AI: Friend, Foe, or Future?
A Review of Attitudes and Perceptions of AI

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Abstract

This project explores the demographic factors associated with individuals' attitudes and understanding of Artificial Intelligence (AI) through a literature review. We searched for relevant studies using keywords such as "AI trust," "AI attitudes," and "AI anxiety." After applying inclusion and exclusion criteria, we identified the five most relevant papers. The findings indicate that age, gender, and educational background are key demographic factors linked to AI attitudes. For example, Schepman and Rodway (2022) found that men and younger individuals tend to hold more positive views of AI. By highlighting these demographic trends, our review underscores the need to account for these factors when developing surveys and conducting further research into public perceptions of AI.

Introduction

- Artificial Intelligence (AI) is a rapidly evolving technology that is becoming essential in both professional and daily life. AI's increasing role in society has led to optimism and fear, shaping public attitudes toward its potential as a friend, foe, or inevitable future.
- Some individuals are continuously adapting their understanding, expectations, and emotional responses to promote AI, viewing it as a significant opportunity for innovation, efficiency, and societal progress. They see AI as a tool that can enhance productivity, streamline tasks, and create new possibilities across various industries.
- Meanwhile, the growing use of AI raises concerns among others about potential misuse and mistrust of AI applications. They argue that relying too much on AI could reduce originality in creative fields and raise concerns about bias and accountability in AI-driven decisions.
- Previous research has examined attitudes toward AI by exploring individuals' willingness to integrate AI tools into daily tasks and their comfort in using AI technology (Laupichler et al., 2023). However, most studies focus on broad populations, often overlooking differences among demographic groups. As a result, they provide limited insights into how demographics may shape and influence opinions on AI.
- This study aims to provide a clearer understanding of how demographic factors may shape attitudes and perceptions of AI. The findings will help inform future research on measuring and interpreting AI attitudes, ensuring they are comprehensive, accurate, and reflective of diverse demographic perspectives.

Research Questions

To fill this gap, this study aims to explore whether different demographic groups have varying attitudes and perceptions of AI by addressing two research questions:

- Which demographic factors are associated with attitudes and perceptions of AI?
- How do demographic factors relate to attitudes and perceptions of AI?

Methods

Step 1

We conducted a literature search using key terms such as "AI trust," "AI attitudes," "upstanding AI", "AI perception", "opinion on AI", and "AI anxiety" to identify relevant studies in the following databases: ERIC, Scopus, Web of Science, and Social Science Premium. About 100 papers were identified.

Step 2

The last two authors screened the abstracts of these papers. They applied the following inclusion criteria: (1) published in English, (2) published in peer-reviewed journals, (3) published between 2014 and 2024, and (4) included a validated scale measuring AI attitude, AI trust, or AI anxiety.

Step 3

After screening, approximately 20 papers remained. To ensure comprehensive coverage, we collectively reviewed the reference lists of these papers to identify any additional relevant studies.

Step 4

The first two authors summarized the identified studies weekly, evaluating the research purpose, sample representativeness, measurement quality, and key findings. In total, 16 papers were reviewed, and all information was recorded and tracked in an Excel spreadsheet.

Step 5

The summaries were discussed biweekly with the whole group. A key focus of these discussions was how demographic factors were used in the studies and their relationship to AI attitudes and perceptions.

Results/Conclusion

- **Parasuraman & Colby (2015) – Technology Readiness Index (TRI 2.0)**
  - Studied 2,500 U.S. adults with diverse demographics.
  - "Explorers" (high TRI score) are younger, more educated, and more likely to work in tech.
  - "Avoiders" (low TRI score) have low ethnic diversity and limited higher education.
- **Schepman & Rodway (2022) – General Attitudes Towards Artificial Intelligence Scale (GAAIS)**
  - Investigated psychological and demographic predictors of AI attitudes.
  - Sample: 304 UK residents (151 men, 151 women), mean age 35.7.
  - Males and younger individuals had more positive AI attitudes.
  - Education level did not significantly affect AI attitudes.
- **Sindermann et al. (2020) – Attitudes Towards Artificial Intelligence Scale (ATAI)**
  - Developed a cross-cultural AI attitude scale in German, Chinese, and English.
  - Sample: 461 Germans, 413 Chinese, 84 native English speakers, mostly students.
  - Chinese participants had the highest AI acceptance and lowest fear.
  - Age: In China, older individuals had higher AI acceptance; in UK, older individuals had less AI fear.
  - Males had higher AI acceptance and willingness to use AI across all samples.
- **Wang & Chuang (2024) – AI Self-Efficacy Scale (AISE)**
  - Sample: 314 participants, mostly university graduates (ages 18-30).
  - 83.4% had used or developed AI products.
  - AISE positively correlated with motivated learning behaviors.
- **Laupichler et al. (2024) – Medical Students' AI Literacy & Attitudes**
  - Sample: 377 German medical students, mean age 22.5, 69% female.
  - Women rated their AI literacy lower than men on average.
  - Students further along in their studies had higher AI literacy.
  - No significant link between age and AI literacy score.

Conclusion: The studies focused on AI/technology and explored demographic and psychological factors that influence the adoption of AI/technology. Findings on age as a determinant are mixed; some studies identify age as a factor (Schepman & Rodway, 2022), while others do not (Wang & Chuang, 2024). Gender differences are notable, with most studies indicating lower AI acceptance among females compared to males. The relationship between education and AI adoption also yields inconsistent results—some studies report a positive correlation (Parasuraman & Colby, 2015; Laupichler et al., 2024), whereas others find minimal or no effect (Schepman & Rodway, 2022; Sindermann et al., 2020; Wang & Chuang, 2024). Research varies in geographic focus, spanning international contexts (UK, Germany, China) and U.S.-based studies (e.g., Parasuraman & Colby, 2015).

Future Research

- This study examined a range of scales used across different regions; future research could focus on a single region for deeper analysis and contextual understanding.
- Multiple scales were used to examine demographics; a standardized scale may improve consistency in assessing demographic differences in AI literacy.
- Time constraints limited the evaluation of all AI literacy scales; future studies should conduct a more comprehensive assessment to facilitate more generalizable conclusions.

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Note: The first two authors contributed equally to this project, and the order is determined alphabetically.