

**AI, the Metaverse, & DEI**

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Marabelli, M., & Lirio, P. (2023). AI and the metaverse in the workplace: DEI opportunities and challenges. Emerald Insight, 10.

Website links here:

<https://www.emerald.com/insight/content/doi/10.1108/pr-04-2023-0300/full/html?skipTracking=true>

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## Describe the research Question and Hypothesis.

Though the authors do not provide a direct Question or Hypothesis, their paper and findings lead the reader to the following prompt:

Does using the Metaverse through AI systems and capabilities to collect workplace data enhance or diminish employee performance and experience, especially regarding workplace inclusiveness and equity? (Marabelli & Lirio, 2023, p. 1)

The authors believe that AI applications “for the metaverse in the workplace are immense and can lead to positive and negative consequences” depending on how they are implemented, handled, and monitored (Marabelli & Lirio, 2023, pp. 8-9). They believe using AI responsibly for efficiency and productivity is possible while supporting inclusivity, diversity, and equity (DEI). Today’s monitoring schematics and processes help “provide management and executives with greater analytical elements to assess employee performance in an automated fashion” (Marabelli & Lirio, 2023, p. 1). With the implementation of the metaverse and AI, human resources (HR) can look for more significant opportunities to address equity assessment initiatives to achieve positive outcomes while reducing adverse outcomes like discrimination, privacy, broader diversity, equity, and including issues.

## Relate the topic to social science principles.

Relativism and empiricism are strong themes throughout the authors’ paper and findings, whereas *soft* determinism is a strong sub-theme. First, the article explores how AI and the metaverse impact workplace diversity, equity, and inclusion (DEI), acknowledging that these effects vary and relate to one another across social and organizational contexts. That philosophical approach aligns with **relativism**, which suggests cultural and situational factors shape knowledge

and experiences (Stanford, 2025b). From a technological perspective, whole systems and their parts relate. Changes in one part of the system can lead to changes to other parts, amplifying the process and usually spilling over to impact other whole systems. For example, the authors explore trade-offs, such as balancing inclusivity for marginalized groups against the risks of exclusion or surveillance, and suggest that managerial choices, workplace culture, and societal factors shape outcomes that are not universally fixed (Marabelli & Lirio, 2023, pp. 3-4).

Second, the authors use empirical research and real-world case studies to discuss bias in AI, workplace surveillance, and DEI challenges. They draw from existing literature and data to support their arguments, basing their knowledge about the topic and ideas on observation and experience. That is called **empiricism** (Penn State, 2016; Plus, 2021). The authors value studying human behavior using their senses rather than mere opinions, hunches, or theories to frame and understand human behavior through AI within the metaverse. For example, the authors grounded their arguments using empirical examples and prior research: they supplied and referred to several case studies of AI monitoring, metaverse adoption trends, and workplace DEI outcomes (Marabelli & Lirio, 2023, pp. 3-4). They also recommended that the company and HR leadership be the “first movers” using empirical examples and prior research (Marabelli & Lirio, 2023, pp. 5-6).

Third, the authors discuss how AI and metaverse technologies influence workplace structures and employee behaviors. That suggests a technological *soft determinism*. Determinism suggests that human behavior is causally predictable, inevitable, and dictated by prior events and external conditions beyond an individual’s free will (Carneades.org, 2021; Stanford U. o., 2023a). As the University of Stanford Department of Philosophy (2023) explains, determinism is "the idea that every event is necessitated by antecedent events and conditions together with the laws of nature," much like executing a linear computer program or web browser script. The use of *soft*

rather than *strict/hard* determinism is because the advancements and effects of AI and the metaverse on DEI depend on human decisions within a deterministic or controlled environment. Those variables are not fixed technological components and properties like computer applications and software programs (Marabelli & Lirio, 2023, pp. 2-3).

Lastly, the authors do not consider the principles of ethical neutrality and objectivity subthemes or focal points. Ethical neutrality does not appear in the article because the authors' focus on DEI inherently involves ethical considerations, engaging with the moral implications of their findings. Also, the authors claimed they pursued a "balanced" approach to their studies and conclusions (Marabelli & Lirio, 2023, pp. 3-4). However, their academic research and efforts were tempered to a DEI-oriented perspective and advocacy for ethical DEI outcomes, indicating they may not fully adhere to pure objectivity.

## Describe the types of research methods, data, and analysis.

The authors employ conceptual and theoretical research using structural functionalism, conflict theory, and symbolic interactionism. The authors focus on secondary data analysis and archival research methods. They do not collect primary data using any other method or fashion. The authors do not conduct independent surveys, experiments, or field studies. For example, the authors use qualitative secondary sources related to algorithmic bias, workplace AI applications, DEI, and metaverse technology to build their argument. The authors draw on prior AI and the metaverse knowledge, literature, theoretical models from HR, information systems (IS), and AI ethics research (Marabelli & Lirio, 2023, p. 1). Thus, their data and research are a strict literature review of other sources to implement within their theoretical and sociological paradigms of incorporating the metaverse and AI into workplaces while discussing their conceptual analysis of its potential benefits and risks on DEI.

## Describe how the topic relates to marginalized groups' challenges, concerns, and contributions.

What is marginalization? Marginalization or "social exclusion occurs when certain groups of people get denied access to areas of society. Many factors can lead to this denial of access to institutions and opportunities, including historical bias and lack of funding" (MasterClass, 2022). The authors are concerned about economic and social marginalization within the workplace environment (Marabelli & Lirio, 2023, p. 2, 4, 5). First, the authors are worried about privacy and discrimination. *Who* and *how* the extensive data collection and analysis are controlled and implemented in the workplace raises concerns about surveillance and potential discrimination; the original designers and the type of people implementing the systems may project their unique biases without realizing it, causing intentional discrimination that may negatively impact specific groups of people (Marabelli & Lirio, 2023, p. 4). Also, invasive over-monitoring may disproportionately affect marginalized groups when they seek proper healthcare or resources to care for themselves, like people with physical disabilities or neurodivergent workers (Marabelli & Lirio, 2023, p. 2). Lastly, some metaverse interactions may involve harassment and cyberbullying, which are hard to monitor when recordings are unavailable because they were never active, files become corrupted, or recordings are intentionally deleted by higher administrative powers.

Second, the authors are concerned about the adverse DEI outcomes and results. Implementing the metaverse through AI technologies hastily, lacking proper vetting and supervision, and concentrating solely on efficiency and productivity can have consequences. Third, ethical concerns arise because the authors acknowledge that most studies either demonize or celebrate these technologies when evaluating the metaverse from a DEI perspective instead of approaching the topics from a "balanced" perspective (Marabelli & Lirio, 2023, p. 1).

## Describe the study's overall societal contributions.

The authors recognize and highlight several *potential* contributions and opportunities for marginalized groups (Marabelli & Lirio, 2023, p. 4). First, the authors agree that recorded monitoring may lead to more objective evaluations of the workforce via management and HR practice for marginalized groups like the hiring/interview process, employee performance, and employee self-care during the day with the use of sensors to gauge if people are alert, stressed, tired, and/or mentally burnout. Second, they aim for fairer and more equitable performance assessments for employees of different genders and races by focusing on real-time rather than strict historical data. Third, they aim to enhance the employee experience and help organizations acquire better talent by improving remote accessibility to people with disabilities, neurodivergent workers, and those in distant geographic locations. Fourth, they aim to promote DEI in the workplace through greater collaboration between individuals and different organizational departments using the metaverse and AI instead of more traditional media that uses cameras and software applications like Microsoft Teams and Zoom.

## References

- Carneades.org. (2021, March 7). *What is Determinism? (Free Will)*. Retrieved from Youtube: <https://www.youtube.com/watch?v=cXWmgcXaHAI>
- Marabelli, M., & Lirio, P. (2023). AI and the metaverse in the workplace: DEI opportunities and challenges. *Emerald Insight*, 10.
- MasterClass. (2022, September 16). *What Is Marginalization? Types, Causes, and Effects*. Retrieved from MasterClass: <https://www.masterclass.com/articles/marginalization-explained>
- PennState. (2016, October 20). *PennState University*. Retrieved from Empirical Research in the Social Sciences and Education: <https://guides.libraries.psu.edu/emp>
- Plus, S. (2021, June 2). *Empiricism*. Retrieved from Sociology Plus: <https://sociology.plus/glossary/empiricism/>
- Stanford. (2025b, January 10). *Stanford Encyclopedia of Philosophy*. Retrieved from Relativism: <https://plato.stanford.edu/entries/relativism/>
- Stanford, U. o. (2023a, September 21). *Casual Determinism*. (D. o. Philosophy, Producer) Retrieved from Stanford Encyclopedia of Philosophy: <https://plato.stanford.edu/entries/determinism-causal/>