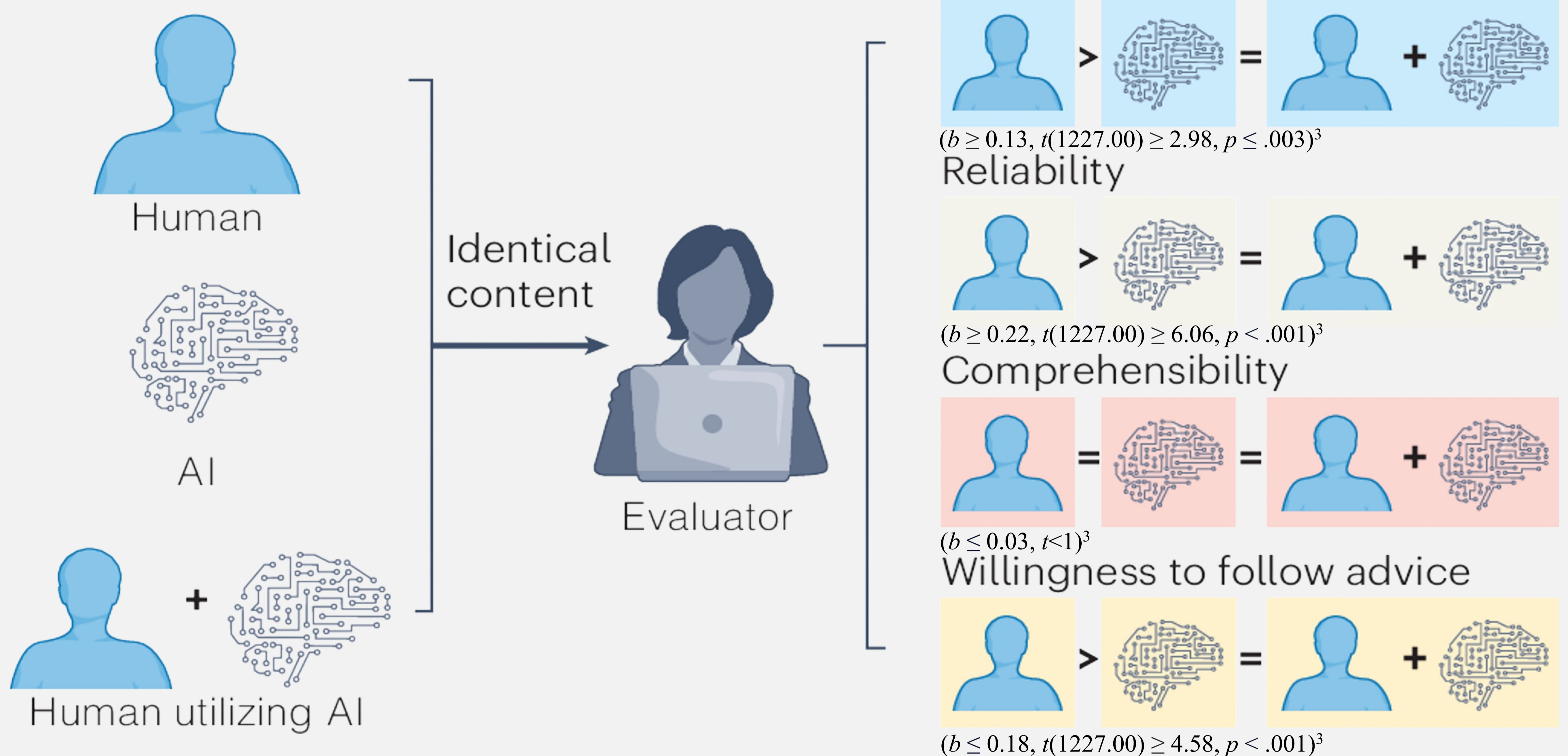Julius-Maximilians-
UNIVERSITÄT WÜRZBURG

Influence of believed AI involvement on the perception of digital medical advice
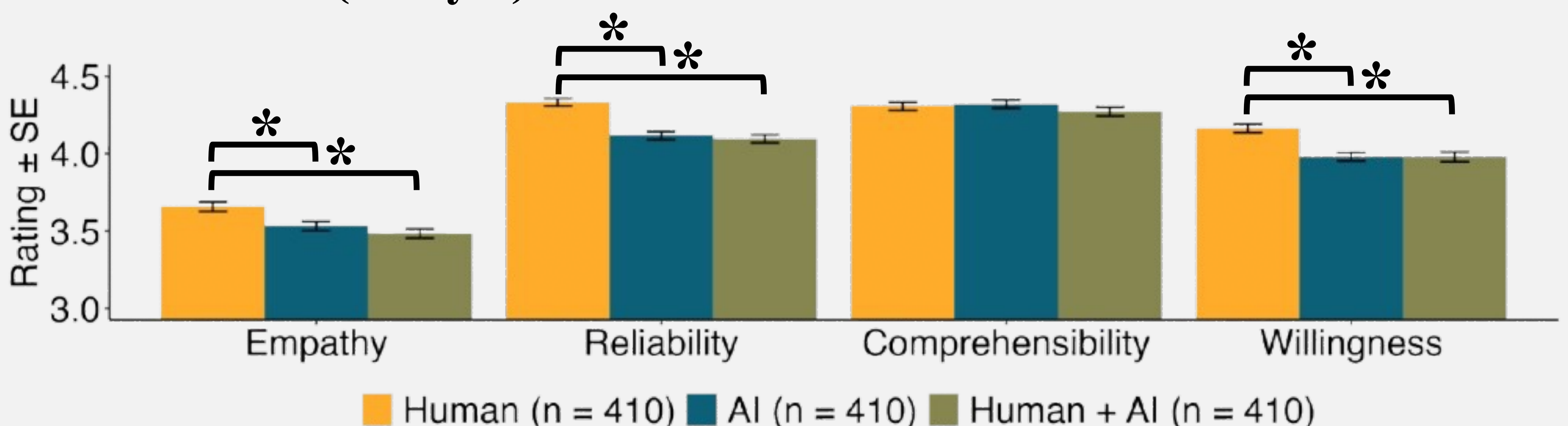
Overview

LLMs offer novel opportunities to seek digital medical advice.[1] However, the public perception of these advancements received little attention. In two preregistered studies ($N = 2{,}280$), we presented participants with scenarios of patients obtaining medical advice. All participants received identical information, but we manipulated the putative source of this advice ("AI", "Human physician", "Human + AI"). "AI" and "Human + AI"-labelled advice was evaluated as significantly less reliable, less empathetic and less worth following compared to "Human"-labelled advice.

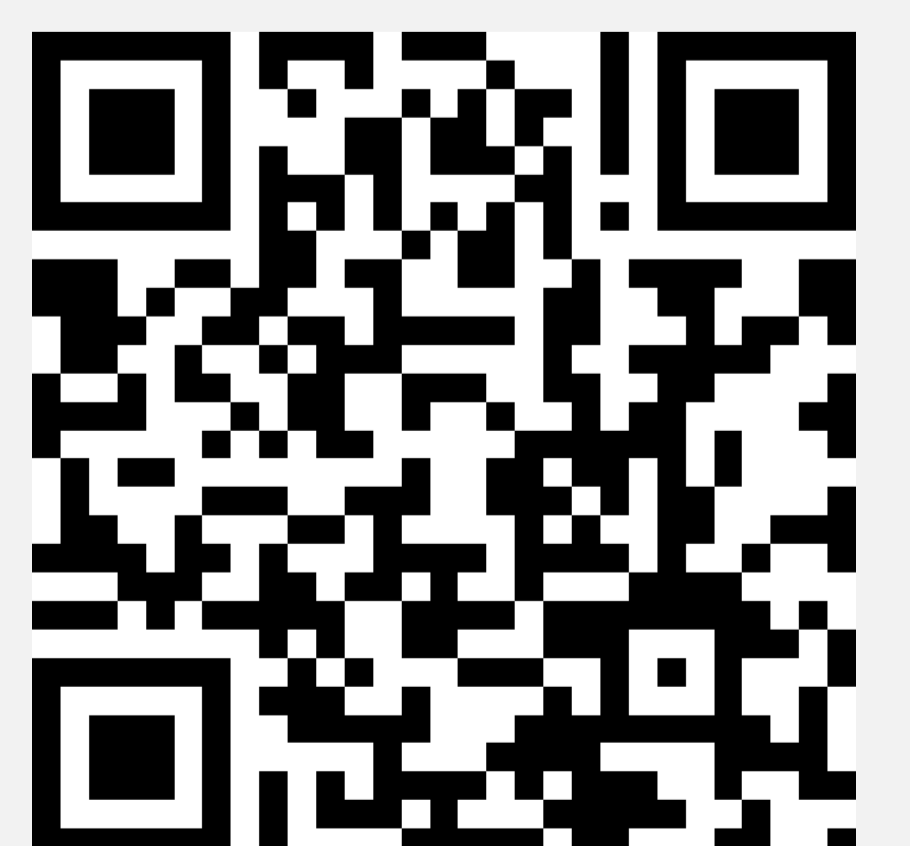## Method[2] and key findings

Perceived content author

Human · AI · Human utilizing AI → Identical content → Evaluator

Empathy
Human > AI = Human + AI
($b \geq 0.13$, $t(1227.00) \geq 2.98$, $p \leq .003$)[3]

Reliability
Human > AI = Human + AI
($b \geq 0.22$, $t(1227.00) \geq 6.06$, $p < .001$)[3]

Comprehensibility
Human = AI = Human + AI
($b \leq 0.03$, $t<1$)[3]

Willingness to follow advice
Human > AI = Human + AI
($b \leq 0.18$, $t(1227.00) \geq 4.58$, $p < .001$)[3]

Detailed results (study 2)

Human (n = 410) · AI (n = 410) · Human + AI (n = 410)

Conclusions

➢ Evidence for an anti-AI bias when receiving digital medical advice
➢ This bias persists even when medical AI is supervised by human physicians
➢ Possible reasons: AI may be perceived as dehumanizing and „uniqueness neglect"
➢ Specific framing of AI's involvement seems to be crucial

Publication[4]

References and Notes
[1] Haupt, C. E. & Marks. M. (2023). AI-generated medical advice – GPT and beyond. *JAMA*, 329(16), 1349-1350.
[2] Figure adapted from: Fanous, A., Steffner, K. & Daneshjou, R. (2024). Patient attitudes toward the AI doctor. *Nature Medicine*.
[3] Statistics refer to the comparisons "Human" vs. "AI" & "Human" vs. "Human utilizing AI".
[3] Reis, M., Reis, F. & Kunde, W. (2024). Influence of believed AI involvement on the perception of digital medical advice. *Nature Medicine*.