NC STATE UNIVERSITY

NeuroComputational Ethics, Automation and the Future of Work

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Introduction

- Artificial Neural Networks (ANNs) and automation technology in general raise important social and ethical concerns, especially about accountability, autonomy, dignity, and justice
- We focus on the specific concerns arising from how the emerging automation technology will affect the workforce of the future, including increasing the indirect pressure to use neuroenhancement.
- We adopt the view that we must engage with stakeholders or their representatives to understand the implications of a technology that might directly or indirectly affect the stakeholders' (workers) lives, livelihoods, or wellbeing.

Methods

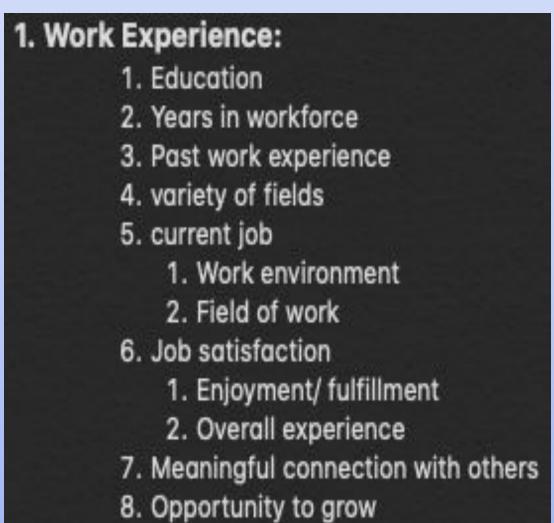
- We recruited and conducted 12 open-ended interviews with a diverse sample of workers
- Interviews were structured to understand the ethical and societal challenges from their perspective during the implementation of automation.
- Data analysis was carried out concurrently with data collection to enable the integration of information from each step of the process.
- Codes were developed by using abductive analysis, a form of qualitative content analysis that combines elements of both induction and deduction
- Five analytic stages were employed:
 - (i) familiarization with the data through transcript reading
 - (ii) identification of a thematic framework reflecting the ideas discussed;
 - (iii) indexing
 - the data, i.e., identifying patterns across the transcripts; (iv) charting the data
 - (v) mapping and interpreting the data (making sense of the data holistically)

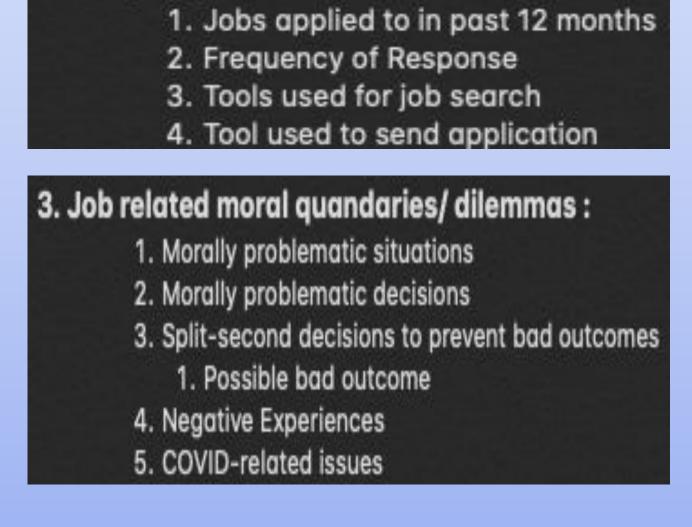
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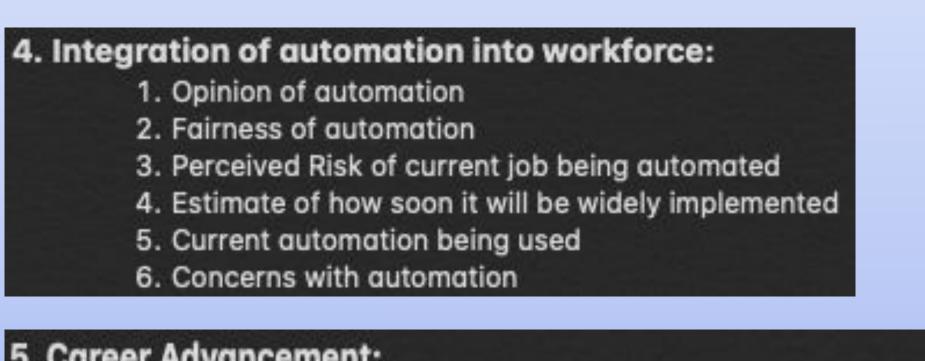
Codes

- Five major themes were discovered during step (ii) of our analytic framework: 1. Work Experience 2. Employment Experience 3. Job Related Dilemmas 4. Integration of Automation into Workforce 5. Career Advancement
- Further subcodes were then identified for expansion of themes with new data





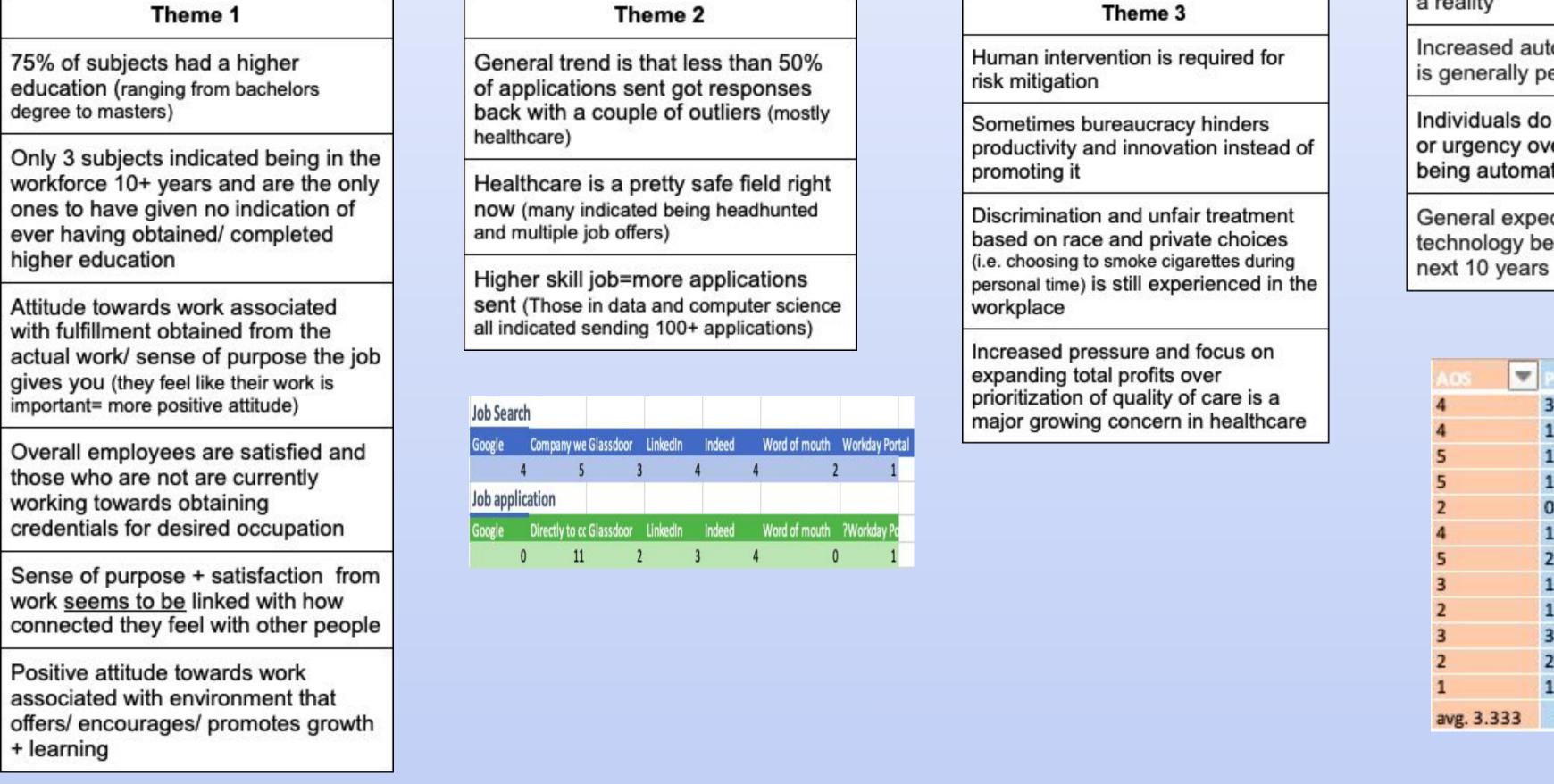
2. Employment experience:

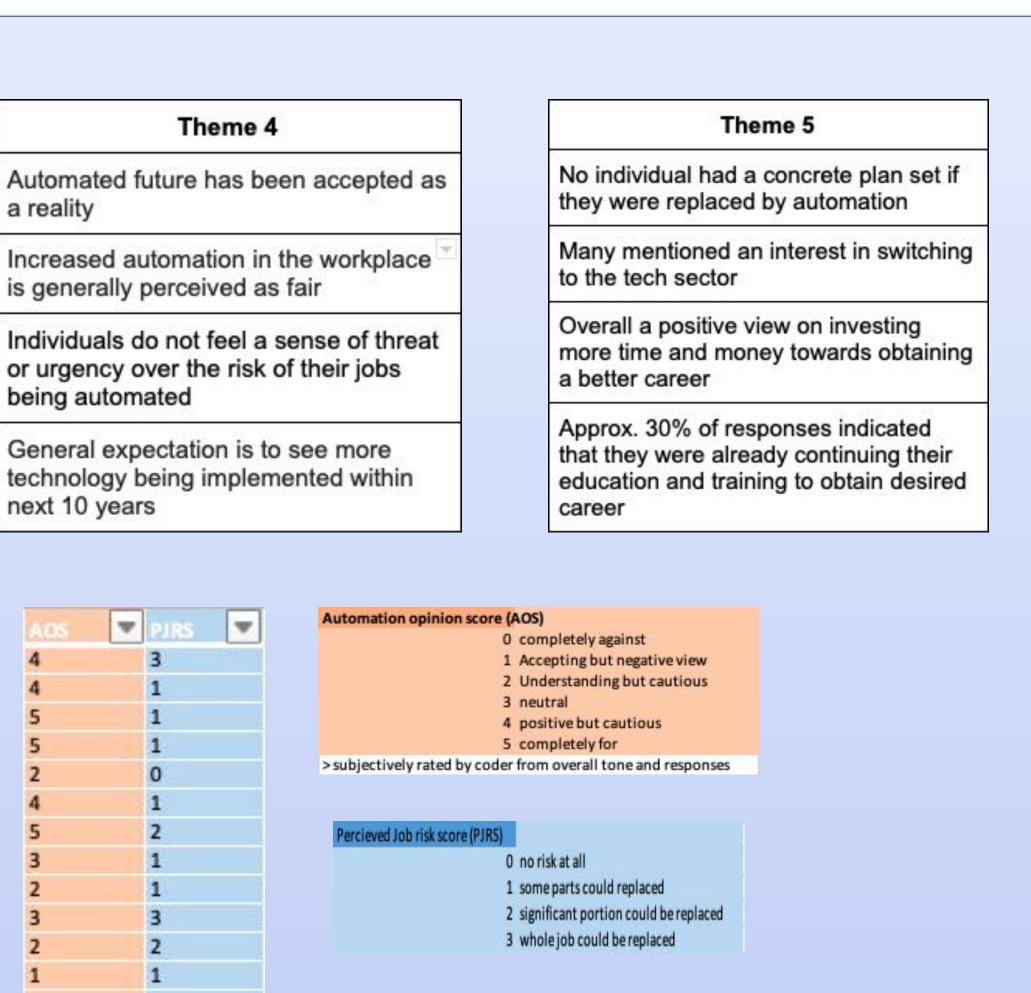


5. Career Advancement:

- Plan if potentially replaced by automation
- Opinion of investing more time and money towards training for new career
- 3. Resources necessary for training

Results: Trends and Observations





Conclusion

- We find that although workers agree that automation will significantly impact future of the workforce with opening new jobs, they are apprehensive about the prospects of immediate job loss and want their employers to be straightforward in how the introduction of automation will affect them.
- Workers have sophisticated views; they understand the limitations of automation and identify the threat to others livelihood; they express value in their own vocation and refuse to believe that it could also be automated.
- We submit that these findings, based on direct inputs from workers, should be considered seriously in decision-making about questions of socioeconomic justice.