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neuropolitics research

A NEUROPOLITICAL UNDERSTANDING OF OPINION AND INFLUENCE

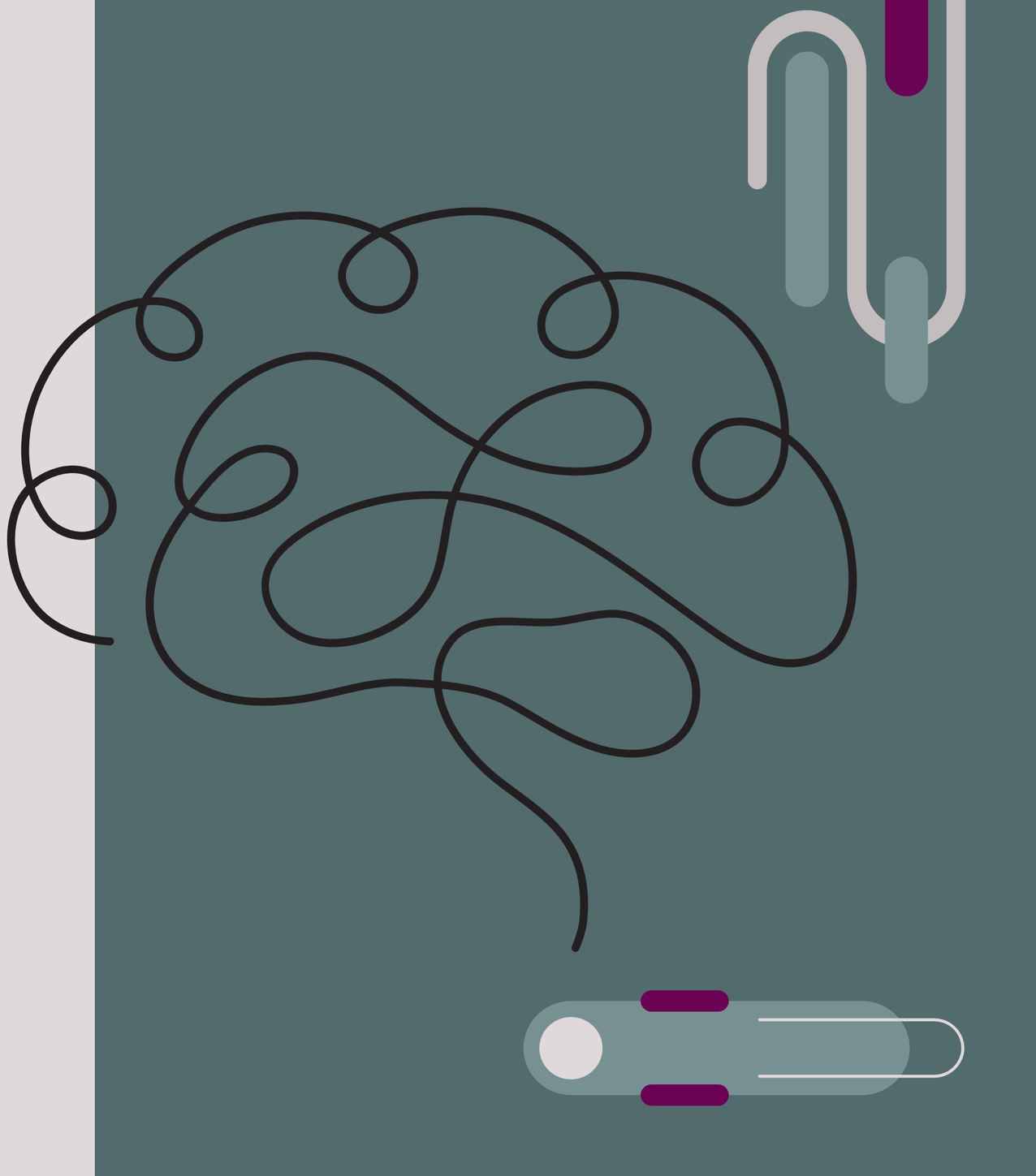
Dr Feiteng Long, Constantine Kyritsopoulos & Luke Stephens

4th May 2025

HELLO!

We are excited today to bring together many years of research and our lab's recent and ongoing work on the neuropolitics of identity and decision-making. We hope to offer some new insights into how opinion shift and influence can be measured.

A bit of a quick tour!



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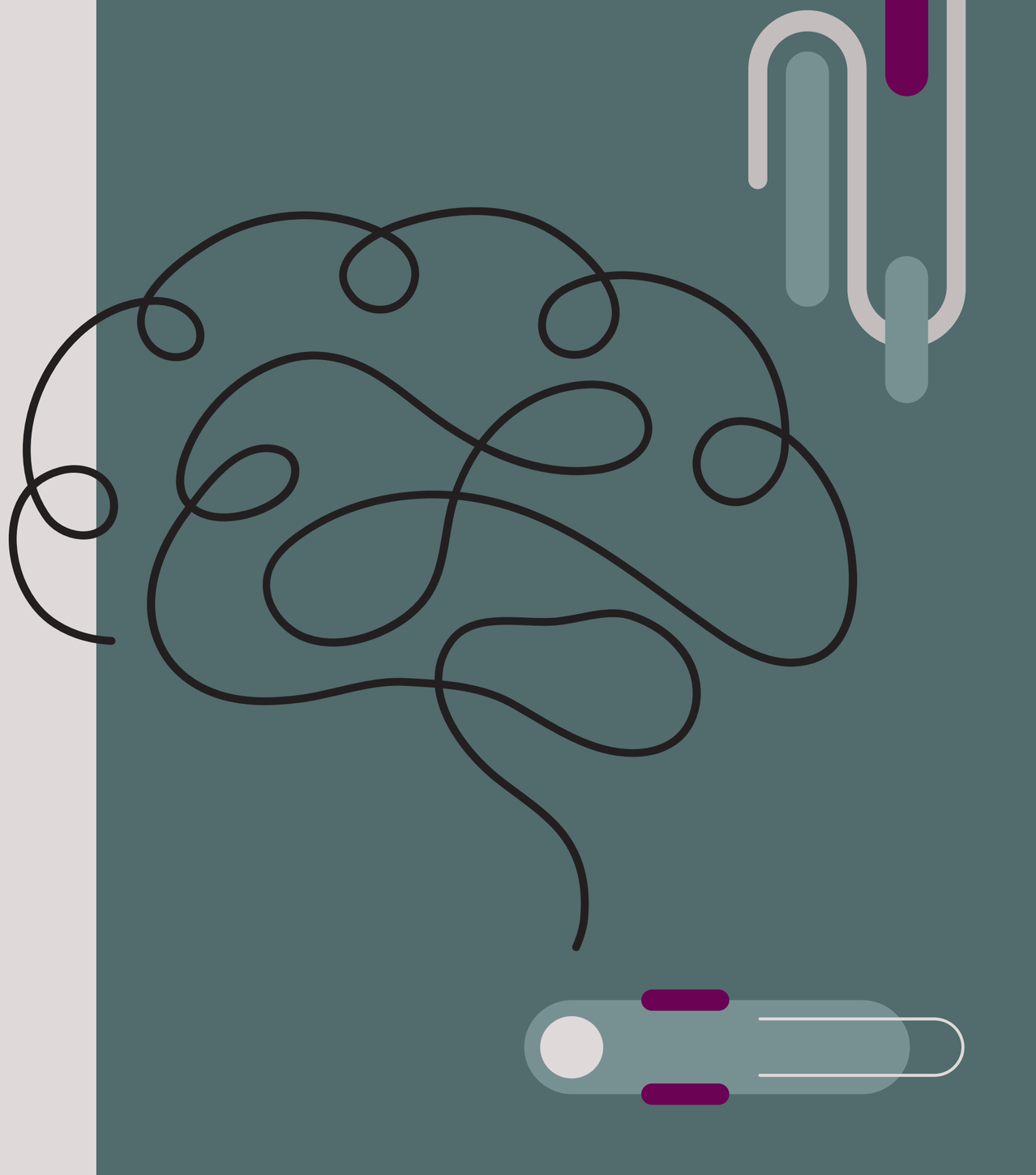
The Neuropolitics Research Lab uses a range of experimental approaches, including fMRI brain scanning, survey experiments, behavioural games and biometric measures (face-emotion coding, eye-tracking; heart rate and skin conductance) along with social computational methods (NLP, machine learning, LLM) to explore the mind–brain–action nexus in political and policy context.

We develop transdisciplinary methodological gold standard by working closely with government and international organisations, public and private sector actors, locally, nationally and globally.



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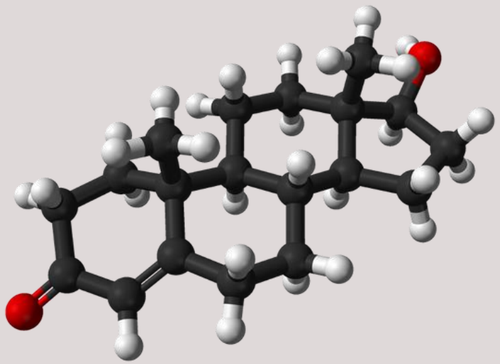
WHAT IS NEUROPOLITICS?

Getting under the hood of political attitudes, behaviours and identities.



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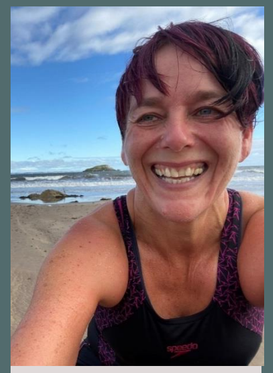
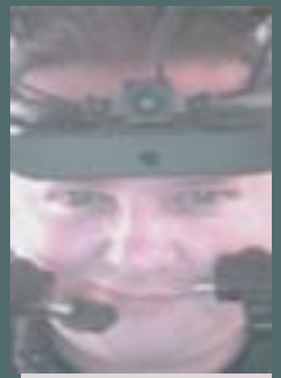
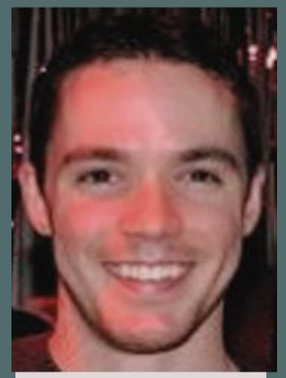


Professor Laura Cram

Dr Clare Llewellyn



Dr Robin Hill



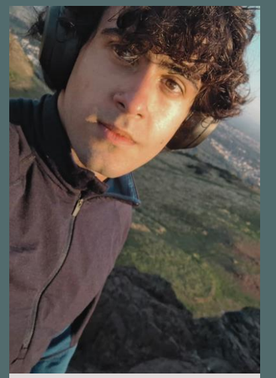
Dr Adam Moore

Dr Sara Dalzel-Job

Luke Stephens

Constantinos Kyritsopoulos

Dr Feiteng Long



Arman Prangere

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IDENTITY AND ITS EFFECTS

- Our identity is contingent & contextual
- It is rational to be social
- Very minimal groups can provoke identity effects
- We are willing to sacrifice other valued goods to protect identity-related beliefs
- Motivated cognition - post-hoc reevaluation of identity incongruent info

IN-THE-MOMENT EXPERIENCE OF INTERACTION MAY BE BIASED, AND PROCESSED DIFFERENTIALLY IN THE BRAIN, WHICH CAN BIAS SUBSEQUENT BEHAVIOR AND COGNITION.

Implications

social learning

sACC connects to emotion/affect related areas (amygdala and anterior insula) that may function as part of an intuitive/ automatic social response and/or salience monitoring network (Allman et al. 2001; Craig 2009; Menon and Uddin 2010).

confirmation of prior beliefs

for example, matching outgroup politicians to negative personality traits and ingroup politicians to positive traits;
(Rigney, Koski, and Beer 2018).

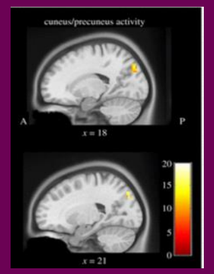
(hyper)vigilance

strong partisans may be vigilant for cues/behaviors that match their biased expectations (negative for outgroups and positive for ingroup) while simultaneously relatively insensitive to experiences that would undermine such biases.

NRLABS RESEARCH

Fair is Fair or is it? Territorial triggers influence ultimatum game behaviour

Cram, L, Moore, A, Olivieri, V & Suessenbach, F 2018, Political Psychology, 39:6, 1233-50.



Trust in information, political identity and the brain: an interdisciplinary fMRI study

Moore, A, Hong, S, Cram, L, 2021, Phil. Trans. R. Soc. B376

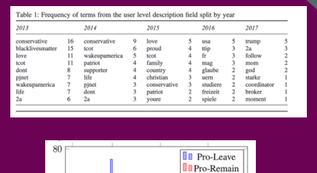
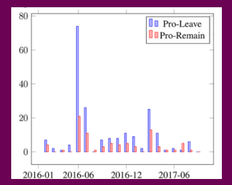


Table 1: Frequency of terms from the user level description field split by year

2013		2014		2015		2016		2017	
conservative	16	conservative	9	love	5	usa	5	trump	5
blacklivesmatter	15	tcot	6	proud	4	stop	3	2a	3
love	11	wakeupamerica	5	tcot	4	fr	3	follow	2
tcot	11	patriot	4	family	4	mag	3	mom	2
dont	8	supporter	4	country	4	glaube	2	god	2
pjnet	7	life	4	christian	3	nem	2	starke	1
wakeupamerica	7	pjnet	3	conservative	3	studiere	2	coordinator	1
life	7	dont	3	patriot	2	freiseit	2	broker	1
2a	6	2a	3	youre	2	spiele	2	moment	1



For whom the bell trolls: Shifting troll behaviour in the Twitter Brexit debate

C Llewellyn, L Cram, RL Hill, A Favero 2019 JCMS: Journal of Common Market Studies

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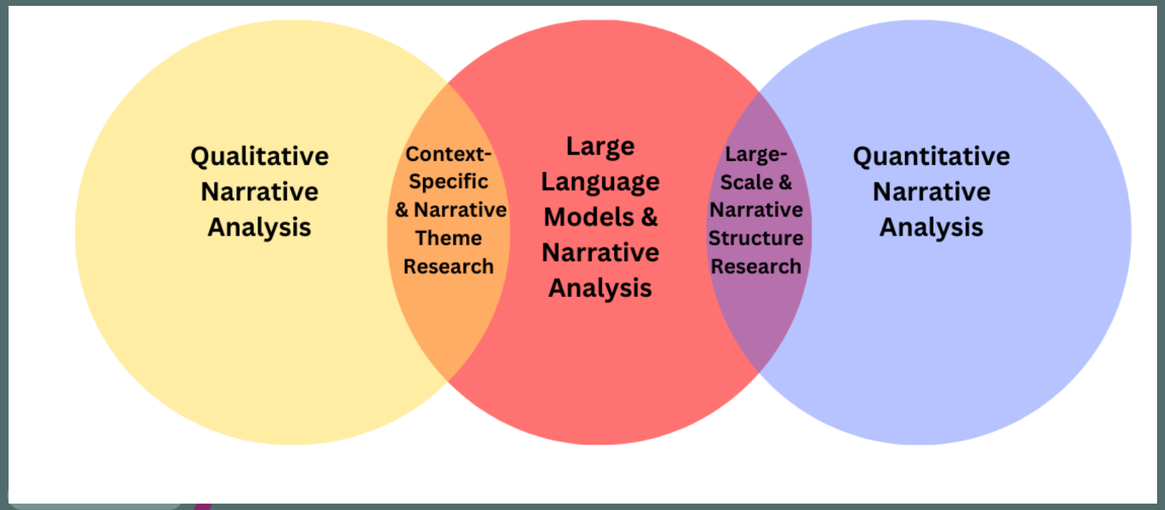
LLM ANALYSIS OF DISCOURSE AND NARRATIVES ABOUT MIGRATION

RESEARCHER:

LUKE STEPHENS



Narratives are a fundamental mode of human sense-making, reflecting a **human impulse to tell stories** that connect actors and events with causal and thematic significance as they construct and communicate their identities and values.

Investigating the capability and efficacy of using of Large Language Models (LLMs) to extract and interpret narratives from political texts. Political actors frequently deploy narratives strategically to influence interpretations of events and mobilise political support, underlining their importance as critical instruments within political dynamics.

Research has conventionally been qualitative, relying on smaller corpora due to practical limitations and the need for contextual understanding.

This work explores the ability of LLMs to identify both structural and thematic narrative features, thereby enhancing the capacity for large-scale narrative analysis and providing valuable tools which enhance the benefits of using more traditional qualitative methods.

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MIGRATION NARRATIVES AND THREAT

LAB-BASED EXPERIMENTS USING BEHAVIOURAL AND BIOMETRIC APPROACHES

RESEARCHER:

FEITENG LONG

This work aims to answer two questions:

1. How individuals psychologically and physiologically react to migration narratives framed in different ways
2. How they react to having to construct their own narratives when addressing different audiences.

Given that people often conceal or misinterpret their true feelings on polarising topics like migration, integrating physiological and psychological measures reveals potential social desirability and unconscious biases.

Adopting a biopsychosocial approach, it examines self-reported perceptions alongside cardiovascular and skin conductance responses.

By advancing our understanding of the motivational processes behind migration narratives his work offers valuable insights for policymakers, social activists, and community leaders seeking to mitigate polarisation

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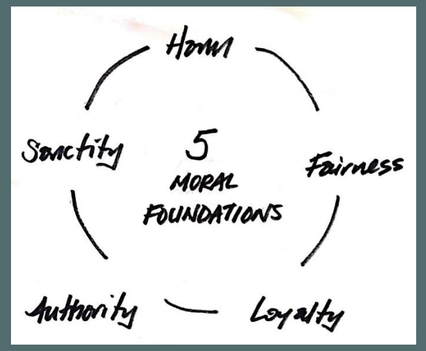
PSYCHOLOGICAL PROCESSES UNDERLYING EUROPEAN IDENTITY, SOLIDARITY AND COHESION

RESEARCHER:

CONSTANTINE KYRITSOPOULOS



Moral foundations are often significant predictors of political ideology, important components of political communication, and show significant variation across the European political spectrum. Previous work finds a divergence in moral values between European Identities and their more nationalistic counterparts.

Constantine is ‘mapping the moral landscape‘, surveying moral foundations across the four partner countries (Germany, Italy, Denmark, Poland) and their relationship to European identity. Followed by a set of moral framing experiments seeking to understand how moral rhetoric can be used to increase support for EU solidarity policies opposing demographics.

Future directions include a moral sentiment analysis to quantify EU narratives.

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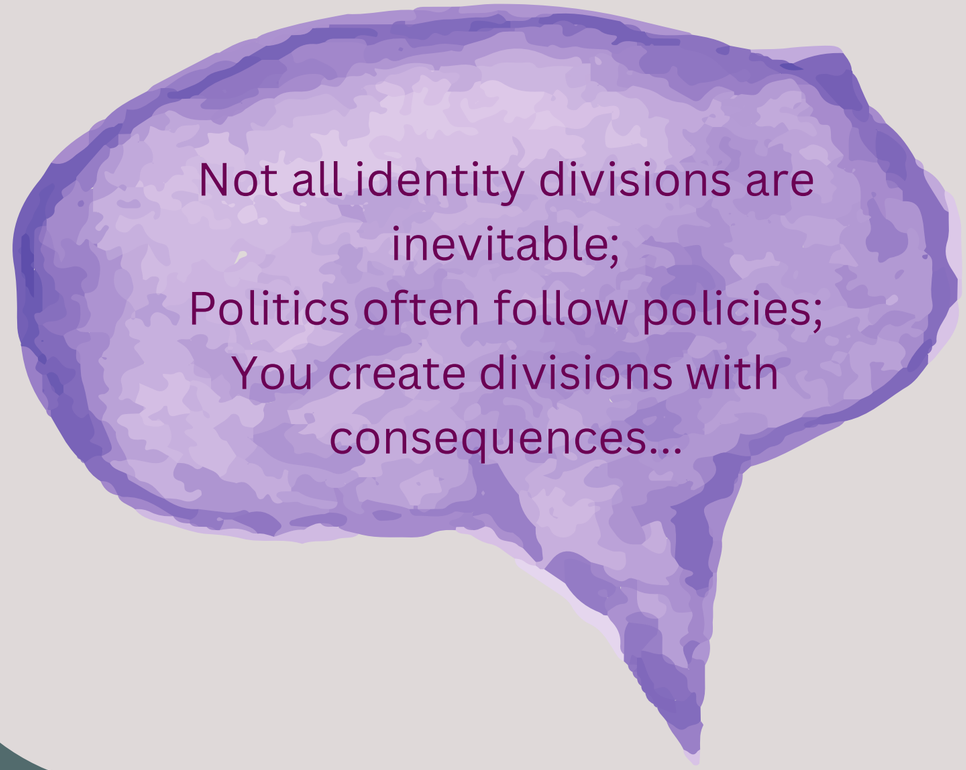
WHY DOES THIS MATTER?

Social identity-based polarization and hyper-partisanship have been linked to perceptions of exclusion, a sense of grievance, and of being unfairly or under-represented, often based on group characteristics (Somers, McCoy and Luke, 2021).

- Our identity is contingent & contextual
- It is rational to be social
- Motivated cognition - post-hoc reevaluation of identity incongruent info

TAKE AWAY

Even in simple, low-stakes interactions, people with strong identity fusion with a political group or cause may experience distorted versions of actual events.



i) Highlight sympathetic examples with different political beliefs.

(ii) Emphasize common, cross-partisan identities and norms.

Megastudy Testing 25 Treatments to Reduce Anti-Democratic Attitudes and Partisan Animosity, Voelkel et al, *Science* Oct 2024

Shout about what unites us,
not what divides us!

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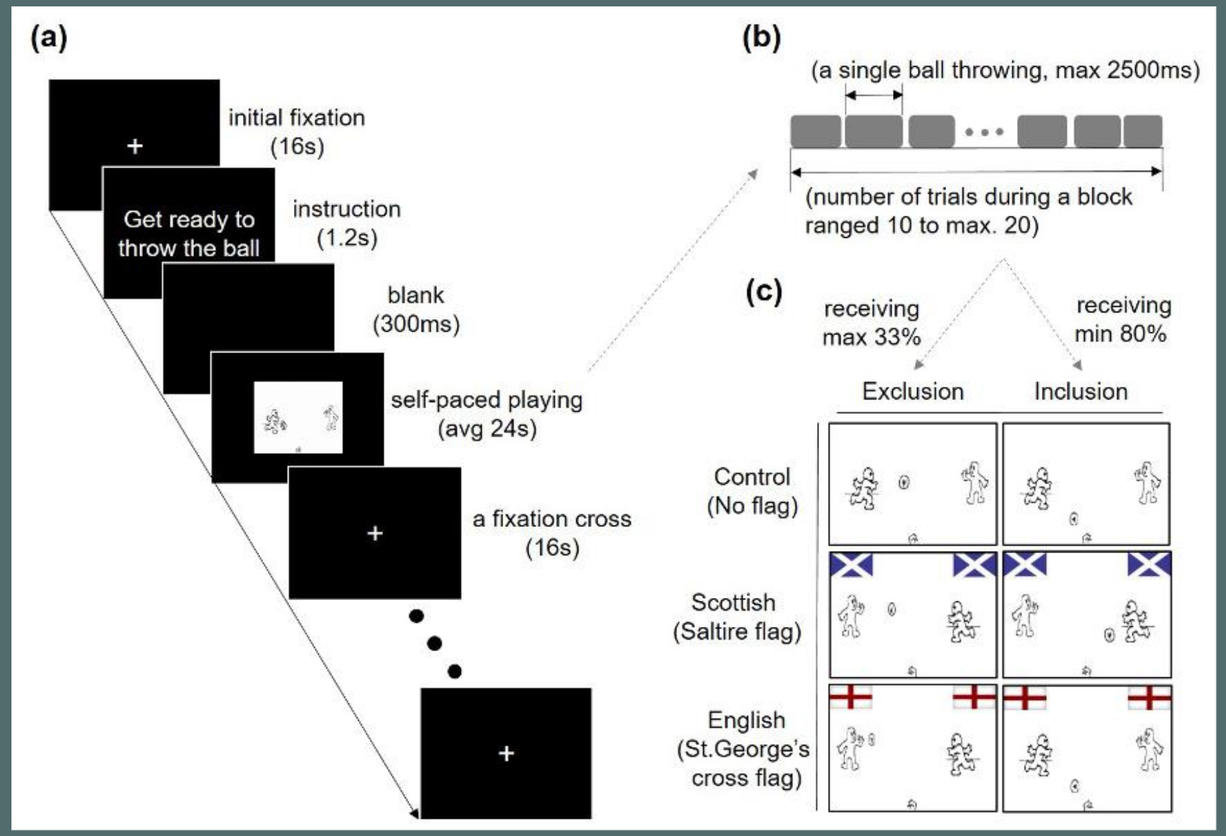
THANK YOU

PARTISAN SOCIAL COGNITION AND BIASED EXPERIENCES IN A POLARISED WORLD: THE NEURAL PROCESSING OF IDENTITY-BASED GROUP MEMBERSHIP.

Moore, A., Hong, S., Pernet, C.R., Morcom, A. M., Roberts, N., Krasoulis, A., Cram, L.

fMRI protocol and cyberball game in which our participants experience varying levels of inclusion/exclusion from in/out-group members.
We reveal a temporal dimension, producing online in-the-moment biases in political perception with significant behavioural effects.



fMRI design and task. (a) Schematic of a single trial of fMRI scan. (b) Trials of self-paced ball throwing during a block. (c) 2 (condition: Exclusion, Inclusion) by 3 (block: Control, Scottish, and English) ANOVA design.

BEHAVIOURAL ANALYSIS

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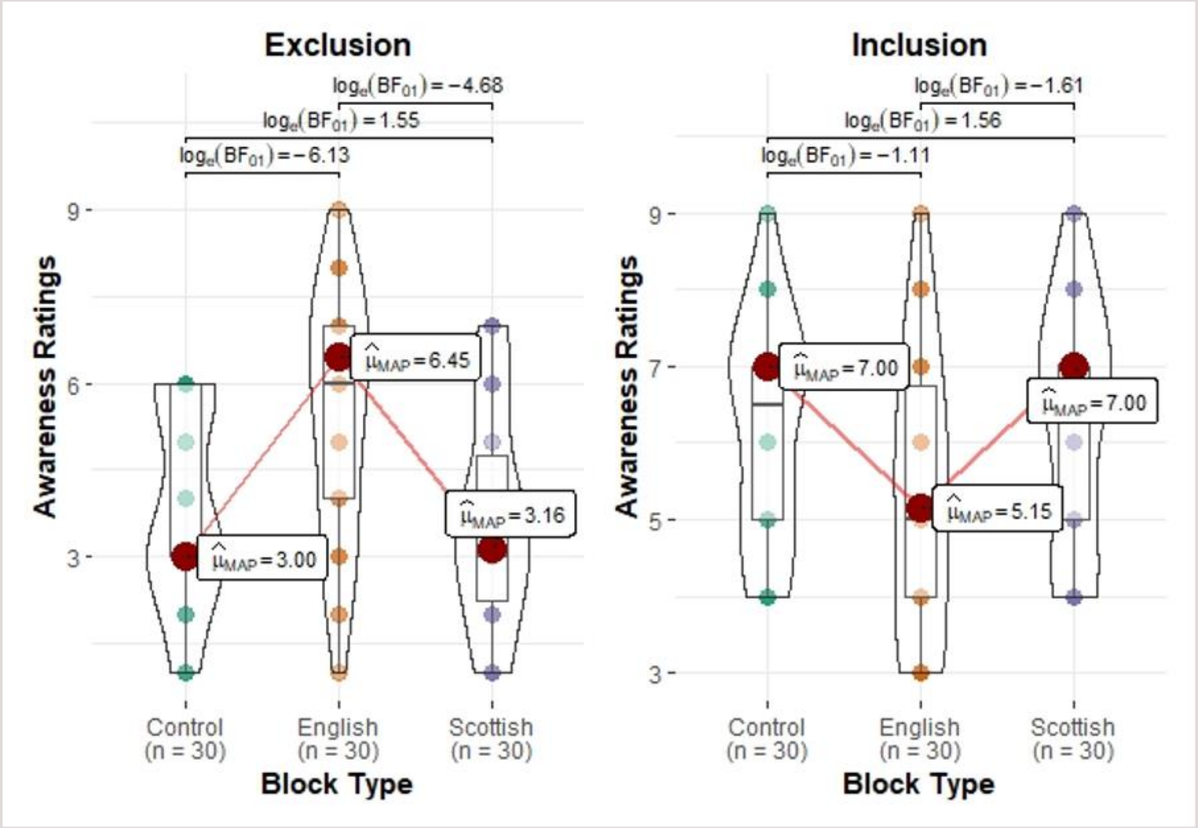
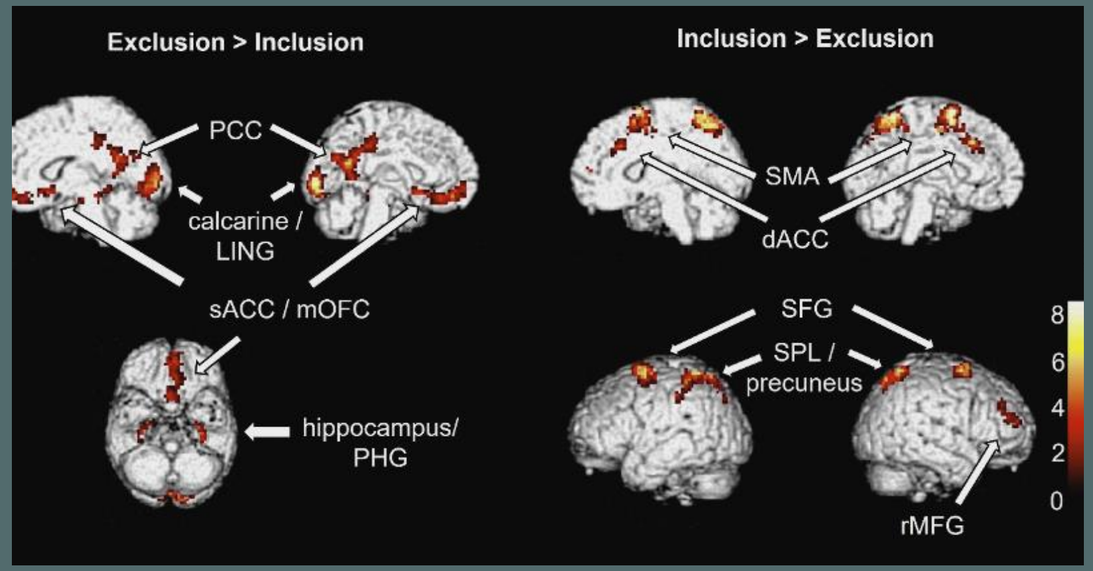
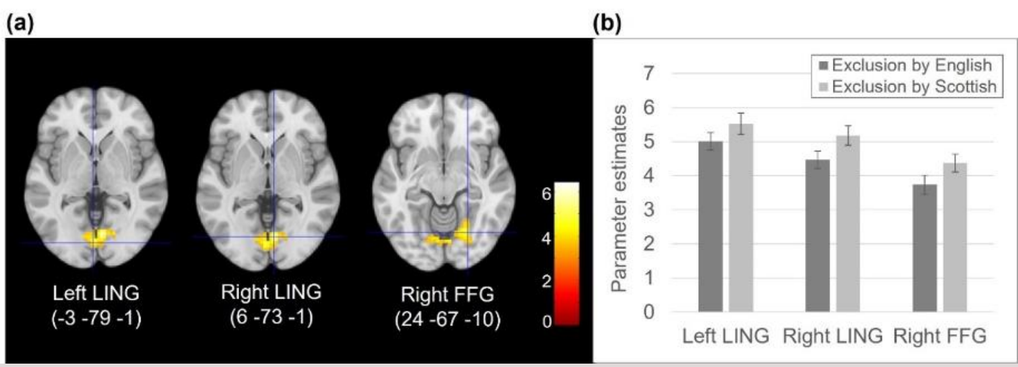
Our participants, though subjected to exactly the same degree of ‘exclusion’ or ‘inclusion’, reported that they were substantially less aware of exclusion by their favored ingroup compared with their outgroup.

Participants perceived interactions with the control group similarly to their ingroup, with stronger awareness of inclusion and diminished awareness of exclusion, but when outgroup social information was present, the opposite occurred – they were more acutely aware of exclusion and less aware of inclusion.

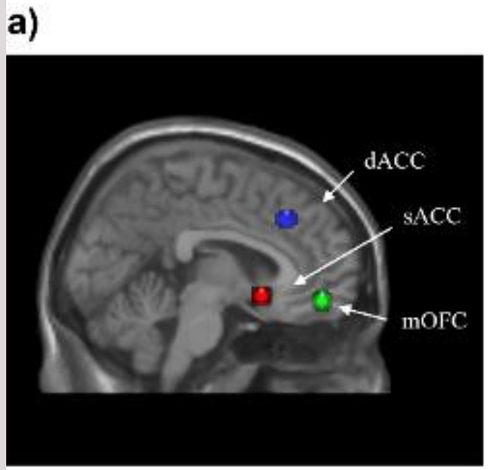
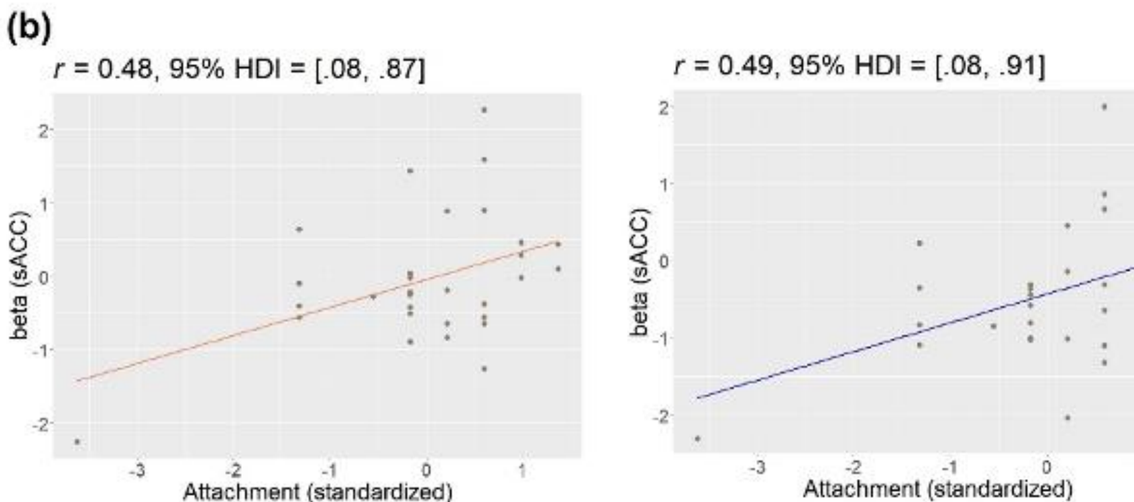




Extensive brain regions involved in social cognition were more active for exclusion compared to inclusion conditions (including mOFC extending to sACC, PCC, lingual gyrus, and hippocampus/PHG).



Activation in the lingual gyrus extending to the right fusiform gyrus (FFG) in the visual association areas was significantly greater when exclusion by the favoured ingroup (Scottish) was compared with exclusion by the identified outgroup (English). Paired with the distorted awareness reports, this suggests that minimal visual cues, such as national flags, may affect the cognitive processing of identity-relevant social categorization leading to distorted experiences of in/outgroup behavior that are in actuality identical.

Mirroring, the behavioral awareness ratings, positive correlations (95% HDI) between sACC activity and the attachment score only for exclusion by English outgroup (left panel) and inclusion by Scottish ingroup (right panel).

Suggests that biased neural processing of otherwise identical experiences may contribute to distorted awareness and recollections of experiences by individuals with strong group-identity fusion (for example, partisans).