Data-Driven Choice Models for Moral Choice Analysis: Helpful or Harmful?

MRS6

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Background

Discrete choice models (DCMs) for moral choice analysis will likely lead to misleading insights as the determinants of moral decision-making are not considered.

Is machine learning (ML) the solution to enhance DCMs for studying moral decision-making and informing health policy decisions more accurately?

Objectives

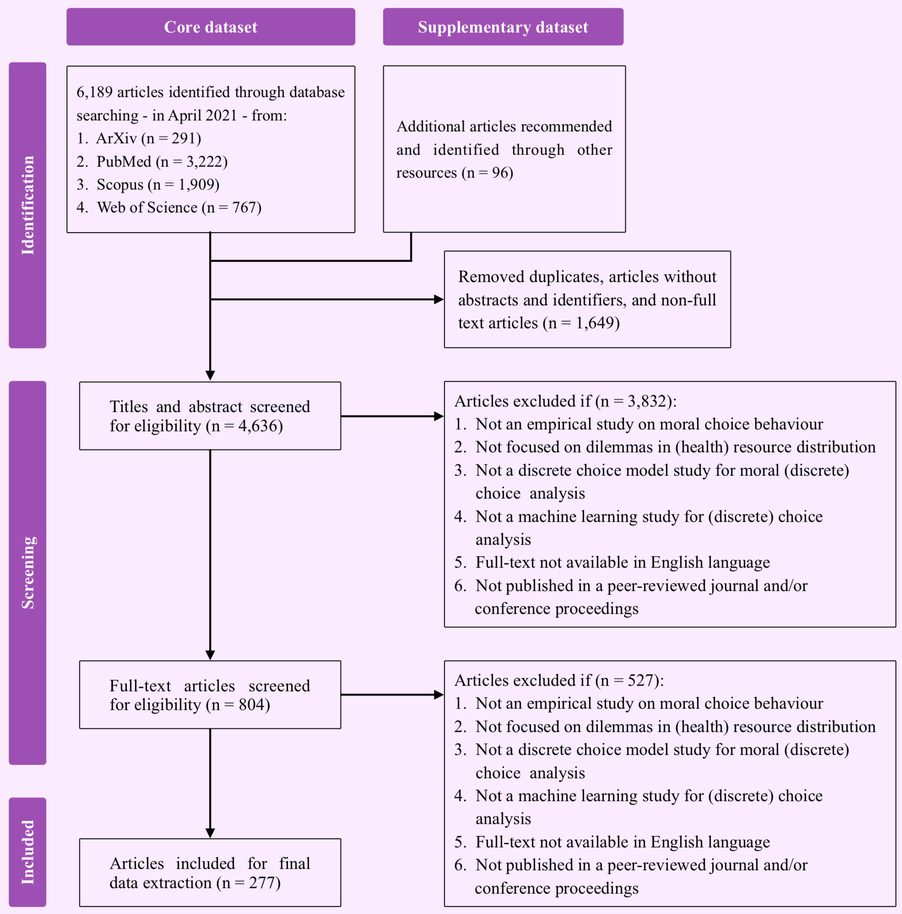
1. Reviewing relevant studies in fields like Economics, Moral Psychology, Empirical Ethics, and Machine Learning to explore current knowledge and research endeavours.
2. Providing a research agenda that highlights how models and practices from ML may further enhance the paradigm of DCMs for moral choice analysis.

Methods

Core dataset. Based on the PRISMA guideline, a systematic literature search was conducted to gather papers. Studies were screened for eligibility on inclusion criteria.

Supplementary dataset. Enriched the core dataset by using forward and backward searches.

Of the 6,285 papers, we included 277 studies.



Results

DCMs, rooted in the random utility theory, assume that decisions are made by utility maximisation, conditional on the constraints affecting the individual himself.

Moral decisions are based on moral psychological factors, choice heuristics, and alternative decision mechanisms to determine whether actions are ‘righteous’.

ML obtains higher predictive power, model flexibility, and ability to handle large and unstructured datasets than DCMs.

Conclusions

By providing a research agenda, this paper highlights that ML has clear potential to:

1. Find and deepen the utility specification of DCMs
2. Enrich the insights extracted from DCMs by considering the intrapersonal determinants of moral decision-making

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