University of Oxford

MPhil in Politics: Research Design in Comparative Political Science

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Research Question

Does exposure to AI-generated news increase affective polarisation?

Theoretical and Empirical Motivations

Streucture of Theoretical Argument

- **The Rise of AI**: a powerful, but potentially dangerous tool
- **Voter Volatility**: a fertile ground for manipulation and polarisation
- **Gaps in Literature**: limited focus on attitudes and affective polarisation
- **Theoretical Argument**: how AI may influence affective polarisation
  - Associations between AI-generated news and fake news
  - Trust in news sources and political institutions
  - Veracity and partisanship linkages

Theoretical and Empirical Motivations I

The Rise of AI

- **The Transformer Model**: Advancements in machine learning have made AI more efficient at processing sequential data, enabling hyper-realistic content generation.
  - *(Vaswani et al., 2017)*
- **Accuracy Fears**: AI's accessibility as an informational tool raises concerns due to its susceptibility to hallucinations and misuse, including the spread of manipulative political content and deepfakes.
  - *(Duberry, 2022; Rawte et al., 2023)*
- **AI in Politics**: There is growing debate on whether AI-generated misinformation impacts voting behaviour and election integrity, potentially threatening democratic institutions.
  - *(Stockwell, 2024)*

Theoretical and Empirical Motivations II

Voter Volatility

- **Globalisation and economic liberalism**, alongside political failures and electoral shocks, have exacerbated inequality and division, fostering voter disillusionment and rising populism, particularly in the UK.
  - *(Norris and Inglehart, 2019; Fieldhouse et al., 2019: 28-32)*
- **Social media** has facilitated the spread of fake news, which disproportionately benefits populists, influences voting behaviour, and reinforces identity-based polarisation.
  - *(Cantarella, Fraccaroli and Volpe, 2023; Pfister et al., 2023)*
- **Echo chambers intensify affective polarisation**, strengthening group identities and deepening political divides.
  - *(Hobolt, Lawall and Tilley, 2023)*

Theoretical and Empirical Motivations III

Existing Literature: Effects of AI

- **Persusion and propaganda**: AI-generated messaging can be persuasive and compelling across many policy areas, although effect sizes are small.
  - *(Bai et al., 2023; Goldstein et al., 2024)*
- **Labelling Effects**: When aware of political headlines being AI-generated, readers can become sceptical of news veracity more generally, even if the content is true.
  - *(Altay and Gilardi, 2024)*
- **Expected Use of AI**: political use of AI is expected to focus on deepfakes to perpetuate existing views and stereotypes rather than attempting to persuade new views.
  - *(Cashell, 2024)*
- **AI's use in elections**: aggregate-level effects of AI on the 2024 UK election were minimal.
  - *(Simon, McBride and Altay, 2024)*

Theoretical and Empirical Motivations IV

Research Gap and Contribution

- **Limited in scope**: most research on the effects of AI are focussed on the US.
- **Policy Implications**: my research aims to provide additional insight on how we should regulate, highlight, or restrict AI-generated news. Labelling AI-generated news as AI-generated may have unintended consequences.
- **Understanding Effects**: providing a better understanding of whether fears of AI having negative effects on politics are justified.

Theoretical and Empirical Motivations V

Theoretical Argument

- **AI as fake news**: AI-generated content may polarise opinion in a similar way to fake news. Readers feel a greater sense of loyalty to their in-group and more distrusting of the out-groups as the fake news reinforces their existing beliefs.
  - *Azzimonti and Fernandes (2023)*
- **Fake news and trust**: when readers are aware that news is fake, they are less likely to trust news, politicians, and democracy.
- **Veracity and Partisanship**: readers associate veracity with the partisan narratives they want to believe, therefore helping polarise views.
- **Awareness of AI**: if readers are aware that the news is AI-generated, they may be less likely to trust the veracity of the news, the news source, the political institutions, and, importantly opposing partisans.
  - *(Altay and Gilardi, 2024)*

Hypotheses

Confirmatory Hypothesis

H_1: Exposure to AI-generated news articles will increase affective polarisation, but effect sizes will be small.

Exploratory Hypotheses

H_2: Exposure to political content labelled as AI-generated will decrease trust in the veracity of AI-generated news articles.

H_3: The veracity of AI-generated news articles will not affect polarisation.

H_4: AI-generated news is associated with narratives of opposing partisans.

Research Design I

To test these hypotheses, I will use a simple between-subjects experimental design. This randomised survey experiment will be conducted through the YouGov UniOM scheme with a representative sample of ~2,000 UK residents.

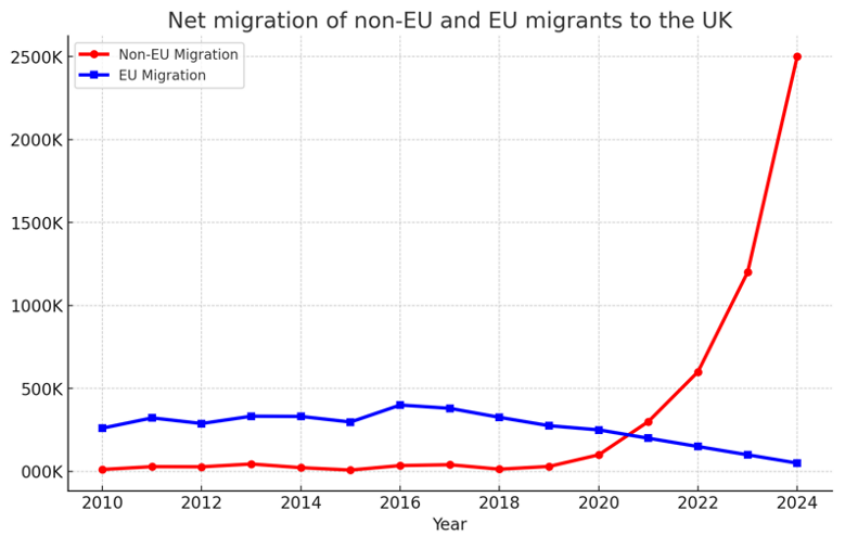
Table 1: Treatments and Control for AI-generated News Exposure.

	News Article Labelling	
	No Labels	**Labelled as AI**
Control	Human-generated Article	Human-Generated Article
Treatment	AI-generated Article	AI-generated Article

Note: Treatment variations to test for interaction effects of veracity, ideological stance, context, and source will be used in subsequent studies. Labelling dis-entangles the effects of exposure to the news content and the role of an article being AI-generated.

Treatment Example

BORDER CRISIS: NON-EU MIGRATION SKYROCKETS WHILE EU NUMBERS PLUNGE!



UK Overrun as Non-EU Migration Surges to Unprecedented Levels! Britain is facing an immigration crisis like never before, with non-EU migration spiralling out of control, dwarfing traditional European migration numbers, shocking new figures reveal. Official statistics show that while EU migration has steadily declined—even enjoying a brief peak around 2016—non-EU arrivals have exploded, soaring to eye-watering levels...

Research Design III

Treatment Assignment

- Two treatment conditions and one control condition.
  - Treatment: AI-generated news article (labelled or unlabelled as AI)
  - Control: Human-generated news article
- Participants will be randomly assigned to one of the three conditions in order for **Average Treatment Effects (ATE)** to be estimated due to randomisation.

Measuring Outcomes

- Primary dependent outcome variable to measure is affective polarisation.
- Post-treatment survey questions of both the control and treatment groups.
  - This is due to the temporal proximity of pre- and post-exposure survey questions so to avoid pre-test sensitisation effects.

Research Design IV

Measuring Outcomes

No.	Question	Options
1	**Affective Polarisation**	
1.1	How would you rate each of the following groups or people below? Keir Starmer, Nigel Farage; The Labour Party, Reform UK	Numeric thermometer scale: 0-100 (100 degrees = favourable and warm. Between 0 and 50 degrees = unfavourable and cold)
1.2	How comfortable are you having a political discussion with a $OTHERPARTY?	Extremely comfortable, Somewhat comfortable, Not too comfortable, Not at all comfortable
1.3	How much of the time do you think you can trust the $OTHERPARTY to do what is right for the country?	Almost never, Once in a while, About half the time, Most of the time, Almost Always

Note: Affective polarisation measures should use feeling thermometer ratings of the other party, trait ratings of the other party, whether or not respondents trust the other party, and a set of social distance items on the willingness to interact with opposing partisans [@levendusky2021; @druckman2019].

Research Design V

Hypothesis Testing

- To test the causal mechanisms of how exposure to AI-generated news affects affective polarisation, additional mediator variables are measured.

No.	Question	Options
2	**Trust in Media and Democracy**	
2.1	How much do you trust the news media to provide accurate information?	Likert scale: 1 (No trust at all) – 7 (Complete trust)
2.2	How much trust do you have in how democracy functions in the UK?	Likert scale: 1 (No trust at all) – 7 (Complete trust)

Research Design VI

Hypothesis Testing

- To test the causal mechanisms of how exposure to AI-generated news affects affective polarisation, additional mediator variables are measured.

No.	Question	Options
3	**Article Credibility and Influence**	
3.1	Do you think the claim in the headline you saw was true or false?	True / False
3.2	How trustworthy did you find the news article you read?	Likert Scale: 1 (Not trustworthy at all) – 7 (Extremely trustworthy)
3.3	Has the article changed your opinion on the topic?	Yes, positively; Yes, negatively; No change; Don't know

Threats and Limitations

Complex Treatment Interactions

- Dis-entangling the effects of the exposure to an AI-generated article.
- Are the outcome measures the result of AI, content, labelling, context, veracity, or source?
- Use of multiple treatment variations to test for interaction effects.

Attrition

- Possible dropouts from the study may lead to biased results.
- The survey questions may be too difficult or cumbersome to answer.
- Make the questions short and clear to answer.

Null Effects

- The effects of AI-generated news may be minimal or non-existent.
- I need to situate the experiment in as extreme scenario as possible.
- How long do effects actually last? Are there compounding effects resulting from repeated exposure?

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