

Invulnerability bias in perceptions of artificial intelligence's future impact on employment

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Abstract-

The adoption of Artificial Intelligence (AI) is reshaping the labor market; however, individuals' perceptions of its impact remain inconsistent. This study investigates the presence of the Invulnerability Bias (IB), where workers perceive that AI will have a greater impact on others' jobs than on their own, and Optimism Bias by Type of Impact (OBTI), where individuals perceive AI's future impact on their own job as more positive than on others'. The study analyzes survey data collected from 201 participants, recruited through social media using convenience sampling. The data were analyzed using a combination of statistical and machine learning methods, including the Wilcoxon test, ordinary least squares regression, clustering, random forests, and decision trees. Results confirm a significant IB, but not OBTI; only 31.8% perceived AI's future impact on their own job as more positive than on others'. Analysis shows that greater knowledge of AI correlates with lower IB, suggesting that familiarity with AI reduces the tendency to externalize perceived risk. Furthermore, bias levels vary across professional sectors: healthcare, law, and public administration exhibit the highest IB, while technology-related professions show lower levels. These findings highlight the need for interventions to improve workers' awareness of AI's potential future impact on employment.

Index Terms- Artificial intelligence, Invulnerability bias, Optimism bias, AI biases, Unrealistic optimism, Future of work.

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