# THE MORE YOU KNOW, THE LESS YOU TRUST


**Authors**

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**Background**

With AI becoming indistinguishable from human output, brief explanations are a crucial way of addressing blind over-reliance and enabling safer, critically-minded AI interactions.

## INTRODUCTION

- Large Language Models (LLMs) like ChatGPT produce highly convincing language that frequently leads users to overestimate output accuracy (despite the risk of misinformation)
- creates a distinct vulnerability: trust relies on belief that unsupervised AI will perform reliably
- study addresses critical need to investigate user expectations with technical capabilities of LLMs

## THE CURRENT STUDY

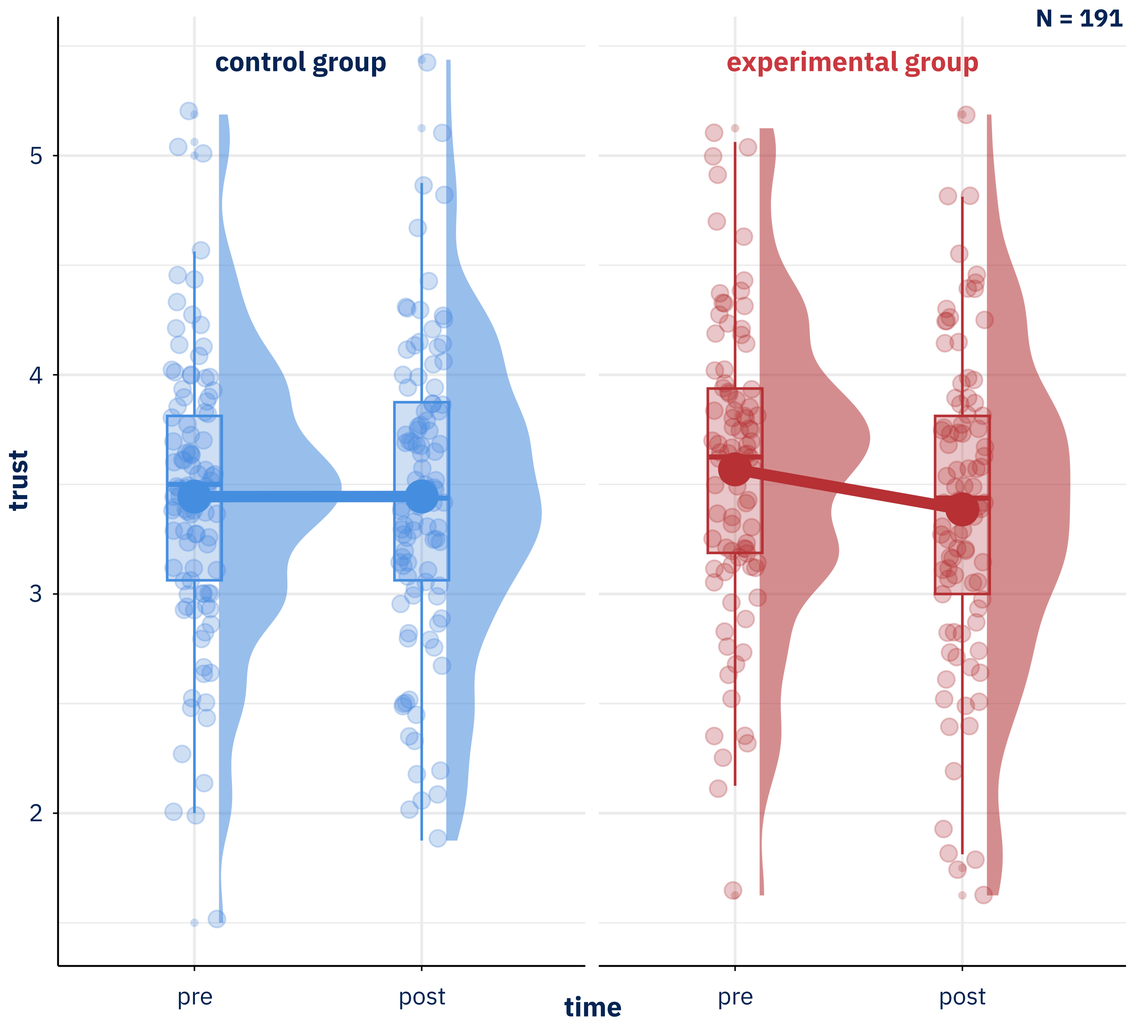
- **Core Objective:** Investigating the effect of a short explanatory instructional intervention about LLM functioning on users' trust.
- **Hypothesis**: Anticipating a significant Time (pre vs. post) x Group (experimental vs. control) interaction.
- **Expected Outcome:** A significant decrease in trust specifically within the experimental group over time.

1. Pre-intervention assessment of initial trust towards LLMs alongside other baseline variables like prior knowledge and usage frequency.
2. Randomly assigned experimental group read a short, instructional text explaining how LLMs function, while the control group read a text of similar length about the gut microbiome.
3. Afterwards, each group answered a short comprehension check in order to test whether each participant understood the contents of the text.
4. Each participant answered the trust attitude measurement instrument again.

## RESULTS

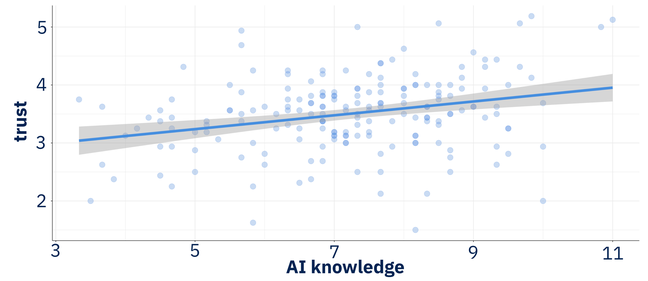
- mixed ANOVA and group comparisons confirmed a **significant Time x Group interaction** → showcasing that educational intervention caused **significant, moderate decrease in trust** (d = -0.65) while control group trust remained stable
- multiple regression analysis accounted for **29% of variance in baseline trust**, demonstrating that initial user trust is significantly driven by pre-existing individual factors → namely **prior AI knowledge, usage frequency, and task diversity**

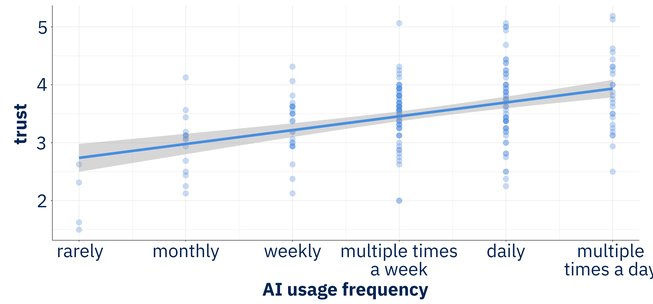
## Explaining the functionality of AI (LLMs) led to a significant, moderate decrease in user trust.

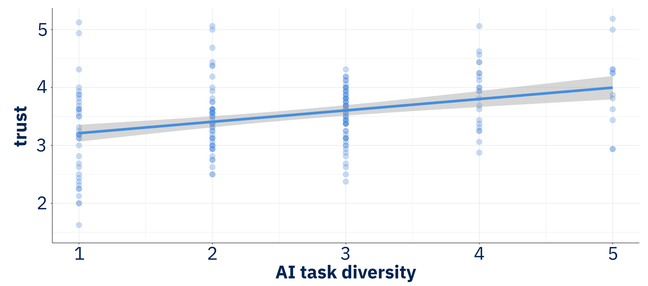



## Prior Knowledge of AI, Frequency of AI Use and Task Diversity are **significant predictors of trust** in AI (LLMs).

## SIGNIFICANT PREDICTORS OF TRUST




## CONCLUSION

- a brief explanation of LLM mechanics **significantly reduces** user trust over time compared to a stable control group → short interventions can lower overtrust and encourage more critical evaluations
- findings limited by immediate post-measurement, self-reported metrics, and slight measurement overlap → future research must investigate long-term behavioral impacts and stability of repeated interventions


**AI Trust Overview:** Glikson, E., & Woolley, A. W. (2020). Human trust in artificial intelligence: Review of empirical research.

**Measuring Trust Attitudes:** Larasati, R. (2025). Human and AI trust: Trust attitude measurement instrument. arXiv.

**AI Knowledge vs. Human Perception:** Steyvers, M., Tejeda, H., Kumar, A., Belem, C., Karny, S., Hu, X., Mayer, L. W., & Smyth, P. (2025). What large language models know and what people think they know. Nature Machine Intelligence



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