



In the first of a two-part series looking at the psychology of our responses to artificial intelligence, **Matt Jarvis** considers why AI-related change might make us anxious

What can psychology tell us about human responses to AI?

Picture the following scene, say 5 years in your future. You're having breakfast ahead of a busy day. 'Alexa,' you say, 'Please get ChatGPT to write my boss an e-mail saying why I'm running late and prepare a draft of my report to read when I get in. Oh, and I feel like going out tonight. Message a couple of friends. And sort me out a playlist for the trip to the office.' This might sound futuristic, but at our current rate of progress it's an extremely realistic prediction, modest even. Okay, you have a whole new level of convenience. But you're trusting an artificial intelligence (AI) to choose what music you listen to and who you socialise with. And if an AI has just e-mailed your boss and written a report, does your boss actually need you? This is why we have such mixed feelings about AI.

It feels like artificial intelligence is suddenly everywhere. Actually, its arrival hasn't been that sudden. However, with the publicity surrounding the launch of generative AI tools like ChatGPT and Google Bard over the last few months (AI tools that generate text, music, images or video), our general awareness — and concern — around AI hangs heavy in public consciousness. So, what can psychology tell us about human responses to and interactions with AI?

Attitudes to AI

There is a growing body of psychological research into attitudes towards AI. Positive attitudes to AI centre around the hope that AI will make life easier and more pleasant. More negative attitudes centre on beliefs about job replacement and data abuse. So

far, most people surveyed have held more negative attitudes (Cave, Coughlan and Dihan, 2019), although those with more direct experience of computing in general and AI in particular have more positive attitudes (Kaya et al., 2022).

Artificial intelligence anxiety (AIA)

Some of our worries about AI extend to clinical anxiety. This is not new — worries about the role of technology in human life are as old as computing itself, and by the turn of the millennium there was a body of research into both pragmatic fears such as redundancy due to job automation and a vague but deep existential fear of losing the essential unique experience of humanity in the face of developing technology. The former fear at least seems to be well founded, with between 75 million and 375 million jobs (depending on the speed of AI growth) expected to be replaced worldwide by 2030 (Manyika et al., 2017). Anxiety around AI appears to be rather more severe than general computer anxiety, probably because AI can be so deeply integrated into our lives without our choice or consent.

Based on previous studies of different types of AIA, Wang and Wang (2022) isolated four distinct aspects of AI anxiety:

- anxiety about having to learn to use AI
- anxiety about being replaced by AI in the workplace
- anxiety about AI becoming too powerful or being misused
- anxiety about the form AI might take, e.g. humanoid robots

These are measured by their Artificial Intelligence Anxiety Scale (AIAS).

Resilience to AI-related change

Although we might still decide to impose more stringent regulation on the development and role of AI, in some form AI is here to stay. Research (e.g. Kaya et al., 2022) suggests that people with more experience with computers in general and AI in particular, as well

as certain personality types, feel more positively about AI. However, as we can't change people's personalities, this is of limited use in developing their AI-resilience.

A promising alternative approach comes from Bergdahl et al. (2023). Their approach makes use of self-determination theory, the idea that we are motivated by autonomy (freedom and independence), competence and relatedness to others. Put simply, they suggest that people who are autonomous and competent in their use of AI, and who use it to enhance social networking rather than replace it with human-machine interaction, will have the most positive attitudes. Research has borne this out. So, it appears that as long as we can maintain our freedom, independence and human relationships, and as long as we feel competent in our dealings with AI, it should be possible to feel positive about the growing role of artificial intelligence in our daily lives.

Activities

- 1 Find the Artificial Intelligence Anxiety Scale online. Try to separate out the items measuring the four aspects of artificial intelligence anxiety.
- 2 One promising line of research into making people more resilient to the impact of AI makes use of self-determination theory. How might you help people feel more autonomous, competent and related in the face of AI? What difficulties might you face?

Weblink

You can see the long version of the AIAS at the end of this article by Wang and Wang:

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