PUBLIC ATTITUDES TOWARD ALGORITHMIC RISK ASSESSMENTS IN COURTS
A DELIBERATION EXPERIMENT

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Do citizens support the use of predictive algorithms in the criminal justice system?
How important is the ethical design of these tools to them?

Project Overview

2,358 UK citizens discussed a hypothetical scenario of implementing algorithmic risk assessments in UK courts.

- **Groups of 3**, randomly matched.
- Free-form online **messenger chats.**
- Scenario**: Algorithmic risk tool supporting judges** in early-release decisions.
- Elicitation of individual attitudes before and after the chat discussion (**attitude change**).
- Analysis of **chat content**.
- Participant recruitment via Prolific (UK).

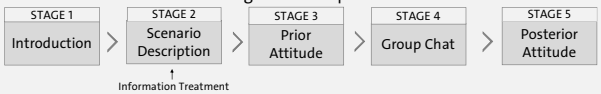
Motivation

- **Procedural Justice:** Perceived fairness and legitimacy as key determinants of compliance with the law (Sunshine and Tyler, 2003; Tyler, 2006; De Cremer and Tyler, 2007).
- **Limitations of Current Literature**: Existing research is limited to survey studies with inconsistent findings (e.g., Simmons, 2017 vs. Wang, 2018).
- **Public Participation in AI**: Increasing calls, both inside and outside academia, for public participation in the AI debate to "strengthen AI democracy" (Acemoglu, 2021), especially through public deliberation (Sætra 2022; Stilgoe, 2024) .
- **Knowledge Gap:** Limited understanding of how people develop beliefs and attitudes about AI (De Freitas, 2023).

Experimental Design

- Participants received a general introduction to algorithms and a scenario describing their use and design features in the criminal justice context.
- Information Treatments in descriptions (2x2x2 between-subjects design, no variation within chat groups):
  - (i) Transparency: High vs. low public oversight;
  - (ii) Fairness vs. Accuracy: Blind vs. non-blind treatment of sensitive attributes;
  - (iii) Judge's Discretion: Full vs. constrained discretion over the algorithm's recommendations.
- Chat: 786 open-ended chat discussions (7 minutes) generating over 15k messages post data cleaning.
- Attitudes measured before and after chat (using Likert-Scales).

Main stages in the experiment:



Data Analysis

- **NLP Methods**: Analysis of discussion flow and trends, focusing on shifts in tone and topics raised over time.
- **OpenAI API 4 model:** Identification of key topics.
- **Correlation Analysis**: Association between topics raised in the chat and attitudes of chat partners with attitude change post-deliberation.

Main Takeaways

- Fragile AI optimism: Stated public support for AI in public institutions may be malleable (caution with one-shot opinion polls).
- People care about fairness, reliability, and individualized determinations.
- Social learning: People are responsive to (online) public discourse, especially when risks are deliberated on in greater depth.

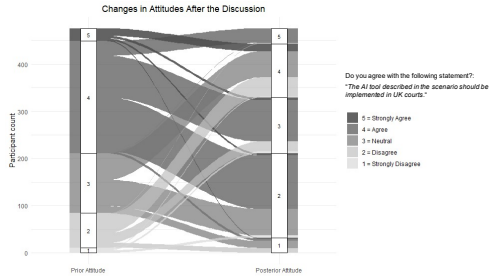
Methods:

- Deliberation study + NLP + LLM: Promising approach for studying people's reasoning, attitude formation, and attitude strength.

Results

Significant Changes in Attitudes

- Prior attitudes: Overall positive, especially with high public oversight (p=0.021) and full judge's discretion over the algorithm (p=0.092).
- Posterior attitudes: Deliberation led to **negative attitude shifts** (p<0.001).



- 26% of initial supporters became more skeptical; no such upward shift for initial opponents.
- Convergence of attitudes: Deliberation diminished treatment effects.
- Neutral sentiment: Discussions were characterized by neutral, non-emotional language (possible reasons: unfamiliarity with the topic; topic not (yet) politically charged?).

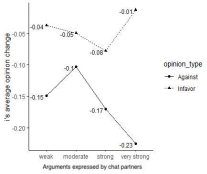
Key Topics (by frequency)

1. *"judge bias"*, *"algorithmic bias*"*, *"cost savings"*
2. *"support tool"*, *"human element"*, *"public trust"*
3. *"less noise/consistency"*, *"lack of individualized treatment*"*, *"technical errors*"*
4. ..

Balanced distribution of positive and negative arguments.
*(*correlation with attitude change)*

Negativity Bias

1. Attitude changes more sensitive to counterarguments.
2. Presence of a single opponent in chat group associated with stronger attitude change (p<0.001).
3. Greater topic heterogeneity in opposing arguments than in supportive ones.



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