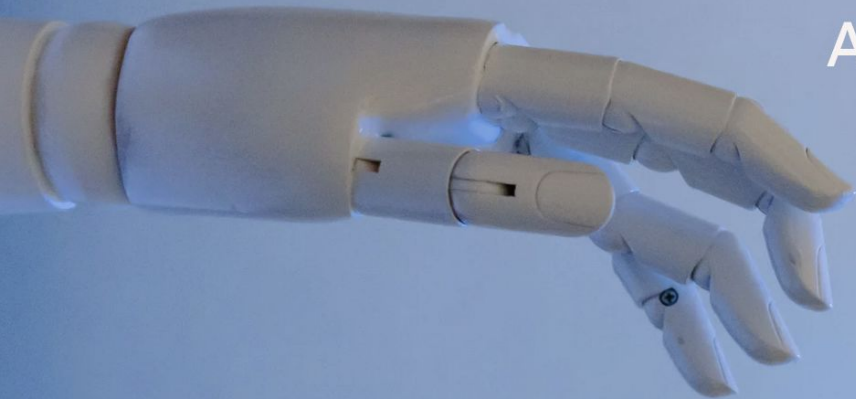


# FOSTERING INTELLECTUAL HUMILITY THROUGH AI : AN AGENTIC APPROACH



## TEAM 4

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# PROBLEM STATEMENT

01

## WHAT IS INTELLECTUAL HUMILITY ?

Intellectual humility (IH) is the ability to recognize that one's knowledge may be incomplete and that personal beliefs could be wrong, encouraging openness to new evidence and perspectives.

02

## WHY IS INTELLECTUAL HUMILITY IMPORTANT?

In a world increasingly polarized by rigid opinions, developing intellectual humility is crucial for promoting understanding, empathy, and meaningful dialogue.

03

## CHALLENGES:

Traditional methods like debates or presenting evidence often fail to change entrenched views, driving the need for new techniques that can effectively nurture intellectual humility



# PROJECT GOALS

01

## DESIGN INTERVENTION BY PROF. MOORE

Designing the Intervention Strategy

02

## DEVELOP MULTI AGENT APPLICATION

Creating the application for intervention

03

## TEST ON HUMAN SUBJECTS

Conducting Tests on Participants

04

## REPORT FINDINGS OF PILOT STUDY

Summarizing key outcomes and insights from the pilot study



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# TECHNIQUES

## CHOOSE STANCE

SELECT YES/NO  
STANCE AND  
STRENGTH  
RATING FROM 1  
-10

## PROVIDE ARGUMENTS

USER PROVIDES  
ARGUMENTS  
FOR AND  
AGAINST THE  
STANCE

## CATEGORIZE ARGUMENTS

DEFINE  
CATEGORIES  
FOR  
ARGUMENTS

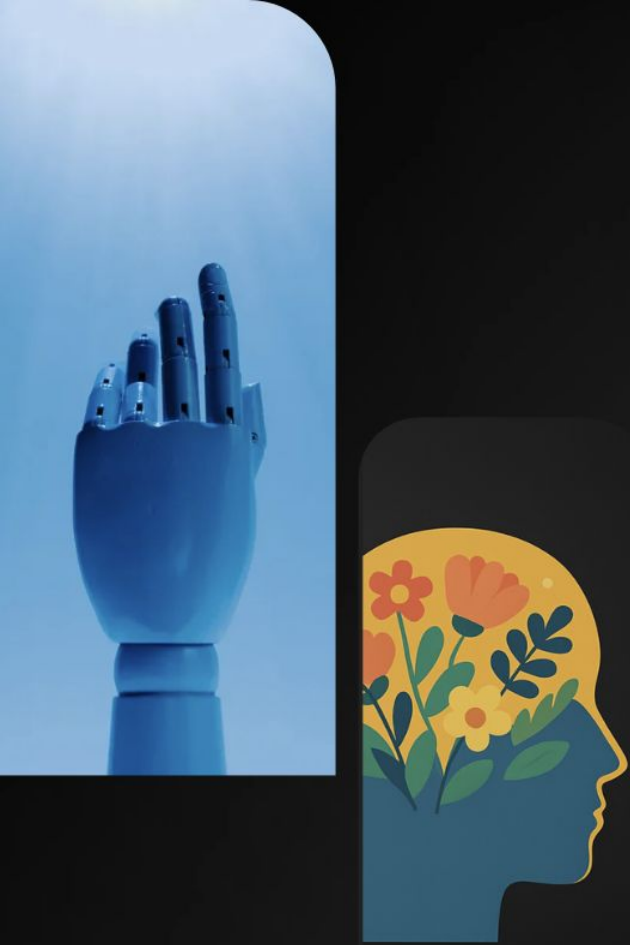
## MATCH ARGUMENTS

MATCH  
ARGUMENTS TO  
CATEGORIES

## RATE IMPLICATION

RATE IMPLICATION  
OF EACH  
ARGUMENT  
WITHIN ITS  
CATEGORY

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# INTELLECTUAL HUMILITY (IH) QUESTIONNAIRE

01

## ASSESSMENT STRUCTURE:

The questionnaire consists of 8 statements designed to evaluate different dimensions of intellectual humility

02

## RESPONSE SCALE:

Participants rate each statement on a 5-point scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree)

03

## SCORING METHOD:

The final IH score is obtained by averaging the participant's responses across all 8 statements, resulting in a score between 1 and 5



# SOCIAL DESIRABILITY QUESTIONNAIRE

01

## ASSESSMENT STRUCTURE:

The questionnaire includes 11 statements that participants respond to with either "Yes" (scored as 1) or "No" (scored as 0)

02

## QUESTION TYPES:

Some statements are moderately critical (e.g., "I like to gossip at times"), while others are extremely positive (e.g., "I have never intensely disliked someone").

03

## SCORING METHOD:

Critical questions are reverse-coded, and the total social desirability score is calculated by summing the responses, resulting in a score between 1 and 11



# RESULTS: CHANGE IN INTELLECTUAL HUMILITY

## 01 INCREASE IN INTELLECTUAL HUMILITY:

Change in IH ( $\Delta IH$ ) is computed by comparing participants' pre-intervention and post-intervention IH scores.

## 02 STATISTICAL TESTING:

A two-tailed t-test is conducted on  $\Delta IH$  to assess whether the observed change is statistically significant.

## 03 SIGNIFICANCE OF RESULTS:

The p-value indicates that the change is statistically significant, with a non-zero mean ( $\mu \Delta IH$ )

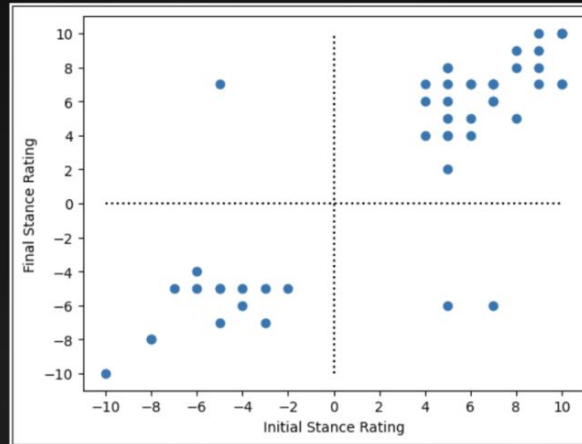
## 04 INTERPRETATION OF IMPROVEMENT:

A positive  $\mu \Delta IH$  suggests that participants' intellectual humility scores improved following the intervention.

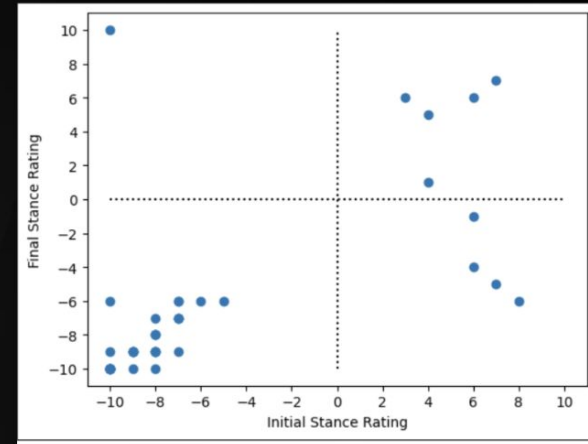
statistic	value
Mean $\Delta IH$	0.191
T-statistic	4.557
p value	<.0001



# RESULTS: STANCE CHANGES



STANCE CHANGES FOR THE QUESTION "SHOULD UNIVERSAL BASIC INCOME (UBI) BE ADOPTED?"



STANCE CHANGES FOR THE QUESTION "SHOULD TEACHERS BE ALLOWED TO CARRY FIREARMS IN SCHOOLS?"



# RESULTS: STANCE CHANGE

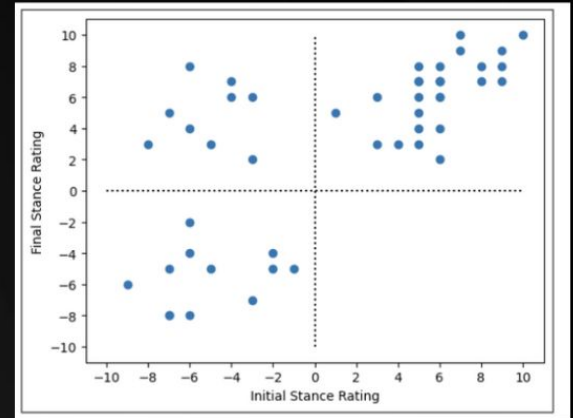
01 STANCE RATINGS ASSOCIATED WITH A “NO” RESPONSE ARE ASSIGNED A NEGATIVE VALUE

02 STANCE RATINGS ASSOCIATED WITH A “YES” RESPONSE ARE ASSIGNED A POSITIVE VALUE

03 DOTTED LINES ARE USED TO DIVIDE THE GRAPH INTO FOUR QUADRANTS FOR EASIER INTERPRETATION.

04 THE LEFT HALF OF THE GRAPH REPRESENTS INITIAL “NO” STANCES, WHILE THE RIGHT HALF REPRESENTS INITIAL “YES” STANCES

05 THE TOP HALF OF THE GRAPH CORRESPONDS TO FINAL “YES” STANCES, AND THE BOTTOM HALF CORRESPONDS TO FINAL “NO” STANCES



STANCE CHANGE FOR THE QUESTION  
“SHOULD NUCLEAR POWER BE  
CONSIDERED A KEY PART OF GREEN  
ENERGY SOLUTIONS?”



# RESULTS: IMPACT OF SOCIAL DESIRABILITY

## 01 TESTING METHOD:

Two-sample t-tests were conducted to compare mean social desirability scores between participants with “yes” and “no” stances.

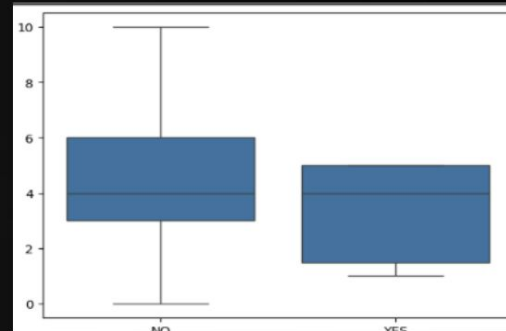
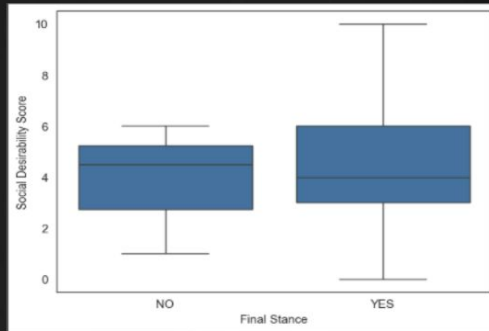
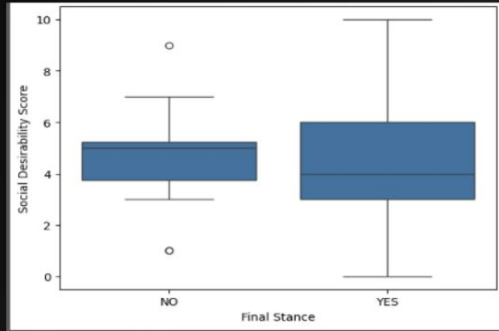
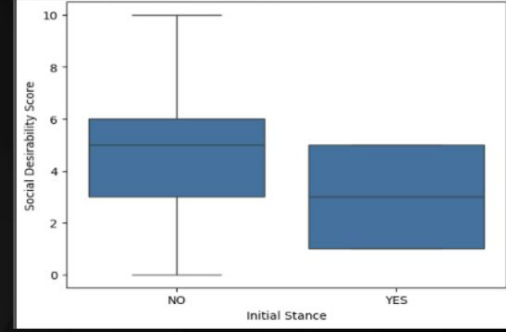
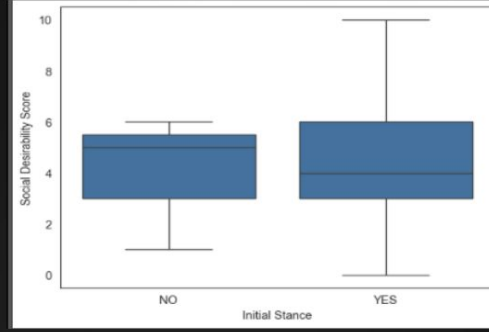
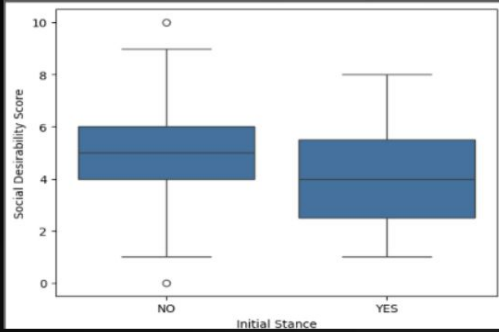
## 02 FINDINGS:

The t-tests showed no significant differences in mean scores across all three stance-related questions.

## 03 CONCLUSION:

There was no significant relationship between participants' initial or final stances and their social desirability scores.

# RESULTS - IMPACT OF SOCIAL DESIRABILITY





# CONCLUSIONS

01

## INCREASE IN INTELLECTUAL HUMILITY:

The intervention led to a statistically significant increase in IH scores among participants

02

## POTENTIAL FOR FURTHER RESEARCH:

Results indicate that the intervention is promising and deserves deeper exploration in future studies.

03

## STANCE CHANGES:

No clear pattern was observed in stance changes — although influencing stance was not the primary goal of the intervention.

04

## STANCE CHANGES:

There was no correlation found between participants' stances and their social desirability scores.

05

## INTERPRETATION :

The observed improvement in IH appears to stem from the intervention itself, rather than from participants' desire to present themselves positively



THANK YOU FOR YOUR TIME  
ANY QUESTIONS?

