RESEARCH NEWS STORY

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Emotional AI and Gen Z: The Attitude towards New Technology and Its Concerns

A new study looks at the socio-cultural factors that influence the acceptance of new AI technology among Generation Z

Artificial intelligence that gauges and engages human emotions, known as emotional AI, is a growing industry with widespread applications. However, its unregulated nature and lack of recalibration for cultural differences makes it important to understand its acceptability among Generation Z, the demographic most vulnerable to it. To this end, researchers from Japan and Vietnam investigate the socio-cultural influence on the attitude towards new AI technology, providing guidelines for their future design and regulation.

Artificial intelligence (AI) governs all that come under "smart technology" today. From self-driving cars to voice assistants on our smartphones, AI has ubiquitous presence in our daily lives. Yet, it had been lacking a crucial feature: the ability to engage human emotions.

The scenario is quickly changing, however. Algorithms that can sense human emotions and interact with them are quickly becoming mainstream as they come embedded in existing systems. Known as "emotional AI," the new technology achieves this feat through a process called "non-conscious data collection"(NCDC), in which the algorithm collects data on the user's heart and respiration rate, voice tones, micro-facial expressions, gestures, etc. to analyze their moods and personalize its response accordingly.

However, the unregulated nature of this technology has raised many ethical and privacy concerns. In particular, it is important to know the attitude of the current largest demographic towards NCDC, namely Generation Z (Gen Z). Making up 36% of the global workforce, Gen Z is likely to be the most vulnerable to emotional AI. Moreover, AI algorithms are rarely calibrated for socio-cultural differences, making their implementation all the more concerning.

In a new study made available online on 9 June 2022 and [published in Volume 70 of *Technology in Society* on 22 June 2022](#), a team of researchers, including Prof. Peter Mantello and Prof. Nader Ghotbi of Ritsumeikan Asia Pacific University, Japan, Manh-Tung Ho, Minh-Hoang Nguyen and Hong Kong T. Nguyen, who are Doctoral students of Ritsumeikan Asia Pacific University, and Dr. Quan-Hoang Vuong of Phenikaa University, Vietnam, strove to uncover the factors governing Gen Z's response towards emotional AI. "*NCDC represents a new development in human-machine relations, and are far more invasive compared to previous AI technologies. In light of this, there is an urgent need to better understand their impact and acceptance among the Gen Z members,*" says Prof. Mantello. The study was a part of the project "Emotional AI in Cities: Cross Cultural Lessons from UK and Japan on Designing

The team surveyed 1015 Gen Z respondents spanning 48 countries and 8 regions worldwide. The participants were asked about their attitudes towards NCDC, used both by commercial and state actors. They then used a Bayesian multilevel analysis to control for variables and observe the effect of each variable at a time.

The team found that, overall, more than 50% of the respondents were concerned about the use of NCDC. However, the attitude varied based on gender, income, education level, and religion.

"*We found that being male and having high income were both correlated with having positive attitudes towards accepting NCDC. In addition, business majors were more likely to be more tolerant towards NCDC,*" highlights Prof. Ghotbi. Cultural factors, such as region and religion, were also found to have an impact, with people from Southeast Asia, Muslims, and Christians reporting concern over NCDC.

"*Our study clearly demonstrates that sociocultural factors deeply impact the acceptance of new technology. This means that theories based on the traditional technology acceptance model by Davis, which does not account for these factors, need to be modified,*" explains Prof. Mantello.

The study addressed this issue by proposing a "mind-sponge" model-based approach that accounts for socio-cultural factors in assessing the acceptance of AI technology. Additionally, it also suggested a thorough understanding of the potential risks of the technology to enable effective governance and ethical design. "*Public outreach initiatives are needed to sensitize the population about the ethical implications of NCDC. These initiatives need to consider the demographic and cultural differences to be successful,*" says Dr. Nguyen.

Overall, the study highlights the extent to which emotional AI and NCDC technologies are already present in our lives and the privacy trade-offs they imply for the younger generation. Thus, there is an urgent need to make sure that these technologies serve both individuals and societies well.

Let's hope emotional AI will live up to the trust that underlies our acceptance of it.

Reference

Authors	Manh-Tung Ho[1,2,3], Peter Mantello[1], Nader Ghotbi[1], Minh-Hoang Nguyen[1,2], Hong-Kong T. Nguyen[2], Quan-Hoang Vuong[2]
Title of original paper	Rethinking technological acceptance in the age of emotional AI: Surveying Gen Z (Zoomer) attitudes toward non-conscious data collection
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Affiliations
[1]School of Asia Pacific Studies, Ritsumeikan Asia Pacific University
[2]Centre for Interdisciplinary Social Research, Phenikaa University
[3]Institute of Philosophy, Vietnam Academy of Social Sciences

About Professor Peter Mantello

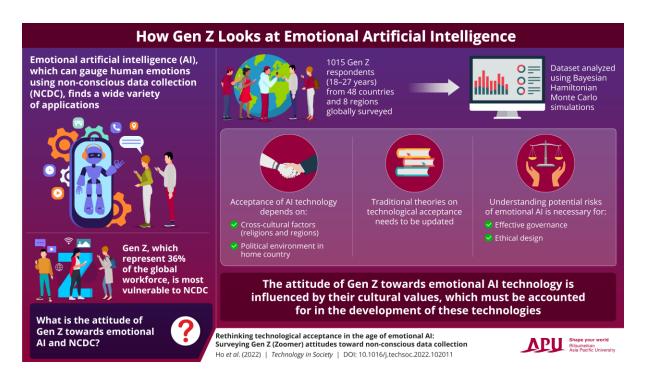Peter Mantello is a Professor of Media, Ethics, and Technology at the Ritsumeikan Asia Pacific University in Japan. His area of specialization focuses on the intersection of technology, conflict, AI, and surveillance. He is the founder of ethical.ai, a research lab dedicated to the development of human-centric AI, and the co-founder of theVisionMachine.com, a multiplatform project dedicated to issues surrounding war, peace, and media. He has published 27 papers on these topics.

Title: The attitudes and openness of Gen Z towards emotional AI technology.

Caption: In a new study, researchers highlight the socio-cultural factors underlying the concern of Gen Z members worldwide towards emotional AI and how acceptable it is for them.

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