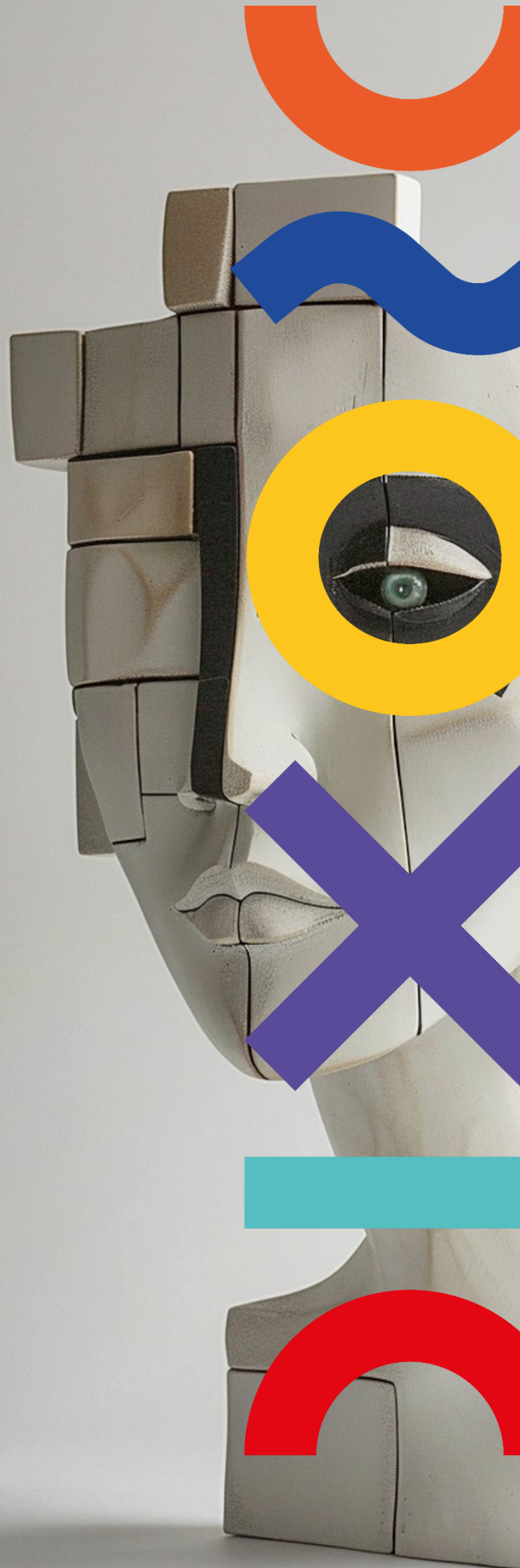


D4.1

Methodology for the elicitation of emotions



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D4.1 Methodology for the elicitation of emotions

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TABLE OF CONTENT

EXECUTIVE SUMMARY.....	6
1 INTRODUCTION	7
1.1 THE ENCODE PROJECT.....	7
1.2 OBJECTIVES OF DELIVERABLE	7
1.3 STRUCTURE OF THE DOCUMENT	7
1.4 RELATION TO OTHER TASKS	8
2 THEORETICAL BACKGROUND AND LITERATURE REVIEW.....	8
2.1 LITERATURE REVIEW AND ITS RELEVANCE (DIRECT AND INDIRECT) IN THE CONTEXT OF NEUROSCIENCE RESEARCH IN ENCODE PROJECT	8
2.1.1 JENKE, L., & SULLIVAN, N. (2025). <i>ATTENTION AND POLITICAL CHOICE: A FOUNDATION FOR EYE TRACKING IN POLITICAL SCIENCE. POLITICAL ANALYSIS</i> , 33(4), 298–314.	8
2.1.2 VRAGA, E. K., BODE, L., & TROLLER-RENFREE, S. (2016). <i>BEYOND SELF-REPORTS: USING EYE TRACKING TO MEASURE TOPIC AND STYLE DIFFERENCES IN ATTENTION TO SOCIAL MEDIA CONTENT</i>	8
2.1.3 LINDHOLM, J., EKLUND, J., STRANDBERG, K., CARLSON, T., ANDERSSON, S. (2024). <i>BEYOND NEGATIVITY? A LABORATORY STUDY ON EMOTIONAL RESPONSES TO POPULIST STRATEGIES ON SOCIAL MEDIA. FRONTIERS IN POLITICAL SCIENCE</i>	9
2.1.4 KOHOUT, S., KRUIKEMEIER, S., BAKKER, B. (2022). <i>MAY I HAVE YOUR ATTENTION, PLEASE? AN EYE TRACKING STUDY ON EMOTIONAL SOCIAL MEDIA COMMENTS</i>	9
2.1.5 TARNOWSKI, P., KOŁODZIEJ, M., MAJKOWSKI, A., RAK, R. (2020). <i>EYE-TRACKING ANALYSIS FOR EMOTION RECOGNITION</i> & ZHENG LIM, J., MOUNTSTEPHENS, J., TEO, J. (2020) <i>EMOTION RECOGNITION USING EYE-TRACKING: TAXONOMY, REVIEW AND CURRENT CHALLENGES</i>	10
2.1.6 SKARAMAGKAS, V., GIANNAKAKIS, G., KTISTAKIS, E., MANOUSOS, D., KARATZANIS, I., TACHOS, N. S., TRIPOLITI, E., MARIAS, K., & FOTIADIS, D. I. (2021). <i>REVIEW OF EYE-TRACKING METRICS INVOLVED IN EMOTIONAL AND COGNITIVE PROCESSES</i>	10
2.1.7 RÚA-HIDALGO, I., GALMES-CEREZO, M., CRISTOFOL-RODRÍGUEZ, C., & ALIAGAS, I. (2021). <i>UNDERSTANDING THE EMOTIONAL IMPACT OF GIFS ON INSTAGRAM THROUGH CONSUMER NEUROSCIENCE</i> :.....	10
2.1.8 SEIKAVANDI, MEISAM., BARETT, MARIA., BURELLI, PAOLO. (2025). <i>MODELLING FACE EMOTION PERCEPTION FROM NATURALISTIC FACE VIEWING: INSIGHTS FROM FIXATIONAL EVENTS AND GAZE STRATEGIES</i>	11
2.1.9 JENSEN, O., OLASFADOTTIR, I., SADEGHNIA, G., DE LAMOS, J. (2008). <i>MEASURING EMOTIONS USING EYE TRACKING</i>	11
2.1.10 LANATÀ, A., VALENZA, G., & SCILINGO, E. P. (2013). <i>EYE GAZE PATTERNS IN EMOTIONAL PICTURES</i>	12
2.1.11 LANATÀ, A., VALENZA, G., & SCILINGO, E. P. (2015). <i>EYE TRACKING AND PUPIL SIZE VARIATION AS RESPONSE TO AFFECTIVE STIMULI</i>	12

2.1.12 GOU, M., KWON, M., HWANG, M., ZHOU, Y. (2023). EYE PERCEPTION AND PREFERENCE DIFFERENCE BETWEEN DIFFERENT EMOTIONAL CONTENT ON TIKTOK AND TWITTER PLATFORMS.....	12
2.1.13 LEWANDOWSKA, A., REJER, I., BORTKO, K., & JANKOWSKI, J. (2022). EYE-TRACKER STUDY OF INFLUENCE OF AFFECTIVE DISRUPTIVE CONTENT ON USER'S VISUAL ATTENTION AND EMOTIONAL STATE.....	13
2.2 GENERAL SUMMARY.....	13
2.3 CONCLUSIONS FOR ENCODE RESEARCH.....	14
2 ENCODE BIOMETRIC RESEARCH	15
3.1 PILOT TESTING.....	15
3.2 PARTICIPANTS RECRUITMENT AND SAMPLE DISTRIBUTION	16
3.3 PRE-SURVEY.....	17
3.3.1 PRE-SURVEY METHODOLOGY.....	17
3.3.2 CALCULATIONS.....	19
3.3.3 QUESTIONS (DRAFT).....	20
3.3.4 IMPLEMENTATION PHASE.....	21
3.4 BIOMETRIC RESEARCH SET-UP.....	21
3.5 RESEARCH STIMULI.....	22
3.5.1 CURRENT NARRATIVE STIMULI – SOCIAL MEDIA ACCOUNT AND CONTENT CREATION.....	24
3.5.2 FUTURE NARRATIVE STIMULI – SOCIAL MEDIA ACCOUNT AND CONTENT CREATION	25
3.6 CONDUCTING EYE-TRACKING AND FACE-TRACKING RESEARCH WITH STIMULI.....	27
3.7 POST-STIMULI IDI INTERVIEW	28
4 ETHICS.....	32
4.1 INFORMED CONSENT FORM (DRAFT)	32
5 ANNEXES.....	34
5.1 INSTRUCTIONS FOR SOCIAL MEDIA ACCOUNTS PREPARATION AND IMAGE GENERATION.....	34
5.2 BIOMETRIC STUDIES DEBRIEFING FORM.....	37

EXECUTIVE SUMMARY

In this report – Deliverable D4.1 – a broad methodology is outlined to evoke and analyse emotional reactions to political messages spread through social media. It sets the stage for a multi-stage, multi-method research process integrating biometric data, surveys, and qualitative interviews.

The approach consists of three integrated phases:

1. Pre-Study Questionnaire – A questionnaire utilised to place respondents on a two-axis political compass (economic left–right, social authoritarian–libertarian), according to answers to ideological statements. This enables the researchers to match emotional reactions with political orientation.
2. Biometric Testing – Participants are shown mocked-up social media profiles of fictional politicians with different ideological storylines (polarising and pluralistic). While viewing this content, biometric measurements (eye-tracking and face-tracking) are recorded to identify patterns of attention and emotional responses in real time.
3. Post-Stimuli In-Depth Interview (IDI) – A semi-structured interview is administered right after the biometric session to discuss participants' conscious emotional reactions and interpretations of the content they have seen.

The stimuli utilised are emotionally provocative material from four mock political profiles (liberal/conservative, male/female, EU-supporting/sceptical) designed with platform authenticity in mind. The profiles reflect both "current" polarised discourses and "future" discourses based on the project's conceptual framework of Affective Pluralism.

Triangulation of data – quantitative biometric feedback, political alignment scores, and qualitative interviews – allows for a subtle interpretation of how users cognitively and emotionally respond to various political messages. Such a methodology offers essential knowledge for crafting emotionally appealing, democratic narratives for building inclusion and resilience in European politics. Ethical issues, including informed consent, GDPR compliance, and anonymisation, are rigorously integrated into the design. The output is both a guide for implementation in the field and a model for subsequent affective political research.

1 INTRODUCTION

1.1 THE ENCODE PROJECT

The ENCODE project, titled "Unveiling Emotional Dimensions of Politics to Foster European Democracy," aims to explore and decode the role of emotions in political discourse and their impact on democratic processes. Recognising that emotional appeals have significantly influenced political movements and voter behaviour, ENCODE seeks to understand the interplay between emotions, values, and identities. The project's primary goal is to create new positive narratives that can foster trust and engagement in European democratic processes, thereby counteracting the negative emotions that often dominate political discussions. Through innovative methodologies, including social media sentiment analysis, biometric research, and surveys, ENCODE aims to provide policymakers with tools and strategies to better incorporate the emotional needs of citizens into governance, ultimately enhancing democratic resilience and fostering a more inclusive political environment.

1.2 OBJECTIVES OF DELIVERABLE

The present deliverable (D4.1) outlines the full methodology for the elicitation and analysis of emotions in the context of political narratives. Specifically, it details the experimental design and triangulated research process – including pre-surveys, biometric testing, and post-stimuli in-depth interviews (IDIs) – used to capture how participants emotionally and cognitively respond to polarising and pluralistic political content presented on simulated social media platforms.

Key objectives of this deliverable are:

- To define a replicable and ethically grounded methodology for studying emotional responses to political communication.
- To specify the use of eye-tracking and face-tracking technologies in capturing non-verbal responses.
- To operationalise a pre-survey model for mapping participants' ideological orientation.
- To integrate qualitative insights via IDIs to contextualise biometric findings.

1.3 STRUCTURE OF THE DOCUMENT

This document is organised into the following main sections:

- **Chapter 1** provides an introduction to the report.
- **Chapter 2** provides a theoretical overview, including a literature review on affective neuroscience, political psychology, and eye-tracking methodology.
- **Chapter 3** introduces the general framework for emotional narrative design, aligned with WP3 and WP4 of the ENCODE project. The chapter also presents the complete biometric research protocol, including participant recruitment, stimuli design, eye-tracking and face-tracking implementation, and pre-survey and post-exposure interviews.
- **Chapter 4** provides an overview of ethics requirements with a focus on informed consent.
- **Annexes** consist of additional documents that were prepared to conduct the research.

1.4 RELATION TO OTHER TASKS

This deliverable is directly related to the following tasks within the ENCODE project:

- **Task 2.2:** Provided input with the theory of “Affective pluralisation” and emodiversity that was used to create rephrased posts intended to simulate the new narrative.
- **Task 2.3:** Provided input about the current (status for 2023) national topics that trigger emotions in politics that were also used as a base for generating national posts for social media accounts.
- **Task 3.2 and 3.3:** Creation and iteration of emotional narratives, both current (polarising) and future (pluralistic).
- **Task 4.2 and 4.3:** Execution of biometric research and triangulation of emotional reactions with political orientation.

2 THEORETICAL BACKGROUND AND LITERATURE REVIEW

2.1 LITERATURE REVIEW AND ITS RELEVANCE (DIRECT AND INDIRECT) IN THE CONTEXT OF NEUROSCIENCE RESEARCH IN ENCODE PROJECT

2.1.1 Jenke, L., & Sullivan, N. (2025). *Attention and political choice: A foundation for eye tracking in political science. Political Analysis, 33(4), 298–314.*

Focus: The paper lays a methodological and theoretical foundation for using eye tracking in political science.

Key Points:

- Demonstrates how visual attention is linked to political preferences and decision-making.
- Argues that traditional self-report methods in political psychology can miss subtle but critical cues captured by eye tracking (e.g., fixations, gaze duration).
- Emphasises the importance of systematic, quantitative measures of attention when studying political media effects.

Relevance: Offers a fundamental rationale for incorporating eye tracking into political science research, highlighting its ability to reveal nuanced attentional patterns that self-reports cannot capture.

Link:

<https://files.osf.io/v1/resources/ns48h/providers/osfstorage/6668534b6b6c8e2c8004c9ea?format=pdf&action=download&direct&version=1>

2.1.2 Vraga, E. K., Bode, L., & Troller-Renfree, S. (2016). *Beyond self-reports: Using eye tracking to measure topic and style differences in attention to social media content.*

Focus: Showcases eye tracking as a tool to measure attention more objectively to different topical and stylistic elements of social media posts.

Key Points:

- Eye tracking outperforms self-report in detecting actual differences in how users attend to various types of content (e.g., text vs. images, negative vs. positive style).
- Highlights that topic salience and stylistic cues (e.g., emotional language) can influence gaze duration and fixation counts.

Relevance: Demonstrates how eye tracking can help disentangle which parts of politically oriented social media posts draw the most attention, thereby informing content design and strategic communication research.

Link:

<https://www.tandfonline.com/doi/full/10.1080/19312458.2016.1150443>

2.1.3 Lindholm, J., Eklund, J., Strandberg, K., Carlson, T., Andersson, S. (2024). *Beyond negativity? A laboratory study on emotional responses to populist strategies on social media. Frontiers in Political Science.*

Focus: Investigates emotional reactions (both self-reported and psychophysiological) to populist messaging strategies on social media.

Key Points:

- Goes beyond the notion that negative, or “attack” content alone drives strong emotional reactions.
- Explores how specific populist cues (e.g., “us vs. them” rhetoric) can elicit complex emotional responses – such as anger, resentment, or empathy.
- Laboratory setting provides controlled measurement of emotional arousal, through the study.

Relevance: Suggests that multiple emotional responses are possible in polarised narratives. This is highly relevant for studying “affective polarisation” versus more “pluralistic” approaches, as it outlines how emotional triggers vary.

Link:

<https://www.frontiersin.org/journals/political-science/articles/10.3389/fpos.2024.1415403/full>

2.1.4 Kohout, S., Kruikemeier, S., Bakker, B. (2022). May I have your attention, please? An eye tracking study on emotional social media comments

Focus: Examines how emotional tone in social media comments affects users’ gaze behaviour and attention.

Key Points:

- Finds that emotionally charged comments (whether positive or negative) tend to hold viewers’ gaze longer than neutral comments.
- Eye-tracking data reveal that emotive words, emojis, or punctuation (e.g., exclamation marks) can be visual magnets.

Relevance: Offers direct empirical evidence for how emotional or affective cues in social media comments grab and sustain attention, which is crucial to understanding affective polarization vs. pluralism narratives online.

Link:

<https://www.sciencedirect.com/science/article/pii/S0747563222003156?via%3Dihub>

2.1.5 Tarnowski, P., Kołodziej, M., Majkowski, A., Rak, R. (2020). Eye-tracking analysis for emotion recognition & Zheng Lim, J., Mountstephens, J., Teo, J. (2020) Emotion Recognition Using Eye-Tracking: Taxonomy, Review and Current Challenges

Focus: These works provide a broad overview of how eye-tracking data (e.g., fixations, saccades, pupil dilation) can be leveraged to infer users' emotional states.

Key Points:

- Presents methodologies for connecting eye movements with discrete emotions (fear, anger, happiness, sadness) and more subtle affective states.
- Emphasizes the complexities of emotion recognition, including cultural differences, individual variability, and the importance of integrating with other psychophysiological signals (e.g., facial EMG, GSR).
- Proposes a taxonomy of techniques and outlines open research challenges such as real-time detection, robustness to variable lighting, etc.

Relevance: Provides methodological grounding and best practices for researchers who want to implement emotion detection alongside eye-tracking in political communication contexts.

Link:

- a. <https://onlinelibrary.wiley.com/doi/10.1155/2020/2909267>
- b. <https://www.mdpi.com/1424-8220/20/8/2384/pdf>

2.1.6 Skaramagkas, V., Giannakakis, G., Ktistakis, E., Manousos, D., Karatzanis, I., Tachos, N. S., Tripoliti, E., Marias, K., & Fotiadis, D. I. (2021). Review of eye-tracking metrics involved in emotional and cognitive processes.

Focus: Systematically reviews major eye-tracking metrics (fixation duration, saccade patterns, blink rate, pupil dilation) and clarifies their linkage to emotional/cognitive states.

Key Points:

- Summarizes evidence linking pupil dilation to arousal, fixation duration to interest or relevance, and scanning patterns to cognitive load.
- Stresses the importance of context (e.g., type of stimulus, complexity of the scene) and the limitations of over-interpreting a single metric in isolation.

Relevance: Useful for designing studies on political content where both cognitive and emotional responses may be at play – for instance, comparing attention to polarizing vs. pluralistic social media narratives.

Link:

<https://ieeexplore.ieee.org/document/9380366>

2.1.7 Rúa-Hidalgo, I., Galmes-Cerezo, M., Cristofol-Rodríguez, C., & Aliagas, I. (2021). Understanding the emotional impact of GIFs on Instagram through consumer neuroscience:

Focus: Investigates how short, animated visual content (GIFs) affects users' emotional reactions, using neuroscience approaches (possibly including eye tracking and biometrics).

Key Points:

- GIFs often elicit a rapid, high-arousal response because of their animated, looping nature.
- Eye-tracking reveals how quickly users shift their gaze to GIFs compared to static images, highlighting the power of dynamic content in capturing attention.

Relevance: Demonstrates how dynamic content in political social media – like video clips or animated memes – could amplify emotional engagement and polarizing effects.

Link:

<https://www.mdpi.com/2076-328X/11/8/108>

2.1.8 Seikavandi, Meisam., Barrett, Maria., Burelli, Paolo. (2025). Modelling face emotion perception from naturalistic face viewing: insights from fixational events and gaze strategies

Focus: Uses eye tracking to analyse how people perceive and interpret emotional expressions in real faces.

Key Points:

- Explores fixation patterns (where viewers focus on eyes, mouth, etc.) and how these gaze strategies correlate with perceiving specific emotions.
- Suggests personalised or adaptive models for emotion detection based on individual gaze habits.

Relevance: If a political study involves face tracking (e.g., analysing politicians' facial expressions or viewers' reactions to them), these findings help in understanding how facial emotional cues are processed and how that might feed into affective polarization or acceptance of pluralism.

Link:

<https://arxiv.org/abs/2503.15926>

2.1.9 Jensen, O., Olasfadottir, I., Sadeghnia, G., de Lamos, J. (2008). Measuring emotions using eye tracking

Focus: A foundational piece discussing how eye movements and pupil dilation serve as proxies for emotional engagement.

Key Points:

Emphasises the value of triangulating eye tracking with self-report data to get a fuller picture of emotional responses.

Notes the importance of experimental design (stimuli presentation, sampling rate, calibration) for reliable measurement.

Relevance: Provides baseline methodological guidance for measuring emotions through eye tracking in any experimental setup, including political content.

Link:

https://www.researchgate.net/publication/254885088_Measuring_emotions_using_eye_tracking

2.1.10 Lanatà, A., Valenza, G., & Scilingo, E. P. (2013). Eye gaze patterns in emotional pictures.

Focus: Studies how participants visually explore emotionally evocative images (e.g., pleasant vs. unpleasant scenes) and how that exploration differs from neutral imagery.

Key Points:

- Emotional salience can drive the viewer to focus on specific “hot spots” within an image (e.g., threat-relevant elements in negative images).
- Gaze patterns shift based on valence and arousal levels; higher arousal images typically receive more fixations in key areas.

Relevance: Shows how visually salient and emotionally charged areas draw attention. This can be extended to analysing political images or memes designed to evoke strong affective responses.

Link:

https://www.academia.edu/13290418/Eye_gaze_patterns_in_emotional_pictures

2.1.11 Lanatà, A., Valenza, G., & Scilingo, E. P. (2015). Eye tracking and pupil size variation as a response to affective stimuli.

Focus: Investigates pupil dilation as a physiological correlate of emotional arousal when viewing affective stimuli.

Key Points:

- Pupillary response is a robust indicator of sympathetic nervous system activation in response to emotional content.
- Variation in pupil size can help distinguish between different intensities of emotional stimuli, complementing fixation analyses.

Relevance: Highly useful if the study wants to capture not only where participants look but also how strongly they are physiologically aroused by polarising or pluralistic narratives in political posts.

Link:

https://www.academia.edu/13290452/Eye_tracking_and_pupil_size_variation_as_response_to_affective_stimuli

2.1.12 Gou, M., Kwon, M., Hwang, M., Zhou, Y. (2023). Eye perception and preference difference between different emotional content on TikTok and Twitter platforms

Focus: Compares how users visually engage with emotional content on two distinct platforms (TikTok for video, Twitter for text/short media).

Key Points:

- Platform differences (video-based vs. text-based) lead to differences in attention distribution and emotional engagement.
- Eye-tracking data confirm that dynamic video on TikTok can elicit rapid attention shifts, while on Twitter, textual cues (headlines, hashtags) drive fixations.

Relevance: Highlights platform-specific patterns of user attention – important for political communication strategies that differ across short-video platforms (e.g., TikTok) and microblogging sites (e.g., Twitter).

Link:

https://www.jmis.org/archive/view_article?pid=jmis-10-2-153

2.1.13 Lewandowska, A., Rejer, I., Bortko, K., & Jankowski, J. (2022). Eye-tracker study of influence of affective disruptive content on user's visual attention and emotional state

Focus: Examines how “disruptive” content – content designed to evoke surprise, shock, or strong emotion – impacts both gaze behaviour and reported emotional states.

Key Points:

- Disruptive elements (e.g., extreme imagery, provocative phrases) draw fixations quickly and can increase arousal.
- The study suggests that such content can polarise reactions – some users engage longer, others disengage to avoid discomfort.

Relevance: Directly informs how heightened emotional or polarising content may intensify selective attention, which is crucial in studying affective polarisation.

Link:

<https://www.mdpi.com/1424-8220/22/2/547>

2.2 GENERAL SUMMARY

1) Objective Attention vs. Self-Reported Emotions

Several papers (e.g., [#1](#), [#2](#), [#4](#)) emphasise that eye tracking provides an objective measure of attention, often differing from self-reports. In the context of political studies, combining eye tracking with self-reported data (and possibly physiological measures) will give a richer understanding of how polarising vs. pluralistic narratives capture attention.

2) Emotional Salience and Fixation Patterns

Research on emotional content ([#4](#), [#5](#), [#6](#), [#9](#)) shows that emotionally charged content tends to increase fixation duration and pupil dilation. When comparing “affective polarisation” narratives (likely negative, conflict-oriented) versus “affective pluralism” (possibly more inclusive, multi-perspective emotional tone), one can track whether polarisation or pluralism garners distinct gaze patterns (e.g., more fixations on conflict-laden language or images).

3) Type and Format of Stimuli

Studies on social media ([#2](#), [#7](#), [#12](#), [#13](#)) demonstrate that content format (text, static images, video, GIFs, memes) heavily influences visual attention. For a study of political narratives, choosing representative content formats (e.g., Twitter text-based polarising posts vs. short TikTok or Instagram videos championing pluralism) could reveal platform-specific differences in how attention is captured.

4) Populist vs. Pluralistic Emotional Cues

Publication [#3](#) specifically addresses responses to populist strategies and underscores that negativity is not the only driver of emotional engagement. Affective pluralism narratives

might leverage positive or empathetic cues. Eye tracking could clarify how different emotional tones (anger, fear, hope, empathy) engage viewers.

5) Facial Expressions and Viewer Gaze

If the study extends to face tracking or uses real politicians' faces, [#8's](#) findings on how people perceive emotional expressions (and which facial features they fixate on) could be instructive. For example, polarising vs. pluralistic rhetorical styles might come with different facial expressions in videos that shape viewer reactions.

6) Psychophysiological Indicators of Arousal

Pupil dilation studies ([#5](#), [#11](#)) and reviews of metrics ([#6](#)) show that combining fixation and pupil size data is key to capturing emotional intensity. This can help differentiate between simple attention (e.g., "I glance at it") and deeper emotional engagement or agitation (e.g., "I'm physiologically aroused"). In an experiment comparing polarising vs. pluralistic content, pupil dilation could reveal heightened emotional activation for polarising stimuli.

7) Disruptive Content and Selective Exposure

Research ([#13](#)) on disruptive content implies that overtly shocking or strongly affective stimuli can draw immediate attention but may also cause some users to withdraw. In the political domain, repeated exposure to highly polarising messaging might fatigue or repel certain audiences. Testing alternative "pluralistic" narratives might reveal more sustained, less defensive engagement.

8) Methodological Considerations

Many papers stress the importance of careful design (stimulus presentation, calibration, controlling for confounds) to reliably link eye tracking metrics to emotional and cognitive processes ([#1](#), [#2](#), [#5](#), [#6](#), [#9](#)). For a comparative study of affective polarisation vs. affective pluralism, ensuring consistent visual layouts, controlling for image or text length, and integrating additional measures (self-reports, physiological data) will strengthen causal interpretations.

9) Platform-Specific Implications

Studies that compare platforms ([#2](#), [#7](#), [#12](#)) reinforce that the interplay of platform affordances (e.g., short videos, ephemeral stories, text-based tweets) must be considered. A multi-platform design capturing both attention metrics and emotional responses can illuminate whether polarising or pluralistic narratives capture attention and emotional engagement more effectively on certain platforms.

2.3 CONCLUSIONS FOR ENCODE RESEARCH

Taken together, these publications underscore the power of eye tracking (and, where relevant, facial expression and physiological measures) to reveal the nuances of attention and emotional responses to political content. For a study comparing affective polarisation (highly conflictual, negative, or populist cues) with a new "affective pluralism" narrative (inclusive, multi-perspective, possibly more cooperative content), key takeaways include:

- **Objective measurement:** Eye tracking offers insights into genuine user attention beyond self-report biases.
- **Emotion detection:** Metrics such as pupil dilation, fixation duration, and gaze patterns reveal emotional engagement with different narrative styles. Furthermore, what was not found in the literature was the use of Face-tracking method, which we are going to apply in the project which allows to also capture the emotions by using the face recognition algorithms.
- **Content format & platform:** The emotional and attentional impact varies by platform and content type (static, video, animated).
- **Experimental rigour:** Designing controlled comparisons (matching stimuli length, complexity) and combining eye tracking with additional psychophysiological or self-report data can best capture how and why polarising vs. pluralistic narratives succeed or fail in engaging audiences.

2 ENCODE BIOMETRIC RESEARCH

3.1 PILOT TESTING

To ensure the methodological rigour and reliability of all instruments used in the ENCODE research, a pilot and validation process will be conducted prior to the full-scale study. This procedure covers the need for empirical validation of the political compass tool, the stimuli used in the biometric phase, and the interview guide employed during post-stimuli discussions. The purpose of this pilot stage is to verify the psychometric soundness of all tools, to assess their technical functionality, and to harmonise research practices across all consortium partners.

The pilot study serves a dual function: to test the methodological integrity of the research instruments and to ensure that the technical equipment and stimuli used are effective in eliciting measurable and interpretable emotional responses. Additionally, it provides an opportunity to align the implementation of the study across all research sites and to ensure consistency in the collection of data. The pilot will take place in two stages: an internal pilot study conducted by ASM and subsequent validation of research materials by case study partners (UNIVE, UCPH and CSD).

The internal pilot study will be carried out by ASM, using a small sample of participants (approximately 5 - 10 individuals). This phase will simulate the full research process, beginning with recruitment and pre-survey completion, through the biometric testing stage, and concluding with the post-stimuli interview.

During the pre-survey phase, the focus will be placed on verifying the clarity, neutrality, and comprehensibility of the political compass questionnaire. Feedback from participants will be used to identify items that are ambiguous, redundant, or potentially biased, which will then be revised or excluded.

In the biometric testing phase, ASM will test the functionality and calibration of the eye-tracking and face-tracking systems under controlled conditions. The goal is to confirm the stability of the systems and the quality of data collection, including fixation patterns, gaze duration, and facial emotion recognition. The pilot will also verify that the simulated social

media profiles of fictional politicians evoke a natural range of emotional and attentional responses. Feedback from participants will be used to assess the authenticity and emotional realism of the materials and to identify potential adjustments to the stimuli's content or presentation format.

The final stage of the internal pilot will focus on the post-stimuli interview. Participants will be invited to describe their emotional experiences and to reflect on their reactions to the content they viewed. This stage will test the comprehensibility, tone, and structure of the moderator's questions. Feedback obtained during these interviews will serve to refine the interview guide, ensuring that it captures both cognitive and affective dimensions of participant experience without leading or influencing responses.

The implementation of this pilot and validation phase will substantially enhance the methodological credibility of the ENCODE project. It will ensure that the political compass instrument demonstrates adequate psychometric reliability, that the biometric stimuli effectively elicit measurable emotional responses, and that the interview guide produces coherent and meaningful qualitative data.

3.2 PARTICIPANTS RECRUITMENT AND SAMPLE DISTRIBUTION

General information:

- **Sample size:** At least 60 participants total (15 per country: Poland, Austria, Denmark, Bulgaria).
- **Demographics:**
 - Gender-balanced, aiming for approximately equal numbers of male and female participants.
 - Age 18 – 35:

The **age range of 18–35 years** was deliberately selected to ensure both the internal coherence and statistical reliability of the results within the project's limited sample size. Research indicates that younger adults are more intensively engaged with social media as a primary source of political information and emotional communication, whereas older age groups, while also using social media, exhibit different behavioural and emotional patterns. Specifically, younger Europeans (ages 18–29) are more likely than older adults to get news and political information via social media platforms ([Pew Research Center, 2018](#)). In general, younger adults report that social media is an important channel for engaging with political and social issues ([Pew Research Center, 2025](#)). Including older participants in such a limited sample could increase intra-group variability and reduce statistical power. Therefore, focusing on the 18–35 cohort ensures methodological consistency, strengthens the validity of cross-national comparisons, and aligns the study with ENCODE's broader aim of analysing affective engagement in digital-native citizens.

- Education level: higher vs. non-higher (same as above)
- **Recruitment channels:** academic partners, NGOs, social media, snowball sampling, external recruiters. Participants will receive a small token of appreciation (e.g., a mug or a gift card) for their participation.
- **Eligibility:**

- 18+, fluent in local language (and/or English).
- Active social media users.
- Consent to biometric data collection and audio-recorded interviews.

3.3 PRE-SURVEY

To properly situate biometric reactions and verbal accounts obtained through eye-tracking, face-tracking, and in-depth interviews (IDIs), ENCODE will initiate the data gathering with a brief pre-survey. The purpose of the pre-survey is to anonymously identify the political leaning of each participant according to a widely used political compass model to have a more nuanced understanding of affective and cognitive reactions to existing and upcoming emotional narratives.

3.3.1 PRE-SURVEY METHODOLOGY

Purpose and design

In accordance with ENCODE's aim to chart affective pluralisation and to comprehend how emotions engage with political identities, this pre-survey will:

- Place each respondent on the political compass, including a two-axis grid: economic (left-right) and social (authoritarian-libertarian).
- Gather basic demographic data: gender, age, and education level.
- Anonymize answers using individual alphanumeric codes (R1_Poland, R2_-Denmark, etc.) throughout the research stages.
- Supply baseline ideological information for the interpretation of biometric responses and verbal revelations captured in later research stages (Task 4.2).

Methodology: Determining political compass position

Participants will fill out a 20-question survey, with statements taken and modified from existing political compass measures (e.g., Political Compass Ltd¹, Pew Research Center², or publications³). The items are rated on a -10 to 10 scale ranging from "Strongly disagree" to "Strongly agree".

- **10 items measure economic orientation** (e.g., attitudes toward taxation, market regulation, social welfare, etc.).
- **10 items measure social orientation** (e.g., attitudes toward civil liberties, authority, tradition, and state control, etc.).

¹ <https://www.politicalcompass.org/>

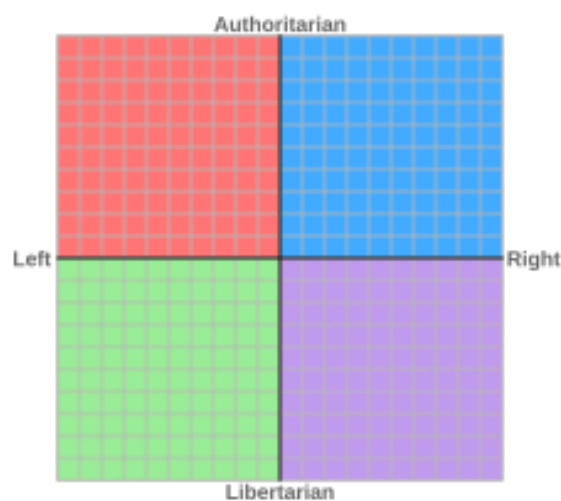
² <https://www.pewresearch.org/politics/quiz/political-typology/>

³ <https://www.jsse.org/index.php/jsse/article/download/541/538/25494>

Scoring and axis placement

- Each item is pre-coded as reflective of left/right (economic) or libertarian/authoritarian (social) orientation.
- Response options are numerically coded (Strongly disagree = -2 to Strongly agree = +2).
- The total answers in each area are normalised to a standard scale (e.g., -10 to +10) for graphing on a 2D political compass graph.
- **X-axis:** economic score (Left: -10 to Right: +10), **Y-axis:** social score (Libertarian: -10 to Authoritarian: +10)

Figure 1 - Political Compass



Source: [The Political Compass](#)

At the project design stage, the objective of political positioning within ENCODE was contextual rather than diagnostic. The study did not aim to produce a precise or theory-driven measurement of ideological orientation comparable to large-scale surveys such as the ESS, ISSP, or WVS. Instead, the political positioning component was intended to provide a lightweight, intuitive situational mapping of respondents' self-placement, to support the interpretation of emotional responses in subsequent research stages.

The Political Compass framework was selected because it offers a widely recognised and easily communicable two-dimensional model, capturing economic and socio-cultural orientations in a form that is readily understood by non-specialist participants. This was particularly important given the three-step research design of ENCODE, where political positioning constituted only one supporting element among several research activities. In this context, the use of more extensive and standardised batteries, such as those employed in ESS or ISSP modules, would have significantly increased respondent burden and risked survey fatigue, potentially compromising data quality in the core emotional measurements.

The Political Compass questions will therefore be used as a pragmatic compromise between analytical usefulness and feasibility. They were not intended to replicate or replace established academic instruments, nor to enable fine-grained distinctions between closely related ideological dimensions. Political positioning results will be used only as contextual reference points, not as standalone explanatory variables.

3.3.2 CALCULATIONS

To quantitatively assess each respondent's ideological orientation, we use a two-axis political compass model that maps views along two dimensions: economic (left–right) and social (libertarian–authoritarian). This model provides a nuanced alternative to binary political categories by recognising that economic and social values can vary independently.

Participants' responses to a series of Likert-scale items are transformed into numerical values and weighted according to the ideological direction they reflect. These weighted scores are then used to calculate each respondent's coordinates on a 2D political compass, enabling their anonymous ideological positioning as a basis for interpreting their emotional and cognitive reactions to political narratives in later research stages.

Let's define:

- n_e : Number of **economic axis** items (e.g., 10)
- n_s : Number of **social axis** items (e.g., 10)
- r_i : Response to item i , mapped to a numeric score:
 - Strongly Disagree = -10
 - Neutral = 0
 - Strongly Agree = +10

Each item i , has a **directionality weight** d_i , where:

- $d_i = +1$ if agreeing reflects **right-wing** (economic) or **authoritarian** (social) views
- $d_i = -1$ if agreeing reflects **left-wing** (economic) or **libertarian** (social) views

1. Economic Axis Score (X-axis)

For each of the n_e economic questions:

$$X = \frac{1}{n_e} \sum_{i=1}^{n_e} (r_i \cdot d_i)$$

This yields an **economic score** from -2 to +2 (if unnormalized), or from -10 to +10 (if $n_e = 10$ and responses are at extreme ends).

2. Social Axis Score (Y-axis)

For each of the n_s social questions:

$$Y = \frac{1}{n_s} \sum_{i=1}^{n_s} (r_i \cdot d_i)$$

This yields a **social score** from -2 to +2 (if unnormalized), or from -10 to +10 (if $n_s=10$ and responses are at extreme ends).

3. Final Placement on Compass

Each respondent is plotted as a point on the 2D plane:

$$\text{Political Position} = (X, Y)$$

Where:

- $x < 0$: Economic Left
- $x > 0$: Economic Right
- $Y < 0$: Social Libertarian
- $Y > 0$: Social Authoritarian

Conducting this calculation will allow us to place respondents on the political compass matrix.

3.3.3 QUESTIONS (DRAFT)

Economic Axis Items

1. Government should redistribute wealth more equally, even if it means higher taxes on the rich.
2. Free-market capitalism is the best path to prosperity.
3. Public services like healthcare and education should be nationalised.
4. A strong welfare state leads to laziness and dependency.
5. Big corporations should be more tightly regulated.
6. Workers' rights should take priority over business interests.
7. Private enterprise runs things more efficiently than the state.
8. Trade unions are essential to protect working people.
9. Taxes on high earners should be significantly increased to fund social programs.
10. Government intervention in the economy usually does more harm than good.

Social Axis Items

11. The state must sometimes restrict individual freedoms for the sake of security.
12. People should be free to live their lives however they choose, regardless of tradition.
13. Law and order are more important than civil liberties.
14. Same-sex marriage should be legalised in all EU countries.
15. Traditional family values must be preserved and promoted by the state.
16. Citizens should be required to show loyalty to their nation above all else.
17. Immigration enriches society and should be encouraged.
18. The state should not interfere in religious expression in public life.

- 19. Drug use should be decriminalised for personal choice and health reasons.
- 20. Schools should instil discipline and respect for authority.

3.3.4 IMPLEMENTATION PHASE

Implementation

- **Administration:** The pre-survey will be conducted digitally using laptops or paper forms upon participant arrival after briefing and signing the consent form.
- **Duration:** Approximately 5–7 minutes.
- **Anonymity:** Each respondent will be assigned a randomly generated code, which is carried throughout the study (biometric and interview stages). For example: Test_Poland_1
- **Validation:** The results may be compared against public attitude benchmarks, i.e. Political Compass results in different countries to validate demographic balance and identify ideological clustering, if needed.

Output

The results of the pre-survey will produce:

- A dataset of political compass positions per respondent.
- Ideological segmentations to cross-reference with eye-tracking/facial data and IDI analysis.
- Visual distribution maps of respondents along the political compass, used in WP4 data interpretation.

3.4 BIOMETRIC RESEARCH SET-UP

Establishing a controlled and optimised research environment is critical when conducting biometric studies involving eye-tracking, face-tracking, and in-depth interviews (IDIs). The quality and reliability of the data collected depend heavily on the consistency and standardisation of the physical setup and technological infrastructure:

1. Room Preparation

The study room should be neutral, quiet, and free from any distractions to minimise external stimuli that can interfere with participants' natural responses. Some of the key environmental considerations are:

- **Lighting:** Use diffused, even light to avoid screen reflections and adequate lighting of the face. Natural light should be minimised, and overhead lighting should be adjustable in intensity to avoid casting shadows.
- **Soundproofing:** Acoustically seal the room to prevent disturbing noises during interviews and biometric capture. Use soundproofing foam, carpet, and acoustic panels as required.
- **Temperature and Comfort:** Keep the room warm and provide ergonomic seating. The comfort of the participants is important to avoid variability of data because of physical discomfort.

2. Equipment Set-Up

Biometric devices must be properly calibrated and positioned to capture accurate data. The primary equipment includes:

- **Eye-Tracking Device:**
 - Tobii remote eye-trackers will be used.
 - Position the eye-tracker below the monitor, ensuring it is directly aligned with the participant's eye level.
 - Calibrate the system for each participant individually using a standard 9- or 12-point calibration process.
- **Face-Tracking Device:**
 - We are using the same equipment for Face-Tracking as for Eye-tracking.
 - One calibration needed.
- **Display & Audio:**
 - ASM's laptops with the necessary software will be used in the target countries during the actual data collection.
 - Use over-ear headphones to ensure immersive and isolated audio experiences when required.

3. Software and Synchronisation

All devices and recording systems should be connected to a central computer system to ensure synchronisation of eye-tracking, facial data, and interview audio/video.

- **Data syncing:** Use software that allows timestamped recording and integration of multiple data streams for post-analysis.
- **Live monitoring:** Equip the researcher's station with real-time monitoring dashboards to ensure data quality during the session.
- **Software and hardware type:**
 - Eye-tracker: Tobii Pro Fusion 120Hz (hardware)
 - Laptop: HP precision 7530, Intel Core i7, 32 GB RAM, Windows 11
 - Face-Tracking: CAPTIV NeuroLab

4. Participant orientation and testing

Before starting data collection:

- Brief participants on the study process and ensure informed consent.
- Conduct a trial run to test calibration, comfort, and data capture.
- Provide participants with a neutral "cool-down" period to acclimate to the room before beginning the experiment.

3.5 RESEARCH STIMULI

This section outlines the research stimuli used in the ENCODE project, particularly in the context of Work Package 3 (social media analysis) and Work Package 4 (biometric and qualitative research). The stimuli encompass both the existing ("current") and the experimental, future-oriented ("future") emotional narratives created through social media channels.

For this purpose, four social media accounts of fake politicians will be established by each case study partner on the X social media platform:

1. Liberal pro-EU male politician

2. Liberal pro-EU female politician
3. Conservative EU sceptic male politician
4. Conservative EU sceptic female politician

These four accounts will represent two types of narratives: current narrative based on the affective polarisation and the first prototype of future narrative based on the concept of affective pluralisation from WP2.

Figure 2 - Examples of the fake politician's profiles for social media.



Source: ChatGPT 4o (Examples of pictures were generated with the support of AI ChatGP4o)

The need to create separate accounts for each of the four countries is forced by different national emotional drivers that were identified in desk research and interviews in Task 2.3 and as well as during the analysis of national data of X conducted in WP3. This will have a direct impact on the creation of social media posts that will include:

- Text generation: this task is to generate several posts' content to be previewed by the respondents.
- Visuals: this task is to generate a picture or other graphical visuals that will be attached to the social media post, strengthening the emotional message

Post generation will follow the structure below:

1. CASE STUDY TOPICS:
 - 2 posts presenting current narrative about Covid-19 (in English or in one language that was under analysis in WP3 – later to be translated) – **1 post for a male politician, 1 post for a female politician.**
 - 2 posts presenting “emodiversity” narrative (based on the prompt from UWR and related attachment with the theory) about Covid-19 (in English or in one language that was under analysis in Wp3 - later to be translated) – 1 post for a male politician, 1 post for a female politician
 - 2 posts presenting current narrative about war in Ukraine (in English or in one language that was under analysis in Wp3 – later to be translated) – **1 post for a male politician, 1 post for a female politician.**

- o 2 posts presenting “emodiversity” narrative (based on the prompt from UWR and related attachment with the theory) about War in Ukraine (in English or in one language that was under analysis in Wp3 - later to be translated) – **1 post for a male politician, 1 post for a female politician.**

Selected case study topics (COVID-19, war in Ukraine) allow us to investigate emotional engagement in times of societal and political crises. These two topics were also selected at the time of preparing the ENCODE application.

2. NATIONAL TOPICS

- o 6 posts per country (3 national topics) with national-related topics presenting current narrative (generated in national languages for Austria, Bulgaria, Denmark and Poland) – **3 posts for male politician, 3 posts for female politician.**
- o 6 posts per country (3 national topics) with national-related topics presenting “emodiversity” narrative (generated in national languages for Austria, Bulgaria, Denmark and Poland) – **3 posts for male politician, 3 posts for female politician.**

3.5.1 CURRENT NARRATIVE STIMULI – SOCIAL MEDIA ACCOUNT AND CONTENT CREATION

The "current narrative stimuli" is derived from the natural social media environment to reflect the emotional, political, and societal discourse that citizens are regularly exposed to. As part of WP3, the project investigates existing social media content across platform X (formerly Twitter). Data from this platform is classified by an LMM to identify the emotions inside the posts' text.

The process includes:

- **Identifying prevalent narratives** tied to emotions, political events, populism, and conspiracy theories.
- **Simulation of social media profiles** that will publish these future-oriented narratives, maintaining authenticity in appearance and style to mirror real-world online environments.

Within WP3, Large Language Models (LLMs) were trained to annotate social media posts by identifying political content, expressed emotions, and underlying values. For the purposes of WP4, this annotated dataset was further enriched by linking posts authored by politicians to their political parties, based on country-specific expertise provided by project partners.

Using this information, politicians were grouped according to the European Parliament political families to which their parties belong, resulting in two analytical cohorts. One group, labelled pro-EU/liberal, includes representatives affiliated with S&D, Greens, Renew Europe, and EPP. The second group, labelled conservative/anti-EU, includes those associated with ECR, Patriots, and ESN. This categorisation serves strictly analytical and operational purposes within the project and should not be understood as a normative or exhaustive description of the ideological positions of these political groups.

All data were anonymised, retaining only the textual content of posts and a single tag indicating cohort affiliation. The dataset was organised into four country-specific subsets. These anonymised and labelled texts were then used as input for a Generative AI model, which was employed to create synthetic social media posts reflecting dominant narratives currently used in political communication on social media.

Selection of Lumo as the AI Tool

Following the classification of political posts into pro-EU/liberal and conservative/anti-EU cohorts, Lumo was selected as the AI tool for generating synthetic posts that mimicked authentic political communication narratives from the four country-specific datasets.

Lumo's zero-access encryption and no-logging policy ensured that anonymised political communication data remained confidential throughout the generation process. Unlike commercial AI assistants, Lumo does not use conversation data to train its models or share information with third parties, which was essential for maintaining ethical research standards⁴.

Operating entirely within EU data centres under European privacy regulations, Lumo provided the necessary jurisdictional safeguards for handling sensitive political content across multiple European countries. This alignment with GDPR requirements was critical for a research project involving European Parliament political groups.

Furthermore, Lumo's advanced contextual understanding and reasoning capabilities enabled it to generate synthetic posts that maintained consistency across multiple dimensions while working exclusively with the anonymised text strings from the annotated datasets. This ensured the synthetic data authentically reflected country-specific political communication styles without compromising privacy or requiring additional metadata.

Prompt design and implementation - narrative replication prompts

These prompts instructed Lumo to generate synthetic posts that replicated the emotional tone and thematic focus of the original annotated data. The model was first provided with training samples in CSV format containing the text of tweets from politicians of each country, with a "user_class" field reflecting the pro-EU/liberal or conservative/anti-EU classification. The initial instruction was: "CSV file: 'text' are tweets from [country] politicians; 'user_class' reflects the pro-EU/liberal or anti-EU/conservative values of the author. Learn to replicate the emotional tone used." Following this learning phase, generation prompts were issued: "Replicating the emotional tone of the sample, write two tweets from a [country] [ideological classification] politician on the topic: [specific topic]." This approach ensured that synthetic posts authentically mirrored the affective polarisation patterns present in the original datasets while maintaining country-specific and ideological consistency.

3.5.2 FUTURE NARRATIVE STIMULI – SOCIAL MEDIA ACCOUNT AND CONTENT CREATION

The "future narrative stimuli" aim to explore how positive, depolarised, and emotionally resonant communication can influence public trust and political engagement. As detailed

⁴ <https://proton.me/support/lumo-privacy>

in WP4, future narratives will be designed through a combination of citizen co-creation workshops, expert panels, and Delphi techniques in the later stage of the project. However, for the purpose of WP4 and the preliminary validation of Affective Pluralism theory, selected elements of the theory are incorporated into the study. At this stage, the future narrative stimuli represent an initial, theory-informed operationalisation of affective pluralism, intended solely for experimental testing.

Key steps include:

- **Development of updated content** based on the emotional drivers and positive communication strategies identified in earlier research stages within WP3 and WP2 theory of “affective polarisation” and “emodiversity”.
- **Simulation of social media profiles** that will publish these future-oriented narratives, maintaining authenticity in appearance and style to mirror real-world online environments.
- **Preparation of multimedia stimuli**, including designed posts, infographics and/or short videos, and emotional storytelling, all embedded into real social media environments.

These future narratives will serve as stimuli during eye-tracking and face-tracking experiments as well as IDIs, helping researchers observe how newly constructed emotional messages affect user engagement, attention, and emotional responses.

Prompt design and implementation- theory-grounded transformation prompts

A second set of prompts was designed to operationalise the Theory of Affective Pluralisation at the message level. Lumo was first provided with extensive conceptual framing: "In our research project, we are working on developing a theory and narratives that would lay the groundwork for an emotional turn in contemporary European democracies, which are to a large extent dominated by the phenomenon of affective polarisation. Our understanding of affective polarisation in this project is set out in Chapter 7 of D2.1. We have prepared a hypothetical social media post that is an example of an affective polarisation narrative. We have also developed the concept and theory of affective pluralisation—these are explained in chapter 8 of D2.1 and chapter 7 of D2.2. Particularly important are the assumptions of emodiversity and pluralism in public debate." Providing also the reference documentation. Following this theoretical grounding, transformation instructions were given: "Based on the above explanation and the content in the indicated reports D2.1 and D2.2, transform the tweet: [tweet text] so that it fulfils the assumptions of the Theory of Affective Pluralisation. The new post will not have identical content to the source post, but try to transform it into what it might look like when the theory of affective pluralisation (TAP) is taken into account."

This two-stage prompting approach enabled the generation of both baseline content and theoretically informed alternative formulations, providing the comparative data necessary for examining how political communication might evolve under different affective frameworks while maintaining the privacy protections essential for ethical research practice.

By analysing responses to both current and future stimuli, ENCODE seeks to uncover how emotionally driven communication can be used to build trust, strengthen resistance to misinformation, and promote more robust democratic values, as well as how people perceive different form of communication on the same topics.

3.6 CONDUCTING EYE-TRACKING AND FACE-TRACKING RESEARCH WITH STIMULI

Within the biometric analysis of the ENCODE project under Work Package 4, face-tracking and eye-tracking procedures are employed in examining the ways in which participants respond emotionally and cognitively to political stories shown on social media. The procedures enable researchers to gather real-time and non-intrusive data about visual attention, emotional expression, and cognitive load while participants are exposed to controlled stimuli.

Overview of the session

All participants will undergo a standardised 20-minute session, which will be in three segments:

- Introduction and briefing (5 minutes)
- Stimuli exposure and testing (10 minutes)

Introduction and briefing (5 minutes)

Participants are greeted in the research setting and made comfortable in front of the biometric hardware. The session starts with a verbal and written briefing, where participants:

- Are reminded about the purpose of the study and the anonymity of their data.
- Are given a participant code to provide anonymity in all datasets.
- Get minimal instruction regarding test protocol (i.e., to act normally, not touch the screen or turn away unless necessary)
- Go through a brief calibration of the eye-tracking and face-tracking systems to ensure precision in capturing gaze and facial expressions.

This phase guarantees participant comfort, informed consent, and peak equipment function.

Exposure to stimuli and testing (circa 10 minutes)

The test body is a controlled exposure to four mock social media accounts of fictional politicians. The accounts are designed to be like real political accounts, with profile pictures, banners, account descriptions, and 5 posts on each account. The posts borrow from themes and emotional tones developed in WP2 and WP3 (e.g., populist appeals, depolarised discourse, or emotionally engaging narratives).

Participants engage with the content in a video format that mimics natural social media use, although it is limited by the time of video.

The format is structured as:

- Two and a half minutes per politician profile
 - Participants read the postings at their own speed, but are limited to the video timing.
 - No other activity is assigned to maintain spontaneous, affect-based interactions.

- Simulated environments are delivered through a video, and content is displayed on a real social media platform (“X”).
- Eye-tracking measures gaze fixations, saccades, and heatmaps of attention
- Face-tracking captures real-time emotional expressions (e.g., joy, surprise, disgust), micro-expressions, and attention levels.

Researchers track data in real time and mark any technical disruptions or anomalous behaviour for analysis later.

Outcome

The ensuing biometric information—gaze trajectories, attention maps, and facial emotion timelines - is synchronised and subsequently examined alongside pre-survey political compass locations and post-session qualitative interviews. This will lead to synthesis that offers a multi-layered perspective on the emotional processing and consumption of political messages within social media spaces by various ideological groups. This enables a multi-layered qualitative-biometric analysis, integrating gaze, facial expression, and self-reported data with political compass placement and interview insights.

3.7 POST-STIMULI IDI INTERVIEW

The last part of the biometric study process is an up to 30-minute in-depth interview (IDI), which takes place right after the eye-tracking and face-tracking session. The qualitative component offers a rich understanding of the subjective emotional experience and cognitive interpretation of the participants in reaction to the political stimuli that they were exposed to during the biometric test.

Purpose and integration

The post-stimuli interview is intended to:

- Discuss the conscious emotional and cognitive reactions to the social media content watched.
- Know why particular posts elicited positive, negative, or ambivalent emotions.
- Measure perceived authenticity, trust, and engagement with political messages.
- Recognise patterns of rejection, resonance, or scepticism of political messages.

The following guide presents the main thematic question blocks and illustrative prompts. Moderators are expected to adapt the wording, sequencing, and depth of questions in response to participants’ communication styles and willingness to engage, recognising that some participants may be more forthcoming than others. While individual interviews may therefore vary in emphasis and flow, moderators are asked to preserve the overall structure and thematic coverage to ensure comparability across interviews.

Interview setup

- Held in the same controlled room as the biometric test or an adjacent restricted area to promote continuity and comfort.
- Led by a qualified researcher with a semi-structured interview guide.

- Audio and video captured (with prior agreement) to facilitate in-depth qualitative analysis. Each interview is conducted individually immediately after the test to keep emotional impressions fresh.

Each interview is linked to the participant via their anonymous code, enabling integration with pre-survey and biometric data without compromising anonymity.

Structured interview guide for moderator

The following guide outlines the key question blocks and specific prompts. Moderators are encouraged to probe further based on participants' responses while maintaining the general structure for comparability.

A. Introductory warm-up

1. *"How are you feeling after the session?"*
2. *"Was this type of test familiar to you or something new?"*

B. General impressions of the social media profiles

3. *"What were your first impressions of the politicians' social media accounts overall?"*
4. *"Did any profile feel more authentic or believable than the others? Why?"*
5. *"Did any profile seem fake or manipulative to you? Why?"*

C. Emotional reactions to content

6. *"Can you recall any posts that triggered a strong emotional reaction—positive or negative?"*
7. *"Were there moments you felt angry, anxious, hopeful, inspired, or sceptical while reading?"*
8. *"What emotions did you associate with each profile, if any?"*
 - o (Moderator may briefly re-show selected screenshots to help memory)

D. Likes and dislikes

9. *"Which post or message stood out to you the most in a good way? What about it did you like?"*
10. *"Was there any post that made you uncomfortable, annoyed, or turned off? Why?"*
11. *"Were there specific phrases, images, or topics that you responded positively/negatively to?"*

E. Cognitive evaluation and trust

12. *"Which of the politician accounts did you trust the most? Why?"*
13. *"Were there any you completely distrusted or dismissed? What led you to that conclusion?"*
14. *"How realistic did you find the accounts and posts? Could you imagine seeing them in your actual feed?"*
15. *"Do you feel any of the content was emotionally manipulative? If so, how?"*

F. Reflections on personal beliefs and identity

16. *"Do you feel your personal beliefs influenced how you reacted to the posts?"*
17. *"Did any content challenge your existing views or make you reflect differently on an issue?"*
18. *"Do you think people with different political views would respond differently to the same content?"*

G. Final thoughts and debrief

19. *“Do you think emotional content on social media affects people’s political opinions or behaviours?”*

20. *“Is there anything else you’d like to share about how you experienced the session?”*

Debriefing (5 minutes)

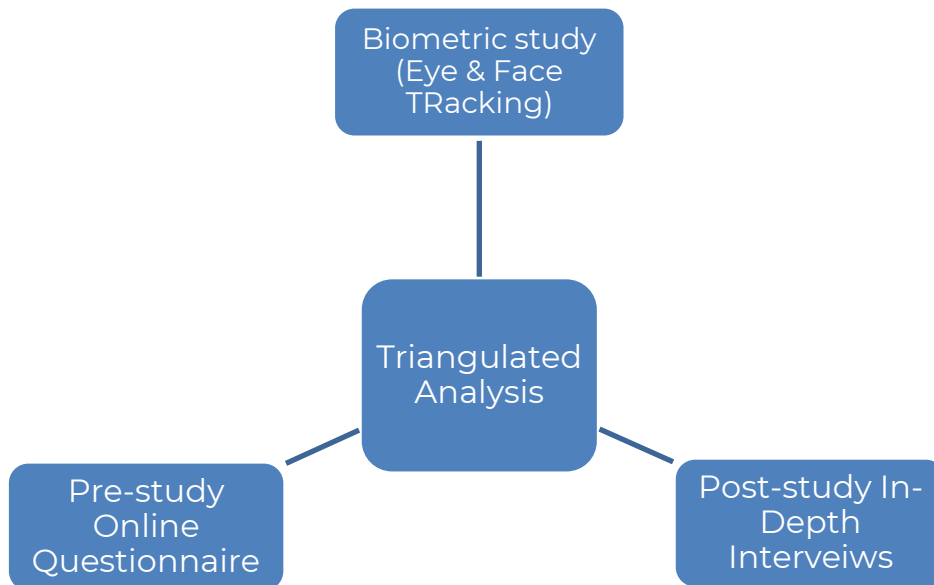
At the end of the IDI interview, all participants engage in a debriefing session, designed carefully with the aim of providing all participants with the highest transparency regarding the nature, purposes, and conduct of this project:

- At this debrief, participants will be informed that none of the social media postings, or political figures were real, thus generated purely for project purposes.
- This debrief also highlights the aims of this project: understanding the effects of emotionally engaging postings on social media sites on users’ perceptions, views, or political activity.
- Participants will also be supplied with contact information for ASM Research Solutions Strategy, as well as that of the Data Protection Officer, for any questions or inquiries that may arise because of taking part in this project.

Outcome

Through the in-depth interviews, the gathered data will be coded using thematic coding. The qualitative research results will then be compared to the biometric and survey results. In this way, such a project benefits from the triangulation method to improve the quality and validity of the research. The three methods selected for the project—biometric measures, surveys, and qualitative studies—will enable the project to make use of the benefits offered by the triangulation method in verifying individual responses and in understanding the implications of emotionally framing political narratives to political cognition. In this way, instead of using one method for research purposes, it is possible to verify individual results and to have a good understanding of the implications.

Figure 3 - Triangulated analysis in the research.



4 ETHICS

Given the biometric nature of the research, strict adherence to ethical standards is required.

- **GDPR Compliance:** All data will be anonymised. Personal identifiers will be kept separate from biometric data.
- **Voluntary Participation:** Participants can withdraw at any time without penalty.
- **Data Storage:** Encrypted and stored on secure institutional servers.
- **Briefing and De-briefing:** All participants will be provided with a debriefing explaining the study and their individual results if desired.

4.1 INFORMED CONSENT FORM (DRAFT)

Below is presented a draft version of the informed consent forms. The form might be adapted by each country where the study will be conducted in line with any national requirements and regulations.

INFORMED CONSENT FORM

Study title:

Emotional Responses to Political Narratives in Digital Environments (ENCODE Project)

Principal Investigator:

[Insert Researcher Name]

[Insert Institution Name]

[Insert Contact Information]

Project funded by:

European Commission – Horizon Europe Programme (ENCODE Project)

Introduction

You are invited to take part in a research study that investigates how people perceive and emotionally respond to political narratives on social media. This study is part of the ENCODE project, which aims to support democratic resilience in Europe through the study of emotional communication.

Your participation in this study is entirely voluntary. There will be no relation to your name in the study: you will be given a specific code, just to correlate the results. Please read the following information carefully before deciding whether to participate.

Purpose of the study

The purpose of this study is to understand how individuals respond to various political narratives, using a combination of surveys, biometric measurements, and interviews. The study involves three stages:

1. Pre-study online questionnaire (approx. 10 minutes)

You will complete a short, anonymous questionnaire that includes questions about your political opinions and values. This data will be used to position you on a political compass and will be anonymously.

2. Biometric testing session (approx. 20 minutes)

You will take part in a session where your eye movements and facial expressions will be recorded while you view simulated social media profiles of fictional political figures. This will include:

- Eye-tracking: to measure what parts of the screen you focus on.
- Face-tracking: to detect your emotional reactions through facial expressions.

All data will be captured anonymously using a participant code.

3. Post-session interview (approx. 30)

You will be invited to take part in a one-on-one interview. The purpose is to understand your thoughts and feelings about the content you viewed during the biometric session. With your permission, the interview will be audio and/or video recorded.

Data handling and confidentiality

- All data will be anonymised using a unique participant code.
- No personally identifying information will be linked to your responses or recordings.
- Data will be stored securely on encrypted devices or servers accessible only to the research team.
- Recordings may be transcribed for analysis but will be stripped of identifying details.
- Your data will be used solely for scientific research and may be included in academic publications, always in anonymised form.

Voluntary participation and right to withdraw

- Participation is entirely voluntary.
- You may withdraw at any point without giving a reason and without any consequences.
- You may also request that any of your data be deleted up to the point of anonymised aggregation.

Risks and benefits

- There are no known physical risks associated with this study.
- Some questions or political content may be emotionally sensitive. You are free to skip any question or stop the session at any time.
- Although you may not directly benefit, your participation will contribute to important research on political communication and emotional processing.

Consent statement

By signing this form, I confirm that:

- I have read and understood the information provided above.
- I have had the opportunity to ask questions and have received satisfactory answers.
- I understand that my participation is voluntary and that I can withdraw at any time.
- I consent to the anonymous use of my data for academic and research purposes.
- I agree to participate in all three stages of the study (pre-survey, biometric test, post-interview).

Participant code: _____

Participant signature: _____

Date: _____

Researcher signature: _____

Date: _____

5 ANNEXES

5.1 INSTRUCTIONS FOR SOCIAL MEDIA ACCOUNTS PREPARATION AND IMAGE GENERATION

Poland (Polska)

PL-L (woman)

- Name: *Agnieszka Nowak* | Handle seed: *AgnieszkaNowakPL* | Language: Polish | City: Gdańsk | Age: 38 | Gender: Woman
- Ideology: Liberal, pro-EU reformer | EU stance: Strongly pro-EU
- Tone: Empathetic, policy-savvy, solutions-oriented
- Topics: women's rights/healthcare access; rule of law & EU funds; clean energy/jobs on the Baltic coast; transparent local gov
- Photo: Wardrobe: smart-casual blazer; Background: Gdańsk Old Town waterfront & cranes (blurred)

PL-L (man)

- Name: *Michał Zieliński* | Handle seed: *MZielinski_Wawa* | Language: Polish | City: Warszawa | Age: 41 | Gender: Man
- Ideology: Liberal, pro-EU | EU stance: Strongly pro-EU
- Tone: Data-driven, optimistic, urban
- Topics: public transport & air quality; digitalization; SME support; civic rights
- Photo: Wardrobe: navy suit, open collar; Background: Sejm/Łazienki area or Warsaw skyline (blurred)

PL-C (woman)

- Name: *Katarzyna Wójcik* | Handle seed: *K_WojcikKrakow* | Language: Polish | City: Kraków | Age: 45 | Gender: Woman
- Ideology: Conservative, values-focused | EU stance: Cautious—"subsidiarity first"
- Tone: Traditional, community-rooted, respectful
- Topics: cost of living; safety; family policy; heritage; effective border management
- Photo: Wardrobe: tailored blazer, subtle jewellery; Background: Wawel/Planty greenery (blurred)

PL-C (man)

- Name: *Piotr Kowalski* | Handle seed: *PiotrK_Bialystok* | Language: Polish | City: Białystok | Age: 52 | Gender: Man
- Ideology: Conservative | EU stance: Pragmatic cooperation
- Tone: Plain-spoken, local-first
- Topics: regional development; agriculture; energy security; orderly migration policy
- Photo: Wardrobe: dark suit, lapel pin (generic flag colours, no party logos); Background: Podlasie countryside/forest (blurred)

Austria (Österreich)

AT-L (woman)

- Name: *Anna Leitner* | Handle seed: *AnnaLeitnerWien* | Language: German (AT) | City: Wien | Age: 36 | Gender: Woman
- Ideology: Liberal, pro-EU | EU stance: Strongly pro-EU
- Tone: Progressive, pragmatic, cosmopolitan
- Topics: integrity & anti-corruption; affordable housing; climate/Alpine tourism resilience; startups

- Photo: Wardrobe: minimalist blazer; Background: Parliament on Ringstraße or MuseumsQuartier (blurred)

AT-L (man)

- Name: *Lukas Gruber* | Handle seed: *LukasGruberGraz* | Language: German (AT) | City: Graz | Age: 40 | Gender: Man
- Ideology: Liberal green-leaning | EU stance: Pro-EU
- Tone: Calm, constructive, tech-positive
- Topics: clean mobility; vocational training; EU research funds; transparency
- Photo: Wardrobe: sport coat + shirt; Background: Graz old town roofs/Schlossberg (blurred)

AT-C (woman)

- Name: *Sabine Hofer* | Handle seed: *SabineHoferLinz* | Language: German (AT) | City: Linz | Age: 47 | Gender: Woman
- Ideology: Conservative | EU stance: Cautious on further integration
- Tone: Orderly, practical, social market
- Topics: security; controlled migration; family SMEs; energy prices
- Photo: Wardrobe: navy blazer; Background: Danube riverfront/Ars Electronica Center lights (blurred)

AT-C (man)

- Name: *Matthias Berger* | Handle seed: *M_BergerSalzburg* | Language: German (AT) | City: Salzburg | Age: 50 | Gender: Man
- Ideology: Conservative | EU stance: Pragmatic
- Tone: Heritage-minded, consensus-seeking
- Topics: tourism sustainability; apprenticeships; fiscal responsibility; rural services
- Photo: Wardrobe: traditional-inspired modern suit (subtle), no party symbols; Background: Salzburg Old Town/Alps (blurred)

Denmark (Danmark)

DK-L (woman)

- Name: *Sofie Jensen* | Handle seed: *SofieJ_CPH* | Language: Danish | City: København | Age: 35 | Gender: Woman
- Ideology: Liberal pro-EU | EU stance: Strongly pro-EU
- Tone: Crisp, green, urban
- Topics: climate & wind power; cycling infrastructure; tech transparency; inclusive welfare
- Photo: Wardrobe: light blazer, turtleneck; Background: Nyhavn/harbour with wind turbines (blurred)

DK-L (man)

- Name: *Mikkel Sørensen* | Handle seed: *Mikkel_Aarhus* | Language: Danish | City: Aarhus | Age: 39 | Gender: Man
- Ideology: Liberal | EU stance: Pro-EU
- Tone: Friendly, policy-nerdy
- Topics: universities & innovation; housing; digital rights; local culture
- Photo: Wardrobe: casual blazer; Background: Dokk1 waterfront/library (blurred)

DK-C (woman)

- Name: *Camilla Nielsen* | Handle seed: *CamillaN_Aalborg* | Language: Danish | City: Aalborg | Age: 46 | Gender: Woman
- Ideology: Conservative | EU stance: Reserved, sovereignty-minded
- Tone: Plain, community-focused
- Topics: law & order; responsible migration; family budgets; small towns' connectivity

- Photo: Wardrobe: structured blazer; Background: Aalborg waterfront/bridges (blurred)

DK-C (man)

- Name: *Anders Madsen* | Handle seed: *AndersM_Odense* | Language: Danish | City: Odense | Age: 48 | Gender: Man
- Ideology: Conservative | EU stance: Pragmatic
- Tone: Measured, results-first
- Topics: SMEs/exports; agriculture; energy security; apprenticeship paths
- Photo: Wardrobe: dark suit; Background: Odense historic centre/river (blurred)

Bulgaria (България)

BG-L (woman)

- Name: *Elena Ivanova* | Handle seed: *ElenaIvanova_Sofia* | Language: Bulgarian | City: София (Sofia) | Age: 37 | Gender: Woman
- Ideology: Liberal, pro-EU | EU stance: Strongly pro-EU
- Tone: Anti-corruption, optimistic, civic
- Topics: judicial reform; media freedom; EU funds for healthcare; green transit
- Photo: Wardrobe: modern blazer; Background: Alexander Nevsky Cathedral area (blurred)

BG-L (man)

- Name: *Georgi Petrov* | Handle seed: *GPetrov_Plovdiv* | Language: Bulgarian | City: Пловдив (Plovdiv) | Age: 42 | Gender: Man
- Ideology: Liberal | EU stance: Pro-EU
- Tone: Hopeful, hands-on
- Topics: SMEs; creative industries; transparent procurement; education
- Photo: Wardrobe: open-neck shirt + jacket; Background: Plovdiv Old Town/Roman theatre (blurred)

BG-C (woman)

- Name: *Desislava Stoyanova* | Handle seed: *D_Stoyanova_Varna* | Language: Bulgarian | City: Варна (Varna) | Age: 45 | Gender: Woman
- Ideology: Conservative | EU stance: Cooperative but cautious
- Tone: Security-first, family-oriented
- Topics: energy prices; coastal economy; controlled migration; public safety
- Photo: Wardrobe: tailored blazer; Background: Varna seaside/Black Sea promenade (blurred)

BG-C (man)

- Name: *Petar Nikolov* | Handle seed: *PNikolov_Burgas* | Language: Bulgarian | City: Бургас (Burgas) | Age: 51 | Gender: Man
- Ideology: Conservative | EU stance: Pragmatic
- Tone: Straightforward, anti-corruption
- Topics: cost of living; ports/logistics; infrastructure; agriculture
- Photo: Wardrobe: dark suit; Background: Burgas port/Black Sea (blurred)

How to use

1. Pick a persona above and paste Template 1, replacing placeholders with that persona's values.
2. For the avatar, paste Template 2 with the matching wardrobe/background.
3. Keep all names/handles fictional and avoid real party logos or copyrighted insignia (the prompts already enforce this).

Template 1 (for the X profile data)

You are generating a realistic but fictional X (Twitter) politician profile.

Language: {LANGUAGE}
 Country/City: {COUNTRY}, {CITY}
 Name: {NAME} (fictional)
 Handle: @{HANDLE_SEED}
 Gender: {GENDER}
 Age: {AGE}
 Ideology: {IDEOLOGY} (EU stance: {EU_STANCE})
 Tone/style: {TONE}

Primary issues to emphasize (rotate across posts): {TOPICS_LIST}

Output exactly:

- 1) Display Name
- 2) Handle
- 3) Location
- 4) One-sentence role (e.g., "Councillor in ...", "Community organizer") — fictional
- 5) Bio (<=160 chars) incl. 1–2 emojis fitting the tone
- 6) Link (fictional)

Template 2 (for pictures)

Photorealistic portrait, {GENDER}, {AGE} years, confident approachable politician.
 Framing: chest-up, subject centered, shallow depth of field (85mm, f/2), natural light.
 Expression: warm, attentive; eyes to camera.
 Wardrobe: {WARDROBE}.
 Background: softly blurred {LANDMARK_OR_LANDSCAPE} in {CITY}, {COUNTRY}.
 Aesthetic: editorial headshot, high detail, natural skin texture.
 --no text, no logos, no watermarks, no famous people, no copyrighted insignia

5.2 BIOMETRIC STUDIES DEBRIEFING FORM

Supplemental information for the Face Tracking research within ENCODE project

Debriefing

Dear Participants,

Thank you very much for your participation! We would like to inform you that the social media profiles and posts you encountered during this study were entirely fictional. Both the politicians' profiles as well as events described in the posts and the posts themselves were created exclusively for the purposes of this research. Neither the profiles displayed, posts presented, nor the comments exist in real life. Any individuals mentioned or user comments are entirely fictional, with all names fabricated for the study. It is important to note that no conclusions can be drawn about real individuals, organisations, or events based on the content of these posts.

This study aims to explore how emotions triggered by social media content influence individuals' political opinions and engagement. Specifically, we investigate how emotional

appeals—such as anxiety, anger, disgust, and excitement—are elicited, and explore the mutual influence of emotional responses, values and identities.

If you have any questions about the study, you can contact ASM Research Solutions Strategy (ASM) at l.wilczynski@asmresearch.pl or the Data Protection Officer at ASM at iod@asmresearch.pl.

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