

Lower Artificial Intelligence Literacy Predicts Greater AI Receptivity

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AI Could Change How Blind People See the World



Assistive technology services are integrating OpenAI's GPT-4, using artificial intelligence to help describe objects and people.

AXIOS

Unity CEO: Generative AI will make better games, but won't steal jobs

How Major Players in the Payments Space Are Using AI/ML Tools to Better Serve Their Customers

AI can provide benefits across a range of domains.



Adoption of AI

AI adoption isn't necessarily easy.



- For decades, people have demonstrated general “algorithm aversion” (relative preference for human over an algorithmic decision maker).
 - Can lead to suboptimal AI adoption by companies themselves.
 - Can lead to under adoption of AI products and services in the marketplace.

Our Research Explores Differences in AI Receptivity Across Consumers

What is the relationship between AI literacy and AI receptivity?

- AI literacy relates to people's conceptual and technical understanding of how and where AI operates, best practices in AI, and regulatory requirements
 - Assessed through objective tests
 - Not about how competent people *feel*
 - Not just general knowledge/IQ



Example: Which of the languages below are used to code a robot?

- A) Python
- B) HTML
- C) Computer Vision
- D) Hypertext

Example: What is a common form of literacy representation in AI?

- A) Neural networks
- B) Waterfall model
- C) Agile methodology
- D) SWOT analysis

People's Predictions

People expect that more AI knowledge predicts **greater** AI receptivity

Poll Setting	Want to use AI more	Want to use AI less	No relationship
Twitter	66.7% ^a	19.0% ^b	14.3% ^b
LinkedIn	73.0% ^a	10.0% ^b	17.0% ^b
Business undergraduates	73.7% ^a	13.2% ^b	13.2% ^b
Online participants	63.8% ^a	17.3% ^b	18.9% ^b
LLMs	✓		

Sample sizes: Twitter = 63; LinkedIn = 30; Business undergrads = 38; Online participants = 301; LLMs = Gemini, ChatGPT, Claude
Proportions on the same row with different subscripts are significantly different from each other at $p \leq .001$.

Our Research

People with lower AI literacy have greater AI receptivity



- Artificial intelligence is an umbrella term for computing systems capable of performing tasks traditionally performed by humans, such as reasoning, making decisions, or solving problems (McCarthy et al. 2006),
 - They execute tasks typically linked to distinctly human attributes such as having a personality or holding beliefs.
- We argue that this can create an illusory perception that AI has human attributes when it executes these tasks, leading to perceiving AI as magical and resulting in feelings of awe.

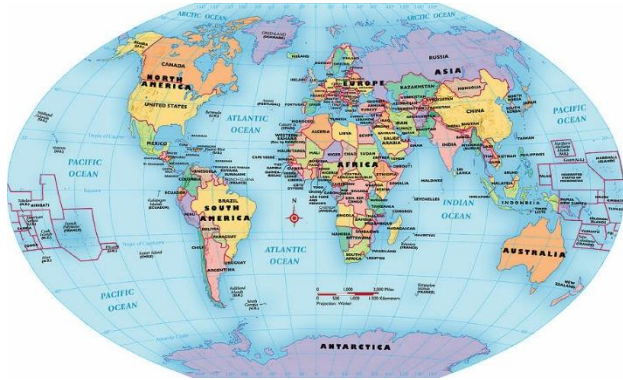
Our Research

People with lower AI literacy have greater AI receptivity



- People with lower AI literacy are less likely to understand how AI can perform tasks that seem to require distinctively human attributes without actually possessing such attributes
- Thus, people with lower AI literacy are more likely to perceive AI as magical and experience feelings of awe, resulting in greater receptivity.

Approach



Cross-country



Students



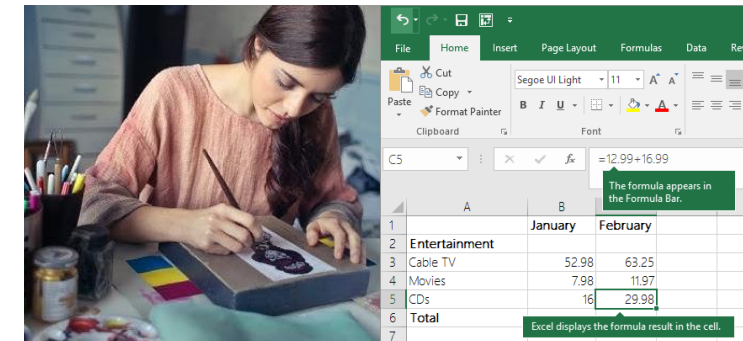
Past Usage



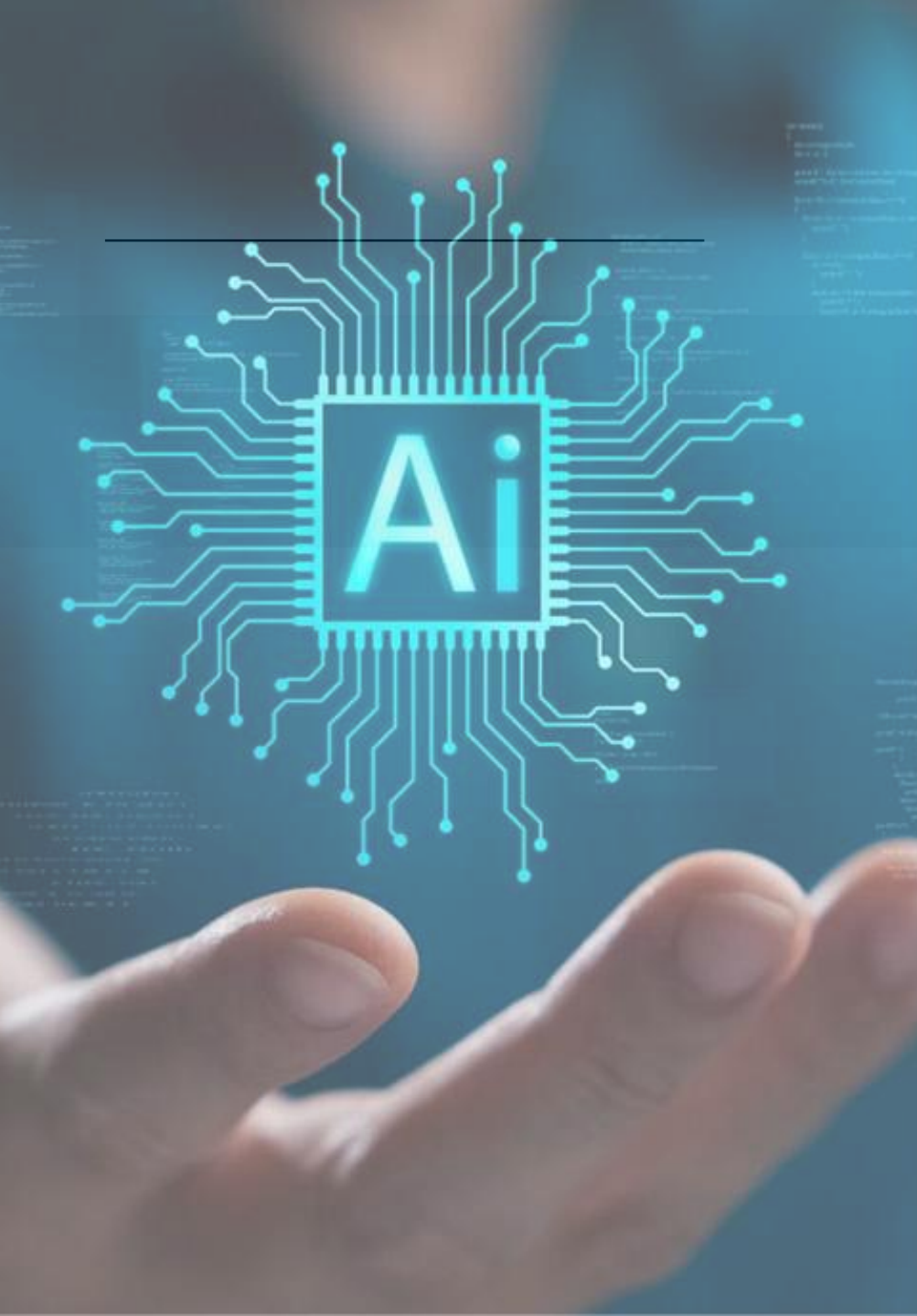
AI vs. Human



Magicalness & Awe



Task Differences



Key findings

Lower AI literacy predicts higher receptivity to AI-based products and services

- AI literacy predicts differences in AI receptivity across countries
- Generalizes across a range of populations (e.g., students, nationally representative samples)
- Generalizes across a range of tasks (e.g., music recommendations, hiring decisions, recommending disease treatments, piloting a plane).

Key findings

- Results **cannot** be explained by:
 - Autonomy preferences
 - General knowledge
 - Technology readiness
 - Beliefs about AI capability
 - Beliefs about AI ethicality
 - Fear of AI
- In fact, the lower AI literacy-higher receptivity link occurs ***IN SPITE*** of many of these factors



Key Findings

- Data support the explanation that lack of AI knowledge makes the process of AI task completion seem magical, leading to experiences of awe, increasing receptivity.
- Lower AI literacy-higher receptivity link reverses when tasks don't seem to need human traits to complete



Implications

- AI Literacy that could lead to over or under reliance on AI as a company
- Managers and employees may be influenced by their level of AI literacy.
 - Low levels can lead to uncritical adoption
 - Need to be cautious of blindspots
 - High levels may lead to disinterest, not because AI would be bad but because they see it as less transformative
 - Need to be cautious of missed opportunities
- AI literacy tests are available at aitl.ai

Implications

- Product design and targeting strategies
- New AI-based products and services may be more readily adopted among those with the least understanding of AI
 - Given our forecasting studies, current targeting may be suboptimal
 - Product design may benefit from assuming less technical knowledge
- Promoting AI excitement in an ethical way
 - People with lower AI literacy may be susceptible to AI hype
 - Consumers need enough AI knowledge to use AI responsibly and recognize potential biases and misuse.
 - However, efforts to make AI more explainable may inadvertently reduce people's receptivity towards AI by making it seem less magical. Consider what aspects consumers need to know to use AI effectively and ethically.

Thank you!

Questions and feedback welcome!