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CURMUDGEON CORNER

On the need to develop nuanced measures assessing attitudes towards AI and AI literacy in representative large-scale samples

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Since the launch of the generative AI, including tools such as ChatGPT, the impact of artificial intelligence (AI) on societies has been extensively discussed. How far reaching will the impact of AI be? On the positive side, AI might help find solutions for the world's problems, such as tackling issues around climate change or the development of new psychopharmaceuticals to enhance global mental health. However, AI, as a technology that leads to more automation in many areas, might also cause job loss or can do harm in other ways.

Several avenues have been proposed in the scientific community to assess the impact of AI on human beings. In this context, survey tools have been developed. Not surprisingly, these survey inventories differ in terms of their AI-related content. Broadly, two areas can be observed where the AI's impact is assessed. Some inventories aim to assess general attitudes towards AI (for instance, positive and negative attitudes) whereas other inventories go more in the direction of assessing AI competencies/literacy. In the latter context, researchers try to understand how well people think they are capable to handle AI or whether they know enough about recent AI developments. Aside from asking people about how well they perceive their knowledge of AI, we believe ability tests objectively measuring AI literacy to be of relevance to understand how good populations in fact might handle the coming AI wave. Unfortunately, such objective measures are scant.

In our opinion, the exploding literature dealing with AI attitudes underlines the need to grasp how AI will change societies or even impact the well-being of people, at least from a scientific perspective. Given the dramatic changes expected due to the introduction of AI-powered tools in the private, business, and public sectors, it is important to understand how attitudes towards AI and well-being develop in the context of interacting with AI. Interaction encompasses a wide spectrum of usage scenarios, including situations where individuals deliberately employ AI, whether in personal or organizational settings, as well as instances where they encounter AI use, whether they have the choice to opt out or not. Getting reliable insights into how citizens feel about the AI revolution might help policymakers to understand where to invest resources to guide the transition from pre-AI societies to AI societies.

We are convinced that the impact of AI on societies, on attitudes towards AI, and on individuals' well-being will depend on many variables because AI is built-in in many different products. AI operates in diverse modes, spanning from mandatory to voluntary, autonomous to supervised, and informational to actualizing. Moreover, AI transparency, encompassing explainability, comprehensibility, and familiarity, is emerging as an integral facet of AI, driven not only by ethical considerations, but also by legal imperatives. This underscores the need to assess attitudes toward AI in consideration of the presence or the absence of AI regulations.

Understanding attitudes towards AI will not be an easy task because many factors likely play a role here. For instance, understanding to what degree one can interact with AI and what the personality structure of a person looks like (e.g., neuroticism has been linked to being more afraid of AI) might be of relevance for AI attitude formation. Moreover, cultural aspects in which AI is imbedded, including the policies in use, might matter as well as how transparent AI will be. More precisely, do humans understand how an AI system comes to a certain result, e.g., how it proposes that a person must pay for an insurance policy a certain amount

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of money? These pressing questions must be studied, at best at a cross-cultural level, to assess larger or more nuanced differences in the impact of AI on cultures across multiple dimensions including nationality, region, ethnicity, and religious beliefs.

Although several AI-related survey tools already exist, many facets of AI's impact on societies cannot be adequately assessed using the available tools. Solely relying on assessing general attitudes towards AI could also mean a generalist view of AI as a "monolithic" technology. On the other hand, developing detailed measures that are globally accepted assumes a somewhat generalist and perhaps colonial view, implying that the same facets, whether related to AI or society, are universally relevant. Hence, we believe that more nuanced and localized approaches, supplementing general research on the attitude to AI, are necessary to comprehend the impact of AI on societies with their cultural specificities. Thus, new tools will need to be developed, soon. Of note, tools for measuring AI-literacy often encounter a similar challenge of oversimplifying the concept of AI, displaying an issue akin to AI reductionism. We believe that literacy regarding human factors must be a stronger focus in AI literacy research, thereby considering knowledge about cognitive biases, emotional states, and situational disabilities that can influence one's acceptance or rejection of AI.

So, despite the challenges in assessing and understanding AI attitudes outlined in this article, the investigation of attitudes toward AI together with AI literacy/competency, in our view, is very important, timely, and needs to be started in large representative samples around the world, now.

Curmudgeon Corner Curmudgeon Corner is a short opinionated column on trends in technology, arts, science and society, commenting on issues of concern to the research community and wider society. Whilst the drive for super-human intelligence promotes potential benefits to wider society, it also raises deep concerns of existential risk, thereby highlighting the need for an ongoing conversation between technology and society. At the core of Curmudgeon concern is the question: What is it to be human in the age of the AI machine? -Editor.

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Declarations

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