

Determinants Of General Attitudes Toward Artificial Intelligence and Artificial Intelligence Anxiety in Young and Middle Adults.

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Abstract

Background: Understanding how personality constructs influence attitudes toward artificial intelligence (AI) and AI anxiety is essential. This study explores the impact of social dominance orientation, cognitive flexibility, paranoid ideation, and existential anxiety on these attitudes. **Method And Data Collection** Using a correlational cross-sectional design, data were collected from 393 participants through both online and printed questionnaires. Participants provided demographic information and completed the surveys after giving informed consent. Confidentiality was ensured. **Results:**

- Individuals with cognitive flexibility showed positive attitudes towards AI and lower AI anxiety.
- Those with paranoid ideation, social dominance orientation, and existential anxiety exhibited negative attitudes and higher AI anxiety.

Conclusion: The study highlights the complex relationships between personality traits and AI attitudes. Promoting cognitive flexibility can foster positive attitudes and reduce AI-related anxiety

Introduction

Artificial intelligence (AI) is set to revolutionize the world. The common and a significant factor of a revolutionary entity is that it alters the entire existing system. Soon, AI will be an application for different kinds and stages of modern world necessary characteristics, such as education, Economy and Society and Polity (Lee, 2018). The realms such as machine learning and expert systems, natural language processing and speech recognition, and deep learning technologies and robotics incorporated with deep learning confer tremendous power to AI, thereby, making it an omnipotent tool. AI means a chance to shift a strategy, an action or even a result regarding a decision making, formation of ecosystem and customer attitude towards a brand. This development along with the change in structure and function of outside world will unleash a side that will impact, shape and transform the Human Psychology. AI's progress will be by leaps and bounds and so its consequences. Given that it will cast its shadow over everything, the growing human concerns about whether it will play a negative role for humankind or serve as a vehicle for advancement is a pressing question of our time (Islam & M, 2020). As AI continues to evolve and encroach upon a wider range of tasks across industries, understanding the factors that shape general attitudes towards AI becomes increasingly critical. Therefore, it is essential to find what are the determinants which develop General attitudes toward Artificial intelligence and artificial intelligence.

Cognitive Flexibility

Positive Attitudes and low Anxiety toward AI



8%



COGNITIVE FLEXIBILITY



Social dominance Orientation

Paranoid Ideation

Exestential Anxiety





Negative Attitudes and High Anxiety Toward AI

Research Methodology

Objectives

1. Identify the combination of factors that influence human attitudes towards artificial intelligence (AI).
 - Investigate how cognitive flexibility, paranoid ideation, existential anxiety, and social dominance orientation contribute to these attitudes.
2. Examine the reasons and factors that cause AI anxiety.
 - Analyze how psychological and social factors contribute to anxiety related to AI.
3. Understand the role of age in shaping positive and negative attitudes towards AI.
 - Assess how different age groups perceive AI and the underlying reasons for these perceptions.
4. Explore how age mediates attitudes and anxiety towards AI.
 - Determine the extent to which age influences the relationship between cognitive flexibility, social dominance orientation, and AI-related attitudes and anxiety.

Hypotheses

1. Higher cognitive flexibility is associated with more positive attitudes towards AI and lower AI anxiety.
2. Higher levels of paranoid ideation, existential anxiety, and social dominance orientation are associated with more negative attitudes towards AI and higher AI anxiety.
3. Younger individuals will exhibit more positive attitudes towards AI compared to middle-aged individuals.
4. Age moderates the relationship between cognitive flexibility, social dominance orientation, and AI-related attitudes and anxiety.

Instruments

1. Cognitive Flexibility Scale (CFS):
 - Measures the ability to adapt to new situations and think flexibly.
2. Paranoid Ideation Scale (PIS):
 - Assesses the degree of paranoid thoughts and feelings.
3. Existential Anxiety Questionnaire (EAQ):
 - Evaluates anxiety related to existential concerns.
4. Social Dominance Orientation Scale (SDO):
 - Measures the preference for hierarchy in social settings and dominance over others.
5. AI Attitudes and Anxiety Survey (AIAAS):
 - Custom-designed survey to measure general attitudes towards AI and AI-specific anxiety.

Limittations and Suggestions

The present study's limitations include a small sample size, lack of qualitative research for in-depth exploration. The use of English-only questionnaires restricted participation, which could be improved by validating them in Urdu. Additionally, the dynamic nature of AI means attitudes may change over time, so the results are context-specific.

Conclusion

In conclusion, this research highlights the complex interplay of cognitive flexibility, social dominance orientation, existential anxiety, and paranoid ideation in shaping attitudes towards AI and AI anxiety. These findings emphasize the importance of promoting cognitive flexibility to foster positive attitudes towards technological innovations and mitigate AI-related anxiety.

Discussion and Results

Correlation analysis

Variable	Cognitive flexibility	Paranoid ideation	Existential anxiety	Social dominance orientation	Positive attitudes towards AI	Negative attitudes towards AI	AI Anxiety
Cognitive flexibility	-	Negative	Weak negative	Weak Negative	Positive	Negative	Weak Negative
Paranoid ideation	Negative	-	Weak Positive	Positive	Negative	Positive	Positive
Existential anxiety	Weak Negative	Weak Positive	-	Positive	Negative	Weak Positive	Positive
Social dominance orientation	Weak Negative	Positive	Positive	-	-	-	Positive
Positive attitudes towards AI	Positive	Negative	Negative	-	-	-	-
Negative attitudes towards AI	Negative	Positive	Weak positive	-	-	-	Positive
AI Anxiety	Weak Negative	Positive	Positive	Positive	-	Positive	-

Summary of Results and Discussion

- **Paranoid Ideation:** Negatively associated with cognitive flexibility and positive AI attitudes; positively related to negative AI attitudes and AI anxiety.
- **Cognitive Flexibility:** Positively correlated with positive AI attitudes; negatively with negative AI attitudes and AI anxiety.
- **Existential Anxiety:** Positively associated with job replacement AI anxiety; negatively with positive AI attitudes.
- **Social Dominance Orientation:** Positively linked to AI anxiety.
- **Path Analysis:** Showed excellent model fit for both age groups.
- **Predictions:**
 - **Paranoid Ideation and Social Dominance:** Significantly predicted AI anxiety, with stronger effects in middle adults.
 - **AI Anxiety:** Predicted negative AI attitudes.
 - **Cognitive Flexibility:** Predicted positive AI attitudes and negatively predicted negative AI attitudes, with stronger effects in middle adults.